

RISK MITIGATION AND INCENTIVES FOR INFRASTRUCTURE FINANCE**Kuzieva Nargiza Ramazanovna****Professor of the Tashkent Financial Institute, Doctor of Economics**

There is no single, consistent definition of risk in the literature on infrastructure. Risk, sometimes called measurable risk, is defined as a case where there is a range of possible outcomes that are each associated with an objectively or subjectively ascribed numerical probability. Formally, risk is defined as the measurable probability that the actual outcome will deviate from the expected outcome.

Knight's definition of risk states that statistical probabilities reflect measurable risk while subjective probabilities, which are largely based on opinion, represent unmeasurable uncertainty. Probability is often used as a metric of uncertainty, but its usefulness is limited; probability therefore quantifies perceived uncertainty. Risk can be broken down into two essential components: exposure and uncertainty, exposure being an important part of this definition. In the case of financial investments, downside risk, and its severity, are key points to be made.

For example, the probability of default on a debt is a distinct risk with its own probability of occurrence. The recovery rate on the debt depends on the credit exposure and resolution of default and is itself a range of outcomes with associated probabilities. Loans to project companies are non-recourse; recoveries in event of default are driven solely by the value of collateral.

For infrastructure operators, economic losses can be incurred either through a reduction of expected cash flows, or through the default of a project counterparty to meet obligations. The various financial instruments linked to infrastructure projects and companies expose investors to the underlying infrastructure risks to differing degrees. Effective risk mitigants, which may target aspects of infrastructure projects or financing channels, either alter exposure to risk and reduce potential severity of losses, or reduce uncertainty.

Risk mitigants or incentives may also increase prospective returns, which provide an acceptable compensation given a certain level of risk. For instance, a public guarantee on debt may not reduce the probability of default, but it does alter the exposure to losses by ensuring either complete or partial compensation. Similarly, insurance does not reduce the risk of an event occurring, but it does cover losses. The provision of capital or credit support instruments can reduce the severity of loss given default for senior issues. Revenue grants and guarantees, and tax breaks, can strongly affect the

tion of risk in infrastructure Risks linked to investment in infrastructure projects can be differentiated by their source. Three broad categories can be identified (see Table 2 which shows a classification of the main risks linked to investment in infrastructure projects, grouped according to the project development phases), namely :

1. Political and regulatory risks: Arise from governmental actions, including changes in policies or regulations that adversely impact infrastructure investments. Such actions may be broad in nature (like convertibility risk) or linked to specific industries or PPP contracts. In some cases, this risk may emerge from the behaviour of government contracting authorities. Political risks can be highly subjective, difficult to quantify, and therefore difficult to price into infrastructure finance. Table 2 lists those risks that are closely associated with infrastructure investment.

2. Macroeconomic and business risks: Arise from the possibility that the industry and/or economic environment is subject to variation. These include macroeconomic variables like inflation, real interest rates and exchange rate fluctuations. An asset's exposure to the business cycle, namely, shifts in demand is a principle business risk of the asset. Finance risks (such as debt maturity) are also a major part of business risk.

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3. Technical risks: Determined by the skill of the operators, managers and related to the features of the project, project complexity, construction and technology. The risks associated with a specific infrastructure project generally arise from the nature of the underlying asset itself, contracts with the public sector, and its exposure to the environment in which it operates. The magnitude of a risk varies depending on the country (and its underlying investment climate), sector (and its institutional maturity) and project (and its complexity).

Risks also vary across the life of the project divided into project development phase (before submission of the bid and financial close), construction phase, operational and termination phases. Certain risks may only be present at certain stages of project finance, while others may be present at all stages. Some investors perceive a higher risk in the first phases of the project i.e. bidding process and construction. These considerations affect the optimum risk allocation.

Certain political and regulatory risks, though likely material in the event of occurrence, are closer to the realm of subjective risks. Government bond yields or credit default swaps on traded government issued debts are efficient means to price sovereign risks into infrastructure finance. Other political and regulatory risks that are more specific to infrastructure finance are more difficult to correctly price and would not be completely captured by sovereign spreads.

Political risks like changes in taxation, legal environment, and issues of expropriation are uncertainties, described earlier as subjective risks. These risks are hard to quantify and can have potentially large impacts on the profitability and viability of investment. In some instances they may even be barriers to address before a finance package can be secured.

Business risks should, where possible, be managed by private players, both in a PPP and under privatisation of private developments (due to the fact that such risks can be both endogenous or exogenous in nature). However, in some circumstances, governments may introduce specific instruments, even with a temporary validity or for a specified range of assets, to make infrastructure investments more appealing and financially viable. In recent years, policymakers have introduced a number of actions/instruments to cope with the infrastructure investment gap and the shortage of traditional financial resources, especially on the debt side (specific examples are described in a later section).

Technical risks should be better mitigated through the know-how of specialized operators and should be shifted to the private sector in order to generate an incentive for effective project delivery. However, some technical risks could be retained, even partially, by the public sector without compromising performance as they are external to private sector control and/or their impact on the economic case for the project. This is the case of archeological and environmental risks, especially in PPP/concessions, where the authority should be aware about the condition of the designated land for the investment.

Risk retention is a common practice in established corporations because a firm considers risk allocation to third parties too expensive or the cost of insurance policies excessive compared to the effects determined by that risk. For this reason, the unallocated portion of risk plays a key role in the credit spread and debt/equity ratio setting and represents the most relevant variable that financial investors look at when deciding to commit capital to a given infrastructure. Internally managing risks is a continual process of monitoring project progress and asset performance, requiring competent managers and governance procedures.