

ASSESSMENT REPORT

Risk Analysis & Risk Management in PPP projects

Prepared as part of the Twinning Project CZ/2005/IB/FI/04



Final version adopted by the Project Steering Committee on 24 April 2007



Table of Contents

1. Introduction	3
2. Dealing with Risks in Public Sector Investment Projects	4
2.1 Importance of risk management in projects	4
2.2 Key Risk Areas in Public Investment Projects	5
2.3 Starting proper project risk management: Analysis of Risks	8
2.4 Implementation of Risk Mitigating Measures: Risk Management	11
2.5 Organization of Risk Management in a Project	13
2.6 Risk Management = Process Management	14
3. Key Observations by Twinning Risk Experts	16
3.1 The Role of the Czech Ministry of Justice in managing PPP Project Risks	16
3.1.1 Observations / Key Risks / Areas for Development	17
3.2 The Role of the Czech Ministry of Finance in managing PPP Project Risks	18
3.2.1 Observations / Key Risks / Areas for Development	19
3.3 The Role of the Czech PPP Centrum in managing PPP Project Risks	20
3.3.1 Observations / Key Risks / Areas for Development	20
3.4 The Role of the Private Sector Adviser in managing PPP Project Risks	21
3.4.1 Observations / Key Risks / Areas for Development	21
4. Recommendations	22

Appendixes:

Annex 1: SE Key Stage Review at OBC / pre-advertising OJEU

Annex 2: SE Key Stage Review at pre-issue of tender documentation to shortlist bidders

Annex 3: SE Key Stage Review pre-issue of invitation to submit final tenders and/or pre-appointment of a preferred bidder (depending on procurement procedure)

Annex 4: SE Key Stage Review at pre-financial close

Legend of abbreviations:

EU	European Union
KSR	Key Stage Review
MoF	Ministry of Finance of the Czech Republic
MoJ	Ministry of Justice of the Czech Republic
MS	Member State (the Netherlands and / or the United Kingdom)
MS STE	Member State Short Term Expert
OBC	Outline Business Case
OJEU	Official Journal of the European Union
PPP	Public Private Partnership
PUK	Partnerships UK
RTA	Resident Twinning Adviser
STE	Short-term expert
UK	The United Kingdom
VfM	Value for Money
MMD	Mott McDonald
MoT	Ministry of Transport of the Czech Republic



1. Introduction

This inception report has been prepared for the Ministry of Finance (MoF) in the Czech Republic. It has been developed with the assistance of the Scottish Executive in the United Kingdom and the Ministry of Transport, Public Works and Water Management in the Netherlands, under the auspices of the EU Twinning Initiative¹. Whilst there are 7 components to this initiative, each covering a different PPP related element this paper relates solely to Component 2: Risk assessment in PPP projects.

The primary purpose of the inception report is to highlight a number of issues arising from the current approach to risk management concerning PPP projects in the Czech Republic, and provide a preliminary indication of measures which could be considered for the development and effective implementation of appropriate PPP Risk Management guidance. A second purpose of the report is to inform Czech public sector officials about NL and Scottish best practice concerning managing risks in public sector investment projects. Due to the public sector investment delivery model used by the central Czech government it is recommended to raise risk awareness among public sector employees (e.g. at the Project Board level). It is anticipated that the Twinning risk experts will provide periodic support at key stages of the guidance's development and implementation.

In terms of content, the document includes a set of observations and recommendations further to a series of interviews arranged under the Twinning Initiative. These were attended by risk experts (MS STE) from the Scottish Executive² and the Dutch Ministry of Transport³, and coordinated by the Resident Twinning Adviser (RTA)⁴. The interviews were held with representatives from the Czech Ministry of Justice⁵, the Czech MoF⁶, the PPP Centrum⁷ and in Prague on May 3rd 2007. Furthermore, the STE have had access to the draft PPP Project Risk Guidance⁸.

The content of the report is as follows. First, in Chapter two the basics of risk management in public sector projects are described. Second, Chapter three contains the findings of the experts. Last, some key recommendations to improve the current Czech approach concerning risk management in PPP projects are presented. Various formats relating to MS PPP risk management are included in annexes to the report.

Note: this report is written solely for the purpose of assisting Czech public authorities to enhance risk management in PPP projects. No review is made of specific private sector adviser risk management systems as such assessment would exceed the scope of the assignment of the Member State partners under the Twinning initiative.

¹ This initiative was instigated on 4th October 2006. Its principal purpose is to facilitate the provision of support to the Czech Government from PPP centres of excellence in various EU Member States. The initiative is designed to assist the Czech Government with developing appropriate Czech specific PPP guidance based on best practice procedures; and help support its implementation.

² Evert-Jan Schuurman (Dutch Ministry of Transport, Public Works, and Water Management)

³ Mr. Mikko Ramstedt (Scottish executive)

⁴ Mr. Joop Bormans (Dutch Ministry of Transport, Public Works, and Water Management)

⁵ Mr. Michael Mrzkoš (MoJ), Mr. Josef Pařízek (MoJ), Mr. Radek Jakob (PS CZ), Mr. Zdeněk Zabilanský (MMD), Jan Tobiáš (MoJ)

⁶ Mrs. Katerina Helikarova, Ms. Vladimíra Trojanová;

⁷ Mr. Filip Drapák (Director); Ms. Miroslava Moravcová

⁸ PPP Centrum a.s, 2005



2. Dealing with Risks in Public Sector Investment Projects

2.1 Importance of risk management in projects

Public authorities carry out all kinds of tasks for the benefit of its citizens. Most of these tasks are repetitive in nature, and are implemented in a rather stable environment (e.g. tax administration, street cleaning). The inherent risks to such activities are modest, due to the predictability of the work processes. In general, such activities can be programmed, budgeted, and subsequently carried out without much ado. However, some public sector responsibilities can only be filled in by means of combining efforts of multi disciplinary resources in order to realize a public good that did not exist until then (e.g. constructing a new motorway, building a new hospital or school). Key to these latter activities is that they should result in delivery of a future public good or public service that is different from the status quo. Inherent to such activities is that they are unique, output oriented, involve various disciplines, are often cost intensive, have a completion deadline, tend to be complex, and – last but not least – are often carried out in a unstable public environment. Such activities are commonly implemented by means of using a project structure. Projects are based on three fundaments:

- Phasing of activities: all the activities necessary to complete the required output are grouped in time. Each project phase comprises all those activities necessary to complete a sub-product ('mile stone') at a envisaged deadline.
- Milestone decision management: During each project phase key decisions will be taken on the project progress. At the start of each phase it is decided what will be done; at the end of each phase is concluded what mandatory result have been completed, and whether all conditions are in place to move on to the next phase.
- Systematic management and control: for whole the duration of the project, the project management monitors project progress, identifies risks that may endanger obtaining the mandatory results, selects measures to manage these risks, and systematically monitors the implementation of the selected risk reducing measures.

When the project management departs from reality at present in order to realize a desired future state of affairs it encounters the phenomenon of uncertainty: although the future opportunities may be comprehensively captured in public policy documents, that same future cannot be fully predicted. The adverse side of uncertainty is known as 'risk'. The term risk can be defined as 'a concept that denotes a potential negative impact to an asset or some characteristic of value that may arise from some present process or future event⁹'. It is important to state that the risk concept implicitly starts from the assumption that the future goal has been set. With this assumption in mind the potential – uncertain - barriers are identified that could impede the required project results. Project risk management is the discipline that is concerned with the task of preventing the occurrence and controlling the impact of those barriers on the envisaged project output. Risk management comprises two main areas: risk analysis, and risk management.

Risk management is often seen as something intangible and theoretical. This is only true in respect of the technical methodology commonly used for assessing likelihood and impact of any given risk. Risk Management practice itself is about minimising uncertainty through everyday decisions and therefore the very essence of normal project management at all levels. From an ideal point of view however, a proper understanding of the impact of project risks should be present among all people whom it might concern. This need concerns in particular those officials who are involved in key decision making at the project board level. The risk management approach that is briefly summarized in the next paragraphs intends to

⁹ <http://en.wikipedia.org/wiki/Risk>



facilitate raising risk awareness among public sector employees involved in projects. The model enables non-risk experts to better understand the analytical approach behind – and the value of – managing project risks at key stages of a public investment project. The model is called ‘RISMAN’. The RISMAN model has been developed by a group of central and local Dutch procuring authorities, assisted by private sector advisers. By using this model public sector officials are better enabled to manage risks that can have an adverse impact on the ‘public exposure’ of a public investment project.

2.2 Key Risk Areas in Public Investment Projects

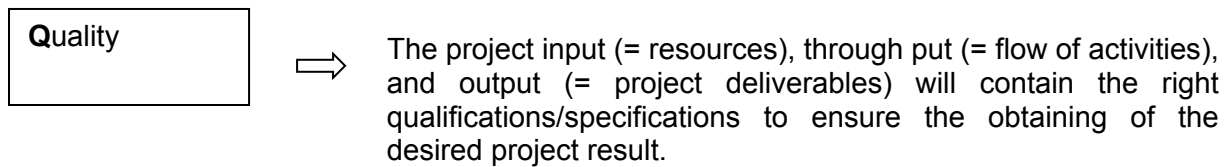
Project risk management concerns the identification, prioritization, and subsequent control of all eventualities that can endanger the projects’ results. It is important to emphasize that managing risks is perceived as the natural complement of managing opportunities. Focusing on risks implies directing attention towards potential impediments to the project. In order to get grip on risks it is helpful to conceptually brake down the project result into its main building blocks, namely the dimensions Time, Information, Money, Organization, Quality (TIMOQ). The RISMAN model aims to capture those TIMOQ risks, and to use them as variables for successful management of a project. Experience by the Ministry of Transport, Public Works and Water Management of the Netherlands learns that a focus on TIMOQ risks provides the project management (note: in particular members of interdepartmental project boards) with an easy-to-understand conceptual framework for managing risks.

The RISMAN method aims to identify key risk areas that are common in virtually every public investment project (regardless whether it be a traditionally procured project or one implemented by use of PPP). All individual project risks can – in the end – be stated in terms of one or more of the TIMOQ aspects. **Figure 1** below provides a brief clarification of these aspects. Although the break down of a project structure in TIMOQ aspects might appear to be rather obvious, when reading them ask yourself the question: How bad would it be if a particular condition was not be met? In reality, there is abundant evidence of past in which projects performed poorly because the basic conditions were not in place. In particular the so-called ‘optimism bias’ is a notorious element in assessing TIMOQ aspects¹⁰.

Figure 1: Defining a project in terms of TIMOQ

<u>Project dimension</u>	<u>Required result</u>
Time	⇒ The total project will be completed on an ex-ante specified date. This implies that every project phase will be ready according to planning.
Information	⇒ All necessary or relevant information (e.g. technical, legal, financial, environmental) to carry out the project activities successfully (i.e. obtaining the required project output) is available and made accessible to all whom it may concern.
Money	⇒ The total cost of the project is defined up front. These cost do not only include the final output, but also the use of all the resources necessary to accomplish the required output.
Organization	⇒ The availability of resources (e.g. employees, financial, equipment, logistics) in terms of quantity and quality are sufficient to deliver the project, and the adequate structures to coordinate the flow of project activities is ensured.

¹⁰ See for extensive documentation on optimism bias: Bent Flyvbjerg: <http://flyvbjerg.plan.aau.dk/>



Based on the TIMOQ dimensions the elements risk and risk management in a project environment can be visualized as follows:

Figure 2: Risk management in a project environment

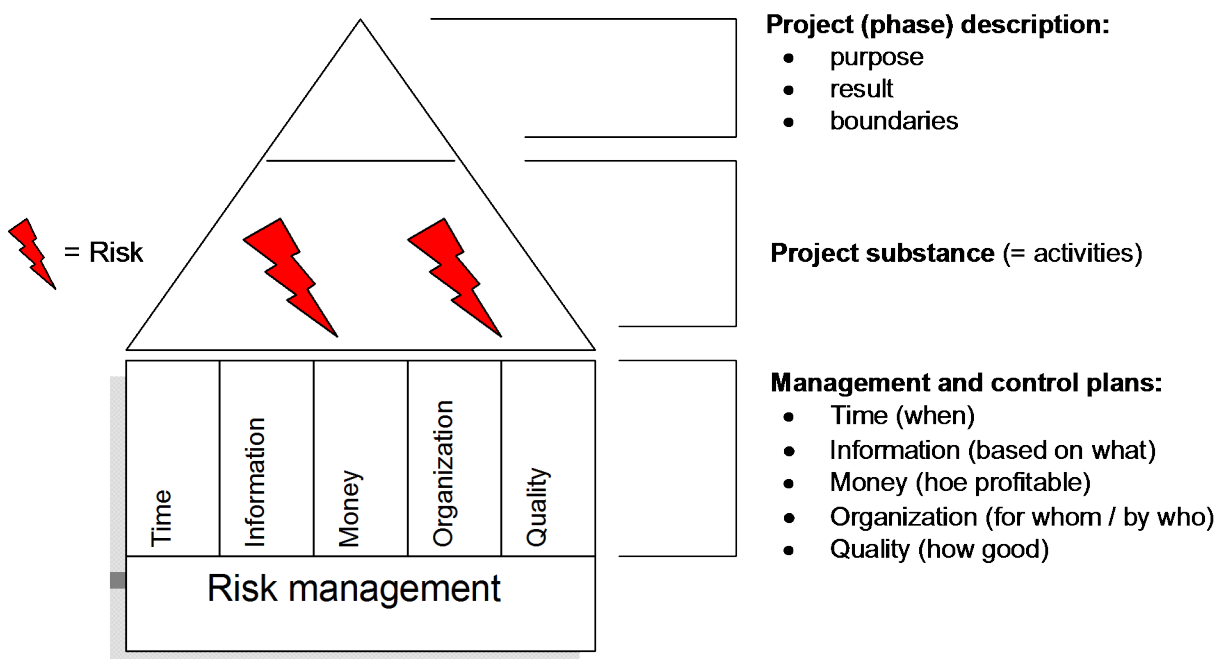


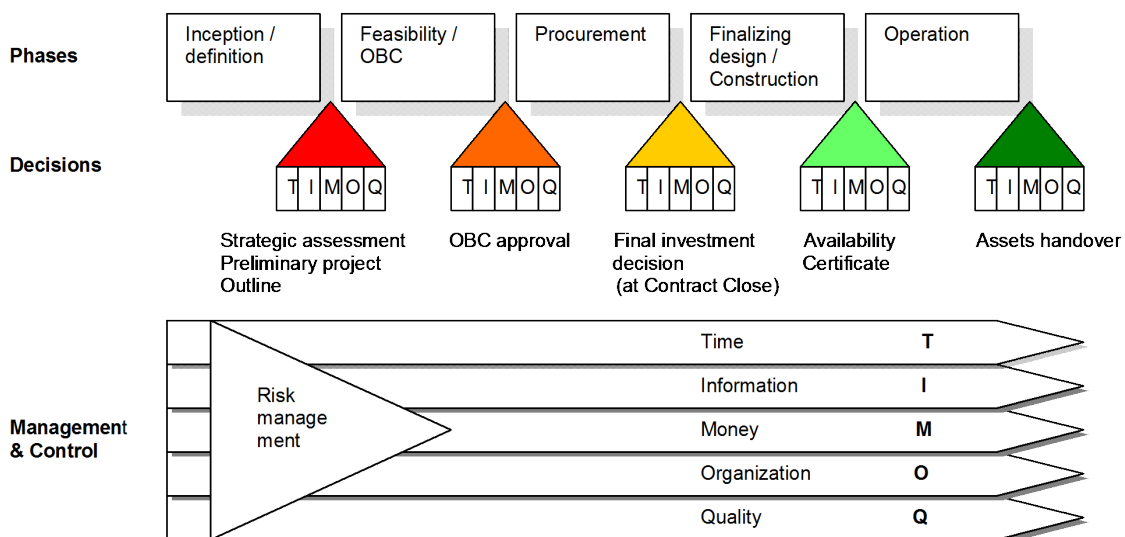
Figure 2 visualizes the main building blocks of the RISMAN risk management concept. The concept is rather straightforward. Based on the stated mandatory results of the project (i.e. project business case) all kinds of activities have to be implemented in due course to ensure the required project results will be obtained. On the activity level uncertainties occur that can have an adverse impact on the project. By means of risk analysis these uncertainties can be identified, quantified in terms of likelihood and monetary impact, and – subsequently – be prioritized and managed. All project risks are somehow related to, and can be denoted in, one or more of the TIMOQ aspects. As it is the project management that is responsible for obtaining the required project results, it is its responsibility to take care of proper risk management by means of implementing a tailored management and control plan. Stated in a different way: the project management is assigned with the task to prevent bias of TIMOQ aspects beyond an acceptable level of tolerance. Prudent risk management is not a matter of a static ‘one time only’ activity, but encompasses a range of activities that need to be performed in a structured way.

As mentioned before, experience learns that the RISMAN model can have its use for managing risks in a public sector investment project environment. As stated in paragraph 2.1 key characteristics of a project are the phasing of activities, milestone decision management, and the systematic way of managing & controlling project progress. The RISMAN model enables the project management to take informed key decisions at the end / beginning of each project phase. By means of integrating risk analysis and risk management as part of its regular management decision making the management board keeps close track of potential adverse processes or future events. **Figure 3** exemplifies the use of the RISMAN model in a



fictive PPP project management structure (note: for the purposes of this report various project phases are depicted on a rather aggregate level). To emphasize the importance of risks as a threat to obtaining the required project results the risk triangles are coloured: the start of a project is characterized by a high level of uncertainty: a lot of key risks are identified, and their potential impact on the project might be severe (red marking). Once the project progresses to new stages the first outputs are materialized and the level of detail of information increases. As a consequence, the level and magnitude of the total risk exposure decreases (yellow marking). When getting closer to the final stages of the PPP project most outputs are obtained, the level of uncertainty has almost vanished, and the amount of risks tends to go back to rather low levels (green marking). Basic message of this model is that by identifying and – subsequently – managing key TIMOQ risks the impediments that prevent obtaining the required result can be handled one by one. The main advantage of the RISMAN model is that it enables public sector non-risk experts to better understand the impact of risks on a project.

Figure 3: Integrated risk management in a public investment project (PPP)

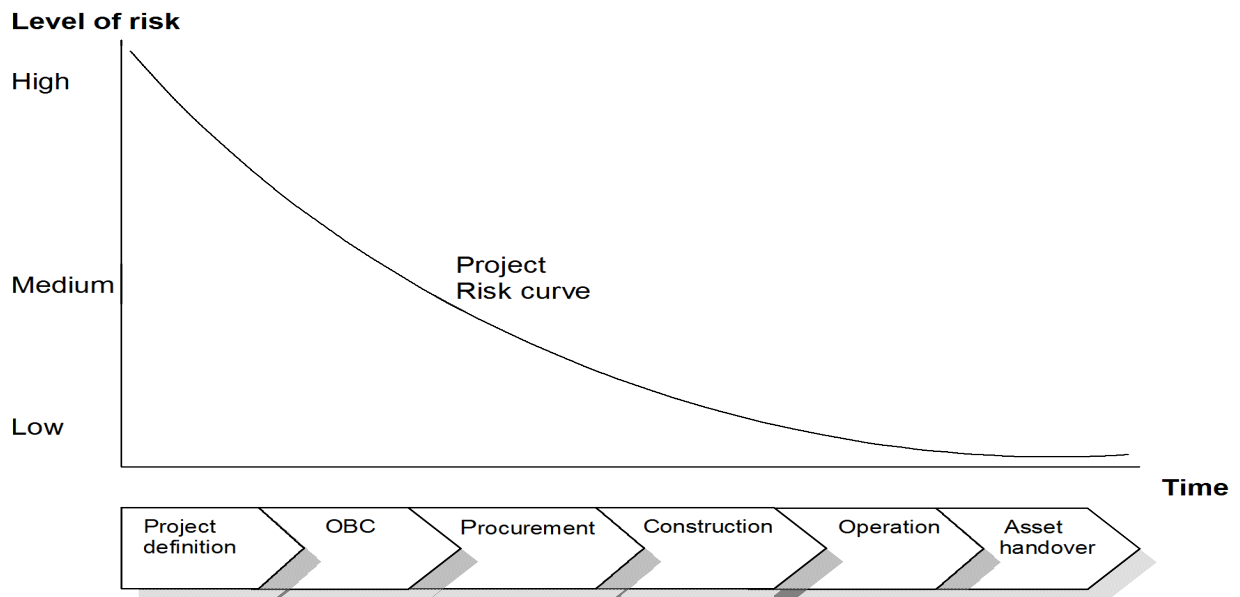


One additional remark on the RISMAN model needs to be made. Ultimately, key risks in public sector investment projects always have a political dimension that might – sometimes even unexpectedly - play a major role. In particular cost overruns ('Money') tend to attract attention from politicians and media. The same applies to lack of quality of public services ('Quality'), and not prudently taking environmental aspects into account ('Information'). The political dimension is qualitative in nature, and can't be easily quantified. That does not mean that such risks can be neglected. On the contrary, the implicit assumption behind the TIMOQ model is that the key causes of key political risks can and should be managed. It is up to the project management to keep in touch with the political dimension by means of keeping its political official (i.e. minister, deputy minister) informed about the project risks on a regular basis. Furthermore, the need to managing political risk is always the primary reason for establishing an interdepartmental project board with the task to monitor project progress.

What is the objective of risk management in public investment projects? In short, to ensure that the project is delivered according to the requirements. Ideally speaking, from a public sector perspective the - simplified - risk curve for a fictive PPP project (based on assumption of transfer of construction and availability/operation risks to the private contractor) is presented in **figure 4**.



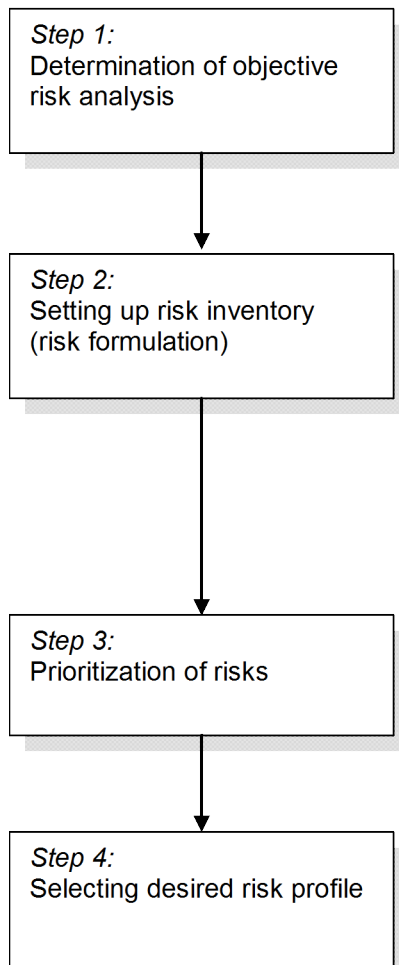
Figure 4. Ideal risk curve in PPP project (public sector perspective)



2.3 Starting proper project risk management: Analysis of Risks

Risk management always starts with conducting a risk analysis. This is the process of identifying project risks, prioritizing them according to the level of impact to the project in terms of envisaged delays, adverse effect on communication, increasing of cost, poor management and organizational processes, or loss of quality of the required input/throughput/output. However, prior to starting a risk analysis one should agree on the purpose of commencing this activity, as the costs in terms of money, time and human resources might be considerable (depending on the type and size of the project). A typical risk analysis structure is provided in **figure 5**.

Figure 5. Break down of the risk analysis process

**Steps to be taken:****Relevant questions to be answered:**

- What do we want to achieve with the risk analysis?
- Which project stage is concerned?
- Should the result of the analysis be stated in qualitative or quantitative terms?
- Which information is available and ready to be used?

- Brainstorming: multiperspective listing of risks (e.g. financial, legal, environmental, political, socioeconomic)
- Mapping the environment (stakeholder analysis):
 - What are the interests of the beneficiaries?
 - Who might be adversely affected by the project?
 - Who has decision power?
 - Who has power to block decision making?
 - Who is making resources available to carry out the project?
- How do we formulate the risk in terms of cause, probability, and impact?

- What kind of method(s) do we want to use to prioritize risks in terms of quality?:
 - Allocating points to risks according to importance
 - Determination of probability and effect in separate stages

- Do we want to carry the risks by ourselves and do we accept its consequences? Options:
 - Avoiding risks (i.e. do not or do things different)
 - Diminishing risks (cause oriented, effect oriented)
 - Accepting risks (specified in contingency plan)
- Do we want to transfer risks to other (e.g. private) parties, and do we accept the price tag involved? Options:
 - Taking a risk insurance
 - Transfer to private contractor
 - Transfer to third parties

Most of the mentioned steps speak for their own. The result of *Step 4* – Selecting the desired risk profile – can be written down in a risk register. In a risk register all important risks are described in terms of TIMOQ, and allocated to the party that can best manage them¹¹. The general risk assessment procedure referred to is applicable to every public sector investment project regardless its specific content. However, as every investment project has its own peculiarities the type of questions and subsequent answers might vary. For example, in case of a PPP initiative the risk topics are highly defined by the way the business case is structured, and the public policy objectives involved (e.g. importance to adhere to Eurostat rules on allocation of construction risk, availability/operational risk, demand risk).

Complementary to the conceptual (top-down) approach used in the Netherlands a bottom-up approach towards risk management can be used to assess the extent to which key risks have been addressed from the central government's perspective. For example, the Scottish

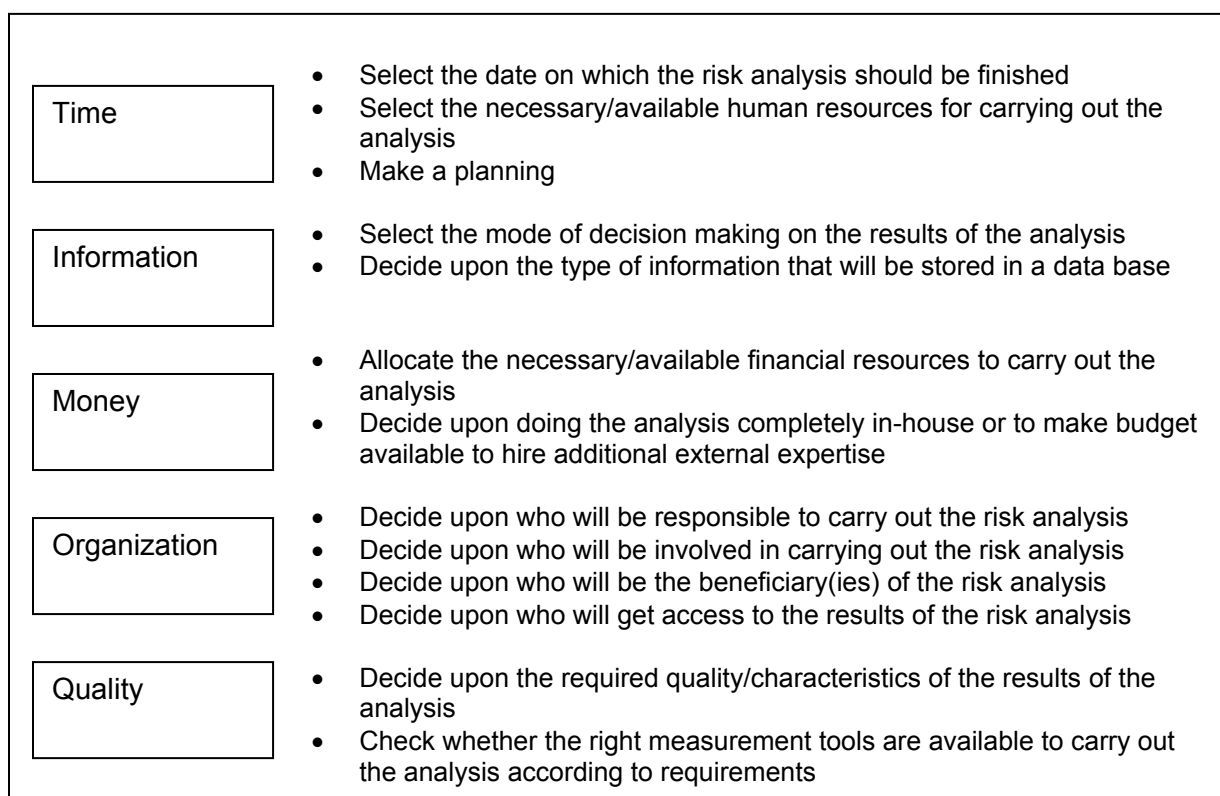
¹¹ However, keep in mind that prior to concluding a contract with the preferred bidder all envisaged risk allocations are uncertain, and subject to negotiation with the private sector parties. Also, keep in mind that every single risk allocation to the private sector has its own price. No risk transfer without cost!



Executive monitors projects through sector specific self-evaluation questionnaires to be used by local authorities at key stage decision making in PPP projects. The purpose of the so-called Key Stage Review documents (KSR) is to assess the readiness of a project to move to the next stage in procurement, i.e. to evaluate whether the key risks been sufficiently addressed. The following Key Stages are covered by the guidance: (1) OBC / pre-advertising in the Official Journal of the European Union (OJEU), (2) pre-issue of tender documentation to shortlisted bidders, (3) pre-issue of invitation to submit final tenders and/or pre-appointment of a preferred bidder (depending on procurement procedure), and (4) pre-financial close. Procuring authorities also use the KSR process as a checklist as to whether important aspect might have been overlooked in order to be sure that subsequent decision-making is fully informed and based on solid ground. The Scottish Executive upon receipt of a completed document commissions an independent review of the responses during which the reviewer will prepare a report to the Executive consisting on any recommendations as to areas where further work is still required before risks have been sufficiently covered. In return the Executive requires procuring authorities to consider and address these recommendations in a mutually agreed fashion. Project Managers and project steering groups generally welcome this 'fresh pair of eyes' review and have found the process extremely helpful. The KSR also acts as a clear indication to the market of the level of detail required from them during the bidding process and also increases market confidence as a standardized review ensures that projects are properly assessed and evaluated before and during procurement. It should be emphasized that KSR should never be used as sole frame work for assessing risks, but be treated as a complementary tool. For information purposes current KSR documents used in the context of the current Scottish Schools PPP programme are attached to this report as **Annexes 1 to 4**.

Once the procuring authority has decided that a risk analysis is required it may start up the process. First, the assignment to carry out the analysis has to be issued . To facilitate the drafting of a programme of requirements for carrying out the risk analysis some important conditions need to be taken into account. In order to make optimal use of the results of the analysis it is important that these conditions are fulfilled prior to the actual start of the risk analysis.

Figure 6. Structuring of a risk analysis: arranging the context





2.4 Implementation of Risk Mitigating Measures: Risk Management

Once the risk analysis has resulted in the selection of a desired risk profile the time is right to operationalize risk management. This is done by selecting the most appropriate risk management measures, implementing them, and assess whether they result in the expected outcome. Based on the outcome of the evaluation the projects' risk profile has to be reassessed. This might necessitate the implementation of new or additional risk mitigating measures. As the purpose of risk management is to keep grip on the project activities the total risk management cycle should be repeated at regular intervals throughout the duration of the project. Two advantages of this approach can be mentioned: (1) every responsible official (e.g. at the project board level) gets thoroughly familiar with the major project risks, and (2) the project management gets informed at regular times about any important deviation from the TIMOQ assumptions underlying the project structure. **Figure 7** on next page visualizes the risk management cycle.

Some additional remarks on this stage of the model have to be made.

First, the selection of risk management measures is always a difficult process, because a balance should be found between the desired results of the measures on one hand, and the resources (time, money, capacity) one wants to devote to obtain these results on the other hand. The risk management structure should be adapted to the size and complexity of the project, and the phase it is in. As a result, projects might need to have a customized risk management model. In addition to cost-benefit ratio considerations it is important to have a clear view on the criteria to be used for selecting risk management tools. Some crucial aspects are in this regard:

- Is the measure feasible in terms of availability of money, resources, and other constraints?
- Can the risk be influenced, and if so, by whom? Some external risks are beyond the scope of managing them by the project management
- Who – or: which party – can best manage the risks? Especially in PPP projects proper risk allocation is a key aspect in the total Value for money (Vfm) assessment of the desired project structure
- Environmental considerations: are there any external actors that can block the appropriate implementation of the risk management measures?
- Might the proposed risk mitigating measure result in the occurrence of a new risk, or does the proposed measure increase the impact of another risk?

After having taken all possible measures often so-called 'residual risks' remain: these are (part of) risks that remain even when proper risk management tools have been put into operation. For example a key question in many construction projects is: Who will take the residual risk of soil contamination, and what is the price a party wants to pay for transferring this risk to the other party?

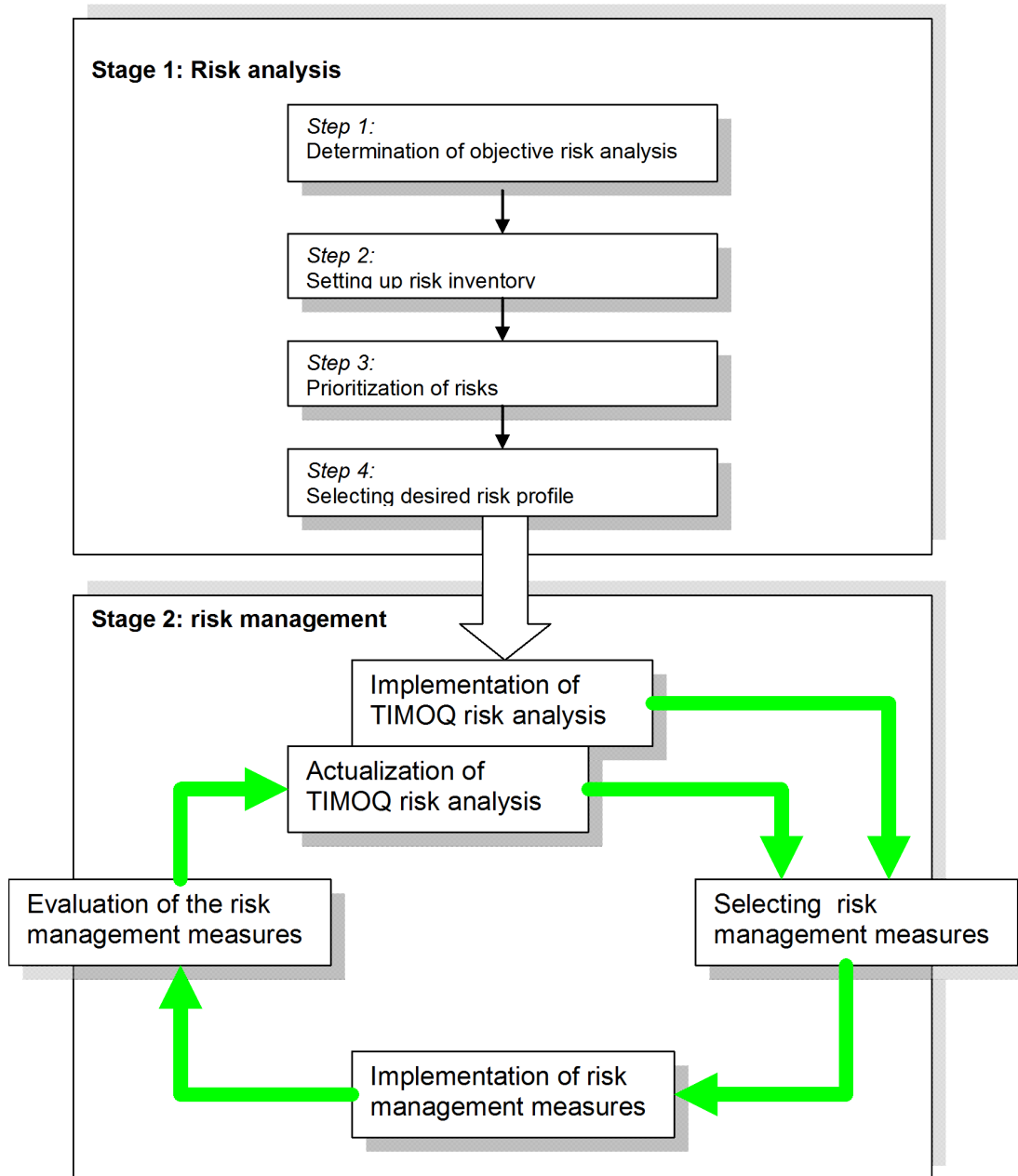
A second remark relates to the fact that after monitoring the – results of the – implementation of the risk management measures the risk analysis ('risk catalogue') needs to be updated. To make optimal use of a risk management model updating the risk analysis should be done at regular intervals. In particular when the project moves from one stage to another (e.g. from OBC stage to start procurement) an opportunity exists to combine key decision making with reviewing the projects' risk profile (note: see figure 3 for relation decision making and risk assessment). We refer to the Scottish practice of performing Key Stage Reviews which facilitates asking crucial questions that need to be addressed prior to moving on with the project to the next stage.

Third, risks should be made explicit rather than remaining implicit. There are always internal actors or external stakeholders that have their own reasons to keep some risks remaining in



the fog, are afraid of particular risks and would like to bury them for the time being, or simply do not want to put time and effort in understanding/managing particular project risks. Therefore, the commitment of the top-project management towards proper risk management is of paramount importance. Provided the (top) management shows sincere interest in monitoring work processes for detecting potential events with adverse effects lower placed employees will be more inclined to show interest in risk management as a regular part of their daily job. This observation relates to the prevailing work culture in the project organization: in organizations where employees run the risk 'their head gets chopped off' when raising difficult issues there is – understandably - less interest in contributing to enhance the lower risk profile of the project.

Figure 7: Complete Risk Management cycle in a project environment





Similar to the risk analysis stage, the operational risk management stage should commence on a solid base as well. Key is to design a sustainable risk management system that is congruent with the existing management structure for a particular investment project. The more risk management can be incorporated in the existing project organization and decision management structure, the better effective risk management and control will be the result. When structuring operational risk management in a project it might be advised to take the fulfilment of the following conditions into account (see **figure 8**).

Figure 8. Structuring risk management: some key aspects

Time	<ul style="list-style-type: none">• Determine the necessary/available human capacity to be involved in the implementation of risk management• Determine at which moments in the process of activities risks and risk containing measurements will be discussed (e.g. together with key decision making)
Information	<ul style="list-style-type: none">• Determine the manner in which the information about risks is stored and reported• Decide upon who gets which risk related information
Money	<ul style="list-style-type: none">• Estimate the costs and benefits of risk management• Assess whether the estimated cost fit in the project budget
Organization	<ul style="list-style-type: none">• Determine the size and place of the necessary organizational structure to carry out the risk management in a systematic way
Quality	<ul style="list-style-type: none">• Decide upon the required quality/characteristics of the risk management system• Assess whether all conditions are in place to guarantee the proper fulfilment of the quality requirements

2.5 Organization of Risk Management in a Project

An important issue relates to the question: Where to place risk management in the organization? The most obvious answer would be: everywhere! To make full use of the benefits of a risk management system both management and regular work force should have incentives to identify risks, report envisaged deviations from assumptions, and think about measures to mitigate them. Various models exist for the implementation of risk management in a project organization. It is beyond the scope of this report to describe these models into detail. Instead, we would like to emphasize the key concept behind risk management: the actor(s) who can influence a risk should be made responsible for managing it. Responsibility for managing risks always follows authority. It makes no sense to allocate the management of a technical risk to a lawyer, or to allocate a budgetary risk to a design engineer. In some cases, risks might have causes that are rooted in various disciplines. For example, think about an interface risk that has a technical, environmental and legal aspect. In such case it might be advisable to setting up a multi-disciplinary team with the tasks to identify potential solutions to mitigate the risk. However, it should be noted that the responsible person to manage the risk will always be one with (1) management responsibility, and (2) the authorization to implement the selected risk mitigating measure.



In PPP projects it is a common practice to set up separate work groups in the fields of finance, technique, and law/commerce. The work groups report to the project manager, and the project manager takes a decision how to deal with the risk. Some high priority risks with a – potentially – high impact on the project require the attention of more stakeholders in the project. In such cases it is not the project manager who decides, but the project board in which key stakeholders are represented. It is important to emphasize that regardless the type and size of a risk it is always the public sector that can be held accountable when the risk materializes. Even in case of contracting out project management to a private adviser/manager the public sector parties involved remain ultimately responsible for project mistakes. Therefore, in all circumstances civil servants should be part of the project organization. The public sector employees need to fully understand the project, its problems, and the inherent project risks. This is the only way to ensure adequate communication with the procuring authorities' top officials. Involving civil servants on a day-to-day basis in a project requires the public sector organization to devote time, money and effort to train such employees in order to make optimal use of them as far as relating to risk management. In major public investment projects a risk manager is appointed. His/her task is to develop and maintain a risk management system, to actualize the risk register, to inform the project management about the risk exposure of the project (including measures to lower the profile), and to raise risk awareness among the project employees by means of organizing workshops/training.

Regardless the risk management structure that has been chosen risks have to be reported to the proper management layer. This reporting should be carried out in a uniform way, and is sometimes part of the regular reporting structure of the organization. Key elements of each risk report are always the following:

- Risk description
- Description of the cause of the risk
- Description of the impact of the risks on the project in terms of Time, Information, Money, Organization, and Quality (TIMOQ)
- Estimation of the probability and effect of the risk
- Potential or already selected risk mitigating measures
- The person who is responsible for managing the risk
- The person(s) who has(have) been assigned with the task to carry out the measures
- (if relevant) an overview of current status of implementation of a risk mitigating measure

2.6 Risk Management = Process Management

The RISMAN method that is presented in this chapter is based on the assumption that the management of risks is highly interrelated with successfully managing the project activities. Risk management is not a static phenomenon, or an obligatory activity that has to be carried out one time only at the start of a project. On the contrary, risk management is a continuous process of checking and correcting deviations from the original TIMOQ assumptions. By acting like this risk management follows the dynamics of the project. Work processes are monitored on a continuous basis. Therefore, risk management can be perceived as a process management tool. The risk management element makes process management sometimes both demanding (because it requires an honest reflexion on the project's reality, which is not always that pleasant!) and tedious (because at regular intervals the project's state of affairs have to be scrutinized and discussed over and over again in order to be sure about the right course of action). However, experience learns that once project managers implement an adequate risk management system in their organization a habit of ad hoc dealing with risk can effectively be replaced by a structured approach to manage project risks. Although the design and implementation of an adequate risk management system requires some effort the potential benefits for the project organization and the politicaliz



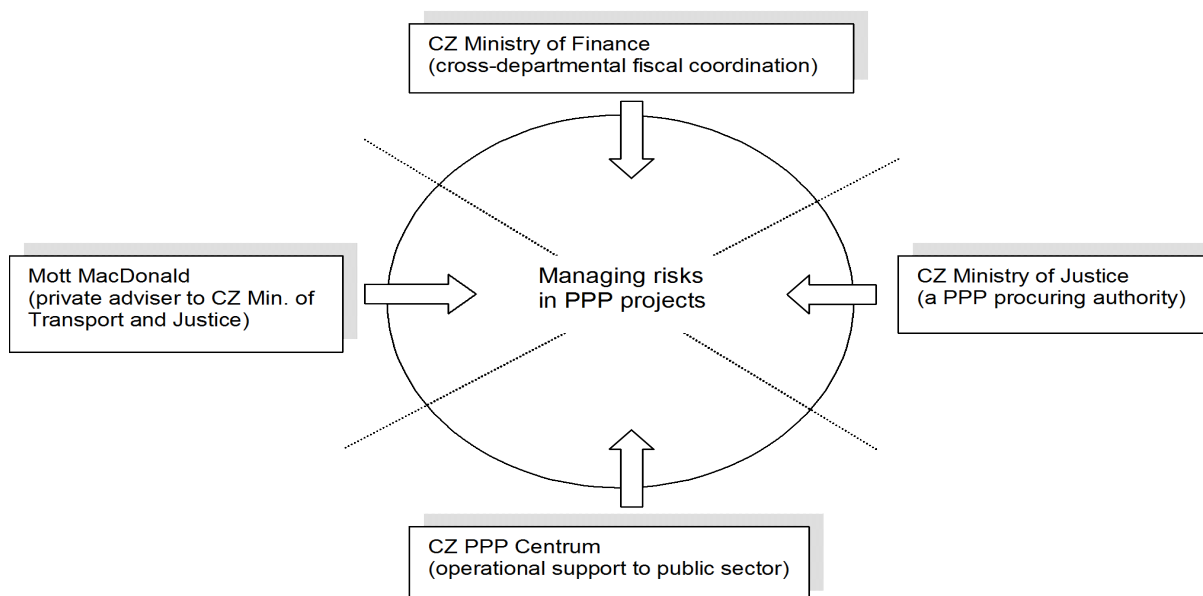
responsible persons are evident. First, the organization will be less surprised by the occurrence of deviations from TIMOQ specifications or unforeseen adverse events, because due to the risk analysis it has increased its own awareness about potential things that might go wrong and what to do about it. Second, even when major risks occur the project organization will less run the risk of becoming paralysed by its potential severe impact, because it has organizational routines in place to deal better with such adverse events. The overall result is that more time and effort can be devoted to the ultimate goal of the whole enterprise: to materialize the project output in an efficient and effective way.



3. Key Observations by Twinning Risk Experts

The twinning VfM experts have made various observations with respect to the current approach to managing risk in PPP projects in the Czech Republic. The findings are based on interviews with various key stakeholders in Czech central government PPP projects (see **figure 9** below). A multi-stakeholder analysis provides a good tool for identifying perceived needs and the actors' prevailing approach towards risk management in PPP projects. Although care should be taken not to overgeneralize the results of the individual interviews a basic picture of current risk management practice can be made. These are summarized below. In accordance with the aim of the Twinning instrument focus is on the institutional setting of risk management in PPP projects.

Figure 9: Stakeholder analysis carried out within framework of Component 2



3.1 The Role of the Czech Ministry of Justice in managing PPP Project Risks

It is apparent that both the Courts and the Prisons Projects' teams have developed a good grasp of issues around risks and risk management. In each case risks have been identified in accordance with best practice following a risk workshop involving major stakeholders. The team members have a clear insight in key risks that currently turn up in their projects. The courthouse OBC was provided to the experts in the English language. It appears that the risk register in the OBC is however a standard list. In the interview, the project team members showed that they had a more precise insight in the actual risks their projects are dealing with. At the project level a risk register is in use, and risk analyses are done on a regular basis, however not all risks seem to be prioritized, documented, and monitored in a structural way. A classification of risks is present, however it is not sure which method is used for valuation.

Ownership of risks is not always clear. For example risks are not distributed in the hierarchy (endogenous or exogenous), the role of the project board does not systematically involve taking responsibility for allocating certain risks to be managed by this platform, or to be transferred to higher hierarchical level. Main focus in the projects is on the transfer of



construction risks to the private sector. Project members are aware of more categories of risks and are especially interested in the possibility of transferring availability risks to the private sector. It appears that no use is made of reference-projects or best practices elsewhere available.

The MoJ confirmed that it is recording the development process and that it has established governance arrangements through the set up of a Steering Group. Whilst the risk register was discussed at Steering Group meetings, individual risks had not been allocated to specific stakeholders and the risk management /mitigation responsibility had instead been allocated to the private sector consultant. Both projects have engaged commercial consultants on turn-key basis to project manage the business case development and procurement stages, including day-to-day risk management.

In terms of risk transfer, the private sector is currently restricted to the use of public sector designs and private sector innovation is only sought in respect of materials and the number and configuration of adjoining commercial space in respect of the Courts Project. The Prison Project has a very complicated public-private interface under current legislative provisions which have been carefully analysed in order to determine the correct risk allocation profile.

3.1.1. Observations / Key Risks / Areas for Development

Delivery risks are inherently public sector risks that directly affect the affordability and value for money of a PPP project. Emphasis appears to have been in establishing a bankable risk allocation and in carrying out a degree of due diligence in order to identify potential inconsistencies with the current legislative framework. There is a danger that if delivery risks are not properly identified, recorded and allocated, the project could become delayed leading to increased costs and therefore affordability pressures that may in turn result in changes to the scope in order to reduce costs – yet more delay - with the possibility of a less than optimal final solution.

Whilst the consultant project manager is able to identify risks and suggest mitigation strategies he is not able to manage public sector risks effectively. The Steering Group should review the risk register, identify and prioritize key risks, consider what activities the public sector as a whole could be carrying out in order to mitigate each individual risk, identify the relevant body in control or best place to carry out each activity, involve each identified stakeholder in the delivery of the project at Project Board and Project Team Level, and assign specific risk mitigation tasks to representative bodies. There should be an established risk review procedure, a set piece agenda on risk management at each Project Board meeting where the key risks are reviewed for priority and progress is reported in respect of mitigation activities.

The Project Board, Departmental Management Board and Ministers have not established any formalised governance / monitoring protocols to discuss and report on key risks. PPP projects tend to be of considerable size in terms of capital value and high profile in terms of public interest and it could be beneficial to raise awareness of key delivery risks and seek support in respect of the allocation risk management duties at senior management level. The risk register should be discussed at Departmental Management Board level and the DMB should agree reporting / monitoring procedures in respect of key risks.

The Courts Project has significant potential for maximizing Value for money through optimum risk transfer. The project team should analyse the key drivers for risk transfer and consider whether there would be opportunities to open up the output specification for design in order to maximize flexibility and operational efficiency. The MoJ could make the existing designs



available on an exemplar basis and seek to encourage innovation through well-developed room datasheets as well as a data room function with details of the nature and frequency of usage of current court spaces and buildings.

Where there are complicated interfaces the public sector should have a clear understanding of the legislative boundaries but should fully utilize the opportunity to develop an efficient interface together with the private sector during competitive dialogue as the optimum interface may differ from the 'legal maximum' in Value for money terms.

The practice of employing private sector consultants on fee basis can be risky in the long run. The MoJ should consider requiring projects to appoint full time project managers to sit within the public sector in order to maximize the learning curve for the client department and to ensure that conflicts of interest do not arise during the procurement process. The public sector should appoint commercial advisers to support the project team but in order to efficiently manage their input and to minimize cost they should work for a dedicated project manager. In order for the public sector to build up a knowledge base and to develop as an intelligent customer the project team should also include professional input from key client divisions i.e. finance, technical and legal services working alongside on a day-to-day basis with the commercial advisers.

3.2 The Role of the Czech Ministry of Finance in managing PPP Project Risks

The MoF has an overarching role in advising the Cabinet on PPP/Concession Business Cases. From a regulatory perspective two acts provide a legal base for the involvement of the MoF in the development and procurement of PPP projects: (1) the Public Procurement Act¹² provides a legal framework for the procurement of key infrastructure and public services, and (2) the Concession Act (March 2006)¹³ provides the framework and broad parameters for development of PPPs. Both Acts became effective on 1st July 2006. The Public Procurement Act governs public sector procurement in general. The purpose of the Concession Act is to structure key decision making on concessions (including PPPs), and subsequent procurement thereof. Furthermore, the following regulations concern conditions for managing (fiscal) risks in public investment projects: the Budgetary Rules¹⁴, and the Financial Control Act¹⁵.

The Department for Regulation of PPP Projects is in a key position as it has oversight of all centrally pursued PPP projects as the ultimate underwriter of associated liabilities. Its representatives currently support PPP projects at Project Board level where the main area of interest is with budgetary implications and therefore affordability risks.

The MoF does not currently apply any standard assessment criteria to PPP outline business cases. It has a broad set of issues it will evaluate case by case such as balance sheet position and potential future liabilities but it relies on cost and affordability assessments made by departmental finance functions. The MoF does not have any specific risk management systems in place for the purposes of monitoring PPP projects.

The MoF has set up and is the sponsoring department for the Czech PPP Centrum but the guidance produced by the Centrum is not currently mandatory.

¹² Act No. 137/2006 Coll.

¹³ Act No. 139/2006 Coll.

¹⁴ Act No. 218/2000 Coll.

¹⁵ Act No. 320/2001 Coll.



3.2.1 Observations / Key Risks / Areas for Development

There appears to be a level of ambiguity in respect of the role of the MoF and its relationship with individual projects and the PPP Centrum. The key risk for the MoF is the continued deliverability and affordability of PPP projects and it should therefore make it requirement to be invited to the Project Boards of all PPP projects. The MoF should not vote at Project Boards but should be there as an observer and as an adviser as to the procedures and requirements set up by MoF – it will get a chance to review and comment formally at the OBC stage .

There is a clear risk that the MoF will be exposed to significant level of risk in terms of funding and liability requirements due to projects being considered for approval on case-by-case basis and without a clear understanding of the associated risks. The MoF should further clarify its role by defining its interest through the development of set criteria for the assessment of business cases¹⁶. Formalised minimum requirements / criteria for projects will ensure that projects are approved and taken forward on a consistent basis but also that all key drivers and associated risks have been assessed. (for example what level of inflation has been assumed, is it reasonable (low or high), if low but went up by an extra 1.5% would the project remain affordable from central budgets, how can this risk be mitigated in different stages of project development = assume high base level, ask bidders to take risk, develop an indexation regime based on sharing inflation risk or consider buying an RPI SWAP to fix a proportion of costs = > ask projects to demonstrate what steps they have taken to mitigate this risk). Any such criteria should be communicated to sponsoring departments in order to ensure that projects present relevant and useful information in their business cases but also so that projects understand on what issues they will need to seek sign off from the MoF.

The affordability position changes throughout the project and whilst it is important that there are mechanism to ensure a large enough affordability envelope from the outset as part of the OBC review process, it is equally important to monitor project during the procurement stages to ensure that risks continue to be mitigated and pricing is done in a competitive environment. The MoF should carry out an internal risk workshop involving project representatives to map out risks in PPP projects and use this as the basis for its assessment criteria but also to develop mandatory milestones for projects to meet in order to ensure that risks have been mitigated and that projects do not proceed where risk have been deemed to be excessive or the profile changes during development. The purpose of the workshop would be to break affordability and deliverability risks into tangible elements against which criteria in the form of milestones and actions can be set for projects to meet and to demonstrate compliance as part of the risk monitoring process. The Scottish Key Stage Review documents attached as **Annexes 1 to 4** to this report could perhaps serve as a reference framework.

MoF should consider ways in which to ensure that the public sector continues to develop into an intelligent client and that it and other public sector stakeholders have access to impartial and non-conflicted advice. The MoF should also use the PPP Centrum as an adviser when evaluating Business Cases rather than try and build up the required expertise at all levels internally. The MoF could consider developing its internal audit department into an organization capable of performing operational audits on, and time to time inspections of, sector ministerial PPP projects. Such a tool could (1) raise the level of information on these projects within the MoF, and (2) sends out a signal to PPP procuring authorities that the MoF is taking interest in the way the authority is dealing with project risks.

¹⁶ Note: the beneficiary intends to develop OBC assessment criteria under the Technical Assistance part of the Twinning initiative. Procurement of TA has commenced on 11 June 2007.



3.3 The Role of the Czech PPP Centrum in managing PPP Project Risks

The PPP Centrum was set up by the MoF to act as a centre for excellence in the development of PPP policy and practice across sectors in the Czech Republic. The Centrum has developed and published a guidance note 'PPP Project Risks Guidance' which approaches risk management, particularly identification and valuation of risks from a highly technical perspective. Guidance produced by the Centrum is currently not mandatory for projects to adopt nor are projects required to feedback comments and experiences from applying it back to the Centrum. Projects such as the Courts and Prison pilots are already operating at the OBC stage of the process and have developed individual project specific risk management practices.

The PPP Centrum currently has no formalised role in the development of PPP projects in Czech Republic. It has no budget to specifically provide assistance and support to public sector authorities on reduced rate basis but is expected to compete in the commercial advisory market. The Centrum has considerable technical knowledge which is currently being used by Czech public sector authorities and neighbouring countries. The Centrum is currently present at all Project Boards of pilot PPP projects except the D3 project of the Ministry of Transport.

3.3.1 Observations / Key Risks / Areas for Development

There is apparent confusion among project sponsors as to the role of the PPP Centrum. It is clear that projects would benefit from central support in developing PPP projects, particularly in setting up the necessary process and structures. It is not clear why the Centrum should enter into the field of the technical advice where the Czech commercial advisory market is already established and developing fast.

As there is no one all encompassing method, and the techniques will evolve over time, it is impossible to make technical guidance i.e. risk quantification methodology mandatory. However, it is important that a neutral expert body can advice procuring authorities as to the overall process and stages that should be adopted. Therefore, existing risk management guidance should be complemented with a practical Application Note as to the common steps Departments, Project Boards and project managers should take in order to deal with risks efficiently. For as long as there are private sector experts and expert advisers available, the public sector should utilize this knowledge base and the guidance should advise the public sector client as to how to tap into this resource most efficiently. It is important that the public sector understands what the stages in the risk management process are, what role it is expected to take and what is best practice in terms of risk identification and mitigation. If there is a clear understanding over the process then the public sector client can source in the relevant expertise to carry out specific tasks, whether it is to organize a risk workshop or carry out technical modelling in terms of risk costing, but the ownership of the process should always lie with the public sector whose project is at risk and therefore needs to control the quality of information provided and to ensure that information is presented in a way that is clear and understandable to all stakeholders, particularly those who have been identified responsible for managing particular risks. The guidance should highlight common methodologies used by advisers and what considerations should be taken into account before employing a particular methodology. Technical details will be lost on a non-specialist audience and all guidance is most beneficial when it explains what outputs should be sought at each stage, what options commonly exist to pursue these and where best practice examples are available.



3.4 The Role of the Private Sector Adviser in managing PPP Project Risks

The MoT has employed Mott MacDonald (MMD) on a turn-key basis to develop a Business Case and to manage the procurement of the D3 motorway PPP pilot project. MMD has developed and initiated project management structures and processes that allow them to conduct their duties in open and efficient manner. MMD is experienced in considering and managing risks and is being supported by experts elsewhere within the company and see this project as an opportunity to develop the standards within PPP projects and therefore preparing a competitive advantage in respect of future projects and procurements.

3.4.1 Observations / Key Risks / Areas for Development

It is unclear to what extent the MoT is participating in the day-to-day decision-making and therefore to what extent the learning curve is shared. There is a real risk that the MoT will not be able to develop its knowledge and understanding of risks in PPP projects and the appropriateness of particular mitigation strategies. Since the PPP Centrum is no longer involved with MoT projects there is a risk that lessons learnt and best practise is not recorded and fed back into other projects and across to other sectors.

A major risk, in common with MoJ, is the lack of internal presence / expertise in the project team. Should for any reason MMD have to withdraw from the project, any incoming external adviser / project manager would require to repeat a large proportion of the work and analysis for reasons of different technical methodology and contractual duty of care. In such scenarios the MoT would be exposed to additional fees and delays and therefore increased project costs, for example due to construction costs inflation. MoT should not rely on commercial advisers to take on the delivery of the project but should appoint advisers to advice and support a specialist project team that represents key MoT interests and expertise, such as road technicians, departmental finance officers and legal services.



4. Recommendations

Based on the findings stated in Chapter 3, and with reference to the specific suggestions already made in there, we would like to present a few recommendations that are summarized below.

Recommendation 1: Risk Management Strategy

MoF/PPP Centrum should – preferably together with one or more procuring authorities (e.g. MoJ and/or MoT) – develop An *Application Note* on risk management at project level. This guidance should identify key risk management principles, map out the different stages in project development/delivery and highlight the need for the risks to be re-evaluated on a regular basis, identify and highlight best practise in terms of risk allocation and risk mitigation within the public sector, and set out a standard governance structure for the purposes of monitoring risk. This guidance should not be technical guidance as this already exists on evaluating risks by the PPP Centrum but rather an explanation as to what to do and how to use this information to the benefit of efficient delivery of the project.

In line with the Twinning experts' recommendations stated in the Value for money report¹⁷ the MoF should formalize the review process applicable to PPP Projects by developing a set of publicly available evaluation criteria for all PPP OBCs followed by an element of continuous monitoring at key stages of procurement to ensure that projects remain within agreed affordability and liability limits and continue to manage deliverability risks in accordance with best practice. The criteria and review process should be based on a MoF specific risk workshop identifying the key risks/drivers for affordability and considering available mitigation strategies that could be employed by projects and evidence of which could be produced as part of the continuous monitoring.

Recommendation 2: PPP project governance

Appropriate governance arrangements are key in risk management. In line with the experts' advice under Component 4 of this Twinning initiative¹⁸ it is recommended the MoF / PPP Centrum should – preferably together with some other leading PPP procuring public authorities (e.g. the MoJ and the MoT) develop a simple guidance note on PPP project governance structures. This note should emphasize the need for a dedicated full time public sector owned and controlled project team, should clarify the role of advisers and need to involve stakeholders at senior level through the Steering Group and reporting structure. This guidance should quote best practice from current projects and include relevant organigrams. The application of this guidance should be one of the evaluation criteria at MoF and other departments.

Recommendation 3: Development of Knowledge Base & Sharing of Best Practise

Instead of acting as a commercial adviser, it is advised that the role of the PPP Centrum should be developed into one of offering advice and support on the appropriate processes, structures and protocols projects and sponsoring departments should adopt to ensure efficient development and delivery of PPP projects. Central funding arrangements should ensure that all projects and departments have access to advice in order to ensure

¹⁷ Fact-finding report Component 1 (Value for money) adopted by Project Steering Committee on 12 March 2007

¹⁸ Fact-finding report Component 4 (Process guidance) adopted by Project Steering Committee on 24 April 2007



consistency and in return central awareness of developments across sectors. The PPP Centrum should also collect information about projects to be made available for other projects but also to build up a level of understanding over the key drivers and risk management strategies that have been employed.

MoF should make it a funding / approval condition that projects consult the PPP Centrum and should itself use the Centrum directly in the process of evaluating business cases and monitoring of projects during procurement.

Recommendation 4: Client / Market Development

The PPP Centrum should start regular forums for PPP project managers, teams and sponsors to come together and discuss and share experiences, lessons learnt and best practice. Currently projects deal with issues and risks in isolation whereas a number of targeted forums will enable the relevant people to meet. Similar forums for Technical, Financial and Legal Advisers should also be considered in order to raise awareness and to carry out informal consultations. These forums would give the Centrum access to invaluable information that it could use to develop further guidance and to advise client departments on areas on problematic issues.

Appendixes:

Annex 1: SE Key Stage Review at OBC / pre-advertising OJEU

Annex 2: SE Key Stage Review at pre-issue of tender documentation to shortlist bidders

Annex 3: SE Key Stage Review pre-issue of invitation to submit final tenders and/or pre-appointment of a preferred bidder (depending on procurement procedure)

Annex 4: SE Key Stage Review at pre-financial close