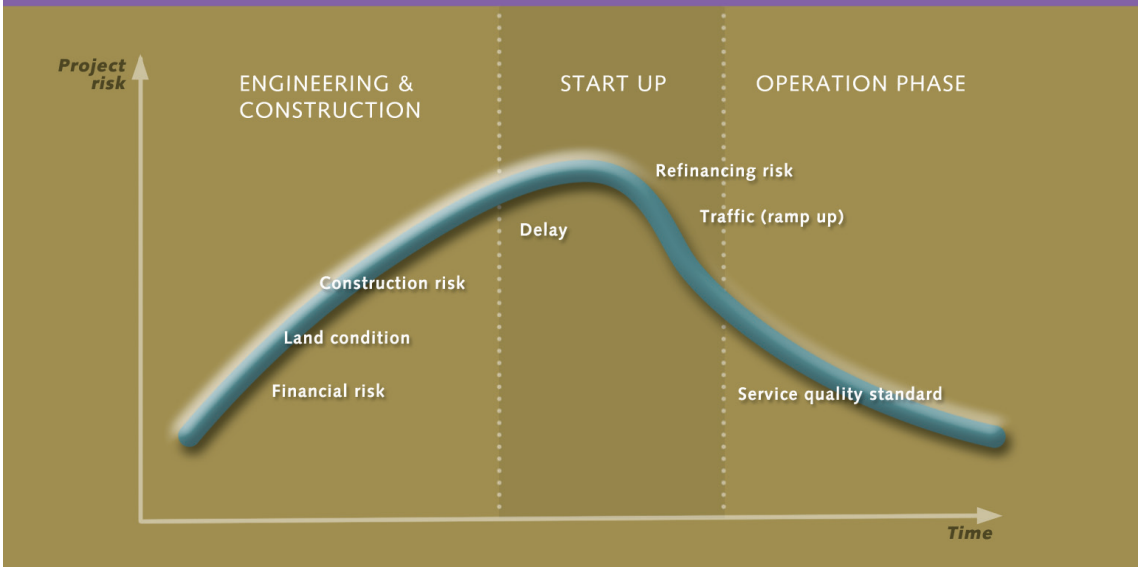
Risk

Risks are present throughout the life of a project. They evolve in nature and intensity (and usually tend to lessen with time). The technical risk relates both to the construction and operational phases. Economic and financial risks on PPP projects are basically no different from those encountered on other projects, apart from the fact that they relate to longer periods. The commercial risk results from the application of user tariffs and their impact on traffic levels.

MAIN PROJECT RISKS OVER TIME (UNDER PROJECT FINANCING)



A risk comes from the uncertainty of the assumptions on which estimates of a project's future revenue and costs have been based and also from adverse or favorable conditions. A risk is characterized by its two main components: the probability of its occurrence and its magnitude.

Integration of the notion of risk in PPPs explains, to a very great extent, if not fully, the apparently high cost of private sector financing. This phenomenon is of the same type as insurance. In contrast to a public investor, which internalizes costs due to the occurrence of a risk, the private investor who has identified a risk has two alternatives:

- either it pays a premium to have the risk borne by another entity (if the risk occurs, it is the entity bearing the risk which must pay, and not the entity which paid the premium),
- or it takes responsibility for the risk but expects, as compensation, a profit in proportion to the magnitude of the residual risk (for the cost incurred when a risk materializes).

Risk is a fundamental feature of any public-private partnership and it substantially influences the overall project cost. A detailed analysis shall be conducted by the project players prior to deciding:

- whether to embark on the project,
- what type of PPP would be the most adequate vehicle for the project.

The analysis shall consist in the following phases subject to negotiations among all project players:

- **Risk identification:** set up the list of project risks and identify those with the most potentially adverse impact.
- **Risk assessment:** analyze the risk with dedicated and well-tried tools and methods.
- **Risk allocation:** distribution of the various risks among the project's public and private players, the main principle being to allocate each risk to the player best suited to support it.
- **Risk mitigation:** each player can use techniques and instruments available to reduce their exposure to risk, comprising adjustment to the contractual framework and recourse to specialized institutions.

As a result of the previous steps, each player adjusts the expected rate of return based on its own criteria. The key players will be the government which through its project preparation stage will assess risk and make a preliminary estimate of the likely private sector reaction to risk and the private sector bidders themselves who will estimate risk and its impact on its return on equity (including the risk premium) required for the specific project.

The above phases are conducted as an iterative process through project preparation and procurement. Once negotiations have been concluded to the satisfaction of all parties, they are translated into the various contractual documents.

Risk identification

The first step is to identify risks: typical country, sector and project specific aspects must be addressed. Risk identification should be performed with representatives of involved parties within a PPP project and can include external experts with experience in the country, sector or the specific project. The identification exercise can be done with checklists, in workshops and/or brainstorming sessions.

When assessing risks, three fundamental types of risks can be considered:

- background risks, i.e. risks not linked to the project but rather to the country,
- cost risks, i.e. risks of exceeding initial cost estimates for the construction or operation of the project, and
- revenue risks, or commercial risks (in revenue-based contracts), depending on the traffic and toll rates applied.

Background risks

These risks include;

- risks caused or resulting from decisions by the public authorities directly concerning the project and
- risks affecting the project resulting from random factors and uncertainties not necessarily influenced by the Government (or at least not specifically related to the project, such as economic growth).

Generally speaking, these risks are not specific to the highways sector. Nevertheless projects in the highway sector are particularly exposed to several background risks since they are often capital-intensive, have predominant income in local currency, significant capital investments in foreign currency, long project duration and often a high social and political sensitivity.

The main background risks can be categorized as follows:

- Political, legal and regulatory risks
- Monetary/currency exchange rates and macro-economic risks
- Force majeure

Project Cost risks

These risks are associated not only with construction but also maintenance and operation: failure to complete the construction of the works, suspension of service, failure to meet deadlines, cost overruns, etc.

Compared to other sectors these risks are particularly high in road projects due to the significant investment required, long operation period and since highways are tailor made and individual by nature.

In the past, contractors used a global risk adjustment e.g. by adding 10% contingencies to a bid price. However, such an approach is not sufficient for PPPs which are complex long-term investments with an extended risk profile.

The risk intensity of the construction phase reaches a peak when the design has been completed, especially the geological studies and public hearings. For the operation phase, it may be considered that the risk intensity reaches a peak after a few years.

Cost-related risks can be categorized as follows:

- Project preparation risks
- Land acquisition risks
- Environmental risks
- Social acceptability of the project
- Design risks
- Construction, repair or rehabilitation risks
- Project management risks
- Technical operation risks

Commercial risks (especially in toll projects)

Commercial risks are perhaps the greatest risks faced by the private parties when their remuneration directly or indirectly originates from road users.

- Traffic is a source risk because it is difficult to estimate and subsequently control:
- Traffic studies include a margin of error, which is sometimes very substantial,
- There is a negative correlation between tariffs and traffic levels;
- The more links there are in a network, the greater the risks of alternative routes being used by the users and/or the difficulty of predicting driver choice.
- For road projects, the private partner is providing an infrastructure but not a transportation service. The many potential users in the road sector are high and can often choose between several options to go from point A to B.
- Alternative routes may be built after the opening of the project.

The tariff level is subject to political risk, namely that of the pressure of public opinion and of the public authorities modifying the legal and fiscal framework or adopting specific unfavorable measures (such as poor integration of the structure in the existing network, or the creation of competing infrastructure facilities).

The difficulty of controlling commercial risks and the nature of the political risks that they may relate to will raise the level of profitability that the concessionaire may hope to secure before committing itself to a project. These higher expectations and a number of unfortunate experiences raise doubts over how appropriate it is to make the private sector bear the commercial risk.

Despite their importance, it must be remembered that commercial risks are only part of the overall risk which may be supported by the private partner and public authorities may have an interest in providing a limit for the level of commercial risk supported by the private sector (eg guaranteed minimum traffic levels), to reduce the risk premium and cost of private capital. Such risk protection by the public sector by no means reduces the need to provide remuneration mechanisms which mitigate excessive risks and stimulate the private sector.

One may indeed ask whether it is consistent to allocate a risk of such magnitude to the private sector.

- In mass transit projects, users have to pay a fare, but most often the operator does not bear the commercial risk (although he may receive financial incentives based on traffic levels).
- The shadow toll system applied in the UK limits commercial risk to the private operator, notably due to lack of risk of loss of traffic due to tolls. However, the UK Audit Office has criticized the shadow toll mechanism as there is no clear link between payment and risk and the UK has stopped using shadow tolls.

Various solutions are used to mitigate excessive risk and encourage the private sector to fund infrastructure but in these cases the user either does not pay at all or pays only part of the costs;

1. Using shadow toll charges borne by the public authorities. This eliminates the problem of price-related traffic elasticity and traffic rerouting due to the existence of a toll system. In addition, since the road is free, it maximizes its potential use.
2. Payment of a fixed rent or annuity by the public authorities. This eliminates any commercial risk to the private sector but requires other incentives such as availability payments for the operator to deliver the required level of service.
3. Guarantees to cover risks.

These solutions can affect the responsiveness of the private sector partners to their responsibilities for level of service and should thus be chosen with care.

Risk assessment

Traditionally, provision for risk in public-funded projects has been provided through the use of contingencies, in which an amount (often 10%) is added to the public budget for construction to allow for unforeseen circumstances or additional works.

However, PPP projects require a much more sophisticated analysis of risk and their impacts to support the process for risk allocation and mitigation.

Composition of risk

The impact of risk may be defined as follows:

Impact of risk = Intensity of risk x Likely occurrence of risk

Risk intensity

The intensity of risk means its magnitude or impact, which is influenced by:

Effect: If a risk occurs, its effect on the project may be expressed in a number of ways, e.g. 1-year delay in construction, reduced traffic volumes of 10%, lower toll tariffs by 5%. These will in turn have cost implications and impact on the estimated financial or economic results.

Timing: Different risks may affect the project at different times in the life of the project. For example, construction risk will generally affect the project in the early stages. The effect of inflation must also be borne in mind, if likely to be differential over a period.

Risk occurrence

Estimating probabilities is not an exact science, and assumptions have to be made. Assumptions must be reasonable and fully documented. There are some risks whose probability is low, but the risk cannot be dismissed as negligible because the impact will be high (for example, the collapse of a bridge).

In this case a small change in the assumed probability can have a major effect on the expected value of the risks. Together with estimating the probability of a risk occurring, it is also necessary to estimate whether the probability is likely to change over the lifetime of the project.

A subjective estimation of probability is based on past experience or current best practice, and supported by reliable information, if available. If reliable information is not available, experts will have to make assumptions about the logical, commonsense likelihood of a risk occurring.

However, if the probability of a risk occurring is high or the potential impact is significant, and there is sufficient reliable information, an advanced technique should be used as it can provide more conclusive results.

Breakdown into sub-risks

Risks must be assessed with respect to their component sub-risks. The risk of a decrease in traffic volumes may be linked to a number of economic parameters which could then be assessed more accurately. Construction risk will be composed of the combined risk of a number of contributing factors or sub-risks:

- cost of raw materials is higher than assumed
- cost of labor is higher than assumed
- delay in construction results in increased construction costs

Each sub-risk has its own intensity (cost and timing implications) and likelihood of occurrence.

Qualitative risk analysis

At a preliminary stage, a qualitative risk analysis can be performed. At this stage, the likelihood and consequences can be assessed qualitatively e.g. on a scale from A to E (A very low, B low, C mean, D high, E very high) and later the likelihood can be assessed in percentage and subsequently in monetary terms.

The qualitative risk assessment on an A to E scale can be used to transfer non- transparent lists of risks into a priority list of risks using a scoring-risk matrix. Once risks can be assessed in more detail or exact in percentage (likelihood) and monetary terms (consequences), the applied scores can be adjusted.

Decision makers can develop a risk matrix e.g. with a score from 1 to 10.

If a risk X is predicted with likelihood B and consequences B the score is 2.

If a risk Y is predicted with likelihood C and consequences E the score is 9.

If a risk Z is predicted with likelihood E and consequences E the score is 10.

Consequently Z has the highest priority with the score 10, followed by Y with a score of 9 and X with a score of 2.

EXAMPLE OF QUALITATIVE RISKS MATRIX

Quantitative Risk analysis

Quantitative risk analysis is performed from the feasibility study stage, which, for major PPP projects, uses special software with the assistance of an experienced risk analyst.

Quantitative risk analysis determines the impact of risk on major cost and revenue centers in a financial or economic model for PPP analysis.

Project values are entered in the financial or economic model as probable value spreads in place of absolute values. The model can then compute impact on financial and economic indicators in terms of estimated spreads, representing likely overall risk exposure of the project.

The preferred method to present the impact of risks is by a separate cash-flow item which promotes a focus on the costs of each risk and enables an understanding of how risk can be transferred and what its financial effects are. In addition to this, valuing each risk as a separate cash-flow item accounts for the time implication of that risk (some risks may only have an impact at the beginning of a project, and the impact of other risks may diminish or escalate over the life of the project).

There are many tools available to model risk and uncertainty: Work breakdown structure (WBS), risk breakdown structure, fault tree, event tree, cause-consequence analysis, influence line diagramming, CPM and Pert networks, decision tree, decision analysis, stochastic simulation, sensitivity analysis and conceptual models/artificial intelligence.

Sensitivity analysis and stochastic simulation are among the most relevant and used tools by private investors to assess the risks linked to a road PPP project.

Sensitivity analysis

Sensitivity analysis can be used to model the effect of one or more changes in variables. It is useful but simplistic and does not include the likely possibility of each change. For

this purpose, one or more input assumptions to the financial model are modified which provides an estimate of the impact of this/these variations on the project cash flow/ profit. For instance, using this method it is possible to change say, either individually or together, the cost of construction, include a construction delay factor and to reduce traffic to thus calculate the impact of these changes on the cash flow/profit.

Stochastic Models - Monte Carlo

Statistical risk measurements, which are much more sophisticated, are particularly useful for assessing the impact of a number of simultaneous risks and their probability. Multivariable analysis techniques, like Monte Carlo simulation, have been successfully used in the valuation of risks for road projects.

Stochastic modeling builds volatility and variability (randomness) into the simulation and therefore provides a better representation of real life from more angles.

This type of analysis requires estimating a range of possible risks together with their probabilities of occurring, and the maximum and minimum project costs for the different scenarios. For instance, rather than setting investment returns according to their most likely estimate, the model uses random variations to look at what investment conditions might be like. Then this is done again with a new set of random variables. In fact, this process is repeated thousands of times. The result is a distribution of outcomes which shows not only what the most likely estimate but also the ranges which could be expected.

Monte-Carlo simulations can be used to model the range of economic indicators (discounted or undiscounted NPV, IRR, ROI, ROE, payback period, or other economic indicators) or activities from the time schedule (e.g. completion of construction, start of operation or end of concession)

A key disadvantage of multivariate analysis is that it requires a large amount of reliable information and can also be more complicated to calculate and interpret. It may also shift the focus away from the analysis of individual risks that may need to be understood.

Handbook for Integrating Risk Analysis in the Economic Analysis of Projects.
Asian Development Bank. 2002

Risk allocation

What can be done with Risks?

Risks can either be (i) accepted, (ii) transferred, (iii) avoided or (iv) insured.

To create a public-private partnership the principle of risk sharing must be accepted. Private players are willing to take some of the project risks, provided that the nature

of the risks relates to their expertise so that they will be able to properly assess the consequences.

The expected remuneration is also expected to be proportionate to the level of risk they will bear.

The risk management principle that every party should take risks that he can actively manage and control/offset must be understood by all parties who are involved in order to share responsibilities, risks and establish incentive structures.

Asking the private sector to bear risks that could best be handled by the public sector will usually result in:

- withdrawal of the private partners who refuse to take the risk
- excessive risk premiums to be paid, thus losing some or all of the benefit of PPPs
- project restructuring if the risk materializes and the private players cannot handle the associated losses in the foreseen conditions.

In any case, it leads to an inefficient use of public money because the risk premium is high (excessive profits expected by the private sector as compensation) and if the risk materializes it would actually not be borne by the private sector because its magnitude would result in the incapacity of the private party to further deliver its services (bankruptcy, major project restructuring…). The public sector would then have to step in.

Moreover, the economic return of the project is reduced due to the high price paid to the private sector (either directly or through tolls).

Risks are allocated between the public and private sectors but also between private partners among themselves through the contractual framework.

Some risks cannot reasonably be controlled by any of the public or private parties. Allocating these risks to the private entities would be counter-productive as shown above. On the other hand, having those risks borne entirely by the public sector might eliminate incentives for the private sector to perform well.

All project risks should be assessed to the finest possible degree prior to initiating the project. Each risk must be assessed under the responsibility of the entity which will incur the risk. Reasons of efficiency and equity require risks to be taken by entities which will obtain the greatest benefit from the operation, or those whose line of business is concerned, namely technical risks by contractors and operators, and economic and financial risks by the Contracting Authority.

Allocating commercial risk to the private sector seems to be an incentive. Nevertheless, it is a risk which is, to a large extent, beyond the private sector's control (as seen above) and of huge magnitude. Among the private firms competing for the project, those that will accept this risk might not be the most efficient, but only driven (sometimes blindly) by the hope of obtaining the high profit they can expect for this high risk.

Is it consistent in those circumstances to allocate the commercial risk to the private sector?

Risk-sharing mechanisms:

Allocation is made by an up front analysis of the causes of the risks. When this is not possible, a mechanism can be worked out for sharing the consequences of the risk (cost) in proportion to what each player can reasonably bear.

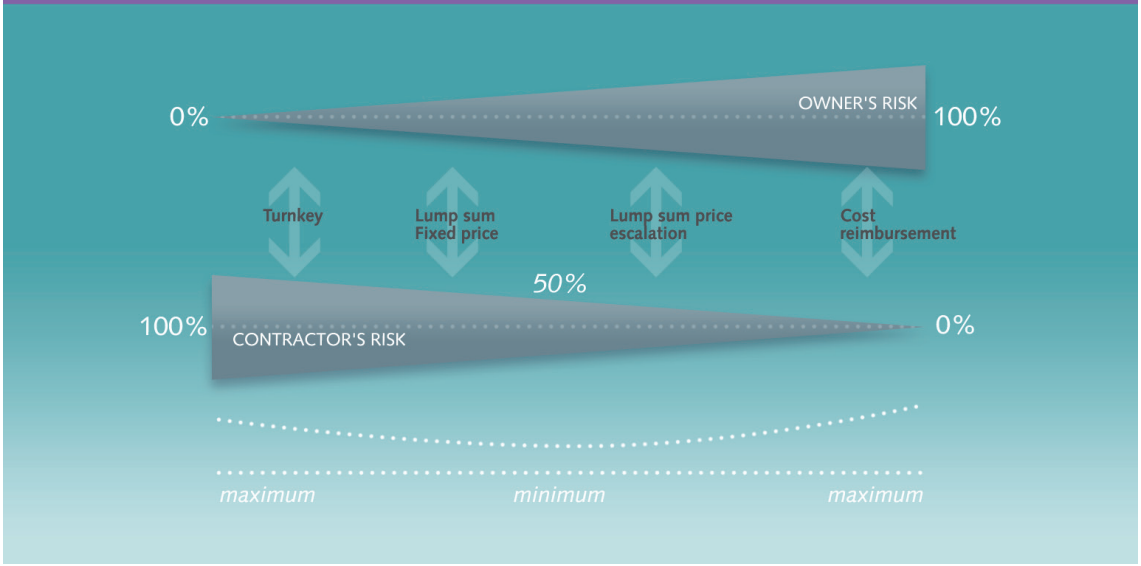
Typical risk allocation principles

Risks are generally shared by the different partners but some are better able to cope with certain specific risks than others. The table below shows a typical risk allocation matrix.

TYPICAL RISK ALLOCATION MATRIX	
Type of risk	**Party which could reasonably take the risk**
Political and legal risks	Public sector and international institutions
Economic and financial risks	Government
Construction risks	Concession company and contractors
Operational risks	Concession company and operator
Commercial risks (if pertinent)	Concession authority Operator (?) Concession company (?)

Risk-sharing must be reasonable with risk-taking offset by profit. The objective is not to maximize risk transfer but optimize risk allocation as shown in the following figure:

EXAMPLE OF QUALITATIVE RISKS MATRIX



Main principles to keep in mind in risk allocation and sharing:

- Risk is bound up with expected profit. Imposing too high a risk on the private sector implies that the public sector will eventually have to pay an excessive "insurance-like" payout.
- The risk must be of a suitable size and under reasonable control of the party which bears it.

- Whatever risk is allocated, part of it (even a small part) might be borne by each partner as an incentive.
- Risk allocation must be made at the outset. If this is not so, the chances of disagreement are high and, moreover, if any serious problems arise, the private sector will be in a stronger position to pass the burden on to the public sector.
- If the duration of the project is long it is wise to set up a "rendezvous" clause to adjust the contract on a predetermined basis.
- Risk magnitude and money at stake are not the same thing, i.e. the risk of a project collapsing is very different to the risk of losing money on it.

Allocation of traffic risk

The traffic risk is a very important issue since traffic is one of the two most important sources of revenue in toll based road PPP projects, the other source being the level of tolls. Traffic risk is difficult to allocate and there is no single rule for its allocation.

First of all, traffic risk is difficult to associate because it is difficult to forecast traffic as shown in the table below.

$$Deviation = \frac{actual\,traffic\,(year\,1)}{forecast\,traffic\,(year\,1)}$$

TRAFFIC FORECAST ERRORS					
Study	**Projects**	**Main geographical areas studied**	**Sample size**	**Mean (actual/forecast)**	**Standard Deviation**
Standard&Poor's (2004)	Toll roads	North America, North Europe, Asia, South Europe, Latin America	87	0.76	0.26
Flyvbjerg et at. (2003)	Free roads Toll roads	Denmark, European Union	183	1.09	0.44
Vassallo (2002)	Toll roads Shadow toll roads	South Europe, Latin America	18	1.03	0.24
Athias and Nunez (2008)	Toll roads	Worldwide	49	0.87	0.24

Source: Consultant's compilation based on Athias and Nunez (2008) and Vassallo (2007)

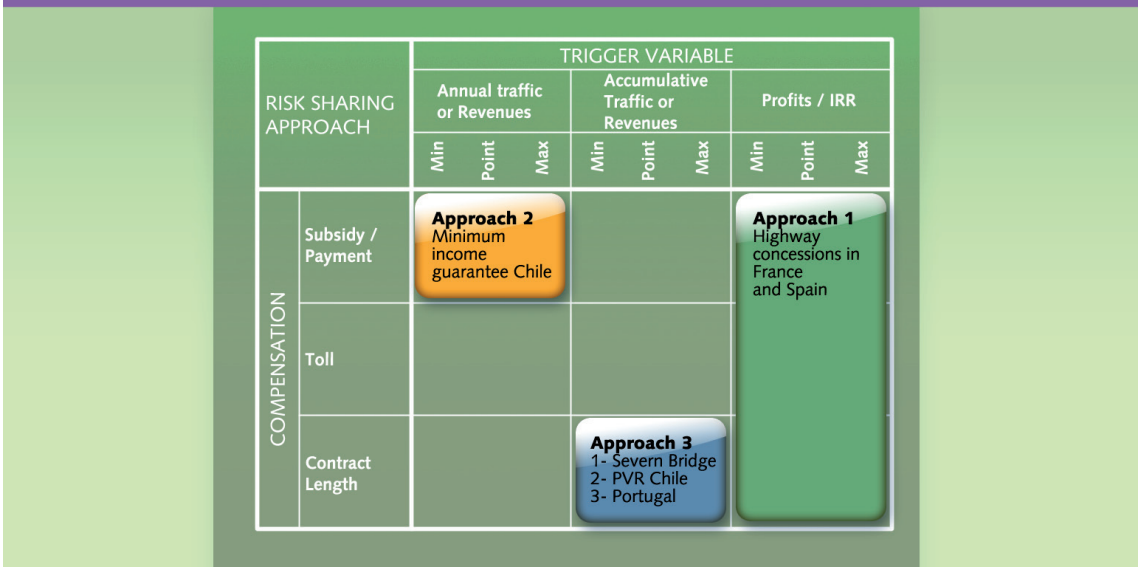
The deviation in the traffic forecast has led many times to a renegotiation of the contract initiated either by the private partner or the government. (See Module 5 -> Amendments to Contracts and Dispute Resolution -> Renegotiation and Amendments) When renegotiation of the contract is possible, in other words when subsequent reallocation of the traffic risk is part of the contract, the bidding process is more competitive because more

attractive for private partners. However, the authority has to ensure that unrealistic bids are not provided on the basis that there will always be scope for renegotiation.

Dealing with demand forecasting games in transport privatization;
Trujillo L.; Quinet E.; Estache A.; Transport Policy, Volume 9, Number 4, pp. 325-334(10). 2002

The reallocation of the traffic risk is based on the principle that changes of a trigger variable below a minimum and above a maximum lead to compensation either for the private partner or the Government. Various types of reallocation of traffic risks exist.

TYPES OF REALLOCATION OF TRAFFIC RISK



Source Vassalo (2007)

Traffic risk sharing based on the annual revenue

With this principle, based on the expected annual revenue, maximum and minimum revenue levels are determined which define the minimum guarantee level:

- When the real revenue is **above** the maximum revenue, the concessionaire must share its profits with the public authority.
- When the real revenue is **below** the minimum revenue the public authority shall pay compensation to the private partner.
- When the real revenue is **between** the maximum revenue and the minimum revenue the government is not involved in the revenue of the concessionaire.

Whilst this traffic risk allocation limits the risks of the private partners and the cost of the PPP, the maximum and minimum revenues (contingent liabilities) as well as levels of payment by the government or the concessionaire may be difficult to accept.

This minimum income principle has been used in Chile.

Traffic risk sharing based on accumulated toll revenue

With this method of traffic risk allocation, the length of the concession contract is linked to the traffic. The idea here is to make the traffic risk an endogenous variable of the contract. In fact, the concession contract is terminated once a fixed amount of accumulated revenue is reached. Therefore if the traffic is higher than expected, the contract duration will be shortened. If the traffic is lower than expected, the contract duration will be extended.

With this risk allocation public resources are protected because the compensation is actually based on time and not money. This risk allocation method has been implemented on projects such as the Severn Bridge in the UK, Lusoponte Bridge in Portugal and in several highways concessions in Chile called "Least Present Value of the Revenues".

Contractors may be dissuaded by a maximum contract duration which would result in a loss of revenue if the targeted accumulative revenue amount is not reached when the maximum contract duration expires. However, a corresponding minimum contract duration allows the potential upside of the contractor's profits to be achieved and make the contract more attractive.

Traffic risk sharing based on profits and IRR

This traffic risk allocation method is mainly used in France (eg the new Millau bridge) and in Spain, and means that the contract considers the possibility of changing some contract clauses based on the profits gained by the concessionaire or the actual IRR of the project. The clauses concerned by this potential clause are usually those linked with the contract duration, the toll prices or the revenue sharing/subsidies.

A drawback is that IRR and profits may be difficult to monitor without a strong and skilled PPP unit within the Contracting Authority. However, the project could be monitored / audited professionally on a regular basis.

Risk mitigation

The Infrastructure and Law website of the World Bank presents typical risk matrices for toll roads (a shorter and a longer version) as well as a number of sample annotated concession agreements and links to other concession agreements and DBOs.

Infrastructure and Law website (UserID and password required; refer "Create account" for free access)

How to Mitigate Risks

Risk mitigation issues can sometimes be confusing when not seen from the perspective of the player who is looking at it.

The global level of risk of the project should be considered, which is the sum of all individual risks involved in the project regardless of to whom they are allocated. Such a

global perspective has to be taken into consideration by Government when deciding if the project should be implemented and which type of PPP can reasonably be considered.

As seen above, each PPP player will price its own services taking into account the profit it expects to compensate for the risks it takes and for the premium it pays for passing it on to another player. Eventually, the sum of all risk premiums is integrated to the overall project cost paid by the tax payer or by the road user.

The global project risk contains the risk of any player failing to conduct its services. It is well known that substituting a PPP player during the course of the project always results in an increase of the overall project cost which, in the end, will be supported by the user or the tax payer.

To reduce the overall project cost, it is therefore the Governments responsibility to ensure:

- that project risks are efficiently shared among the PPP players to minimize the requested premium. Allocation of individual risks is in a sense the best way to mitigate the global project risk.
- the participation of the most efficient PPP players at each level of the project.

Government Guarantees - Allocating and Valuing Risk in Privately Financed Infrastructure Projects, World Bank, 2007

Dealing with Public Risk in Private Infrastructure. T. Irwin,M. Klein,G. E. Perry, M. Thobani. The World Bank.1998.

Review of Risk Mitigation Instruments for Infrastructure Financing and Recent Trends and Developments, 2007

Mitigating individual risks

Project players also have access to techniques and instruments to mitigate the risks allocated to them.

Project financing techniques allow non-recourse or limited recourse financing arrangements to be set up. In such arrangements the lenders are paid from the gross self-financing margin generated by the project. If the project fails to generate sufficient cash to repay the debt, lenders have access to the project assets provided the assets have a market value or do not revert to the Contracting Authority at the end of the project.

This technique means that lenders are full partners in the project, carrying a substantial part of the risk, insofar as the concession company set up for this purpose (SPV) has no pre-existing tangible assets or antecedents.

Risk sharing between the various partners (lenders, contractors, operator and concession companies) is therefore a core question. Lenders will also seek to avoid the effects of possible insolvency of the concession company (calling for the right to replace the defaulting concession company under such circumstances).

Furthermore, if the concession company makes a public issue of equity, the existence of small shareholders will serve as a means of exerting pressure on the public authorities, the concession company and the lenders alike (Project finance).

Mitigating technical risk

Technical risks related to construction and operation can be best mitigated by conducting sufficient preliminary studies. Often, the Government rushes into the identification phases and neglects to conduct the required studies. Particular attention shall be paid to the geotechnical conditions of the project that can have a dramatic influence on the project cost. They should be conducted by reliable consultants with sufficient experience. Often, it is more important to perform reliable preliminary investigations and studies rather than detailed studies based on weak base data.

Mitigating political and economic risks

Commonly used risk mitigation tools protect against the following political risks:

- **Currency or transfer risks:** losses due to the decrease of the currency exchange rate, the currency devaluation or the impossibility to transfer the fund outside the country where the project is implemented
- **Expropriation risks:** losses due to a change in the initial ownership framework of the PPP project
- **War risks**

Traditional political risks can be analyzed and evaluated by insurers based on previous performance of the country where the PPP project will be implemented. In recent years, there has been demand to cover new political risks as:

- **Breach of contract risks:** losses due to a unilateral repudiation of a PPP contract by the government.
- **Non payment risk:** when the government does not pay an amount legally or contractually due to the private partner
- **Regulatory risk:** losses due to a decision's government like changes (not allowed in the contract) of law, regulation, taxes, opposition to the application of the tariffs revaluation formula.
- **Sub-sovereign risks:** losses due to actions taken by lower level government entities like states, counties, municipalities.

The social acceptability of the project, which is a major component of political risk, can be best optimized by involving the public at an early stage of the project. (Module 3 -> Economic Development and Public Interest -> Public Participation and Consultation).

Risk Mitigation Instruments

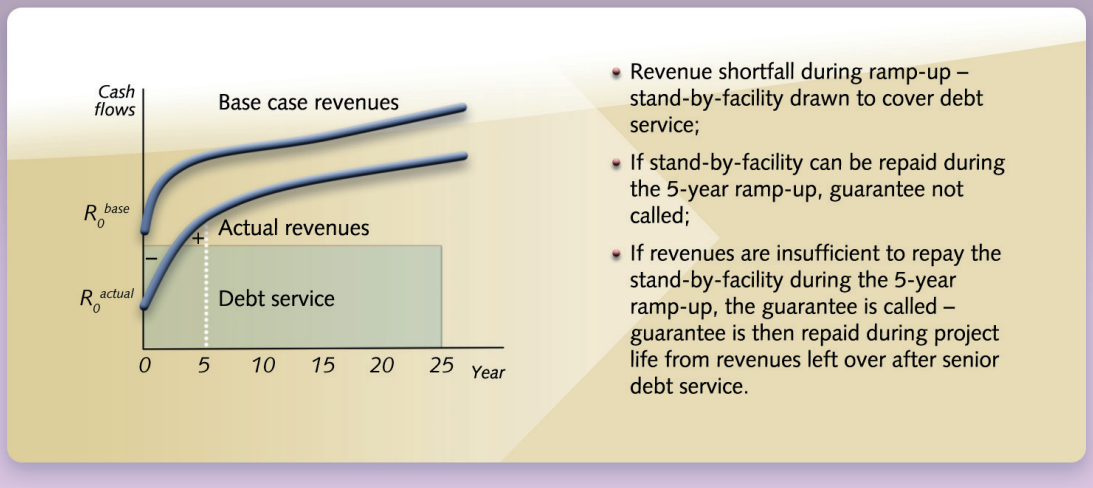
PPP players may rely on various risk mitigation instruments to cover the loss due to commercial risks, political risks or both. Most of those tools are called guarantee or insurances. The main difference is in the way to get benefits from the protection. Usually a guarantee is relatively straightforward while insurance typically will require an evaluation of the insurance claim before payment. Some tools provide full coverage while some other tools provide only partial coverage.

PPP players concerned with such tools can be:

- a debt provider concerned with the credit risk of the borrower (the concessionaire) and looking for coverage against potential debt service.
- an equity investor (usually member of the concessionaire JV) looking for protection against a loss related to its investment in the PPP project.

For instance the EIB has developed a Loan Guarantee for TEN-Transport (LGTT) whose principles are shown in the following figure.

EIB LOAN GUARANTEE



Source: EIB

Specialized institutions for risk mitigation

Some private and multilateral institutions have developed instruments to enhance project feasibility by mitigating risks falling outside the control of private players.

This field, which uses sophisticated financial instruments, is particularly dynamic and it is not possible to propose an exhaustive inventory and description of all mitigation instruments.

The following information may however be useful to project designers.

Export Credit Agencies issue guarantee policies covering investment operations abroad. These instruments usually provide a guarantee for private firms against political risks such as:

Attacks on shareholders' rights

Non payment and non-transfer of the payment or non-transfer of the investment or of the indemnity provided in the concession contract in the event of nationalization.

Principal Guarantees Offered by an ECA, the COFACE example,
extract from the World Bank Port Reform Toolkit

International Financing Institutions also provide political risk mitigation instruments:

Financial credit with a multilateral "umbrella" (A-loan & B-loan),
extract from the World Bank Port Reform Toolkit.

The World Bank Group partial risk guarantee program, extract from the World Bank Port Reform Toolkit

Financial instruments available on the market to mitigate risks related to currency conversion
and exchange rate fluctuations, extract from the Port Reform Toolkit:
Financial engineering of the project in terms of "political" risk management.

Private Insurers can sometimes also be mobilized in this regard.

It should however be stressed that all the instruments presented above imply an additional cost for the project that should be weighed against the magnitude of the risk they have to deal with.

The contract itself, given its duration and the scale of expenditure, may offer an in-built performance security. In the event of failure to meet objectives, if the private partners have fulfilled them to a certain extent, the completed works revert to the public partner (whose support, if any, must at all times remain significantly lower than the expenditure already committed).