

# Risk Management

This part provides guidance on the treatment of risks on a PPP project, and;

- Identifies the major risks common to many PPP projects across all sectors;
- Allocates the identified risks between the stakeholders according to international best practice; and
- Indicates how some of the risks are mitigated once the risk allocation has been determined.

## Risk Identification

There are many potential risks that may be generally encountered in a PPP project requiring a considerable degree of risk transfer to the private sector. The choice of a PPP modality clearly dictates what risks are applicable. For example, a PPP project involving a service or operation and maintenance contract has little or no market risk attached to the venture. On other PPP projects, such as a BOOT or B00, this market risk is very significant. Hence, the importance of how this particular risk is allocated, as explained below.

Of the many risks that might be identified, the more “important” risks are those related to;

- Land availability and acquisition (if the former is not available at the point of tender);
- The repatriation of profits;
- The construction and operation of the infrastructure;
- Traffic, revenue, costs and commercial viability of the infrastructure; and
- The regulatory environment (especially tariff adjustments). Inflation and therefore costs of operation may change substantially more than assumed and Governments often resist full implementation of such changes even when included in the concession agreement;
- Exchange rate risks;
- Interest rate increases.

A major risk relates to obtaining the right of way. This affects many toll road projects. It is also important for road access to the project e.g. access road to the project site and road alignment. Although this risk is implicit in the risk on land availability it is worthwhile to stress this particular aspect, simply because acquiring the right of way is more difficult than acquiring a single parcel of land for other projects. For example, the right of way for a toll road usually involves dealing with many landowners, requiring considerable time and effort to negotiate.

Many countries group risks, such as political, demand and performance risks, and all of which should be addressed in some way in the concession agreement.

## Risk Allocation

According to international best practice, a risk should be borne by the party (private or government) best able to manage it at least cost. This implies that the optimum risk allocation is not the same as maximum risks transfer to the private sector. Any departure from this principle tends to defeat the purpose of PPP, since maximizing risks transfer to the private investor, when it is not the best agent to manage the risks, only tends to increase the cost of a PPP project. The private sector would attach a cost premium, if it were forced to bear a risk that it is not familiar with.

Thus, a proper risk allocation should generate incentives to and penalties on the private sector to supply cost-effective and better infrastructure and service delivery. The risk allocation shown in the matrix largely follows the basic principle stated, and hence its application is more likely to lead to the kind of benefits associated with PPP. Examples include construction and operation risks. These are usually borne by the private sector, since it is the best party to manage them.

The above principle should be the general rule. However, this may not be the case with respect to the market risk. There is an increasing tendency nowadays for the private sector to share this risk with the government at the insistence, for bankability reasons, of the commercial lenders, even though the best party to manage could be the private sector. An example of this is a toll road project in which the lenders may insist on the provision of a minimum revenue guarantee by the government.

Sharing the market risk often implies that the government has to assume some form of contingent liability. This kind of fiscal support has been addressed earlier and a method of estimating the likely financial consequences has been proposed.

Clearly, the exact degree of sharing of the market risk can be a negotiation item, and whether the government is willing to share such a risk in the first place depends on the priority of the infrastructure in question and on the likely cost of the fiscal support to the government.

However, it is recommended that the contracting authority, in exchange for providing a contingent fiscal support i.e. a minimum revenue guarantee, also negotiates for some form of fiscal claw-back and/or the ability to share benefits from renegotiation or excess profits. Such a provision allows the government to benefit from the upside of the project. The claw-back, for example, would occur during the project's later years when it is making a profit.

In many countries, the risk associated with land availability acquisition is absent, simply because the project land is already available at the point of tender. Countries that do not adhere to this practice tend to attract less foreign direct investment. The private sector is less willing to bear the uncertainty related to when it would obtain the land for the project, and indeed, the final cost of the land.

A final point on risk allocation relates to the regulatory risk. It is the government's responsibility to ensure that the terms and conditions in the PPP agreement are adhered to. Any departure to what has been agreed, especially with respect to tariff adjustments, should be compensated to maintain investor confidence. If the government disallows tariff increases (to what has been agreed), it is construed as a regulatory default.

## Risk Mitigation

Mitigation here refers to any measures taken by the bearer of the risk. Where the risks are being borne by the private sector, risk mitigation is of little direct concern to the government. The main concern is for the government to ensure that the private sector takes appropriate and least-cost mitigation measures in order to sustain the project. For example, inadequate insurance against certain risks might lead to a PPP project being aborted and the benefits from it not being realized.

Some risks cannot be mitigated, either by shifting to another party or by insurance.

For illustration purposes, mitigation of certain risks borne by the private sector is discussed. The construction risk should be borne by the private sector. This is often shifted by the private investor to another private party in the form of a fixed price, turnkey EPC contract.

Operation and maintenance risks should also be borne by the private investor. Again, it could be shifted to another private entity by outsourcing through an operation and maintenance contract. For example, on some toll roads, operation and maintenance, including toll collection, are sub-contracted to a third party.

Risks associated with debt servicing should be assumed by the private investor and are usually mitigated through interest and currency swaps.

Force majeure risks are categorized as acts of God i.e. natural disasters and sovereign or political risks i.e. terrorism, nationalization or acts of war. The former is difficult to mitigate and is uninsurable, and are borne usually by the government. The latter should be borne by the government, but sometimes the private sector bears the risks by taking out some form of insurance with, for example, MIGA or OPIC.

In the case of land availability at the point of tender, as stated previously, it is the responsibility of the government. It can not be mitigated by the government –either it is available or not available. However, in the case when land is not readily available, the private sector can and will mitigate against the risk by insisting on a cap to land acquisition cost and the time frame within which land would be acquired and made available. It is likely to insist on some form of compensation in the event of a default on land cost and availability.

## Practicalities of Risk and Contingent Liabilities

Contingent liabilities are financial obligations triggered by an uncertain event or risk i.e. an event that may or may not occur. A traffic guarantee for example will only be triggered if traffic is less than a specified amount.

Contingent liabilities can be explicit or implicit. Explicit contingent liabilities are usually guarantees of various sorts but dependent on an event which may or may not occur. Implicit contingent liabilities are those related to bank defaults, currency outflows, defaults of sub national governments, environmental and disaster reliefs etc.

Contingent liabilities are of increasing concern because as more PPP projects are implemented, such liabilities are associated with hidden risks. Such hidden risks can become exposed and nasty shocks emerge, especially in financial crises.

Financial crises can lead to increase in the cost of capital, lower demand, lower returns and increases in uncertainty. Pressure for higher tariffs and mismatch between returns and risks can leave the government with contingent liabilities.

There are a number of dimensions to contingent liabilities which are described below.

### How to minimize risk

The first objective of government should be to minimize such liabilities. Many contingent liabilities arise or are more substantial than they should be from poor project preparation. Good project preparation is discussed above but includes;

- Sound project rationale and proper project sizing
- Good SCBA, including traffic forecasts and costing, social impacts and land acquisition
- Sound financial support and guarantee procedures and application
- Contracting/Retaining experienced advisors who will, among many other tasks, identify, allocate and quantify all fiscal risks as part of governments' due diligence for all PPP projects
- Adequate availability of appropriate financing
- Avoiding political interference
- Adequate consultation and openness
- Transparent and competitive processes
- Effective draft model contracts

### How to quantify contingent liabilities

By their very nature contingent liabilities are unknown. However, methods based on probability analysis can provide an estimate of the timing and future cost of guarantees. This was described above.

### How to control and manage contingent liabilities

Usually the government has an authority to control and manage contingent liabilities, usually part of a Ministry of Finance. It should be well resourced and have senior staff with substantial experience in risk management techniques including those related to PPP contracts.

The tasks of this authority/department/ministry are to identify and manage all fiscal risks associated with PPP projects including;

- Plan and manage all off budget and off balance sheet activities
- Develop appropriate accounting guidelines for fiscal risk

- Provide input to PPP policy on fiscal risk and on budget and off balance sheet activities
- Balance fiscal risk and infrastructure development
- Develop risk management practices to limit fiscal risk to acceptable levels
- Monitoring the levels of contingent liabilities (at all levels of government) and those of events that may impact triggering of contingent liabilities
- Contribute directly or indirectly into new financing structures
- Avoid crowding out of private financing
- Be fully involved in renegotiations
- Coordinate with other PPP organizations, cells, sources of finance and others to;
  - Encourage projects that are self financing and/or projects that have less volatile financing needs and characteristics
  - Help prioritize the less profitable projects that need subsidies and guarantees that might develop into actual liabilities
  - Obtain and provide information relevant to the project cycle
  - Assist with ongoing development and improvement to PPP procedures
- Prevention/mitigation of moral hazard at all levels of government and by private sector
- Assist in the development of laws and regulations to carry out these tasks.

### Other tools

There are other tools that may minimize or mitigate risks and contingent liabilities;

- Multilateral agencies: IMF/WB/ADB for example can contribute to stability by enforcing fiscal disclosure.
- Audit institutions and finance ministries can publish information and support the authority in 3 above.
- Countries that are risk averse, lower capacity to manage risk and lower borrowing capacity should not be encouraged to develop contingent support programs.
- Countries also have contingent liabilities related to non PPP investment or organizations e.g. State Owned Enterprises, national airlines for example. All contingent liabilities could be considered in an integrated manner.

### Clear guidelines for contingent liabilities

Clear Guidelines for PPPs including contingent liabilities can help to avoid and mitigate risk and the following issued by Government of Bihar are quite instructive:

“Appropriate and robust legal, policy and regulatory frameworks with suitable institutional capacity building will be provided. These will include, inter alia:

- Clear legal basis and appropriate procedures for PPP transactions.
- Transparent policy and regulatory frameworks for PPP projects that would minimize avoidable transaction costs and delays in project implementation while ensuring protection of consumer interests. These frameworks need to also provide

for constructive contract management, e.g. the resolution of differences between parties over the life of the contract.

- Transparent contracts for PPP projects, based on these frameworks which will allocate risk between the private and public partners.
- Institutional mechanisms to facilitate the identification, development, processing and management of PPP projects.
- Mechanisms incorporating independent, accountable and transparent appraisal and selection processes that ensure value for public money in PPP projects.
- Expedited approval processes that follow a constructive developmental approach, while ensuring adequate provisions for due diligence, consistency with processes in other sectors and incorporating best practices on accountability and transparency, and
- Measurement, disclosure and provision for contingent liabilities that may arise as a part of the PPP transaction”.

### Fiscal Risk Matrix

The following table shows a fiscal risk matrix which may assist in defining types of risks.

POSSIBLE SOURCES OF FISCAL RISK FOR CENTRAL GOVERNMENTS		
	Direct Liabilities	Contingent Liabilities
Explicit Liabilities	Government liability created by a law or contract; E.g. Sovereign debt, budget expenditures	State guarantees on service purchase contracts (demand risk) <ul style="list-style-type: none"> <li>• State guarantees issued to private investors and service providers</li> <li>• State guarantees on debt and other obligations of sub-national governments</li> </ul>
Implicit Liabilities	A "political" obligation of government that reflects public and interest group pressures e.g.; pensions, social security and health not covered by law, recurrent investment costs	Non-contractual claims arising from private investment, for instance in infrastructure <ul style="list-style-type: none"> <li>• Claims by sub-national governments to assist in covering their own debt, guarantees, arrears (PPPs at sub-national level) e.g. environmental recover, disaster relief</li> </ul>

*Source: Contingent Liabilities: A Threat To Stability. WB PREM Notes 1998 and modified by M Mrsnik, IMF-Hungarian Ministry of Finance, 2007*



The Fiscal Implications of Infrastructure Development. R Cohen and M Percoco. IADB Workshop Washington. Feb 2004



PPP in Highways. Jose Luis Irogoyen. WB Transport Forum 2006.



Contingent Liabilities: A Threat To Stability. World Bank PREM Notes No 9 November 1998.

## Mitigation of Risks in Highway PPPs

Risks can be mitigated through a number of measures.

The workshop paper by Ellis Juan looks at mitigating risks in highway PPPs through the financing dimension. This is a useful complementary approach to mitigating risk and supports Modules 2 and 3 where it states that all risk can be related to financial outcomes.

Fluctuations in cash flows are considered as a proxy for risk i.e. if demand is not as high as projected, interest rates rise, annual costs are higher than projected the results will manifest themselves in the cash flow.

The key driver then is cash flow predictability which brings in the need for risk mitigation products to minimize cash flow downward influences.

One suggested measure already being provided and/or discussed are the availability of longer tenor loans to match more helpfully PPP contract duration through infrastructure financing facilities e.g. IPPF in Pakistan and the IICLF in India.



Tools to Mitigate Risks in Highway PPPs Ellis Juan, Sector Manager, World Bank

TYPES OF RISKS AND IMPACTS							
<<<<<<<<Non-sovereign Risks				Sovereign Risks>>>>>>>>			
Risks	Completion Risk	Performance Risk	Environmental Risk	Demand Risk	Political Risk	Regulatory Risk (inc. Land Acquisition Risk)	Macro-economic Risk
<b>Cash Flow Effect</b>	Cost over-runs and delays.	Revenue generation and operational costs increase	Hidden liabilities	Revenue generation	Expropriation, transfer, convertibility		
<b>Cease of revenue generation</b>	Revenue generation. Tariff Adjustment; Right of Way, Termination payment	Revenue generation. Devaluation / inflation impact of cash flows					
<b>Impact</b>	High	Low	Low	High	Low	High	High

<b>Risk Mitigation Instrument</b>	EPC Contract and performance bonds	Performance based contracts	Environmental Assessment	Traffic Minimum Revenue Guarantees / VPN Concession Partial Credit Guarantees	Political Risk Insurance	Concession Contract Partial Risk Guarantees –See Module 2 on WB and ADB Guarantees	Local currency financing
<b>Provider</b>	Private	Private	Private	Private/ Public	Private / Public	Public	N.D.

Source: Juan Ellis (reference above table)

Juan Ellis suggests a ‘rolling guarantee’. A rolling guarantee is; “A partial credit enhancement product providing a guarantee of a specified number of interest and/or principal payments, on a rolling forward basis — i.e. the guarantee rolls forward to the next installment date automatically (if no claim has taken place) or upon payment by the issuer of a previous claim — so that the guarantee covers a rising share of remaining debt service.

For a toll road project where investors perceive a potential risk associated with a variation in the debt service coverage due to slow traffic, delays on tariff adjustments or both at some point within the overall bond tenor, or are uneasy about a period of heavy investments (i.e., rehabilitation), the rolling guarantee will smooth out the repayment profile and reduce investor concerns about potential timing/cash flow issues”.

Other suggested mitigation activities include securitization, partial credit guarantees and Monoline insurers.

Financial markets improvements and a comparison of available World Bank risk mitigation instruments are also discussed.

More details on guarantees, including partial guarantees, are available in the J Ellis paper and on the World Bank and ADB web sites.