Fiscal Risk Management for Private Infrastructure Projects in Sri Lanka

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ABSTRACT

Infrastructure is the key for sustained economic growth as inadequate infrastructure can limit the growth prospect of an economy. Worldwide governments are promoting Public Private Partnership (PPP) for implementing Private Infrastructure Projects (PIP) to ensure greater efficiency and possible cost reductions with the involvement of private sector. However for Private Infrastructure Projects (PIP) the presence of government as mitigator of risk is very important, as with exchange rate fluctuation, market risk and force majeure the project may not be feasible for private sector. While PIP is still an emerging concept in many developing countries, often private sector in these countries participated in infrastructure projects only after government supports like revenue guarantee, exchange rate guarantees were included. Such liability adopted by the government entails significant future contingent liabilities. Therefore proper risk analysis and management of these guarantees are important for both government and private sector. While in the context of infrastructure, Sri Lanka has some experience in PIP arena, however these experiences have been limited to sectors such as ports, telecommunication, and power. While promoting the concept of PIP, it is important for Sri Lankan Government to identify the potential fiscal risks arising from private infrastructure projects. It is essential for Sri Lanka to create appropriate institutional and organizational arrangements for analysing and reporting possible fiscal liabilities for individual PIP before it is awarded, possibly at the feasibility stage. In this regard, the paper describes the evolution of sound fiscal risk management practices in other countries. Based on international best practice this paper provides suggestions for project approval process for

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***The views expressed in the research paper are authors' own and do not reflect the organization in which they work**

fiscal risk management along with challenges, possible outcomes, and recommendations for fiscal risk management. In this regard, the Central Bank need to carefully analyse the impacts of the PIP agreement clauses and understand the implications of the PIP projects in the economy including risk arising from possible exchange rate guarantee and other economic impacts from their ripple effect. PIP regulation of Sri Lanka should ensure provision of charging fees to create a central guarantee fund and making budgetary requirements to compensate for the expected cost to the Government.

JEL Classification Codes: D23, H41, L33, C14

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INTRODUCTION

Empirical research works have long recognized the role of infrastructure development for economic growth (Aschauer 1989). After Aschauer's early work, World Bank's World Development Report (1994) also finds evidence on the importance of infrastructure for economic growth. Despite such evidence during the last decade the share of infrastructure investment in GDP has declined in a number of developing countries. In South Asian context, studies by Fay and Yepes (2003) provided evidence of significant infrastructure gap in South Asian countries. With fiscal austerity in public sector such infrastructure deficit is providing the impetus for recognizing the importance of Public Private Partnership (PPP) to promote innovation in infrastructure facilities. Such Public Private Partnership (PPP) for infrastructure projects can also minimize the existing investment gap through implementing projects as Private Infrastructure Projects (PIP). However, while acknowledging the role of private sector for infrastructure investment, it is equally important to recognize the fiscal consequences of private infrastructure projects as such project can create significant fiscal liability for Government. Studies by Irwin (2007) provided examples of how guarantees in some cases create large fiscal exposure for the government. Depending on country and sectoral context government often needs to bear market demand risk[4] and provides exchange rate guarantee[5] for facilitating PIP project.

[4] This is usually a commitment by the host government to ensure that the private investor receives a minimum level of revenue when demand is lower than expected. Another example is where governments, through their utility enterprises, have agreed to pay private power producers a fixed amount each year that is independent of the actual level of power subsequently demanded by them.

[5] There have been cases of the government bearing full or partial exchange and interest rates risks on foreign loans, bonds and credits that financed the project.

REVIEW OF THEORETICAL AND EMPIRICAL LITERATURE

Empirical research work recognized the important linkage between infrastructure services and economic growth in the 1970s and 1980s. Later on during the 1990s a concerted effort was made to examine the linkages between access to infrastructure services and poverty reduction. Subsequently, Calderon and Serven (2003) found positive and significant output contributions of telecommunications, transport and power in a sample of Latin American countries. Donaldson (2010) using Indian historical data during 1870-1930 finds that railroad development reduced trade cost, bolstered trade, and increased real income, while Mohommad (2010) finds that physical infrastructure improvements lead to faster growth in manufacturing. Finally, Canning and Pedroni (2008) used cross-country data in 1950–1992 to show that infrastructure positively contributes to long run economic growth despite substantial variations across countries.

However, insufficient public infrastructure investment and inefficient management process has lead to inadequate infrastructure development in many developing countries. As Infrastructure plays a key role in promoting and sustaining economic growth addressing this infrastructure investment gap has become a major concern for policymakers. According to the estimate of Foster (2010), among the developing countries Sub-Saharan Africa needs to spend US$93 billion a year on infrastructure. This provides an estimate of the scale of infrastructure investment requirement in just one part of the world. Currently only US$45 billion is being met through existing sources-such as government spending, user charges, private sector investment, and other external sources thereby creating a total funding gap of US$48 billion. As many other governments in the world are not capable to invest huge amount at a time only for infrastructure sector, countries are increasingly feeling the necessity of turning towards PPP concept, where projects are implemented as Private Infrastructure Projects (PIP) for infrastructure investment (Alam and Rashed, 2010).

PPP describes a private business venture which is funded and operated through a partnership of government and one or more private sector companies (Alam and Rashed, 2011). Studies by Walker and Smith (1995) suggested reasons for using PPP approach for infrastructure services, which includes private sectors ability to raise large scale financing. Often, private sector through their innovative ideas can introduce new concepts to save project costs (Chan *et al.*, 2006). Later on, Andres (2004) and Andres *et al.* (2006) find significant increases in quality, investment, and labor productivity in telecommunications,

electricity, and water distribution services with private sector participation. Minassain *et al.* (2008) also contributed in this issue through analyzing infrastructure financing options Public Private Partnership (PPP).

Subsequently, Marin (2009) reviews the experience of 65 PPPs in the water sector in developing countries, finding consistent improvements in efficiency and service quality. In South Asian context, Gupta (2009) studies the infrastructure sector of India, and highlights some of the benefits of PPPs. However in a PPP project, government needs to play the initial project development role and carry out up-front activities that are required to be completed first to attract potential investors (Rashed, 2011). In addition, often government needs to support the private sector through financial and policy support to ensure the project's commercial viability. In this regard, Faisal (2012) emphasized the supporting role of Government in facilitating regulatory reform and institutional development for PPP project financing. In addition, from private sector's perspective the continuity of rules and credibility of government is also important for PPP development (Ali and Faisal, 2012) in a country.

On the contrary, Berg *et al.* (2002) summarized some disadvantages of PPP projects including project risks, delays in bidding process, ambiguity of roles among the stakeholders, difficulties in project development etc. Among these critical issues, the risks involved in a PPP project are most vital. The proper structuring of risks and mitigating them are the fundamentals for the success of a PPP project. Generally in PIP, risks are planned to be mitigated through allocation of responsibilities to parties (government vs private sector) that is best situated to handle those risks. However, sharing of risks by the government side create substantial implicit fiscal liabilities for governments. Irwin (2007) provides example of how project guarantees can create large fiscal exposure for the government. He also describes in detail how the value of PPP project guarantees can be calculated. Dipres (2010) contributed in this issue through describing the conceptual framework for assessing contingent liabilities and the government's contingent liability exposure. This includes quantitative information (maximum value and expected cost) on government guarantees to PPP projects (concessions). Infrastructure Australia (2008) described the steps for identifying, allocating, and evaluating risk in PPPs. Charoenpornpattana *et.al* (2002) also analyzed a minimum traffic guarantee and shadow toll as a bundle of independent options.

Understanding the potential impacts of such contingent liabilities of the government arising from a PIP projects (mostly through a very strict concession agreement), management of such liabilities have received especial focus by various governments. Before

implementation of a PIP deal, the governments need to understand and analyze the contingent liabilities for PPP projects (Dipres, 2010). In many cases the contingent liability is quantified at the very early stage of project development. However there has been very little research on the PIP fiscal risk management process from South Asian context. Depending on country specific aspects, fiscal risk management strategies can differ in terms of risk management procedure and exposure to market. With very little empirical research on the contingent liability from South Asian context, this paper deals with the fiscal risk management process and provides policy options for fiscal management for infrastructure PIP projects.

RATIONALE FOR GOVERNMENT GUARANTEE FOR PRIVATE INFRASTRUCTURE PROJECTS

According to neoclassical economic theory, freely functioning markets will automatically lead to static and dynamic efficiency, as long as certain perfect market conditions are met (Killick, 1981). However, historically infrastructure investment has been dominated by state owned monopolies providing infrastructure services at a subsidized rate. On the other hand for private investor's infrastructure investment is not a free entry project and for most of the infrastructure sectors like transport, energy, water sanitation private sector needs to form contract with public sector for commercial operation. In addition, the pricing decisions for infrastructure projects are controlled by public sector. Such public sector control leads to market uncertainties which prevent static and dynamic efficiency from being achieved.

However, persistent market failures in infrastructure sector can constraint growth as improvements in broad range of infrastructure categories lead to faster growth. In this regard, Roller and Waverman (2001), using data for 21 OECD countries for over 20 years, find evidence of a significant positive causal link between telecommunication infrastructure and economic growth. With such market failure, the government should intervene in the economy in a manner that will correct for those failures and which will lead to static and dynamic efficiency being achieved. In other words, the government's role in the economy should be to produce "optimal interventions" to correct for market uncertainty. Government interventions in infrastructure sector can be initiated through policy support for the private sector along with financial support for implementing and managing the infrastructure projects. Government interventions may be viewed as "optimal" when they help restore the conditions needed to achieve economic efficiency.

However, there is also a policy debate regarding the process of such government interventions including determining the form of intervention, tenure and fiscal risk management process. With such policy debate, the existing empirical literature on infrastructure investment tends to focus on fiscal sustainability while ignoring the importance of infrastructure need and impact of future infrastructure investment gap. In this regard, it is essential to simultaneously assess the infrastructure need and extent of sustainable macroeconomic framework adjustment to facilitate future infrastructure investment through private sector participation.

With extensive policy debate regarding the government guarantee for infrastructure projects it is important to assess the different types of PIP project guarantees and fiscal impacts. In this regard, European PPP Expertise Centre (2011) sets out the range of state guarantees used in PPPs-encompassing finance guarantees, and contract provisions such as revenue guarantees, or termination payments. The study describes why and how they are used, how their value can be assessed, and how they can be best managed.

A government guarantee legally binds a government to take on an obligation if a clearly specified uncertain event should occur. Such obligation for government can be explicit and implicit. Under explicit contingent liabilities, government guarantees payments to the concessionaire by explicitly mentioning specified exogenous events in the contract (e.g. minimum revenue guarantee). Again such liability can be of two types: explicit liabilities with uncertain amounts and specified amount. Some payment commitment from government cannot be predicted with certainty like land expropriation compensation whereas for specified amount it is possible to include specific provision in the concession agreement like revenue sharing agreements. The following table provides a brief summary of contingent liabilities of PPP projects:

Table 1: Type of Contingent Liabilities from PPP Projects

	Direct (obligations in any event)	**Contingent (obligations if a particular event occurs)**
Explicit (created by contract)	Obligation to purchase output (Power through power purchase agreement)	• Revenue guarantees (e.g. Chile) • Debt guarantees (e.g. Poland) • Liabilities guarantees • Exchange rate guarantee (e.g. Chile)
Implicit (political obligation of the government)		Assumption of debt / obligations of concession companies or utilities (e.g. UK, Hungary, Poland)

Along with explicit contingent liabilities, implicit contingent liabilities for government arise when there is an expectation that the government will take on an obligation despite the absence of a contractual or policy commitment to do so. Such an expectation is usually based on past or common government practices, such as providing relief in the event of uninsured natural disasters and bailing out public utility enterprises, or strategically important private infrastructure firms that get into financial difficulties. Implicit contingent liabilities posses' even greater fiscal liability for the government as it is difficult to value these risks and occurrence probabilities of such liabilities are uncertain. As these risks are not inherent to a concession program, it is difficult for government to properly ensure budgetary allocation for such contingent liability.

Although it is difficult for government to assess the fiscal impacts of possible project guarantees, however guarantee provides the required incentive for private sector for infrastructure project implementation. Through such guarantee government can reduce the market uncertainties for private sector along with fulfilling its own development mandate. Infrastructure is the key for sustained economic growth as social loss arising from inadequate infrastructure can limit the growth prospect of an economy. On this regard Public Private Partnership projects have potential to promote greater efficiency and possible cost reductions especially in terms of service quality, efficiencies in procurement, risk management for private investor in developing infrastructure and the ability to generate greater managerial and technical capabilities (Rashed *et al.* 2011)

In South Asian perspective, although the concept of private sector participation is not a recent phenomenon but only during 1990s South Asian countries initiated this process.

Many South Asian countries are gradually implementing infrastructure sectoral reforms with private sector participation to ensure better value for money and service efficiency improvement. However, apart from India most of the South Asian countries are in the initial stage of PPP program implementation. This transition of South Asian countries from a state-operated infrastructure sector toward more privately managed system where the government's role becomes more on regulatory side may take some more time. During this transition period, it is important to facilitate private sector investment in infrastructure through policy and financial support.

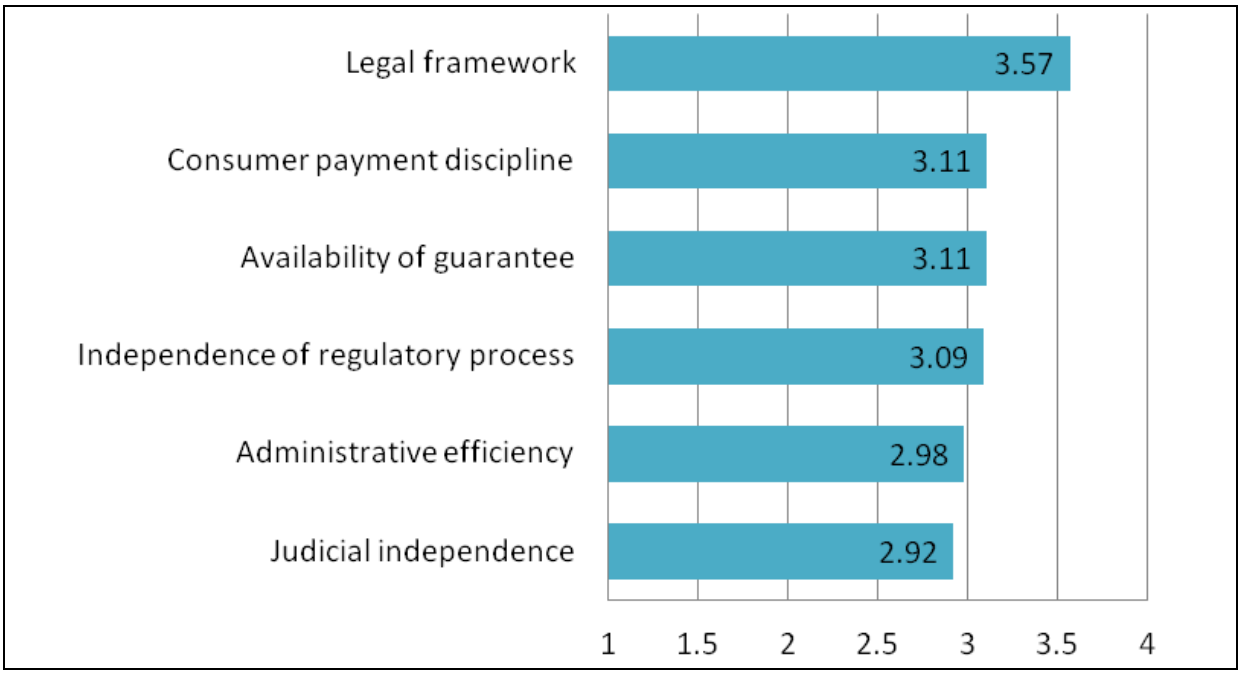
Moreover, it has been evident that PIPs are often found to be not very much profitable as it seems in many cases. There is often a miss-conception of high private sector profitability in infrastructure PPP projects. In this regard, Sirtaine *et al.* (2005) provided evidence that in Latin America the financial returns of private infrastructure concessions have been modest and in number of concessions the returns have been below the cost of capital. The study showed that concessions are thus risky for private sector as 40 percent of the sample concessions do not seem to have the potential to generate attractive returns, while for energy and transport sector this situation is even worse. The analysis also highlighted that returns are highly volatile in infrastructure sector, which explains why the required rates of return on such investments are high.

Along with volatile return, infrastructure investment also requires significant upfront capital investment which is generally recovered over a long period (appendix 1). Depending on country and industry context, initial project development and construction of large scale infrastructure PIP project may require significant time. For example, for combined cycle IPP project the plant and associated facility construction may take up to three years. In addition, there can be provisions in power purchase agreement which can pass on risks that private sector cannot manage.

Due to delayed linked project (projects that's are linked with the PIP project which are traditional public sector projects like utility relocation, land acquisition etc.) implementation by the public sector, the project may suffer from cost overrun and public sector may refuse to bear such cost overrun. In addition, status of linked project implementation can also affect the financing cost, source of financing for the private sector. Often infrastructure projects require resettlement actions and initial project timelines can largely vary due to apparent unpopular political decision of resettlement. For developing

countries like Bangladesh, Sri Lanka which has limited PPP and private infrastructure project implementation experience such cost overrun risks can be a more familiar aspect. In this regard, detailed risk characteristics of selected infrastructure are provided in appendix 2. Because of these inherent characteristics of PIP projects, private sector's return is often uncertain and sensitive towards government behavior. In this regard, Lamech and Saeed (2003) consider the private sector participation factors and presented a ranking of the priorities of investors (requirements) for engagement (in the power sector as a casing point).

Figure 1: Investors' Priority Issues for Engagement in PPP (adjusted from Lamech and Saeed, 2003)



Given this context, it may be appropriate for governments to address the key project uncertainties for private sector through providing limited guarantees to the project. In addition, the guarantee scheme is often a temporary process and with proper policy support, the need for guarantees and other support from government can change over time. Governments often need to provide extensive and costly guarantees in the early stages of PIP programs. During the early stage of PPP program operationalization, the country may lack clear policy direction and institutional support for PIP project development, financing and transaction. Over time, with institutional development and actual project implementation experience both government and potential investors will become more comfortable with the PIP environment. With such experience, gradually the policy framework gets strengthened, and the uncertainties surrounding the PIP modality are reduced. With such PPP program

development, guarantees can be confined in scope and risk mitigation techniques become more familiar and can easily be taken up by the private sector.

PRIVATE INFRASTRUCTURE PROJECT INITIATIVES IN SRI LANKA

After decades of conflict, Sri Lanka is currently facing the challenge of reconstructing and expanding its key infrastructure services, including roads, power and port. The Sri Lankan government has already taken initiatives to accelerate infrastructure development, as evident from the increase in the recent budgetary allocation for infrastructure. However, like many other countries in light of the fiscal constraints faced by Sri Lankan government, there is a need to acknowledge the potential role of private investors for infrastructure investment through facilitating PPP.

Sri Lanka has already implemented PPP projects in key sector like in power sector AES Kelanitissa 163 MW, Heladhanavi Puttalam 100 MW project. In port sector, Sri Lanka has implemented PPP projects like South Asia Gateway Terminals, Colombo Port Expansion Project etc. However, the overall experience with respect to PPP has been rather mixed in Sri Lanka and most other South Asian countries. The practical application of the concept is often fraught with difficulties in terms of project development, transaction and government support requirement to develop a commercially viable PIP. As Sri Lanka needs to broaden its existing infrastructure investor base beyond public sector, it's important for Sri Lanka to analyze the implications and potential applicability of PPP project development from the experience of early implementers.

As Sri Lanka is in the initial stage of PPP project development and implementation, private investor may require additional benefits through tax incentives, project guarantee, viability gap funding for PPP projects. As most of the PIP's are capital intensive, Sri Lanka will also need to focus on Bankable project development so that it becomes easy for project promoters to obtain financing from national and international financial institutions. In this regard, with government guarantee for infrastructure projects, lenders become comfortable regarding the project returns and their loan repayment from the project promoters. As most of the project financing are non-recourse with extensive debt financing requirement, government guarantees facilitate favorable loan terms for the project promoters.

FISCAL RISKS OF GOVERNMENT FROM PRIVATE INFRASTRUCTURE PROJECT GUARANTEES

Currently many developing countries are turning towards PIPs as they recognize that more investment in infrastructure is needed and the government cannot "afford" to undertake all the infrastructure projects through public investment. However, PIPs may appear to relieve funding problems than the actual case, as the government's fiscal commitments to PIPs can often be unclear. This can lead to governments accepting higher fiscal commitments and risk under PIPs. Especially for countries with limited PIP experiences often such partnership transfers some of the risks to the private partner while the state retains important risks. For example, in many PIPs for schools, hospitals, and prisons, the government agrees in advance to pay for the availability of the building facilities, irrespective of future demand. In these PIPs, governments take on debt-like obligations even if they needn't report any new liability. In other PIPs, including those for toll roads, the government sometimes guarantees the private company a minimum level of revenue from users. In addition, economic crises can simultaneously trigger many PIP guarantees especially revenue guarantee and government's contingent liabilities can thus become actual and current all at once.

Despite significant future fiscal impact under conventional standards, the government in developing countries usually needn't report any liability for PIP projects. For example, in Bangladesh for IPP projects Bangladesh Power Development Board (BPDP) enters into Power Purchase Agreement (PPA) agreement with private sector where payment is guaranteed by L/C provided by BPDB of 2 months Capacity payment and also by GOB Guarantee. However, like many other countries, Bangladesh currently does not recognize the fiscal impact of possible liability arising from such guarantee. Although in Bangladesh there exist significant gap between electricity demand and subsequent actual supply, it is still important to assess the fiscal consequence of such purchase guarantee. As per unit retail price of electricity at user level is only Tk 5.32 (Bangladesh Power Development Board, 2011), often the government has to provide extensive subsidy as in recent years government entered into PPA agreement with quick rental power plants at Tk 12-15 per kilowatt-hour (Bangladesh Power Development Board, 2011). In this regard, Irwin (2007) provided example of projects in Columbia where during 1990s, the Government guaranteed revenue on toll roads and an airport, as well as payments by utilities that entered into long-term power-purchase agreements with independent power producers. In these project government had to make payments of US$2 billion by 2005.

Sponsors or responsible government officials can also have an incentive to over-estimate demand, to "hide" the need for subsidies and push through projects that are not really viable. Often with optimistic project demand assessment, for initial PIP developing countries may agree to provide a demand guarantee, as with optimistic forecasts the probability of guarantee payment is very minimum. This may create possible biases in decision making for PIP where the priority should be case by case cost benefit analysis of public and private sector investment option. A proposed PIP may be feasible and economically viable, and value for money analysis may show that a PPP procurement process is the best way of procuring it. Nonetheless, with potential project guarantee the procuring government also needs to decide whether the PIP is affordable from public sector's perspective given its fiscal constraints. The cumulative impact over several PPP projects can create substantial fiscal risk.

Without proper fiscal risk assessment public resources may go into projects that do not really provide value for money, since costs are higher or benefits lower than first thought. In this regard, Irwin's (2007) study on government guarantees provides examples of how guarantees have been used, in some cases creating large exposure for the government, and describes some of the reasons governments make bad decisions regarding guarantees. Ehrhardt and Irwin (2004) provided example of Mexico where between 1989 and 1994, government awarded more than 50 concessions for 5,500km of toll roads. The concessions were highly leveraged, because equity contributions were made in the form of "sweat equity" for the construction instead of in cash. Debt financing for the projects was on a floating-rate basis and provided by local banks which might have faced government pressure to lend. By 1997, a combination of lower than forecasted traffic volumes and interest rate rises pushed the government to restructure the entire toll road program and bail out the concessions. In total, the government took over 25 concessions and assumed US$7.7 billion in debt.

Worldwide many governments have entered into PIPs while not fully understanding their possible impacts. Kim *et al.* (2011) showed experience of South Korea during 1990s when government guaranteed 90 percent of forecast revenue for 20 years on a privately financed road linking the capital, Seoul, to a new airport at Incheon. When the road opened, traffic revenue turned out to be less than half the forecast. The government has had to pay tens of millions of dollars every year. To avoid such pitfall, governments need to assess fiscal affordability when they appraise a PIP project—so that they do not go to market with projects that they cannot afford. As each PPP projects are unique it is essential to properly assess the

project development issues of individual projects and analyze potential fiscal risk of possible guarantees.

LESSONS FROM CROSS COUNTRY INFRASTRUCTURE FISCAL RISK MANAGEMENT

In theory, government guarantees must only be used when for commercial project viability it is necessary to protect private investors from project risks. However, whenever possible, guarantees can be combined with reverse agreements. For example in Chile, minimum revenue guarantees have been combined with project revenue-sharing agreement. Worldwide, developing countries has used project guarantees for attracting private sector investment in infrastructure. Irwin and Mokdad (2010) described the approach in the State of Victoria, Australia, Chile, and South Africa, to approvals analysis, and reporting of contingent liabilities under PPPs. For example, during 1990's the government of the Philippines responded to a critical national power shortage by providing "full faith and credit" guarantees to private sector investors. Such initiatives minimized the risk of payment default by the National Power Corporation (NPC), the public power utility buying power on long term power purchase contracts under a BOT arrangement. The government waived its right to sovereign immunity, thereby accepting international arbitration in the event of a dispute. Such guarantee assisted in financing IPP with generation capacity of 3000 MW. But it meant that the private sector investors and lenders came to expect that such all inclusive guarantees would always be available.

Recognizing that guarantees are neither desirable nor sustainable, the government issued a consultative document in March 1995, making specific recommendations for better management of its contingent liabilities. The government acknowledged that guarantees could not be eliminated abruptly and that a transition was required during which the legitimate risk mitigation needs of private parties would be met while an improving performance gradually allowed various elements of the guarantees to be eliminated.

Other governments have taken similar initiatives of recognizing the importance of project guarantees along with careful management of associated project liabilities. For example, in Chile the government has guaranteed the revenue of many of infrastructure project including power generation, toll roads and airports. However, such PPP projects needs to be approved by the Minister of Finance based on contingent liability analysis including estimating the cost and risk of the revenue guarantees using a stochastic model.

Along with estimating the risk, the government publishes information on contingent and direct liabilities under PPPs in annual reports on public finance and contingent liabilities. South Africa follows similar kind of approach where the National Treasury must approve projects at major project development stages. National Treasury requires analysis of contingent liabilities as part of project preparation. Contingent liability assessment by National Treasury is also being followed by public reporting by line ministries who include a disclosure note on PPP in their accounts

On the other hand, countries like UK which has extensive previous experience in implementing PPP projects mainly designates most of the project development and contingent liability assessment responsibility to the relevant line ministries. Line ministries approve PIP based on their own delegated authority from the Treasury. Approval is based on the authority finance officer and political leader committing to the projected affordability profile of the project. All PPP projects have contracts reviewed against the standard form prior to contract award (approvals process managed by Treasury). Like Chile, UK also has contingent liability disclose requirement with public reporting of the fiscal implications of PFI projects after every six months.

However the process of reporting contingent liability from PPP projects varies across countries. For example, in New Zealand PPP contingent liabilities are recognized in Government's balance sheet. Other countries lend to follow more conservative approach of mentioning about contingent liability in notes to balance sheet (e.g. USA, Canada) and often through separate statement (e.g. Australia, Japan). In addition, there exists significant divergence regarding the type of contingent liability reported. Countries like New Zealand and USA reports all the contingent liability whereas Hungry report only the explicit liabilities. Along with quantitative valuation and reporting process, several governments have created qualitative guideline for fiscal risk management of PPP projects. Great Britain, South Africa, and the state of Victoria in Australia, for example, have published extensive guidelines on the allocation of risks in privately financed infrastructure projects

Table 2: International Approach for Fiscal Risk Management of PPP Projects

	Chile	**Colombia**	**Brazil**	**Indonesia**
Defining risks	None, but establishment of strong standard	Specific risks and mitigation mechanisms defined by sector	None	Principle defined
Selecting Eligible Projects	None, but strong precedent	Total exposure to risk must be <10% of project cost	None	Projects must be in priority sectors, technically and financially feasible, & selected through Competitive tender
Standard valuation approach	Defined	In development process	In development process	Defined
Setting aside funds to cover expected value of guarantees	None	Based on Expected cost	Expected cost	Expected cost
Establishment of independent guarantee fund	None	Fund is managed centrally with coordination of implementing agency	Yes	Yes
Limit on overall exposure from guarantees	None	No explicit limit	Capped by size of guarantee fund	Capped by size of guarantee fund

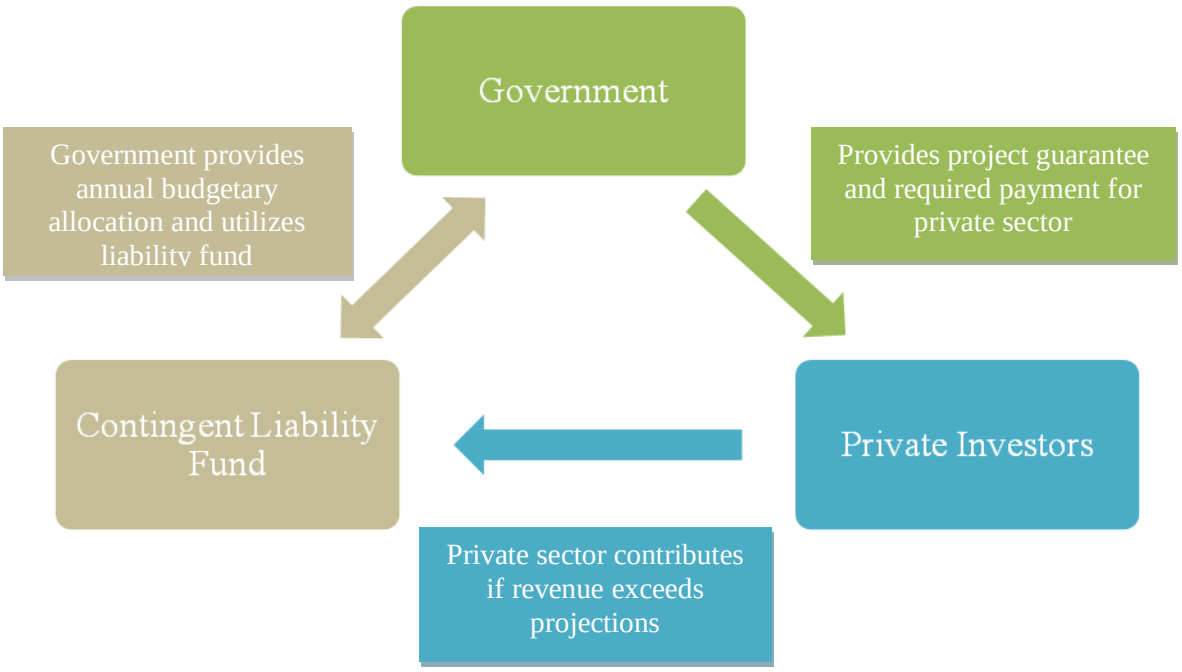
Among the above mentioned countries, both Brazil and Indonesia have chosen to establish an independent guarantee fund, which is separate from government accounts, privately managed, and capitalized upfront by transfers form government. This weakens the incentive for the institution to accept appropriate risks, and accurately value guarantees. Instead, the private financial institution plays a "gatekeeper" role to ensure only properly valued and structured guarantees are issued. Several countries have established specific rules for controlling total fiscal exposure to PPPs. In Hungary, the public finance law limits the total nominal value of multi-year commitments in PPPs to 3 percent of government revenue (Irwin, 2007). On the other hand, Brazil's Federal PPP Law limits total financial commitments undertaken in PPP contracts to a maximum of 1 percent of annual net revenue

POLICY IMPLICATIONS FOR SRI LANKA

For fiscal risk management for Sri Lanka, it is essential to conduct a complete and accurate estimation of the financial costs and benefits associated with a project guarantee. However, the valuation technique for government guarantee is still an evolving area and often estimating the variability of a project's financial flows is a difficult task. In addition, based on country context the concession agreement terms and condition can significantly vary which can have considerable impact in guarantee valuation. Therefore, considerable experience (in terms of country and sector specific) is required to assess the potential fiscal liability from public sector perspective. In addition, it is essential to design and implement policies that assist in managing project volatility. For addressing the fiscal risks from potential project guarantees in Sri Lanka, it is important to create additional budget flexibility during the project development stage.

In this regard, Sri Lanka can create a contingency line in the budget from which unexpected payments can be made. For example, a fiscal risk management fund can be created to accumulate financial assets from budgetary transfers. In addition, fees can be collected from guarantee beneficiaries, which can be used later on for fiscal liability management. Netherlands, Canada, Colombia has adopted similar strategies for fiscal risk management of PPP projects.

Figure 2: Proposed Fiscal Risk Management Fund for Sri Lanka



On the other hand, provisions should be included in the concession agreement for private sector's contribution in the fiscal risk management fund. For example, for elevated expressway projects if toll traffic exceeds the forecasted traffic by more than 10% the private sector may need to share a certain percent of the increased toll revenue. The government can keep that amount for future fiscal liability management for that specific project or other PPP projects. This fund can be managed by Central Bank, private party or financial institution to avoid spending for other purposes. Indonesia has taken such initiatives through creating Indonesia Infrastructure Guarantee Fund, or IIGF. Established by Government Regulation and Ministry of Finance, IIGF one of the fiscal tools of the Government. IIGF operates as a single window for appraising, structuring, and providing guarantees for infrastructure PPP projects in Indonesia.

Moreover, for fiscal risks to be properly incorporated in decision making, suitable procedures are required in the budget and PIP approval process. Depending on country context and stages of PIP program development, the ideal process of contingent fiscal risk management process may vary across countries. For Sri Lanka, contingent obligation proposals may need to be considered alongside competing instruments, and ceilings on total issuance of guarantees may need to be subjected to parliamentary approval during the budget process. In principle, the centralized management of contingent liabilities at the government level should involve the overall policy for approving projects; the identification, classification and recording of risk exposure; provision of funds to meet potential liabilities and subsequent implementing systems for monitoring government risk exposure.

Centralized control over the granting of guarantees is often the appropriate strategy for countries with limited PIP experience. As these countries may not have fiscal risk assessment capacity in individual line ministry level, designating the responsibility to the Ministry of Finance with close coordination with other important stakeholders like Central Bank will ensure selection of most feasible PIPs. Especially for exchange rate and interest rate guarantee the Central Bank can provide prior insights regarding the potential future contingent liability. Multistage review of proposed PPPs projects by authorities who have expertise in PPPs and fiscal management; quantification of certain contingent liabilities will lead to better value for money assessment of PIPs. Depending on the individual country, this centralized control process may involve requiring the prior approval of the minister of finance, the cabinet, or the legislature, under guidance provided by a well-articulated policy

framework that covers the justification, design, analysis, and approval of guarantees. In structuring guarantees the government needs to take care that performance incentives for private investors are not undermined, essentially by not covering "normal business risk", including exchange rate and interest rate movements.

Along with explicit liabilities, it is equally important to control implicit contingent liabilities. Such liabilities can have sizable financial implications, especially when the government backstops public enterprises, public financial institutions, subnational governments, and private firms. One of the most difficult aspects of implicit contingent liability management is that occurrence of such support requirement is counter cyclical and often it is difficult for government to provide support during recession or economic slowdown. In this regard, Ehrhardt and Irwin (2004) showed privatization experience of The United Kingdom National Air Traffic Services (NATS). The objective NATS's privatization was to separate the air traffic control functions from the Civil Aviation Authority. Under a PPP arrangement, NATS was to be paid a fee based on airline traffic volumes. However, The PPP Company took on considerable debt for its investments and operations. After the September 11th attacks, airline traffic fell below forecasts and the company was in danger of not meeting its debt obligations. To reduce the perceived risk of a disruption in service, the United Kingdom Government had to step forward and inject GBP 100 million of equity into the project company.

However, at the same time extensive focus on current fiscal balance may undermine the importance of future infrastructure development. Ignoring the linkage between infrastructure investment and economic growth can lead to very conservative fiscal management practice. Developing countries also need to recognize the importance of guarantees in order to make initial PIPs attractive to investors. Countries like UK, Australia has used this strategy of promoting initial PPP projects and with gradual policy reforms these countries have addressed the infrastructure investment concerns of private sector and minimized the need of using project guarantees for attracting private investment. Currently many South Asian countries are in the initial stage of PIP program operationalization. As in terms of regulatory, institutional reform these countries are in the initial stage, initial PPP projects may require significant support from the public sector through various project guarantees. The decision to grant a guarantee should be based on an explicit cost benefit analysis for the project to be guaranteed, including an assessment of the likely cost to taxpayers and the impact of alternative forms of government support. South Africa, for

example, requires the Treasury to approve PPP proposals at four stages before a contract is signed. The proposals that seek the Treasury's approval must discuss contingent liabilities. A PPP manual and a set of standard contractual terms guide the development of the PPPs and thus limit the contingent liability exposure.

CONCLUSION

For developing countries it is important to allocate infrastructure project risks efficiently and limit private agent's ability to shift additional losses to the government. At the same time it is important to facilitate socially beneficial and commercially viable infrastructure project through necessary policy support and financial assistance. Failing to achieve such twin balance of fiscal risk management and facilitating PIP investment will result into growth constraint for developing countries. Although the existing techniques for assessing contingent liability are only as good as the information on which the models are based. In addition, events covered by government guarantees to infrastructure projects can be affected by a long list of risk factors, not all of which are easily identifiable and quantifiable. Despite these limitations, considering the experience of other developing and developed countries it is important to recognize the importance of PPP contingent liability management issue. Based on existing country PIP framework, it is essential to initiate continent liability management process with proper budgetary allocation, reporting requirement and institutional responsibility allocation.

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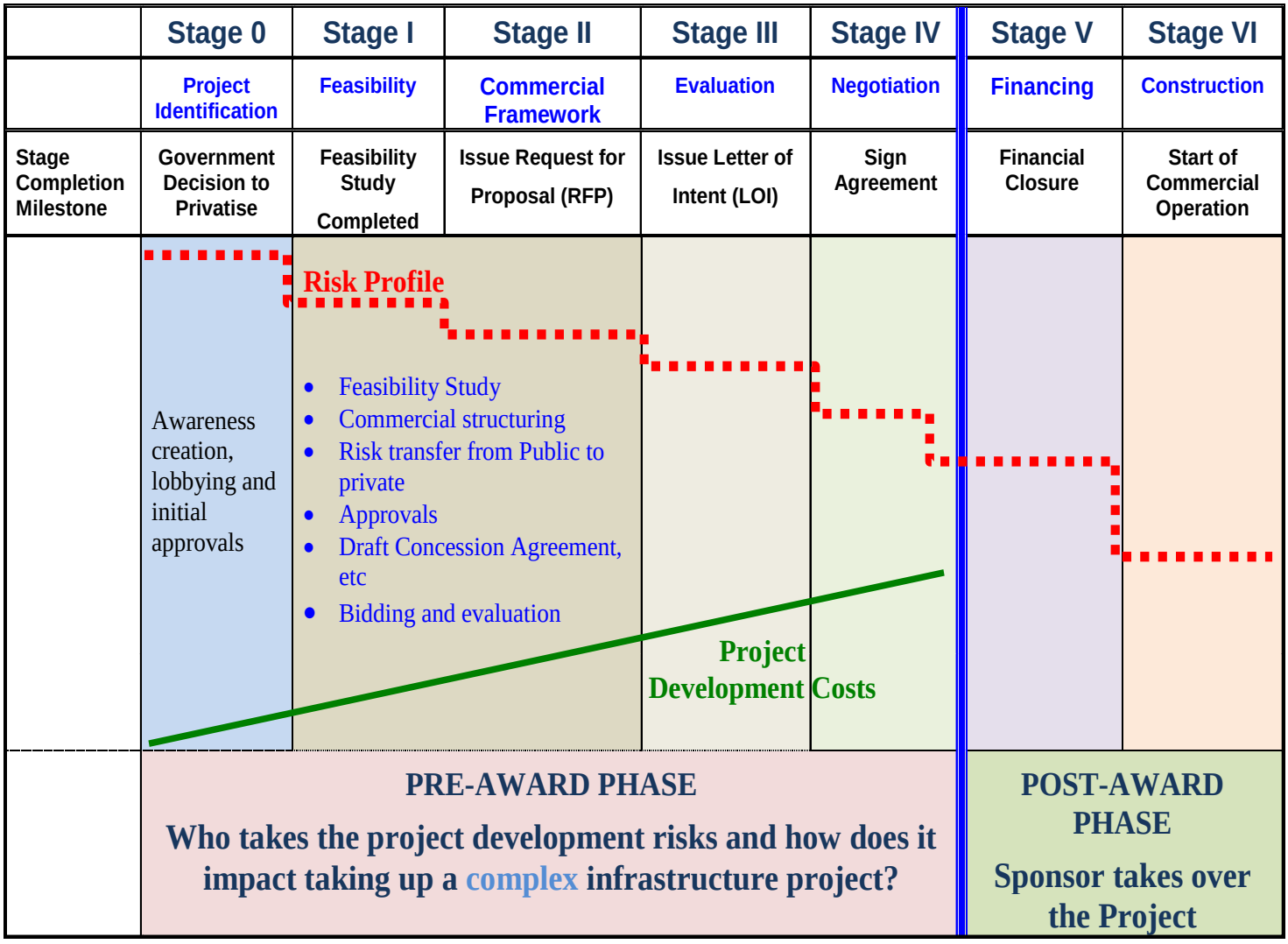
Appendix 1: Key Stages of PPP Projects



Appendix 2: Risk Characteristics of Selected Infrastructure Sectors

	POWER STATION	EXPRESSWAY
Project Identification	Straightforward	Demanding (not all expressways are 'good', problems with competing projects)
Cost	High-but costs spread over life (operating costs are high)	High-but all costs up-front (operating costs are low)
Location	Remote	In the middle of big cities, or major developed corridors
Land requirements	Small: a single site for the power station	Large: Often in central locations, often a continuous strip (difficult acquisition)
Environmental Impact	Small (remote location)	Large for elevated structure, medium for others. Involves extensive land acquisition /relocation
Integration requirements	Considerable	Extensive-traffic depends upon effective integration with the transport system
Tariff problems	Same (at least people already pay for electricity)	Huge: roads are 'free' to use There is almost always a 'free alternative' A separate negotiation for each project
Demand/Revenues		
Size	High-fixed from day 1	Low in early years
Uncertainty	Certain (defined in the concession agreement)	Uncertain in the future (depends on external factors)
Financial Viability as a stand-alone project.	Viable	Not viable (only a few projects are viable)
Complexity	Power station output often large relative to demand	Expressway small relative to the network. Each project is different (different tariffs etc.)
Number of Buyers	One-purchaser of the take-off agreement	Every vehicle
The Result		
Political	May be	Yes-very-resistance to construction, introduction of tariffs, increases in tariffs
Need for government support:		
Implementation	May be	Yes: permissions, acquisition,

		relocation, integration
Operations	No	Yes-integration, tariff increases
Investment	No	Yes-Often substantial
Risky	Low: Implementation not a problem. Cost known and predictable No revenue risk	High: Extensive implementation and cost problems Very substantial traffic and revenue risk

Preliminary Risk Allocation Framework

Risk	**Responsibility of Government**	**Responsibility of Concession Company**
Completion		
- Land acquisition/permissions	√	
- Design		√
- Construction time/cost		√
Commercial-operations and maintenance cost		√
Traffic Projections		√
Financing	(government support)	Agreed with the banks
Devaluation and Inflation	√	√
Default and Force Majeure		
- By Concession Company		√
- By Government	√	

BOT Expressway Risks to be ADRESSED

Risk Category	**Description**
Design	• Cost of re-design resulting from poor initial design
	• Increased construction or maintenance costs due to initial design assumptions
	• Incorrect geotechnical assumptions at design stage
	• Planning permissions
	• Site clearance
	• Failure of designer
	• Government-imposed changes
	• Non-compliance with specifications
	• Designer the scapegoat when things go wrong
	• Approvals procedure leads to increasing costs
Construction	• Unforeseen preparation costs

	• Safety requirements not foreseen
	• Materials used cause unforeseen maintenance costs
	• Interference from third parties e.g., protesters
	• Unforeseen ground conditions
	• Unexpected impact of environmental regulations
	• Land contamination
	• Noise restraining orders
	• Labour problems
	• Problems with quality and price of labour, materials and plant
	• Problems with sub-contractors
	• Site access problems
	• Adverse weather conditions
	• Death or injuries on site
	• Suspension of works
	• Traffic diversion problems
	• Drainage/flooding problems
	• Third part claims
Traffic and Revenue	• Traffic diversion lower than expected
	• Ramp-up longer
	• Few trucks use the road
	• Toll increases don't happen
	• Toll increases adversely affect traffic
	• Failure to improve local road access deters traffic
	• Improvements to other competing roads reduces traffic
	• Improvements to competing modes reduces traffic
	• Change to development plan and major concentrations of activity
	• Government increases taxes, duties of vehicles use
	• Failure of tolling equipment
	• Pilferage
	• Illegal payments to police etc. deters traffic
Operational	• Vandalism
	• Associated infrastructure risks
	• Cost and overruns in tolling equipment
	• Corruption
	• Force majeure- catastrophic event (earthquake, accident etc.)
	• Traffic related problems-accidents etc.
	• Unexpected additional costs
Maintenance	• Material and labour cost increases
	• Pavement failure to high truck use /poor design
	• Unexpected weather problem
	• Traffic management requirements increase costs
	• Non-compliance with maintenance requirements
	• Inferior workmanship

Finance/Other Risks	• Currency convertibility
	• New taxes
	• Inflation
	• Foreign exchange risk
	• Interest rates
	• Insolvency of promoter, contractor or members of consortium
	• Inability to refinance
	• Expected tax allowances not forthcoming
	• Riot, war, invasion
Political Risks	• Political support
	• Expropriation/nationalisation
	• Forced buyout
	• Cancellation of concession
	• Failure to obtain or renew approvals
	• Change of government
	• Import restrictions
Country Legal Risks	• Changes in law and regulations
	• Law enforcement
	• Delays in calculating compensation
	• Discriminatory law changes