

Contingent Liability in PPP Projects

Achieving Transparency in Public Procurements

Nikhil Bhandari

Rock Creek Analytics, LLC

www.RockCreekAnalytics.com

nikhil@rockcreekanalytics.com

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Abstract

This article provides an overview of contingent liability in the context of Public Private Partnership projects. It is important for the government agencies to engage in a meaningful discussion with their private sector counterparts to recognize the guarantees provided in the PPP contract and the appropriate price for such guarantees. This would lead to a more transparent procurement process where the public is well aware of the guarantees made by government agencies, the level of exposure and any compensation for the liability protection that the government is providing the private sector.

Contents

1	Introduction	3
2	Measuring and Pricing	3
2.1	Approach to Pricing	4
2.2	Impacts of Market Pricing	6
2.3	Other Considerations	7
2.4	Further Study	7
3	Closure	7

1 Introduction

This article introduces the concept of contingent liability in the context of public private partnership (PPP) projects. PPPs are an increasingly popular method of developing infrastructure projects (highways, rail and transit systems, water treatment plants, ports, airports, electricity production and distribution, etc.) and it is important for policy makers, project developers and stakeholders to understand clearly what kind of exposure different parties have on the project.

Simply defined, *a contingent liability is a potential liability that may occur, depending on the outcome of an uncertain future event.* This liability can either be implicit or explicit.

- Implicit liabilities are political or moral obligations that arise from expectations that government would intervene in the event of a crisis or a disaster. Examples of such liabilities are: bailouts like the auto and financial industry bailouts after the 2008 financial crises, natural disaster relief such as provided by FEMA after major hurricanes, environmental cleanup, assumption of debt, to outright nationalization of certain industries in times of crises.
- Explicit liabilities on the other hand are obligations based on contracts, laws, or clear policy commitments. Examples include revenue guarantees, loan guarantees, export guarantees, other financial guarantees (exchange rates, etc.), government insurance, natural disaster spending, legal claims against governments, indemnities, etc.

Effectively, the entity (often governments) that are assuming the liability are providing insurance to the owners of the infrastructure asset (often a private entity). In practice, this insurance is provided on a large number of projects where the providers of the insurance (often the government) do not receive any compensation.

We believe that the Government entities often fail to engage their private sector partners in an explicit discussion of what liability protection is being provided in the contract; by simply having such a discussion, all parties (and especially the government agencies) will benefit and the discussion may lead to some restructuring of the project. It is possible that, after due consideration, the government agencies can decide to provide the liability protection for no monetary compensation; however, this should be an explicit decision that is duly noted within the appropriate project documentation.

2 Measuring and Pricing

To understand the exposure to the holder of the liability it is important that we are able to estimate both the magnitude and timing of the liability. Figure 1 provides a general framework for analysis. As indicated in the Figure, for implicit liabilities

both the magnitude and the timing are unknown *a priori*. For explicit contingent liability, while the timing is not known, the magnitude can be estimated (as described below) to a certain degree of confidence.

Once the magnitude of the contingent liability is known, it is possible to think about pricing the “insurance” against the liability. We will focus on explicit contingent liabilities in the rest of the discussion.

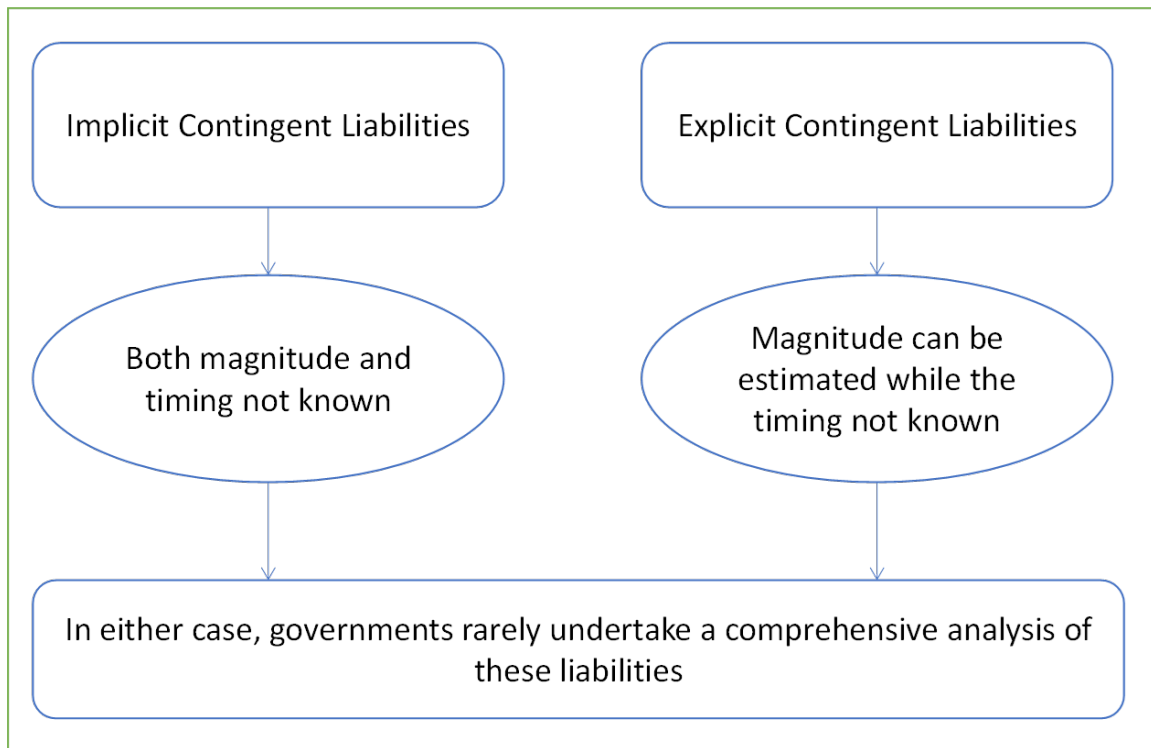


Figure 1: Measuring contingent liability.

2.1 Approach to Pricing

One methodology for measuring and pricing is to first estimate the expected value of the loss each year, and then price the liability at some *multiple* of the expected loss. The appropriate multiple is more of “art” than “science” and will depend on a variety of factors such as the nature of the liability, the likelihood of occurrence, etc.

While this approach looks straight-forward, it is not that simple in practice. To understand the complexities, it is instructive to look at an example.

Consider a toll highway PPP project where the government gives a minimum revenue guarantee of \$10 million per year (i.e., if the toll highway does not generate \$10 million in revenues in any year, the government will pay the difference between the actual revenue and \$10 million). Assume that in any year, the probability of payouts are as shown in Table 1. The expected payout using the information in the

table can be calculated as \$0.40 M. If the price “multiple” for this particular situation is appropriate at 4 to 5, then the price for minimum revenue guarantee should be in the \$1.6 - \$2.0 M per year range.

Table 1: Estimating expected payout (illustrative).

Actual Revenue	Government Payout	Probability
\$0 M	\$10 M	0.05%
\$1 M	\$9 M	0.15%
\$2 M	\$8 M	0.50%
\$3 M	\$7 M	1.00%
\$4 M	\$6 M	1.10%
\$5 M	\$5 M	1.20%
\$6 M	\$4 M	1.30%
\$7 M	\$3 M	1.40%
\$8 M	\$2 M	1.50%
\$9 M	\$1 M	1.80%
\$10 M or more	0	90.00%
Expected value of payout		\$0.40 M

Before going further, it is important to consider that estimating the probability is critical to overall pricing calculation. The key element here are the tail probabilities (i.e., the probabilities at the end of the curve). Typically, these are low probability but high impact events. There is a lot of literature suggests that humans have a hard time assigning appropriate values to such events - the interested reader is referred to the classic by Kahneman [1] or the bestseller on highly improbable events by Taleb [2]. We typically underestimate these probabilities.

The key methodological challenge then becomes - who should do this estimate? It can be the owners of the assets; however, they have an incentive to under-estimate the “tail” probabilities. It can be the holders of the liability (i.e., a government entity); however, they have an incentive to over-estimate the “tail” probabilities. It could be a third party like a consultant; while they can appear to be impartial, in practice they often tend to prefer the position of the party that hires them. Finally, it could multilateral entities such as the World Bank or specialized non-profits.

There is the related issue of how to actually do the estimate. The estimation of the probability is related to the forecasts of the appropriate measure that triggers

the liability payment (in this example, the revenue for the toll road). The methodology adopted for the forecasts should allow for measuring the likelihood of achieving different levels of forecast in any year.

2.2 Impacts of Market Pricing

Once the provider of liability protection (i.e., the government entity in our example) requests that the beneficiary of the protection pays an appropriate price for the protection, one of several things could happen.

- The beneficiary accepts the price and everyone is happy.
- The beneficiary and provider negotiate the appropriate price (the most likely scenario).
- The beneficiary may re-evaluate the need for the liability protection.
- At times, it also makes the project financially unfeasible which may force the provider to re-evaluate the terms of the project.

In the most likely scenario, the beneficiary and the provider will have to come to an agreement on the appropriate price for the protection. One option here could be changing the limits at which the protection is triggered. For our example, if the beneficiary reconsiders its position and requests that the guarantee is triggered at revenue level of \$5 million (instead of \$10 million) then the expected payout is reduced to \$0.05M (from \$0.40M) as shown in Table 2. The price range for the lower guarantee level would be \$0.20 – 0.25 M which might be easier to accommodate within the financing structure of the project.

Table 2: Expected payout at a lower revenue guarantee level (illustrative).

Actual Revenue	Government Payout	Probability
\$0 M	\$5 M	0.05%
\$1 M	\$4 M	0.15%
\$2 M	\$3 M	0.50%
\$3 M	\$2 M	1.00%
\$4 M	\$1 M	1.10%
\$5 M or more	0	97.20%
Expected value of payout		\$0.05 M

2.3 Other Considerations

Aside from measuring and pricing considerations, disclosing PPP liabilities is an important area that deserves a mention. The disclosure of such liability is an accounting issue and different accounting systems treat contingent liability differently; it also is a legal issues and some countries have a legal requirement to disclose fiscal risks. The disclosure of nature, scope and amount of contingent liability is often difficult to explain in a clear manner and can easily be misinterpreted.

2.4 Further Study

There are several sources to further enhance one's understanding of contingent liability. Cebotari [3] and Bova *et al.* [4] of the International Monetary Fund discuss these issues in great detail. Irwin and Mokdad [5] provide very practical information on what Chile, Australia, and South Africa have implemented. Finally, the Government of India has a handbook [6] for estimating contingent liability for PPP projects in the highway sector.

3 Closure

This article has provided an overview of contingent liability in the context of PPP projects. There are several sources to further enhance one's understanding of contingent liability. It is important for the government agencies to engage in a meaningful discussion with their private sector counterparts to recognize the guarantees provided in the PPP contract and the appropriate price for such guarantees. This would lead to a more transparent procurement process where the public is well aware of the guarantees made by government agencies, the level of exposure and any compensation for the liability protection that the government is providing the private sector.

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