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Allocating Risks

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Allocating risk, in the context of a PPP, means deciding which party to the PPP contract will bear the cost (or reap the benefit) of a change in project outcomes arising from each risk factor. Allocating project risk efficiently is one of the main ways of achieving better value for money through PPPs. **Iossa et al** (Iossa et al. 2007, 20) describe two main goals of risk allocation. The first is to create incentives for the parties to **manage risk well**—and thereby improve project benefits or reduce costs. The second is to reduce the overall cost of project risk by insuring parties against risks they are not happy to bear. Allocating Land Acquisition Risk—commonly a significant risk for PPP projects.

Allocating Land Acquisition Risk

Land acquisition can be one of the most challenging aspects of developing a PPP project. Delays in obtaining land have created significant hurdles or even blocked some promising PPP projects. There are many options for dealing with risk associated with land acquisition delays or difficulties. Some governments adopted a policy of freeing land before launching a project to the market, thereby accepting and taking this risk out of the contractual equation—such as for transport projects in India. Others allocate to the private party the responsibility for identifying the plots of land that will be needed for the project, and for undertaking the necessary processes to acquire that land and free it from occupancy. Still others prepare carefully the land acquisition process, detailing the need for land and the identification of owners, but then transfer to the private partner the responsibility for obtaining the land. The best option may depend on circumstances—not least the prevailing legislation regarding compulsory acquisition of land.

India's Toolkit for Highways (IN, Module 3), in its Module 3: *Tools and Resources*, presents several good and bad examples of how to handle land acquisition. **Jonathan Lindsay's paper** (Lindsay 2012) discusses compulsory land acquisition in detail.

Risk allocation principles

A central principle of risk allocation is that each risk should be allocated to whoever can manage it best. **Irwin's book on guarantees and PPP risk** (Irwin 2007, 56–62) defines this principle more precisely, stating each risk should be allocated to the party:

- *Best able to control the likelihood of the risk occurring*—for example, the private party is usually in charge of project construction because it has the most expertise in that area. This also means it should bear the cost of construction cost over-runs or delays.
- *Best able to control the impact of the risk on project outcomes*, by assessing and anticipating a risk well and responding to it. For example, while no party can control the risk of an earthquake, if the private firm is responsible for project design, it could use techniques to reduce the damage should an earthquake occur.

- *Able to absorb the risk at lowest cost*, if the likelihood and impact of risks cannot be controlled. A party's cost of absorbing a risk depends on several factors, including: the extent to which the risk is correlated with its other assets and liabilities; its ability to pass the risk on (for example, to users of the service through price changes, or to third parties by insuring); and the nature of its ultimate risk bearers. For example, the ability of governments to spread risk among taxpayers means they may have lower risk-bearing cost than private firms, whose ultimate risk-bearers are their shareholders.

As described in the **OECD's publication on risk sharing and value for money in PPPs** (OECD 2008a, 49–50), applying these principles does not imply transferring the maximum possible risk to the private sector. Transferring to the private party the risks that it is better able to control or mitigate can help lower the overall project cost, and improve value for money. However, the more total risk transferred to the private party, the higher the return—or risk premium—the equity investors will require, and the harder it will be to raise debt finance.

The principles and practice of risk allocation in PPPs is also increasingly the subject of academic research and literature. For example, **Ng and Loosemore's article on risk allocation in PPPs** (Ng and Loosemore 2007) describes PPP risk categories and allocation approach and provides a case study of risk allocation in the New Southern Railway project (an underground airport-city rail link) in New South Wales, Australia. **Bing et al's article on risk allocation in PPP/PFI projects** in the United Kingdom (Bing et al. 2005) assesses how risks have been allocated in PFI projects in practice, to identify risk allocation preferences. An **IDB review of the Spanish PPP experience** (Rebollo 2009) includes several examples of risk allocation used in different types of projects, from roads to hospitals. The **World Bank report on Recommended PPP Contractual Provisions** (WB 2017e) discusses several contractual clauses related to core risks such as Force Majeure and Change in Law.

Limitations on risk allocation

There are some limits to how risks can be allocated in a PPP project. These include the following:

- **Level of detail of risk allocation**—in theory, every project risk could be identified and allocated to the party best able to bear it, thereby improving value for money. In practice, as **Irwin** describes (Irwin 2007, 63–65) the cost of doing so would be high, and likely outweigh the benefits in the case of less significant risks. In most cases, risks are allocated in groups, sometimes with exceptions for certain significant risks. For example, the private party may bear all construction risks, except certain key geological risks, against which the government could provide an indemnity.
- **Risks that cannot be transferred**—certain types of risk cannot be transferred through the PPP contract. For example, the private party will always bear certain political risks—in particular, the risk that the government will renege on the contract or expropriate the assets. International institutions such as the Multilateral Investment Guarantee Agency (MIGA) provide political risk insurance to help mitigate this risk.
- **Extent of risk transfer to private party**—the equity holders of the private party to the PPP contract—the PPP company—are only exposed up to the value of their equity stake. Moreover, lenders will typically only accept a relatively low level of risk, concomitant with their expected returns. In practice, this means that the extent to which risk can be transferred is limited by the level of equity in the project company, as described by **Ehrhardt and Irwin** (Ehrhardt and Irwin 2004). If losses due to a risk turn out to be greater than the equity stake, the equity holders can walk away from the project. Since the government is ultimately responsible for making sure services are provided, the remainder of the project risk remains with the government—as described by **Iossa et al** (Iossa et al. 2007, 25).
- **Incomplete contracts**—even well-designed contracts may suffer from the absence of certain necessary provisions. While PPP contracts cannot provide solutions for every possible situation, they should provide rules (templates or formulas) for the range of foreseeable scenarios, and a decision-making methodology for any other situation.

A combination of these limitations can mean that country characteristics affect the possibilities of risk transfer. **Ke et al's study of risk allocation** (Ke et al. 2010) demonstrates this in their comparison of risk allocation for projects in China, Hong Kong, Greece, and the United Kingdom.

Risk allocation matrices

The output of the risk allocation process at this stage is often a **risk allocation matrix**. The risk allocation matrix lists risks—often sorted by category—and defines who bears each risk. This risk allocation is then put into practice by including the appropriate clauses in the PPP contract as described in Designing PPP Contracts. **Farquharson et al** (Farquharson et al. 2011, Appendix B) provides an example risk register (or matrix) for a PPP project.

Some governments capture the risk allocation principles described above in preferred risk allocations, often presented in the form of a preferred risk allocation matrix. These preferred allocations may be generic, or specific to sectors or types of project. They are usually a starting point for allocating risk on a particular project, since projects often have specific characteristics where a different risk allocation would provide better value for money. Risk allocation matrices should be checked again prior to signing the contract to review the responsibilities of each party before it is legally binding. This final review could also serve as an additional gate-keeping mechanism.

The following are examples of preferred risk allocations and risk allocation matrices:

- **Infrastructure Australia** has produced standard commercial principles for both economic and social infrastructure projects (AU 2011b), which describe in detail how risks and responsibilities will be allocated.
- **Hong Kong's Introductory Guide to PPPs** (HK 2008, Annex E) provides a detailed example of a risk matrix for PPP of a water treatment plant.
- The **Government of Rio de Janeiro's PPP Manual** (RJ 2008, Annex 2) provides an example of a risk matrix for a PPP infrastructure project.
- **South Africa's PPP Manual**, Module 4: PPP Feasibility Study (ZA 2004a, Annex 4) includes a standardized PPP risk matrix—listing risks, and describing for each risk a typical risk mitigation mechanism and allocation.
- **The Global Infrastructure Hub (GI Hub)'s** report on *Allocating Risks in Public-Private Partnership Contracts* (GIH 2016a) **presents a series of 12 sample risk matrices** in different infrastructure sectors, specifically transport, energy, and water and sanitation. In each of the sample risk matrices, there is a detailed listing of project risks, along with a discussion of risk allocation, mitigation measures and government support arrangements. There is also a comparison of the different risk allocation arrangements in developed and emerging markets. The GI Hub website (GIH) also provides an interactive blog and Q&A forum.

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- Managing PPP risks with a new guide on guarantees
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