

POLICY ANALYSIS FOR IMPROVING PERFORMANCE OF PPP PROJECTS IN VIETNAM

A Case Study from BOT Phu My Bridge Project

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Preface and Acknowledgement

This is the report for my Master graduation thesis of Construction Management and Engineering (CME) program. This thesis was conducted at Faculty of Civil Engineering & Geosciences and Faculty of Technology, Policy and Management of Delft University of Technology.

This report discusses the content of graduation research. It includes literature review, analysis of project finance, suggestions, framework of risk management, framework of policy and legal, recommendations from the findings, etc. In the study, the policy analysis for improving PPP practice in Vietnam is central. The focus is on the project finance, risk management, policy and legal dimensions of the PPP model. The report is set up of multiple chapters:

Chapter 1: Introduction and research scope

Chapter 2: PPP model

Chapter 3: Financing of PPP projects

Chapter 4: Risk Management of PPP projects

Chapter 5: Institutional policy and legal framework of PPP projects

Chapter 6: PPP projects in Vietnam

Chapter 7: Conclusion and recommendations

During my graduation research for MSc studies, I was assisted by my graduation committee.

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Executive Summary

Vietnam is one of the developing countries in the Southeast Asian with high economic growth rate (7%-9% per year). Vietnamese government has recognized that the development of infrastructure is one of the important ways to keep pace with this high economic growth rate in Vietnam. If infrastructure is poor and under-developed, it will hinder the improvement of country's economy. According to World Bank, in order to keep this high economic growth rate, the infrastructure development should be from 11-12% GDP. There is an emerging urgent need of development from energy, transportation network, telecommunications, water supply, water treatment, and so on. The obsolescence and shortage in these facilities prevent the country's economic growth. In order to invest into these facilities, it is required a huge of capital that only government cannot afford. Thus, private sector participating in developing public facilities is necessary to make use of its capital, technical and management skills. Based on this purpose, PPP model is emerged as an optimal solution to solve these problems.

In recent years, PPP model has applied in Vietnam under BOT (Build-Operate-Transfer) scheme. Vietnamese government amended the Law on Foreign Investment to facilitate for Build-Operate-Transfer (BOT) regulations in practice. Now, the BOT regulations were enacted under Government Decree, which is still inadequate and in the process of improving. This indicates efforts of Vietnamese government in trying to apply PPP arrangement in developing infrastructure. The number of BOT projects in Vietnam increase highly in term of quantity and quality. From 1990 up to now, Vietnam has had nearly one hundred BOT projects in infrastructure development. However, most of these projects could not be finished on time and overrun budget right after the construction stage, and foreign investors invest in only two BOT projects in Vietnam until now although Vietnamese government has applied many policies and incentives to support these projects. The failure of these projects and unwillingness from private investors results from nascent financial market, which cannot sustain for long-term and huge capital investment of BOT infrastructure projects. In addition to that, BOT projects in Vietnam contain many risks involved in which such projects cannot be successful without government supports and guarantees. Thus, the security of investments and return from the project are not ensured. The uncertainties, risks in BOT projects in Vietnam are mostly caused by the unfulfilled institutional policy and legal regime of BOT project environment in Vietnam. The policy and regulations for BOT scheme fail in creating the willingness to invest from investors because of complex approval systems by many authorities involved with corruption, time-consuming, vague language and uncertainties in regulations, etc.

The important of PPP model to the development of infrastructure as well as the Vietnamese economy, and exiting obstacles in BOT practices in Vietnam inspire me to do this thesis. Among many critical success factors influencing to performance of BOT practice in Vietnam, the author recognizes that Vietnamese government should try all its efforts to improve the financial market, ability to manage risks, legislation and regulation to leverage private involvement in BOT scheme. The other factors can be achieved by the learning curve process on the course of local and international PPP practice. Thus, the thesis focuses on PPP model specializing in the following main aspects: (1) financing of PPP projects, (2) management of risks in PPP projects, (3) the institutional and legal framework of PPP projects.

The first part of the research introduces concept and characteristics of PPP model such as definition, the benefits and limitations, organizational structure, stakeholders, and contractual structure. Organizational structure of a PPP project can be the mono-entity structure, dual-entity structure, multi—entities structure, or mixed organizational structure. Many stakeholders participating in PPP arrangement can complicate the process and potential conflicts between these parties usually happen due to their differences in interests, viewpoints and core business. The contractual structure of PPP procurement is also a complicated network of relationships between many stakeholders, shareholders in which the concession agreement is the most important one. In order to ensure the continuance of the project, the lenders and host government can enter into a direct agreement with counter-contracting party. By using direct agreements, the lenders can secure their investment and take over the Special Purpose Vehicle's role when necessary to help project overcome difficulties and repay the debt. This part also presents the phases of a PPP project with the clear role of public and private sectors in each stage of project development. Moreover, the common types of PPP projects are also investigated. They can be Service Contracts, Build Operate and Invest, State Owned Enterprises, Joint Ventures, or Privatization.

The second part analyzes the financial issues of PPP projects such as funding sources for PPP projects and the basic hedging instruments commonly used in reducing the interest risk, currency risk, credit risk. The problems facing to the multi-funding-source PPP projects are the varied interests of creditors in regard of their security and priority ranking in project that could harm to the success of project. These issues are addressed in the intercreditor agreements, which specify clearly each creditor's role, responsibilities, and rights. Moreover, the critical issues that all the parties usually face in financing PPP projects are lacking of the domestic capital markets, limited in raising of institutional funds, non-dependable project revenue streams, and government guarantees. The consequence of not meeting these factors can lead to not attract investors at all or not establish PPP arrangement. The research also analyzes the financing strategies that should be taken into consideration when development a PPP project. Based on the knowledge of project finance in PPP model, this part determines the issues existing in private funding sources in infrastructure development in Vietnam in term of the crucial financial risks, the difficulties, obstacles. The research figured out that the Vietnamese financial market is immature and underdeveloped that cannot be capable to participate substantially in the provision of the total amounts necessary for the financing infrastructure projects in Vietnam. Thus, the suggestions for improving are proposed in this part.

The third part of this research investigates many crucial aspects of risk management in PPP project. It reviews the risk management process with many techniques, tools and strategies involving in each step. The crucial risk factors and major risks of PPP project are also outlined and assessed. The general principal in risk allocation in PPP procurement is that risks should be distributed to party who are best in management them with less cost. In addition to that, the important principals such as fairness, transparency, accountability, and sustainability should be considered for a proper risk allocation. Then, a framework of risk management in PPP model is built for applying in practice. The framework shows the requirements, actions, activities, techniques, strategies, and outcomes that each party in a project should do in each step of risk management process related to the project phases to improve performance and achieve the project's objectives. Based on the analysis of risk management practice in previous BOT projects

in Vietnam, many crucial risks, stakeholders' perspectives and risk management practice in Vietnam are presented. The author figured out that almost BOT projects in Vietnam have not allocated risks properly and systematically that usually lead to conflicts and even failures of project. Therefore, developing a practical risk management framework is the most important strategy for improving performance of PPP projects in Vietnam nowadays.

The fourth part explores policy and legal aspect of PPP model and investigates the policy and legal regime of BOT project environment in Vietnam to figure out what are the problems in it and find ways to improve them. This part presents the guided actions to build up a good institutional policy and legal framework that governments should do for PPP model to create incentives and guarantees for private participation in PPP projects. The policy framework should have clear objectives and principles, realistic targets, while the legal framework should be fewer, simpler and better in order to make the private sector to be secured and confident. Moreover, a good institutional policy and legal framework should take into account all the stakeholders involved and guarantee them access in decision-making while preparing for the development of PPP projects. The role of government is to create a favorable investment environment by creating a willingness to invest from the private investors, establishing a good design of contract, and preventing regulation from failure in infrastructure project, and offering government guarantees and incentives to support the private investors participating in PPP projects. Such principles of good project governance can be the basis theoretical notions for the government to practice for improving the performance of PPP projects. BOT Decree in Vietnam fails to address adequately many of the issues necessary for practicing PPP model to be successful. Thus, it needs to be improved.

The fifth part of this research introduces readers about the status of infrastructure development in Vietnam and the reasons for failures, inadequacies in previous BOT projects. The author recognizes that transportation sector, electricity sector, water and sanitation sector, and telecommunication sectors in infrastructure of Vietnam are still under-developed and in an urgent need of improvement against an increasing high demand. They face many problems such as shortage of capital for investment, lack of technical experts, weak management skills, high risk and uncertainty, etc. In such cases, private sector participation is expected to play a major role in providing the sufficient capital for ever-hungry-capital infrastructure in Vietnam. However, practicing of BOT projects in Vietnam has faced many difficulties reducing the willingness of investors for participating. The problems are the nascent and immature financial market; the domination of State-Owned Enterprises; lack of transparency project selection, bidding and negotiation processes; weak risk management skills; poor capacity of government agencies to manage BOT projects, etc. Due to many inherent risks and uncertainties in BOT projects in Vietnam, such projects often face with massive price escalation and low revenue to recoup the project cost and serve the debt service. Therefore, some suggestions for improvement are provided in this part. The case study in this part shows some important risks commonly faced by this project in specific as well as by BOT projects in Vietnam in general. They are delaying in land acquisition risk, delay in approval risk, risk of transportation network in adjacent region, cost overrun, improper analysis of concession duration, corruption risk, foreign currency exchange risk and political risk. Lastly, it is seem that fairness, transparency, sustainability, effectiveness and efficiency are hardly to obtain in environment of BOT project in Vietnam due to both the subjective and objective reasons.

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List of Abbreviations:

ADB:	Asian Development Bank
ADSCR:	Annual Debt Service Cover Ratio
ASB:	Authorized State Body
BCC:	Business Cooperation Contract
BLT:	Build-Lease-Transfer
BO(O)T:	Build-Operate-(Own)-Transfer
BOO:	Build-Operate-Own
BOS:	Build-Operate-Sell
BOT:	Build-Operate-Transfer
BT:	Build-Transfer
BTO:	Build-Transfer-Operate
CIENCO:	Civil Engineering Construction Corporation
DAF:	Development Assistance Fund
DBFM/O:	Design, Build, Finance, Maintain and/or Operate
DFI:	Development Finance Institution
EBIT:	Earnings before Interest and Taxes
EBITDA:	Earning Before Interest, Taxes, Depreciation, and Amortization
EBRD:	European Bank for Reconstruction and Development
ECA:	Export Credit Agency
EIB:	European Investment Bank
EPC:	Engineering-Procurement-Construction
EVN:	Electric of Vietnam
FB:	Foreign Bank
FDI:	Foreign Direct Investment
FMC:	Fund Management Company
GDP:	Gross Domestic Product
HaSTC:	Ha Noi Securities Trading Center
HIFU:	Ho Chi Minh Investment Fund for Urban Development
HOSE:	Ho Chi Minh Stock Exchange
HOSTC:	Ho Chi Minh Securities Trading Center
IDA PRG:	International Development Association – Partial Risk Guarantees
ADB PRG	Asia Development Bank - Political Risk Guarantee
IFC:	International Finance Corporation
IPP:	Independent Power Producer
JBIC:	Japan Bank for International Cooperation
JSC:	Joint Stock Company
JSCB:	Joint Stock Commercial Bank
JVB:	Joint Venture Bank
LLCR:	Loan-Life-Cover Ratio
LOC:	Letter Of Credit
MOT:	Ministry of Transportation
MPI:	Ministry of Planning and Investment
NGO:	Non-Governmental Organization
O&M:	Operation and Management

ODA:	Official Development Assistance
PBG:	Policy Based Guarantees
PCR:	Partial Credit Guarantees
PDF:	Probability Distribution Function
PFI:	Private Finance Initiative
PMC:	Phu My Bridge Corporation
PMU:	Project Management Unit
PPP:	Public-Private Partnership
PRG:	Partial Risk Guarantees
RPI:	Retail Price Index
SBV:	State Bank of Vietnam
SOCB:	State-Owned Commercial Bank
SOE:	State-Owned Enterprise
SPV:	Special Purpose Vehicle
UNECE:	United Nations Economic Commission for Europe
UN-ESCAP:	United Nations Economic and Social Commission for Asia and the Pacific
UNIDO:	United Nations Industrial Development Organization
VDB:	Vietnam Development Bank
VNPT:	Vietnam Post and Telecommunication
WB:	World Bank

Chapter 1. Introduction and research scope

1.1. Introduction

Vietnam is one of the developing countries in the Southeast Asian with a high economic growth rate (7%-9% per year). In order to keep this high economic growth rate, the development of infrastructure should be developed appropriately. According to The World Bank's Vietnam Development Report 2007, annual investment in infrastructure of Vietnam is about 9-10% GDP. However, current infrastructure is still under the demand for social and economic development. The World Bank and Asian Development Bank suggest that in order to sustain the current level of growth, infrastructure investment in Vietnam needs to increase to around 11%-12% of GDP instead of current 9-10 %. Le Bich Dat, Vice Minister of Planning and Investment, said that "infrastructure investment rate should be twice as high as the rate of economic development growth; otherwise infrastructure will be an obstacle and will hinder Vietnamese development"

Average annual growth (%), 1995-2006

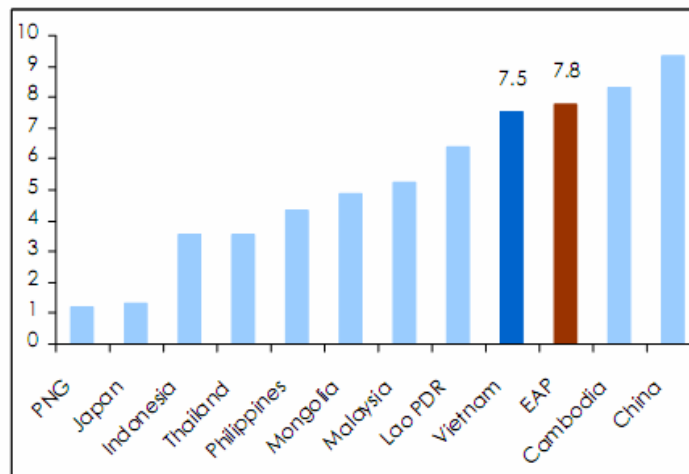


Figure 1.1. Average annual growth (%)

Source: World Development Indicators, 2006

Demand for infrastructure investment in Vietnam is very high. There is an emerging urgent need of development from energy, transportation network, telecommunications, water supply, water treatment, and so on. The obsolescence and shortage in these facilities prevent the country's economic growth. In order to invest into these facilities, it is required a huge of capital that only government cannot afford. In order to become a developed industrial country by 2020, Vietnam must build up a developed and comprehensive infrastructure system. The capital required for investment in infrastructure development is estimated to \$30 billion/year. Most of the funds for previous infrastructure developments had originated from the State budget (11%) and from the official development assistance (ODA) (37%) and only 21% is from private sectors. Only with development of transport infrastructure to 2010, it needs \$7.4 billion/year, average 4.1% of GDP per year. Financing for transport infrastructure projects in Vietnam depends heavily on the state budget, official development assistance (ODA) investments, foreign direct investment (FDI), government's bonds or government-guaranteed construction bonds. These sources contribute only \$2-3 billion/year (20%-30% demand).

Vietnamese government has mobilized all possible recourses for development of infrastructure but it still does not meet the investment demand. In the future, Vietnam will encounter many difficulties if it only depends on these sources. Over the next five to ten years, official development assistance (ODA) is unlikely to grow at the same pace as the economy, and it will occupy a smaller part of total infrastructure investment. Furthermore, grants and the most concession forms of donor financing will become increasingly difficult to obtain. This is due to the fact that Vietnam had experienced a significant economic growth in which its GDP per capital had exceed the permissible threshold of the donor community that makes Vietnam no longer entitled to preferential loans from donors. These figures show that Vietnam needs to develop new sources of long-term finance as alternatives to ODA. Thus, private sector participation is expected to play a major role in providing the sufficient capital for infrastructure development in Vietnam.

1.2. Research problems

In recent years, PPP model has applied in Vietnam under BOT (Build-Operate-Transfer) scheme. Vietnamese government amended the Law on Foreign Investment to facilitate for Build-Operate-Transfer (BOT) regulations in practice. Now, the BOT regulations were enacted under Government Decree, which is still inadequate and in the process of improving. This indicates efforts of Vietnamese government in trying to apply PPP arrangement in developing infrastructure. The number of BOT projects in Vietnam increase highly in term of quantity and quality. From 1990 up to now, Vietnam has had nearly one hundred BOT projects in infrastructure development. However, most of these projects could not be finished on time and overrun budget right after the construction stage, and foreign investors invest in only two BOT projects in Vietnam until now although Vietnamese government has applied many policies and incentives to support for these projects. The failure of these projects and unwillingness from private investors results from nascent financial market, which cannot sustain for long-term and huge capital investment of BOT infrastructure projects. In addition to that, BOT projects in Vietnam contain many risks involved in which such projects cannot be successful without government supports and guarantees. Thus, the security of investments and return from the project are not ensured. The uncertainties, risks in BOT projects in Vietnam are mostly caused by the unfulfilled institutional policy and legal regime of BOT project environment in Vietnam. The policy and regulations for BOT scheme fail in creating the willingness to invest from investors because of many complex approval systems by many authorities involved with corruption, time-consuming, vague language and uncertainties in regulations, etc.

Among many critical success factors influencing to performance of BOT practice in Vietnam, the author recognizes that Vietnamese government should try all its efforts to improve the financial market, ability to manage risks, legislation and regulation to leverage private involvement in BOT scheme. The other factors can be achieved by the learning curve process on the course of local and international PPP practice day by day.

The goals of Vietnam now are finding good ways to attract private funding sources to participate in infrastructure development. The banking system, capital market, infrastructure funds and private investors are the main private funding sources in infrastructure development in Vietnam that need to be improved. At the same time, in order to increase investors'

willingness and confidence when they invest in BOT projects in Vietnam, the government should give guarantees, incentives, and supports to isolate them from risks involved in BOT projects in Vietnam. Risks and uncertainties can also be eliminated by a good policy and legal regime, so the government should improve the present obstacles in legal and regulatory regime and build a good policy and legal framework for PPP model. By ensuring these things, the performance of PPP project will be improved as well.

1.3. Research questions

Based on the foregoing points, the author is inspired to do the research with the following objectives:

- To study concept, characteristics of PPP projects in term of project financing aspect, risk management aspect, policy and legal aspect of PPP model.
- To determine the issues existing in private funding sources in infrastructure development in Vietnam where the banking system, capital market, infrastructure funds and private investors are analyzed and look for ways to improve them.
- To determine, analysis major risks commonly exposing in BOT projects in Vietnam and look for mitigation measures to deal with them as well as what supports and guarantees that government should give to investors to enhance their confidence and make them to be secured.
- To investigate the policy and legal regime in BOT project environment in Vietnam to figure out what are the problems in it and find ways to improve them.

Building on these objectives, several research questions for the study are:

1. Because investors just only participate in PPP projects in the host country with favorable and advanced financial market so that they can easily mobilize funds for huge-capital and long-term PPP project, what are the factors hindering private funding sources from good practices in infrastructure development in Vietnam? How can these factors be improved?

2. Because we know that PPP projects inherently contain many risks involved, investors should be made sure that their investment would be secured and they can gain returns from investment, what is the framework for risk management of PPP projects? What are the most important risks in BOT projects in Vietnam? What are the mitigation measures to deal with these risks? What supports and guarantees should Vietnamese government give to investors?

3. Because private sector always examines the policy and legal framework and its ability to ensure the effectiveness of long-term contracts, what is the good policy and legal framework to motivate and facilitate PPP project promoters? What are the obstacles in policy and legal regime of BOT project environment in Vietnam? How can these obstacles be improved?

These are the key research questions contributing to the thesis. They will be discovered throughout my research. The research is applied in practice to the case of BOT Phu My Bridge project to validate for the findings from the research.

1.4. Scope and limitation of the research

- Scope:

This study focuses on finding the guided actions to improve practicing PPP projects in term of risk, finance, policy and legal, which are important parts of PPP projects. Throughout the analysis of risk management, financing issues, framework of policy and legal, finding out

problems and best solutions, such things will reveal good useful ways for both public and private sectors in practicing development of infrastructure in Vietnam. The various industry sectors involved in this analysis are road, bridge, port, tunnel, thermal power plant, water treatment, and so on.

The population of this research will be in one BOT infrastructure project in Vietnam. Data will be collected by questionnaire and interview questions via email and telephone.

- Limitation:

There are many more other issues in PPP model, but as mentioned before the thesis just looks at the aspects of risk management, financing, policy and legal of PPP model. Other issues will not discuss in this thesis.

The thesis is limited in only one case study in Vietnam because of the difficulties in accessing to its source. Thus, the sample may not be representative enough for the whole BOT infrastructure projects in Vietnam. Moreover, the thesis is conducted in a time constraint because the author's scholarships constraints of time.

1.5. Expected contribution

This study is expected to contribute lessons learnt for the host government agencies and the private sector to better under understanding financial, legal, political perspectives and risk management in BOT projects in order that they can develop and implement more effective BOT projects in the future. Thus, both the sponsors and the project promoters can use findings in this thesis as their references when they want to conduct PPP projects in Vietnam. Moreover, foreign investors can set the findings in this thesis as a starting point when they want to invest into PPP Vietnamese projects.

Chapter 2: PPP model

2.1. Introduction

Infrastructure development is one of the key factors that have significant and positive influence on economic growth of a country, especially with the developing countries (ADB, 1996). However, development of infrastructure requires massive capital investments since most infrastructure projects are large and high level of complexity (Grimsey and Lewis, 2002). Thus, most developing countries do not have the required amount of capital to develop the necessary infrastructure on their own. This leads to the economic condition will be suffered. Therefore, in order to keep pace with the economic growth and the increasing demand from ever-growing population, the private sector participation was introduced with the intention to assist the government of these developing countries by providing additional capital investment to finance the infrastructure sector development (Walker and Smith, 1995).

Private investment in public infrastructure can be traced back to 18th century, such as the Suez Canal and Trans-Siberian Railway, as well as canals, turnpikes, and railroads in Europe followed by Americas, China, and Japan (Walker et al. 1995; Levy 1996). Development of infrastructure projects with private capital via Public Private Partnership (PPP) has been as a major trend during the recent years in developed and developing countries. All over the world where PPP procurement has been used in one form or another, the way in which it is carried out has become an important issue. This is because the PPP scheme offers host government's opportunity to accelerate infrastructure development without incurring large public expenditure and borrowing (Yeo and Tiong, 2000). Moreover, the host government can exploit private sector management expertise, innovative technologies, and operational efficiencies in addition to mobilizing private funds to meet the tremendous demands on infrastructure system.

Based on this basic knowledge about PPP arrangement, this chapter will go in exploring the concept of PPP model and related dimensions related to it. With this intention, section 2 will go in defining definition of PPP concept and characteristics of it are presented in section 3. Section 4 of this chapter will discuss some benefits and limitations of this model to know the underlying advantages and disadvantages of applying it. From section 5 to section 7, the chapter will present the organizational structure, stakeholders, and contractual structure of a PPP project respectively. From these chapters, the reader will know deeply most of the issues of PPP model as well as the interest and conflicts between stakeholders via organization and contracts used in this arrangement. This chapter also presents phases of PPP projects in section 8 and common types of PPP model in section 9. The conclusion in section 10 will summarize all the issues related to PPP model discussed in the previous parts and introduce the next issues, which will be addressed in later chapters.

2.2. Definition of PPP model

There are many definitions of PPP model available worldwide. It has been defined differently by many academics, public agencies, and international organizations with the result that a universal definition to which all would agree is elusive. However, these definitions are the same in generic ideas of PPP model. The following definition will be used throughout the thesis. "Public-private partnership (PPP) arrangement can be defined as a long-term, contractually regulated cooperation between the public and private sector for the efficient fulfillment of

public tasks and improvement social infrastructure in combining the necessary resources (e.g. know-how, operational funds, capital, personnel) of the partners and distributing existing project risks appropriately according to the risk management competence of the project partners” (Hans Wilhelm Alfen, 2009). The basic underlying is that government departments are transformed from being owners and operators of infrastructures and public assets into the purchasers of services from the private sector. The private sector becomes the long-term provider of services by taking the responsibility for financing, feasibility study, design, construction, and the operation of the infrastructure and facilities (Ahadzi and Bowles, 2004). It recovers project’s investment cost through tariff/toll fee from users since PPP arrangement is essentially a form of project finance in which project’s revenue based upon the projected cash flows of the project rather than the balance sheets of the project sponsors. In PPP model, resources and risks are shared between parties for delivering public service or developing of public infrastructure. In this regard, the government can make use of economies, technologies, and management skills from the private sector to deliver more effectively the service, facilities, or infrastructure (Li and Akintoye, 2003). The private sector assumes substantial risks that would be held by the public sector, in exchange for compensation and the public sector gives up substantial control over the delivery of infrastructure services. PPP model could be regarded as a viable alternative to privatization and socialization (More and Pierre, 1998) as they provide the opportunity to alter the institutional setting without the loss of municipal influence.

2.3. The characteristics of PPP model are

Unlike the traditional procurement, PPP scheme has unique characteristics. Li and Akintoye (2003) summarize common PPP project’s features as follows:

- A partnership involves at least two actors: public sector and another from the private sector. The capital investment from private sector is crucial element of PPP’s incentive structures since it shows willingness, effort of private sector in fulfilling the project.
- Each participant is a principal which means each of the participants is capable of bargaining on its own behalf rather than having to refer back to other sources of authority. In some instances, the public sector has to set up a special agency that is capable of entering into partnership before collaboration becomes possible.
- The partnership establishes an enduring and stable relationship among actors based on a long-term contractual relationship.
- Each of the participants brings values to the partnership. Therefore, for the partnership to be a genuine relationship, each will have to transfer some resources such as material (money or land, etc) or immaterial (authority, etc) to the partnership. Innovation, service levels and payment mechanism are important factors for PPP procurement.
- A partnership implies a sharing of risks and responsibilities for the outcomes or activities between parties involved. This differs from other relationships between the public and the private sectors in which the public sector retains control over policy decisions after receiving the advice of organizations in the private sector. Efficiency gains through appropriate sharing of risks and responsibilities in which the public sector retains mainly sovereign tasks and the private bears those for implementation.
- A framework contract underpins the partnership and provides the partners with some degree of certainty.

2.4. The benefits and limitations of PPP model

In the researches of benefits and limitations of PPP model, there are many findings and discussions. Generally, PPP model can provide a wide variety of benefits for government and project promoters, but it also remains some limitations as in table 2.1

Benefits	Limitation
<ul style="list-style-type: none"> • Applying PPP model will enhance government's capacity to develop integrated solutions. With PPP model, the scope of the project is expanded widely to reflect a broader context and the focus can shift to developing an integrated solution instead of a fragmented structure in traditional process. Moreover, it can solve the problem of budget limitation as in the traditional model. • PPP model is a creative and innovative approach. In this model, private sector is not constrained by detailed and complex inputs, initial requirements and specifications. Instead, private promoter can utilize all their advancements, techniques, management skills and priority to compete and develop unique and creative approaches to the outcome. • The cost in implementing the PPP model is reduced comparing with the traditional process. It can either reduce costs or deliver a higher quality for the same cost in a project. In addition, this form also offers a faster delivery of the project and the transfer of risks to the private sector. Reduction of cost is shown in the synergy, economies of scale and reductions in life-cycle costs. • The time is also reduced when applying PPP model. This model enables the design and construction to be executed concurrently instead of sequentially. It motivates the private partner's productivity through a reward for on-time completion of the project. Moreover, this model not only reduces the time required for tendering, but also discourages the changes to the project design. • PPP model transfers certain risks to private project partners who are best in managing them while retaining some risks best managed by the public sector partner. This is a very important risk transferring strategy in PPP model. • PPP model attracts larger, potentially more sophisticated bidders to the project by the appealing of the size and scope of a PPP project. • Government can gain the skills, experience and technology in a PPP project through executing, analyzing of project's requirements and analyzing of opportunities for innovation. 	<ul style="list-style-type: none"> • It is easy to see that negotiation between parties in a PPP project takes place for a long time and costly. The longer-term contract is also a barrier to motivate private sector partners. • The complexity of the contractual structure is also taken into consideration, which in turn results in longer negotiation periods. • The up-front cost of PPP projects is much greater than the preparation and negotiation costs of the conventional procurement methods. • There is a possibility of expenditure realization in the capital accounts due to the government's liability in case of partnership failure. In virtually all of these cases, the government, but not the private operators, has ultimately shouldered the cost of failure. • PPP arrangement may "lock in" government to existing modes of service delivery and lead to a loss of public sector skills • PPP arrangement can distort spending and urban planning priorities, since priority may be given to projects that are readily packaged as PPP model, instead of those producing greatest benefit to the community.

Table 2.1. Benefits and limitations of PPP model

Source: Li and Akintoye, 2003

2.5. Organizational structure of PPP model

PPP model can take many forms around the world. However, it is essentially an arrangement by which the private sector participates in, or provides support for the provision of infrastructure-based services. The PPP system involves the purchase of a stream of services, defined in a detailed service agreement under specified terms and conditions. In simple terms, this is done throughout a concession contract, which involves a host government granting a license or concession to a private sponsor (A. Ng and Martin Loosemore, 2006).

A PPP project is usually sponsored by a consortium or joint venture of interested parties due to the huge capital investment required and various risks involved in it. The parties in such consortium or joint venture can be construction contractors, investors, equipment vendors, facility operators, fuel suppliers, and so on. Each of them has their own core competencies and interests in the work related to their core business. According to Tiong and McCarthy (1991), PPP model usually requires the setting up of a special-purpose Project Company (the 'concessionaire') in the host country, which is incorporated in accordance with the laws of that country. This company is operated and financed by the private sector alone or with public shares, and delivers the necessary service to the public sector under the framework of a long-term concession in return of payment commensurate with the service levels provided. The Project Company raises the required finance, both debt and equity, secured against the performance of the contracts for the underlying service. The funds are raised against the expectation of the projected cash flows generated by the project.

The government agency may award the concession agreement to Project Company to design, construct, finance, manage, operate and maintain the asset throughout the concession period and this asset is transferred to the government agency free of charge and in good condition due to the concession agreement. The Project Company is the employer of the construction contract (which is a role that is normally taken by the host government in traditional infrastructure projects). Generally, once the concession is formed, the concessionaire must set about obtaining the finance to allow the construction contract to be let. Supply and offtake contracts may also be required to facilitate the placing of the financing. The Project Company may choose to operate and maintain the asset itself, or it may opt to use an operation contract. Payments to the Project Company to fund debt service normally commence after completion of the construction – when the services are made available to the public. During the operating period, the Project Company receives income based on the usage of the facility assuming that the service provided meets a range of key performance indicators (A. Ng and Martin Loosemore, 2006).

There are four basic forms of Project Company in the development of PPP projects (Akintola Akintoye and Matthias Beck, 2009):

- Incorporated companies: this is an independent legal entity with limited liability, which can provide a high degree of insulation for a sponsor from the risks and liabilities of a project, but the sponsor cannot directly control project cash flows.
- Contractual joint ventures (unincorporated joint venture): this kind of entity can provide a high degree of flexibility for internal management through writing rules in joint operating agreements. However, it does not provide any form of limited liability in itself.

- Partnerships (general and limited partnerships): this kind of entity cannot provide insulation for a sponsor from the risks and liabilities of a project, but can provide some tax benefits.
- Trusts: a trust can be used to embrace title to a project and raise funds for the project, but it is rarely used to manage a project.

In order to design an organizational structure of a project, major concerns are which form of entity (Project Company) should be used and how many entities should be used. The incorporated company with limited liability is the most popular form among the four for the development of PPP projects. The unincorporated joint venture may sometimes be used to take the advantage of management flexibility. Sponsors usually participate in this kind of entity through companies with limited liability, which are established especially for this purpose. The sponsors usually join a partnership through a specially formed limited liability company for the same reason. A trustee can be an independent, nominally capitalized corporation, or a financial institution. The most popular organizational structure is a single economic entity as the project owner. Sometimes a more complicated organizational structure may be required to optimize the project development. Based on these basis forms of entity, there are several types of organizational structure of PPP project.

2.5.1. An organizational structure based on a single entity

In this kind of structure, a single economic entity plays as the project client for both financing and managing the project (figure 2.1). The economic entity here can be an incorporated company, a legally independent entity. Sometimes, other forms of entity may be used.

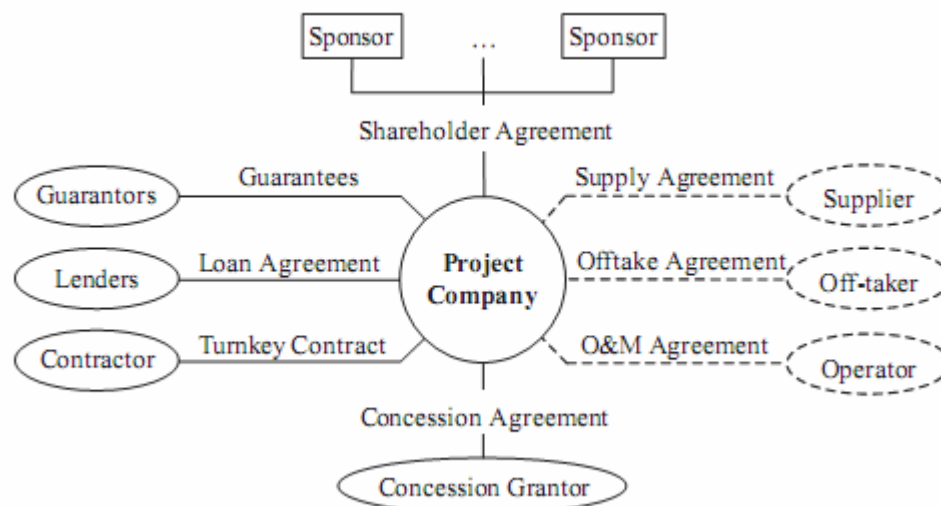


Figure 2.1. A mono-entity structure for project development

Source: Sudong Ye (2009)

In this organizational structure, project sponsors establish an economic entity called Project Company. It can have many contracts with different participants for the financing, design, construction and operation of the project, and so on. It may, for example, have a loan agreement with lenders, an engineering contract with a designer and construction contract with a construction contractor, or an engineering, procurement and construction (EPC) contract with a construction consortium; an operation and maintenance agreement with an operator; a supply agreement with suppliers; and possibly an offtake agreement with offtaker or a usage/lease contract with users. If the production process is not complicated, the economic

entity can handle operating the facility by itself. If the production process is complex, the economic entity may employ a specialized operator. In this regard, the Project Company plays a role of owner, an owner company.

2.5.2. An organizational structure based on two entities

In this kind of structure, two economic units are created to execute different tasks or different parts of a project due to different situations. One of the reasons is that the project involves many lenders/investors with different requirements, and another is that the project can be split into two parts for one or another reason (Sudong Ye, 2009)

- Dual-entity structure: separating funding from construction

This structure is applied when the project sponsor wants to separate the task of funding from the other tasks as many lenders/investors with different requirements (figure 2.2)

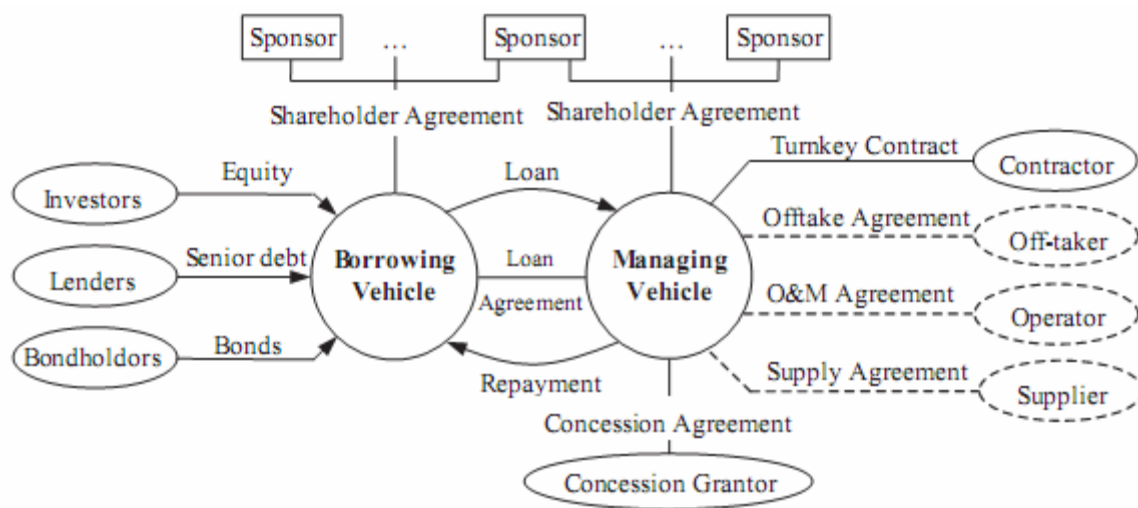


Figure 2.2. Dual-entity structure (separating funding from construction)

Source: Sudong Ye (2009)

In this regard, two economic units are created: one for the purpose of financing such as a trust-borrowing vehicle to raise fund for the project, and one for the goal of managing the project such as the Project Company. The Project Company can keep away from dealing with many lenders/investors directly by entering into a loan agreement with the borrowing vehicle.

The Project Company can be either an owner-operator company or an owner company. The type of the two economic units depends on project characteristics. Typically, a limited company is established for management, and a trust for funding.

- Dual-entity structure: dividing a project into two parts

In this scene, the project sponsor wants to establish two separator economic entities for the development of the two parts in order to maximize project's profit (figure 2.3). One part can be a leasing company, another can be a Project Company and they are connected through a lease agreement to take advantage of tax deductions for lease payments. In this regard, the leasing company can raise funds based on the lease agreement with the Project Company by a leveraged lease, while the Project Company can raises debt financing based on the projected cash flows generated from user charges or offtake contracts (Sudong Ye, 2009).

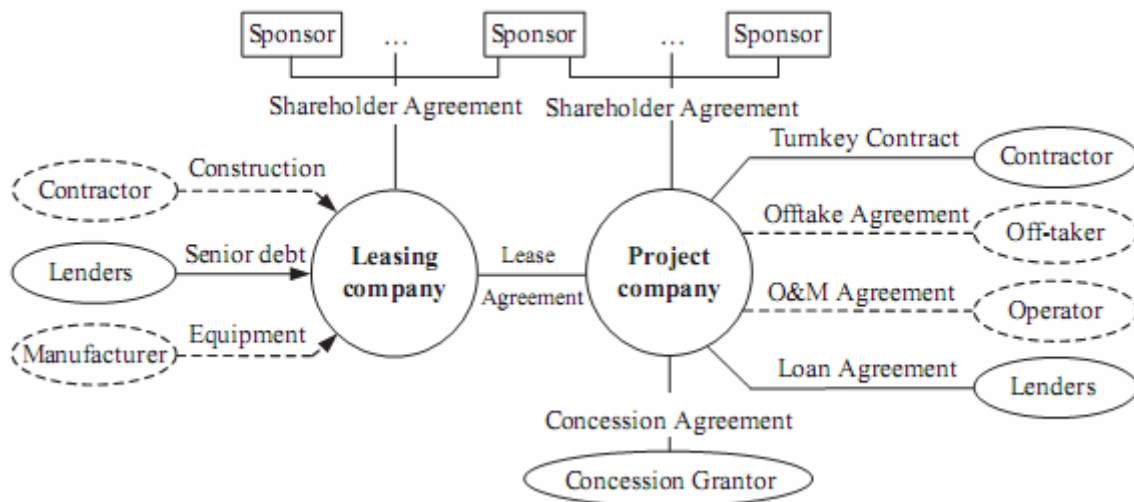


Figure 2.3. Dual-entity structure (dividing a project into two parts)

Source: Sudong Ye (2009)

2.5.3. An organizational structure based on multi-entities

In this kind of structure, there are more than two economic entities are created when the project is complex or very large in seize. One can be created for financing and the others for managing different parts of a project respectively, or each entity for developing one part of the project (figure 2.4)

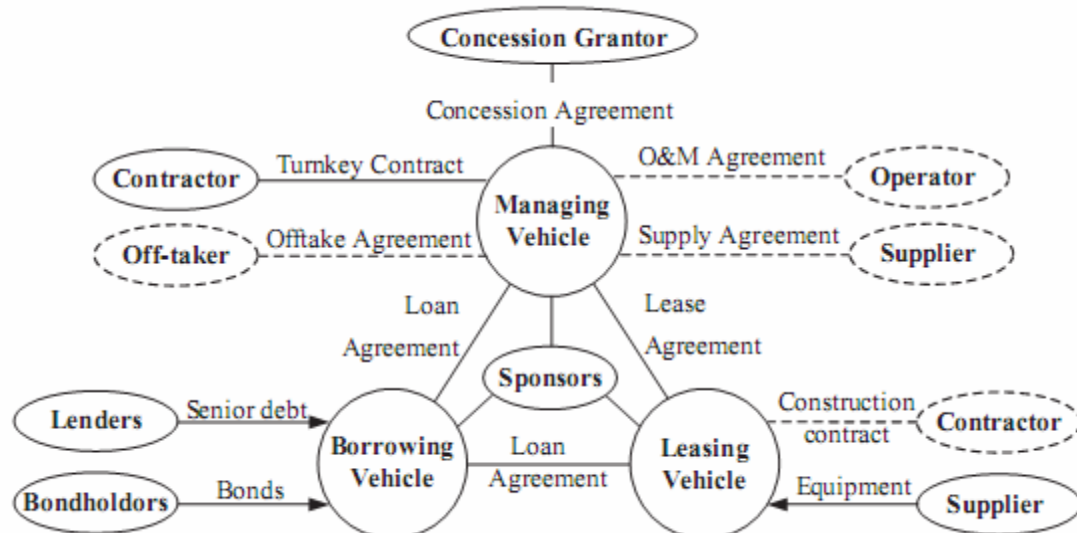


Figure 2.4. An example of three-economic-unit structure for project development

Source: Sudong Ye (2009)

2.5.4. A mixed organizational structure

In this kind of structure, the concession grantors can use both the dual-entity structure and the multi-entity structure. A project can be divided into two or more interrelated sub-projects in order to use different procurement strategies to develop them. These sub-projects can be related by using lease agreements or other agreements, depending on the relationships between the sub-projects (figure 2.5)

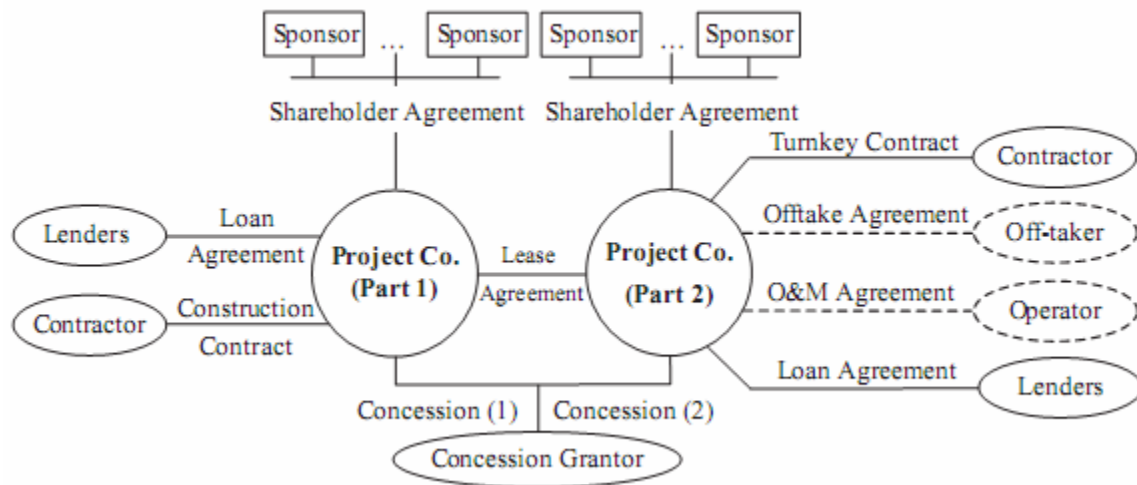


Figure 2.5. A mixed financing structure

Source: Sudong Ye (2009)

This structure is useful when a project requires a huge capital investment, or a project with negative profit. For the former, it is difficult for private sector to bear the responsibility, and difficult in obtaining competitive tenders. In this case, dividing the project into two (or more) interdependent or independent sub-projects can be used to resolve the difficulties. For the latter, the project can be divided into a profitable sub-project and a less profitable one. The profitable sub-project can be developed by using PPP procurement strategy, while the less profitable one can be developed by using other strategies.

2.5.5. The choice of organizational structure

The choice of organizational structure is depends on various factors in which the complexity of construction and the characteristics of fund providers are two key determinants. These two factors of a project can lead to four combinations to form four scenarios (figure 2.6)

Construction Complexity	Complex	Dual-entity Structure (e.g., Leasing company + Project Company)	Multi-entity Structure (e.g., Borrowing vehicle + Leasing vehicle + Managing vehicle)
	Simple	Mono-entity Structure (e.g., Owner-operator company, or owner company)	Dual-entity Structure (e.g., Borrowing vehicle + Managing vehicle)
		Simple	Complex
Financing Source Complexity			

Figure 2.6. Choice of financing patterns for PPP projects

Source: Sudong Ye (2009)

The general rule for choosing the organizational structure of PPP projects is that most projects can be developed using a mono-entity structure. A dual-entity structure or multi-entity structure can be employed in some complex projects. If both the project construction and its financing source are simple, the mono-entity structure can be used. If the project construction is complex, but its financing source is simple, the dual-entity structure consisting of a leasing

company and a Project Company can be used to take the advantage of tax reduction for leasing payment. If the project construction is simple, but its financing source is complex, the dual-entity structure consisting of a trust and a Project Company can be used to take the advantage of trust for raising funds from the public. If both the project construction and its financing source are complex, the multi-entity structure (including mixed financing patterns) may be used to develop the project.

2.6. Stakeholders of PPP projects

Freeman (1984) defines a stakeholder as "any individual or group who can affect or is affected by actions, decisions, policies, practices, or goals of the organization". In general, stakeholders are classified as primary and secondary. According to Cleland (1998) "Primary stakeholders have a contractual or legal obligation to the project team, they also have the responsibility and authority to manage and commit resources according to schedule, cost, and technical performance objectives". Secondary stakeholders are all other interested groups such as the media, consumers, competitors, public and society, etc. There has been a growing trend toward recognizing a greater participation of society with an interest or "stake" in projects and their organizations (Techapeerapanich, 2004).

Typical stakeholders of a project are primary project stakeholders who have a direct commitment in the project's organizational structure. In a PPP project, primary stakeholders are seen as participants who are directly involved in the project through contractual agreements, and these include government agencies, contractors, suppliers, investors and funding bodies, etc. Secondary stakeholders may include affected groups such as local communities around the project, local councils, and landowners whose assets will be acquired, together with other interest groups such as user groups, environmentalists and lobbyists for alternative forms of public project (Techapeerapanich, 2004).

2.6.1. Government agency

A government department or statutory authority is an indispensable party of a PPP project. It plays a crucial role and it is the primary party in PPP project. It will (1) grant to the sponsor a concession, (2) grant a long-term lease of or sell the site to sponsors, and (3) often acquire most or all of the service provided by the facility.

Government agency plays an important role in delivering the project's objectives. It will initiate the project, conduct the tendering process and evaluation of bidders, and where necessary, offering the offtake agreements. This organization examines the needs for an infrastructure project and determines whether the project is suitable for financing on a PPP basis. It will decide between competing objectives, which have a priority for investment and development. Then government agency will see whether they are delivered to the standards required and ensure that wider public interests are safeguard. The goals of this organization are to transfer risks to the private sector and to achieve greater efficiency. In order to achieve these objectives, government agency is expected to ensure the following activities (The Word Bank 2009):

- Government agency is required to establish and clarify the policy framework, as it will help the private sector understand and participate easily in the project.
- Government agency is required to establish a clear legal framework as PPP based heavily on contracts that are effective and enforceable.

- Government agency plays an important role in ensuring the consistency as well as clarity of the policy and legal framework. This can help investors in reducing uncertainties.
- Government agency uses legal terms and approaches that should be familiar to the international private sector to simplify the procedures in PPP arrangements and reduce transaction costs.
- Government agency draws up investment plans to illustrate the high-level political support. This indicates the potential flow of future projects and explains how projects fit together.
- Government agency establishes a clear PPP process map and creates a PPP unit within government with relevant to commercial and legal skills. These are the key sources of support for policy makers and project developers to ensure consistency and credibility. Clear PPP process map and PPP unit within government also show the public sector's competence and seriousness of intent.
- Government agency capitalizes on the experience of others who have managed the process as the private sector takes much comfort from working with public officials who have been through the process before.
- Government agency considers involving private sector resource companies that are engaged in other investment activities in the delivery and management of infrastructure projects.
- The host government is required to assist private sector in obtaining the necessary approvals, authorizations and consents for the construction and operation of the project.

A switch from traditional public procurement methods to infrastructure provision under a PPP arrangement implies that the single role of government (as a project manager) is changed to a multiple role (as a project manager, inspector, customer, and partner). These changes may mitigate the government and client-related risks, such as increased investment requested by client, unrealistic contract durations being imposed by client and clients' improper interference during the construction phase.

2.6.2. Sponsor

Sponsor of a PPP project is a party or a consortium of interested groups consisting of a construction group, an operator, a financing group, and other various groups. It possesses large capital, advanced technology and management skills in conforming to the invitation by the government department. The investors in the sponsor are often in the form of "equity investors" or "equity providers". The major private entrepreneurs providing equity to PPP projects are EPC contractors, O&M contractors, governments (providing equity in the form of subsidies and grants), and capital markets. The investors like EPC and O&M contractors focus on gains that can be expected from the construction and operation of the projects. They require a high return from investment to compensate for its assuming of risks inherent in an infrastructure project. It prepares the proposal to construct, operate, finance, maintain, etc. the particular project.

The project sponsors will normally form a Special Purpose Vehicle (SPV) to act as the concessionaire of the PPP project. This SPV is supplied capital by the sponsors through equity funding and the relationship between the sponsors themselves is set out in a shareholders' agreement. The SPV may have other private equity investors, either initially or as the project progresses. The SPV promotes and manages the project and has ultimate liabilities to the government under concession agreement.

During the phases of PPP arrangement the roles and responsibilities of the project sponsors at each phase of the project (Robert L. K. Tiong, 1990) are:

- As consultants to carry out the feasibility study during the pre-investment phase and engineering design during the implementation phase.
- As project sponsors to negotiate favorable concession agreements from the government and as project promoters to raise equity and borrow loans during the implementation phase.
- As contractors to build the facility, usually based on a fixed price turnkey basis, during the construction phase.
- As operator and owner of the facility, using the project revenues to retire the loans during the operation phase.

The sponsors in PPP model also play an important role in searching the new and innovative approaches to develop profitable business. Profit in investment provides the sponsors with incentive to innovate and try out new ideas; this in turn can lead to better value services, delivered more flexibly and to a higher standard. The sponsors also play a role in contributing business capital and management expertise. In addition, they are normally far more skilled in running business activities and some elements of service delivery consisting managing complex investment projects within time and budget, and assessing the commercial opportunities of potential new business ventures. They contribute added value to PPP projects such as better time management to ensure reaching timeline of progress, lower investment cost, high quality of work, creative ways of project management, lower operating cost while attaining high level of operational efficiency, etc.

2.6.3. Lender

PPP projects are funded mainly by commercial debt. The organizations providing debt financing are commercial banks, national and regional development banks, and multilateral and bilateral organizations, etc. Bankers/lenders provide the debt funds to the sponsor. A standby loan facility is provided by the same or different banks for any cost overruns not covered by the construction contract. As the banks and investors usually finance the project on a limited or non-recourse basis, they will require a security over the infrastructure created. Thus, they conduct evaluations to identify and test sensitivities to ascertain whether the financial project is sufficiently robust to attract non-recourse finance. They will also examine certain degree of control over the progress of the works and contract's administration to ensure cost, schedule, and completion guarantees. In addition, the lenders' securities for their loans and investment are limited to the revenues received by the project. Thus, they are interested in the demand and revenue forecasts produced by the Project Company. Debt financiers will undertake a review of all core project documents to assess the allocation of risks; and how that allocation affects upon their credit approval. Typically, lenders are usually at risk with the construction agreement and the operating contract since PPP project is a kind of project finance.

The financing mechanisms of PPP projects are not always attractive to lenders and creditors (UNIDO, 1996; Zhang and Kumaraswamy, 2001). Firstly, security for project finance relies on the accurate analysis of forecast future income/revenue streams, together with all the associated risks (Tam, 1999) that such forecast entail. Secondly, PPP projects are usually financed on a limited recourse basis (David and Fernando 1994). Limited recourse is a financing structure in which the lender is relying to some degree on the project assets and cash flows for repayment

and debt service without full guarantees from the Project Company or its sponsors (UNIDO, 1996). Thirdly, the financial commitment of PPP projects usually incorporates high debt-to-equity ratios (Tiong, 1990; Walker and Smith, 1995). Higher equity means more extensive capital investment on the part of the concessionaires. However, they usually prefer to keep the level of equity to a minimum, at a level just high enough to convince lenders and the government that the project is credit-worthy and finance (Tiong, 1995). Meanwhile, lenders would prefer a higher level of equity, ensuring lower risk of loan repayment default, and also demonstrating a serious level of commitment by the borrower. Financial dilemmas usually occur at the beginning when there is no funding-body interested in a project. There is a difference in perspectives of the investors and lenders. While investors concentrate on the opportunities associated with the project, the lenders are more concerned with the downside risks of the project.

2.6.4. Construction contractor

Construction contractor can be one of the sponsors in PPP project. It will take responsibility in constructing the project and assumes the risks of completing the project on time, within budget and conforming required specifications. These are sizeable risks and the lenders will wish to see a construction company with a balance sheet of sufficient size and strength with access to capital that gives real substance to its completion guarantee. Generally, an experienced utility will conduct the general design of the infrastructure, so the construction company takes the construction risks. Moreover, due to the nature of the infrastructure project, the commission risks are often allocated to the construction company. Thus, the sponsor usually requires the construction company to enter into a fixed price, fixed time construction contract.

2.6.5. Operation and maintenance contractor

The operator will sign a long contract with the sponsors for the operation and maintenance of the facility. The operators tend to accept little risk in the form of up-front capital or expenditure. An operator simply tries to make profit from operating the infrastructure more efficiently than an equivalent government runs project.

2.6.6. End users

Traditionally, public infrastructure services were provided by the government free of charge to the users, or on a direct charge basis with government subsidies. When the service delivery is provided by the private sector on the fully "user pays" basis, the users have to pay higher fees, or more than the amounts established by the government on a direct charge basis (Zhang and Kumaraswamy, 2001). This may influence to the financial viability of project due to the public objection toward to the facility. It may take a long time for the public to fully accept and understand the concept of paying for services that were formerly free or subsidized. For example, the Dabhol Power plant project sponsors in India had difficulty in enforcing revenue collection, because users were opposed to the "user pays" concept (Tam, 1999). Therefore, the purchasing and bargaining power of the end uses must be assessed properly to determine the level of consumption and tariffs to be afforded. It is important to appreciate that there will be a political cost to the host government if it allows the consortium to charge a rate that is perceived to be excessive by the end users or community in the host country (Yeo and Tiong, 1999).

2.6.7. Other parties

Other parties involving in the PPP project can be material supplier, insurance agencies, equipment supplier, fuel suppliers, and engineering and design consultants, etc. Most of the parties will involve their lawyers, financial and tax advisers, etc.

2.6.8. Interest of main stakeholders in PPP project

In the PPP models, both the public and private partners have their own interests and these interests may conflict each other. This can lead to the strategic behaviors between public and private sector in a project.

In a macro level, public and private sectors analyzed the viability of the project from their perspectives to examine the fulfillment of their objectives. Governments focused on the economic appraisal while the private parties address on the financial appraisal of the project (Hans Wihelm Alfen, 2009). In one hand, the financial appraisal of PPP project will evaluate the monetary costs involved in the development, construction, and operation of the project and the projected monetary revenues from the operation of the project over the concession period. It not only gives an idea on the return that could be expected from the project, but also gives an estimation of the size of the funding gap that have to be met by the public sector contribution. This influences the relative proportion of the equity and debt components of the capital structure, and relationships between the cost of the capital and the risk-return trade-offs of the funding agencies. The investors and lenders use some common measures to assess the financial viability of the project such as (Walker and Smith 1995): return on investment, return on equity, net present value, payback period, debt-service coverage ratios. On the other hand, economic appraisal is the systematic method of analyzing all the costs and benefits of all the ways in which the project objective can be achieved (New South Wales Policy Guidelines 1999). It concerns with the economic costs and benefits associated with the project, beyond the monetary return to the Project Company. In order to evaluate the economic viability of the project, the monetary costs and revenues associated with the project excluding the financial-related cash flows are converted into direct economic costs and benefits. The implications of the project on the host country economic environment can be the growth and employment generation in other industries, technology transfer, and labor force skill, and so on. These give an estimation of the indirect economic costs and benefits of the project. The net benefits of the project result from the direct and indirect economic costs and benefits are discounted to get an idea on the economic viability of the project.

In a micro level, the lenders' and government's perception of project viability in a PPP procurement are generally different from that of sponsors in term of debt and equity ratio. In PPP project, the government and lenders expect a high sponsors' equity because of two reasons. Firstly, the burden on debt service will be reduced and the risk of repayment is partly eliminated. Moreover, it shows the commitment of sponsors in the project' economy viability. It also plays a role as balancing instrument in the early years of construction phase. Secondly, when the sponsors' equity is put in the project and is possible at stake, they will have incentive to finish the project on time within budget. In a specific viewpoint of the lenders, the sponsors' equity show the commitment of the sponsors to the project and in the case of financial losses, the sponsors will spend time and effort to overcome the crisis. However, in the sponsors'

perception, it expects to finance the project with equity as less as possible since equity is an expensive capital due to the high costs of equity compared to that of debt, and the required return of equity is higher than that of debt. The higher of project return will lead to the higher tariff/toll fees or require some more government subsidies (Tiong, 1995).

In another perspective, sponsors in a PPP project tend to suffer many risks of capital. They can just get the return on dividends from profits of the successful project, but no return at all if the project losses occur since the serving of debt for the lenders has the priority over the dividend payment. That means the dividend can only be achieved after debt payment are fulfilled. Furthermore, the equity investors are usually in the last priority of repayment in case of default of project. They accept this because they can get benefit from tax reduction because tax provisions do not treat share-provided subordinated loans as well as equity for reduction like debt. In addition, they can eliminate “dividend trap” problem; or being easy to get return of their funds as refinancing occurred or increasing of senior debt; or wanting to get gradually paid back of their investment in the later year of project. Thus, it is necessary for sponsors to build the financial model in order to take into account all of the cost for PPP project. Sponsors and their financial advisors know that their project has a large construction debt initially. Early injection of equity can reduces this debt without incurring interest payments, whereas this comes with the trade-off that sponsors will increase the tariff/toll fee in the future to maximize their dividends. In addition, the lenders can add risk premium to the viability of the revenue stream predictions. Thus, sponsors need to develop a suitable model to balance all the pros and cons in the PPP project.

On the other hand, the lenders require their priority or seniority in payment and other securities because of a number of reasons. Lenders cannot expect to take security over the facility which is the object of the PPP project. For example, the lenders cannot foreclose on physical assets such as a public school, road, bridge, or tunnel and sell it. The specialized nature of PPP assets has little open-market value. Thus, the lenders can only rely on the cash flow of the project for their repayment. They also need a number of securities such as controlling over project cash flow, security over project company’s contracts, financial assets, shares, and step-in-right ability under direct agreements, etc. Therefore, they can involve at the early stage when the project goes wrong to take over and run the project when necessary or assure that unsecured creditors do not gain any prior rights over project assets. They also should be guaranteed that project assets are not disposed of without their agreement. However, the public partner is often hesitant to sign such direct agreements because the lenders cannot have extra rights not being in PPP contract and protection of public service is the first priority. Nevertheless, from the lender’s viewpoint, direct agreements can help them step in the project quickly in case of project company default to preserve position and find another party to take over responsibility for the project (Yescombe, 2007).

Typically, the lenders and sponsors usually require supports and guarantees from the government. International banks usually want the government to provide certain guarantees to add an extra layer of equity before they will lend. Additional equity often increases project costs and in turn tends to erode the returns. Investors understandably also prefer well-structure deals with everything in place and risks understood. Even then; however, if the rate of return is unlikely reasonable, money will not be invested (Walker and Smith, 1995).

2.7. Contractual structure

Contractual structure of PPP projects is a complex network of relationship involving many parties and their formal relationships are defined by contracts. The design of contractual structure is about allocating many of rights, obligations and risks among participants in a project.

2.7.1. Concession agreement

The project concession agreement is the foundation of a PPP project. This is an agreement between the host government or its agencies and the Project Company (or SPV) to permit the finance, construction, and operation of the project for a specified period (UNIDO, 1996). It is the primary contract element, which drives all subsequent agreements. It establishes the relationship between parties, the rights, obligations of the public and private sectors, and governs the relationship between the awarding authority and the Project Company. Moreover, concession agreement is the legal instrument for the government to regulate private sector's activities and decisions. It is also used to establish an allocation of risk between parties. Most of the contractual contents are related to financing, design and construction, operation and maintenance, land issues, termination, guarantee agreements, monitoring and variation procedure, and dispute resolution (Hans Wilhelm Alfen, 2009).

Concession agreement can be established by contract or by statute (S C McCarthy and Tiong, 1991). Due to the needs of infrastructure projects such as rights of way over private land, compulsory-purchase rights and the requirements for the speedy processing of planning applications, it usually cannot be guaranteed by contract. In stead, it requires a special law for each project. The durations of the concessions are usually between 20-30 years

2.7.2. Loan and shareholders' agreement

This agreement relates to the financing provided through either bank loans or bonds from institutions or from investors in the Project Company.

2.7.3. Construction contract

This contract is an agreement between the Project Company and the construction contractor for the design, procurement, construction, completion and testing of a facility (UNIDO, 1996). There are various contractual arrangements for the construction of projects such as traditional construction contracts, design and build or turnkey contracts, etc. The most common contractual arrangement for the construction of a PPP project is a fixed-date, lump sum, turnkey contracts in which the constructor is riskier than that in the traditional contracts. The contractor will offer a lump-sum price that does not fluctuate with inflation, and with the risks, etc. Typically, the contractor will bid a higher price if he is expected to assume greater risk, but the sponsors are generally willing to pay this extra premium to facilitate their financing. The sponsors are often willing to offer substantial time bonuses for early completion of construction, and in turn to impose substantial damages for delay.

2.7.4. Offtake agreement

This is a long-term agreement to supply minimum amounts of the project's product at an agreed price to a potential customer, usually the government, on a take-or-pay basis. The host government can support the projects by guaranteeing a minimum demand volume or minimum

operating income. As governments often do not provide direct guarantees for projects, these contractual undertakings serve as the project's fundamental credit support to lenders. It is widely used in power, water and telecommunication projects. However, it has been used in some cases of toll transportation facilities, for example the Channel Tunnel (UNIDO, 1996)

2.7.5. Supply agreement

It is an agreement between the Project Company and either directly with suppliers or indirectly through a contractor for the supply of important equipment or materials for construction or operation (UNIDO, 1996). The host government can guarantee the risk of raw materials being unavailable or unacceptable for the private sector. It is conducted by a supply contract at competitive prices to enable the facility to run smoothly and generate the necessary revenues.

2.7.6. Operation and maintenance agreements

This contract is an agreement between the Project Company and a separated operation and maintenance contractor (where this contractor is intentionally different from the Project Company) for the management, operation, maintenance and repair of facilities (UNIDO, 1996). The Project Company for development of project can undertake management of the operation and maintenance of the asset itself, or choose to contract out to specialized operators. Occasionally, the Project Company is a joint venture of which one of the partners is an operation contractor. The contracts may be for maintenance only, or it may be a management-services contract.

2.7.7. Insurance contract:

This agreement, between the Project Company and an local/international insurance agency, is intended to cover insurable risks such as casualty, third-party liability and other several innovative forms of insurance specifically designed for PPP projects (UNIDO, 1996)

2.7.8. Discussion of direct agreements between main parties in PPP projects

In PPP projects, the main concern of the lenders is to ensure the realization of the project's cash flows and their security with the project. They want to ensure the continuance of the project until their loan is repaid in case of the project get into troubles and danger. In order to achieve these objectives, lenders will enter into direct agreements with the parties to key project contracts. Generally, contracts discussed earlier will give the contracting parties a right to terminate the contract if the Special Purpose Company (SPV) defaults under it such as non-payment, failure to perform obligations and insolvency-related events, etc. This is not what the lenders want to, so they will contract with these parties a direct agreement to suspend the exercise of the contracting party of a termination right. This direct agreement will allow lenders an opportunity to take remedial actions and ensure that the contract continues. Another reason for direct agreement is that if the SPV defaults under the loans, it allows the lenders to take over the SPV's role under the contract or nominate a third party to do so. Lenders will concern much more on the concession agreement, the construction contract, the operation and maintenance agreement, and significant supply and offtake agreements, any other agreements, which lenders consider are important in a PPP project. These are the contracts that will result in the SPV incurring penalties or which cannot be easily replaced by equivalent agreements in the case of default happening (Wilde Sapte, 1997). The following sections will discuss about the general provisions of direct agreement in PPP project, and will address much more on the

concession agreement, and project leases in term of direct agreements that the lenders most concern.

2.7.8.1. General provisions of direct agreement:

The parties participate in a typical direct agreement will be the lenders, the contracting party and the SPV. The key direct agreement's provisions usually include (Wilde Sapte, 1997):

- Notice of assignment:

The SPV will give the notice of assignment to the contracting party. It will include the following provisions:

- An instruction to pay all moneys into a specific project account such as revenue account or the compensation account.
- Notice of any restrictions or undertakings given by the SPV in the project credit agreement in relation to the underlying contract, which enable the lenders to take action against the contracting party if it knowingly participates in a breach of such restrictions by the SPV.
- An acknowledgement of the assignment by the contracting party.
- An acknowledgement by the contracting party that is not aware of any other third party interest in the project contract.
- A statement to the effect that, notwithstanding the assignment, the SPV is entitled to exercise its rights under the contract and remains liable under it, to the exclusion of the lenders, except as provided in the direct agreement.

- Representations and warranties:

These representation and warranties are given by the contracting party and the SPV in regard of the validity of the project contract.

- Suspension:

An obligation stipulates that if the contracting party wants to terminate the contract or take any other action such as taking legal proceedings to recover outstanding debt and commencing insolvency proceedings against the SPV, it have to give prior notice to the lenders. Further, it also stipulates a prohibition on termination or the taking of other actions for a given period after the lenders have received that notice. In addition, the contracting party also has to provide details of the grounds for termination.

- Step-in right:

This right stipulates that during the period of any suspension or if the loans are accelerated, the lenders can nominate an entity controlled by them to "step in" to the contract. This entity will be entitled to exercise the SPV's rights under the contract and become jointly and severally liable under the contract with the SPV. When the lenders are prepared to allow the SPV to continue with the contract or when the loans have been repaid, this new entity can "step out" of the contract to avoid further liabilities if it discharges the obligation that have accrued during the step-in period.

- Novation:

This provision gives the lenders the right, subject to the contracting party's consent, to require the novation of the contract to another entity. This right is similar to the step-in right, but the new entity will assume all the rights and obligations of the SPV under the contract to the exclusion of the SPV. There will be no provision for the retransfer of the contract to the SPV.

- Revival:

If no step-in or novation occurs, or the contract reverts to the SPV at the end of the step-in period, the contracting party's rights to terminate the particular project contract revive.

If the contracting party's obligation under the contract are guaranteed by a third party, it is normal for the guarantor to be a party to the direct agreement and for the rights of the lenders to step into or novate the project contract to apply equally to the guarantee.

2.7.8.2. Concession agreement

The concession agreement discussed earlier is the direct agreement with the host government to ensure the continuation of the concession, notwithstanding the default or insolvency of the SPV. It may include one or more of the following provisions (Wilde Sapte, 1997):

- Termination of project contracts:

The host government acknowledges the rights of the SPV and the lenders to terminate a project contract, either under the project contract itself or a direct agreement with the contractor, and to appoint an alternative contractor.

- Transfer of shares or assets:

The host government acknowledges the rights of the lenders to dispose of the shares in the SPV or its assets on an enforcement of the lender's security, and agrees that the purchaser of the shares or assets has the right to take over or to continue the SPV's role under the concession agreement.

- Replacement of management of SPV:

The host government also acknowledges that the lenders have the right to replace the management of the SPV on an enforcement of their security over the shares in the SPV.

- Insurance: One or more of the following provisions might be included in relation to insurance:

- Both the concession agreement and the project credit agreement are likely to impose detailed insurance obligations on the SPV. It is necessary that there is no conflict between these requirements. The host government is often requested to acknowledge that compliance by the SPV with the obligations under credit agreement will be sufficient to ensure compliance with the insurance provisions of the concession agreement.

- Agreement needs to be reached on the application of insurance proceeds arising out of the physical loss of or damage to the project facilities so that the project can continue, albeit subject to a delay. The host government will wish the proceeds to be used to reinstate the facilities so that the project can continue. The lenders will wish to have the option of requiring the reinstatement of the facilities or using the proceeds to repay their debt. The reason behind this is that, their evaluation of the project could be quite different and they might not under the circumstances wish to continue with the financing (or might only wish to continue with it on revised terms). Thus, a compromise is normally reached. Once all the facts such as the amount of insurance proceeds payable, the extent of damage, the anticipated cost of reinstatement and the time table for reinstatement are known, an objective test can be applied to determine whether the project will continue to be viable from the lenders' viewpoint if the reinstatement is carried out. The test is normally based on the project ratios attaining certain levels and might involve the lenders determining whether or not the maturity of the loan may be extended (Wilde Sapte, 1997).

- Other matters: The direct agreement might also contain other provisions in regard of the matters requiring a direct contractual link between the host government and the lenders.

2.7.8.3. Project leases

- The lenders' viewpoint:

In addition to the principles mentioned above, the lenders also wish to enter into a direct agreement with any finance lessor, which provides leasing equipment facilities to the SPV, to seek to control the occurrence of an early termination of the lease to the extent possible. Such early termination will render the SPV to make substantial termination payments to the lessor, which it is unlikely to be able to make. If guaranteed by the lenders, it will substantially increase the lenders' actual exposure to the project.

A direct agreement between the lenders and the lessor is likely to include one or more of the following provisions (Wilde Sapte, 1997):

- Covenants for the exchange of information between the lenders and the lessor relating to the loan facilities and lease facility respectively. This information is related to the amount of the rentals and termination payments calculated under the lease. The calculations support any demand by the lessor for further cash collateral or other security from the SPV.
- A distinction between those termination events under the lease, which will be subject to a suspension period, and those which will lead to an immediate termination of the lease. The latter are likely to include such event as the lessor ceasing to be covered by the third party liability insurance required to be placed by the SPV.
- A right for the lenders to bring about a termination of the lease. This is likely to be applicable only where the loans are in default or the SPV is required to increase the amount of security required under the lease to a level that it is unable to meet or that would have such an impact on the project economics as to render the project no longer viable.

- The host government's viewpoint:

The host government might also wish to enter into a direct agreement with the lessor to protect its position on the termination of the concession. It operates in a similar way to the direct agreement referred to above in relation to project contracts, by controlling the circumstances under which the lessor can terminate the lease and enabling the host government to step into the lease or novate it to a third party. Moreover, it is likely to provide for a means of making the leased assets available to the SPV or the host government on a voluntary or default termination of the lease or its expiry by lapse of time (Wilde Sapte, 1997).

2.7.8.4. Advantages and disadvantages of direct agreement:

- Advantages of direct agreement:

The step-in rights and novation rights offer the lenders considerable flexibility. The former enables the lenders to take temporary control of the project. The lenders require the right to step in not only on the acceleration of the loans but also on any event of default. The intention being that they will step out if the default is cured. The novation rights give the lenders the opportunity to transfer the contracts to a purchaser of the SPV's assets or to an entity controlled by the lenders.

On the other hand, a direct agreement can be benefic to the contracting party. It will generally have the right to approve a proposed step-in or novation. In addition, the lenders or their nominated entity will remedy the SPV's default and assume additional liabilities to the

contracting party. This is likely to occur in circumstance where the SPV is unable to continue with the contract and the contracting party would otherwise not receive any further payments under it (Wilde Sapte, 1997).

- Disadvantages of direct agreement:

The negotiation about the terms of the agreements can be taken in a long time and costly.

When the lenders exercise their step-in rights via a lender-owned entity, this may expose them to liabilities to the contracting party under the contract. This is likely to be of concern in jurisdictions that do not allow for appointment of a receiver or equivalent, which acts as the agent of the SPV (Wilde Sapte, 1997).

Beside the direct agreement between the main stakeholders in PPP project, there are also intercreditor agreements when there is more than one lender or group of lenders having the benefit of the security, which will be discussed in chapter 3 after discussing the funding source of PPP projects

2.8. Phases of PPP project

According to UNIDO (1996), the development of PPP project commonly has eight stages: identification, government preparation for bidding, sponsor's preparation for bidding, selection, development, construction, operation, and transfer. These stages are corresponding with five phases: planning, implementation, construction, operation, and transfer (figure 2.7) (Techapeeraparnich, 2004). In each of stage, the role of public or private or both of them are emphasized.

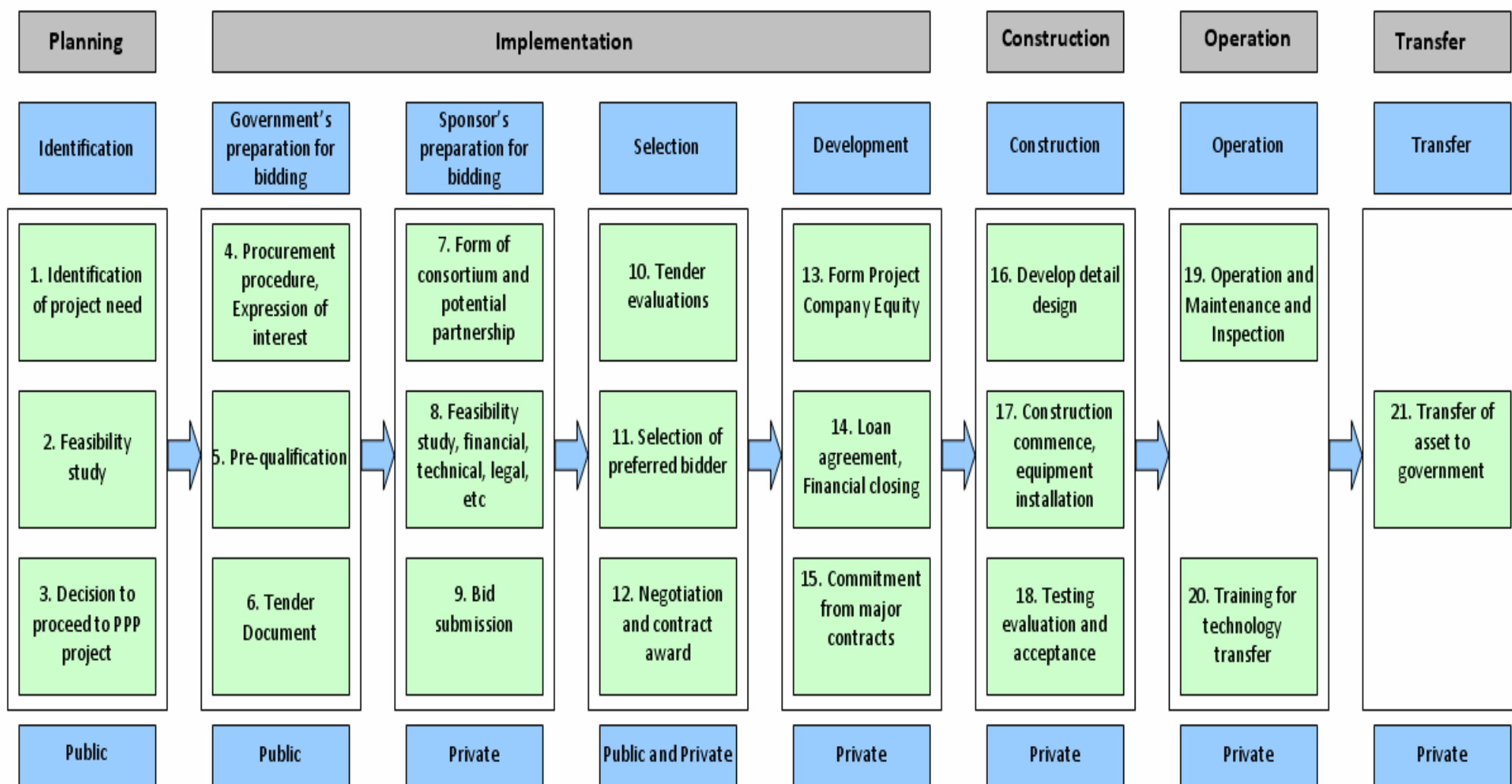


Figure 2.7. Stages of PPP project development

Source: Techapeeraparnich, 2004.

2.8.1. Planning phase (stage 1-3)

Typically, this phase consists of the following activities

- Identification of project need
- Feasibility study
- Decision to proceed to PPP project

At the beginning, the government has an active role in identifying the need for a project. The possibility and advantage of the project, which is carried out on a PPP basis, must be recognized. This task is usually done by the host government in the planning process (UNIDO, 1996). The planning authorities estimate demand for electricity, transportation, water and other public services and define priorities. Then, the government agency involved identifies the need for additional power plants over a particular period, or for a road, a bridge, an urban transit system, a port facility or some other infrastructure important to the country's economy. The host government will then focus on the possibility of satisfying that need using one or another form of financing, with one of the possibilities being the PPP approach. Occasionally, however, a private developer can initiate a project and proposes it to the government.

A preliminary feasibility study must be carried out on several aspects such as size, location, and technical options, environmental impacts and potential revenue streams (UNIDO, 1996). Unless the host government already has extensive experience with PPP projects in general and projects of the kind at issue in particular, it will probably want at this point to hire experienced outside consultants to be sure that the project considers these requirements and protects its interests. Host governments should be aware that technical assistance funds might be available from bilateral and multilateral aid agencies to help defray the cost of studies and consultancy needed in the identification phase. In addition, the government might appoint a project manager to coordinate and develop the project.

In brief, government should include the assessment of the economic suitability of the project consisting of the financial and non-financial effects and focus on the following criteria:

- Suitability of the project: public and private sectors consider whether the type and area of the project belongs to the types and areas where solution in the form of PPP has proved to be successful. The purpose is to check the possibility of the project to meet the deadlines of the investment phase, meet the investment budgets, operate economically in the life-cycle of project, improve the quality of the services, implement in a safe and less risky progress of the project, satisfy the customers', clients' specifications, and so on.
- Strategic convenience of the project: the thing evaluated is the convenience of the project from the viewpoint of the long-term strategy, existence of a clear idea of the need for the project, its comprehensiveness, financial demanding and probability of meeting the contractual obligations.
- Determination of the project's objectives: to specify if it is possible to determine clear assignment of the needs and specify precisely the required project outputs. The project's objectives should be defined exactly, measurable, reachable and realistic from the point of view of the content and time.
- Transferring of risks in project: to allocate the appropriate level of risk sharing between the public and private partners.

- Value for money of the project: to examine how the principle of value for money is achieved.
- Feasibility of the project: this issue relates to the state of readiness and elaboration of the project, quality of based documentations, and existence of feasibility studies, financial, legal and technical analyses.
- Ensuring the transparency and competition of the project: these are two important preconditions during the preparation and implementation phase.
- Financial availability: to evaluate the budget availability in the long and short-term perspectives and ability of the partners to meet the stipulated liabilities.

The first step then is to decide whether to pursue the project on a PPP basis. The process of project identification will continue through preparation of a request for proposals and the inviting of bidders to submit design, construction and financing proposals.

2.8.2. Implementation phase (stage 4-15)

At the project implementation phase, the emphasis tends to be on the signatory parties. Only the primary stakeholders, particularly the government and the potential concessionaire, are involved at this stage. Secondary stakeholders are excluded from the process, and will only be informed of any decision regarding the designs or other matters that might affect them.

2.8.2.1. Government preparation for tendering (Stages 4-6)

At this point, the government is to decide the procurement procedure. Most governments will want to pre-qualify potential investors, whether they adopt purely competitive bidding or some other process. A large number of bidders may not be the government's first priority (UNIDO, 1996). Thus, pre-qualify potential investors is done to exclude clearly unsuitable parties who might threaten the efficiency of the process. It also provides the opportunity to take advantage of prevailing market conditions. In competitive bidding, three to five potential investors may be sufficient for a major road infrastructure project, for example. Then the government provides bidders with the request for proposal information including detailed definition of the project such as size, timing, performance, environment and project revenues. A draft of the project agreement is often included in the request for proposal document. It is critically important for the host government to prepare a quality bid package and transparent, well defined bid evaluation criteria to smooth the bidding process.

From the host government's viewpoint, the bidding and evaluation process defines the terms of reference of the project and is largely responsible for the quality of the competition and investors. Experience suggests that choosing the most suitable project consortium is usually the greatest determinant of the success or failure of PPP projects.

2.8.2.2. Sponsor's preparation of a bid (Stages 7-9)

Interested investors often form a consortium to put together a bid in response to the request for proposals. Members of a consortium make a preliminary agreement on project structure, cost sharing and the roles each party is expected to play in the project. The consortium then undertakes more detailed feasibility studies for the project, especially in terms of its financial viability, technical, legal, and so on. The detailed feasibility studies determine the ability of the project to attract potential lenders, equity investors, contractors and suppliers in order to structure the proposal. The request for proposal usually requires the consortium to prepare a

credible financial plan and commitments. The consortium prepares and submits its bid (UNIDO, 1996)

2.8.2.3. Project Selection (Stages 10-12)

After receiving all bid submissions, the government evaluates each proposal and selects the preferred bidder. The government may appoint highly qualified technical, financial and legal advisers to assist in evaluating the bids. Bids are sometimes difficult to compare, no matter how clear the evaluation criteria may be. Bid evaluation criteria are not based on price alone, but also consider other factors such as reliability, experience, technology innovation, opportunities for local employment and training, and knowledge transfer. After intensive evaluation of the submitted bids, the government announces the preferred bidder with whom it wishes to negotiate, execute and sign definite contractual documents (UNIDO, 1996)

2.8.2.4. Project Development (Stages 13-15)

After signing the project agreement, the winning consortium approaches their partners to make definite commitments and form the Project Company. The Project Company will negotiate the equity contribution of each member, negotiate loan agreements with lenders, and obtain forward commitments from contractors and suppliers on terms of prices, delivery dates and other terms of engagement. When all the agreements have been signed, the project will proceed to financial closing, which means that the lenders and equity investors begin to advance money.

2.8.3. Construction phase (stage 16-18)

The Project Company begin to arrange for the detailed project design to be carried out, commence construction, purchase equipment and enter into other essential contracts (UNIDO, 1996). Some projects may not fall distinctively into this phase because some preliminary construction may take place before the financial closing. The construction phase usually begins after financial closing. When project funds become available, the main construction work commences the installation of important equipment. The construction phase ends when the project passes the specified completion tests and the project is finally accepted by the Project Company and in principle by the host government.

2.8.4. Operation phase (stage 19-20)

This phase consists of the following activities

- Implementation of the operation and maintenance
- Training for technology transfer

Next stage is the operation of the project, which will continue for the period of the concession. The Project Company, either directly or through an operator, operates the project and maintains the facilities in conformity with the criteria set forth in the project agreement and as required by the terms of the various loan agreements. The revenues or fees received during the operation of the facility allow the Project Company to recover the investments, serve the debt and make profits. To be sure that operation and maintenance (O&M) are being carried out as required, the lenders, investors and host government have extensive rights to receive reports and carry out inspections of the facilities (UNIDO, 1996)

In operation stage, the host government should seek to derive as much benefit as possible from local, capability building and the transfer of technology from the Project Company and contractors into the local economy

2.8.5. Termination of the project phase (stage 21)

The final phase of a PPP project is the transfer of the project to the host government at the end of the concession period. As a rule, the project should be designed to enable the sponsors to payoff their project debt and to earn the expected return during the concession period so that the project facilities will be transferred to the government usually for nil or nominal consideration and up to standard and conditions predefined in the PPP contract. The interest of the host government at the transfer date will be to make sure that the project has been properly maintained and that enough training and technology transfer have taken place for the government to be able to continue to operate the project in the future (UNIDO, 1996)

2.9. Types of PPP model

Government has specific objectives when developing infrastructure projects. Thus, it has to decide which model of delivery best addresses on these objectives and allows for the optimum transfer of responsibilities and risks to the private sector to meet the objectives of value-for-money. A type of PPP model depends on many factors such as public and private partners' skills, capabilities, limitations, projects' characteristics, initiatives of a service provider, purchaser or regulator, the environment, and differences in the partners' assumption of responsibility. Bozeman, 1987, classifies types of PPP model according to ownership, funding and control. Ownership could be state, private, or joint. Funding refers to the amount of capital investing coming from either partners, while control refers to the partner that is in charge of the operation and maintenance activities of the PPP projects. A combination of different degrees of ownership, funding and control determines the type of PPP. Depending on the degree of governmental control and private economic scale, private sector involving in PPP model can take in the form of provision of a service or outright ownership of facilities. Generally, forms of PPP model can be classified in some major types of private involvement (figure 2.8).

Fully Public Sector		Public Private Partnership			Fully Private Sector	
Traditional Public Contracting <i>Design</i> <i>Build</i> <i>Maintain</i>		1. Service Contracts <i>Operate</i> <i>Maintain</i> <i>Lease</i>	2. Build Operate and Invest <i>Concessions</i>		Full Divestiture <i>Privatization</i>	
Public service provision	Passive private investment <i>Government Bonds</i>		2a. DBFM/O <i>Government defines project</i>	2b. BOT <i>Private party develops project</i>	Passive Public Investment <i>Equity</i> <i>Debt</i> <i>Guarantees</i> <i>Grants</i>	Private service provision
Public		Investment responsibility			Private	
Provider		Government Role			Enabler	

Figure 2.8. Types of PP model

Source: Koppenjan (Adapted from Bennet et al., 2000)

2.9.1. Service contracts

These are the simplest form of partnership. Public agencies can enter into service contracts with private sector companies for the completion of specific tasks. Service contracts are well suited to operational requirements and may often focus on the procurement, operation and maintenance of new equipment with certain costs specified in the contract. These tasks could include areas such as toll collection, the installation, maintenance, waste collection or the provision and maintenance of vehicles or other technical systems. To recover the payment, the private party will operate the service in a certain period to get return and profit.

Service contracts are generally awarded on a competitive basis and extended for short periods of time of a few months up to a few years. They allow public agencies to benefit from the particular technical expertise of the private sector, manage staffing issues, and achieve potential cost savings. Nonetheless, with service contracts, management and investment responsibilities remain strictly with the public sector. While they offer certain benefits, service contracts cannot address underlying management or cost issues affecting poorly run organizations.

In case of operation and management contracts, a private entity takes over the management of a state-owned enterprise for a fixed period while ownership and investment decisions remain with the government. In an operation and management contract, public operating agencies transfer responsibility for asset operation and management to the private sector. These comprehensive agreements are often useful in encouraging enhanced efficiencies and technological sophistication. Management contracts tend to be short term, but often extend for longer periods than service agreements. Contractors can be paid either on a fixed fee basis or on an incentive basis where they receive premiums for meeting specified service levels or performance targets.

Operation and management contracts often provide a good opportunity to encourage greater private sector involvement in the future. They are particularly appropriate in sectors undergoing transition from public ownership where existing regulatory and legal frameworks may not allow greater private participation. They can be helpful in generating trust between the public and private sectors in markets where there has been little experience with PPP projects. While operation and management contracts should be expected to improve service quality, they cannot be expected to improve service coverage or encourage tariff reform.

In case of leasing contracts, leases provide a means for private firms to purchase the income streams generated by publicly owned assets in exchange for a fixed lease payment and the obligation to operate and maintain the assets. Lease transactions are different from operations and management contracts in that they transfer commercial risk to the private sector partner. The lessor's ability to derive a profit is linked with its ability to reduce operating costs, while still meeting designated service levels. On the other hand, leases are similar to operation and management contracts in that the responsibility for capital improvements and network expansion remains with the public sector owner. However, in certain cases the lessor may be responsible for specified types of repairs and rehabilitation. Under the right conditions, private companies entering into lease agreements might also make targeted capital improvements in order to improve operating efficiencies and profit levels. Lease agreements can be expected to

extend for a period of five to fifteen years. They are suitable only for infrastructure systems that generate independent revenue streams, and are often used in the public transport and water sectors.

2.9.2. Build Operate and Invest

In this option of PPP model, the private partner would involve in the upfront project phases. Thus, the innovation can be accomplished by design optimization from the private sector leading to project cost saving. According to the UK private finance initiative (PFI), the project is defined by the government, then the private party will responsible for Design, Build, Finance, Maintain and/or Operate (DBFM/O). The private sector usually form a consortium include contractors, financiers, operators, and others. The investment for the project can be recouped by the payments of the users for using facility's service. If the user-pays principle cannot be implemented because of the legislation constraints or others, the shadow toll can be addressed. In this case, the government will pay for the private partner a one-off or annual availability or performance fee called "government-pays" system. Although the private party can face with many financial risks, any fluctuations in the operation phase with over returns or losses can be renegotiated by public and private partner to share both benefits and losses. In order to ensure the best performance of private party in every project phase, incentive contract with bonus and penalty is usually applied (Koppenjan).

Build-Operate-(Own)-Transfer (BO(O)T) can be considered as a alternative type of PPP when the host government does not have enough ability in developing workable projects and management skill in managing complex long-term contracts due to shortage of expertise and reliable legal and regulatory regime. In Design-Build-Transfer project, private sponsors are involved to develop the project and receive the concession to finance, build and operate the facility over a set period of time in exchange for the right to charge the users at the rate which make the investment commercial viable. The facility will be transferred to the government at the end of the concession period without any reimbursement. In this scheme, the ownership still belong to the government, but sometimes it remains with the private party during the concession duration as in BOOT scheme (Koppenjan).

2.9.3. State Owned Enterprises and Joint Ventures

In Joint Venture type, the government and private companies assume co-responsibility and co-ownership for the delivery of services. It provides a vehicle for true public-private partnerships in which the governments, business, non-government organizations and others can pool their resources and generate a shared profit. The public and private partners can either form a new company or assume joint ownership of an existing company. It can be used in combination with other types of PPP model. In join ventures, the government plays as the regulator and active shareholder in the operating company. It may share in the operating company's profits and help ensure the wider political acceptability of its effort. The primary role of private sector is to perform the daily management of the operation. Under a joint venture, the public and private sectors work together from the earliest stages, often forming an institutional vehicle or project development entity (Bennett, 1998) during the pre-investment and development phase of the project. The direct collaborative dialogue and working group between the public and private sector are formed in this model when they work to develop the final project.

2.9.4. Privatization or divestitures

Private divestiture involves the sale of assets or shares of a state-owned entity to the private sector by auction, public stock offering, private negotiation, or outright grant to a private organization that assumes operating responsibilities. Divestitures can be approached in many different ways, and can be either partial or complete. Divestiture is also often an integral part of the transformation of state-owned enterprises and can be used as a vehicle to transfer the ownership of assets from the central government to local governments and/or to private utility companies. The following discussion on divestiture addresses the sale of assets to private investors only.

- Completed private divestiture:

In the case of a completed divestiture, the entire assets of a utility would be sold to either a single investor or a group of investors. In certain cases, a divestiture can also be accomplished by making shares in the company available for purchase on the national stock market. A completed divestiture is similar to a concession in certain ways, as it gives the private investor complete control over investment, and the operation and maintenance of whatever assets the company possesses. However, unlike concessions, divestiture also gives the private sector ownership of the assets themselves, and that ownership is permanent. As such, the government relinquishes further control with a divestiture approach, maintaining only a regulatory role, protecting consumers from monopolistic pricing and, in some cases, perhaps requiring a minimum maintenance and investment regime.

- Partial private divestiture:

With a partial private divestiture, the government would retain ownership of a certain portion of the former public company's assets. This is often a more attractive alternative to those governments or authorities who wish to maintain a certain level of control in the management of the assets. In such cases, the interplay of responsibilities between the public and private sectors is blended. A partial divestiture is an excellent way for the public sector to attract private capital and encouraging improvements in operational and management efficiency, while also protecting the public consumers as well as assets of national significance. The individual arrangements for sharing responsibility for management and investment decisions depend on the division of assets, as well as the sharing of costs. Therefore, they would need to be established on an individual basis. It is likely that the public sector would transfer as much of the costs as possible to its private partner. However, in order for a partial divestiture to be attractive to private investors there would have to be a reasonable scope for making a fair profit on its investment.

2.10. Conclusion

Public-Private Partnership model is now commonly used in both developed and developing countries to improve economic growth, development of infrastructure and to achieve quality service delivery (Akintola Akintoye and Matthias Beck, 2009). Due to the changing economic, social and political environment accompanied with globalization and budgetary constraints, PPP has become unavoidable and is considered desirable by many countries since it can exploit and make use capital, knowledge and management skills from the private sectors that these things usually are shortage from the government. It is especially useful for many developing countries that are facing major challenges in the provision of infrastructure, and that the countries'

budget cannot support huge-capital and long-term investments. The need for PPP in developing countries has been intensified by the public realization of the vital role of modern infrastructure in economic growth and poverty reduction, which cannot be supported by the existing level of public sector income.

Throughout this chapter, the crucial issues and dimensions of PPP model has been examined and analyzed. This chapter analyzed the definition, characteristics, and the benefits as well as the limitations of PPP model. The important dimensions of PPP procurement are also discussed such as organizational structure, stakeholders, and contractual structure. The organizational structure of PPP model is chosen based on the complexity of construction and the characteristics of fund providers. It can be the mono-entity structure, dual-entity structure, multi—entities structure, or mixed organizational structure. Many parties participating in PPP arrangement can complicate the PPP process and potential conflicts between these parties usually happen due to their differences in interests, viewpoints and core business. The contractual structure of PPP procurements is a complicated network of relationships between many stakeholders, shareholders in which the concession agreement is the most important one. In order to ensure the continuance of the project, the lenders and host government can enter into a direct agreement with counter-contracting party. By using direct agreements, the lenders can secure their investment and take over the SPV's role when necessary to help project overcome difficulties and repay the debt. However, it is easy to see that the lenders are not eager for investing in PPP projects since the process for executing PPP process usually takes place in a long time accompanied with various risks in the life cycle of project. The possibility of volatility in project's revenue in the future is high which can lead investors to go bankrupt. This chapter also presented the phases of PPP project with the clear role of public and private sectors in each stage of project development. Although there is no single classification of type of PPP model that can be said to be the most correct and useful, the risk-transfer continuum classification has received more attention than the others have, and has been used quite extensively by the World Bank, the European Commission and the United Nations Development Program especially for infrastructure projects. Moreover, it is critical to understand the political opportunities and constraints that surround each case when deciding to invest in a project. Standardization of policies and practices does not work in all situations. Governments should learn from both successes and failures of a particular method or project and adjust their approach accordingly. Developing countries can take advantage of the learning curve through which PPP model has passed in developed countries. Thus, project financing, risk management, institutional policy and legal framework are the most crucial aspects, which should be addressed in PPP projects, and they will be discussed in chapter 3, chapter 4, and chapter 5, respectively.

Chapter 3: Financing of PPP projects

3.1. Introduction

The success of a PPP project greatly bases on the financial structuring. Thus, the sponsors have to make a wise selection of financial instruments to bring the financial cost of the project to perform at its best. Financing of PPP projects is a kind of project finance in which loans are supplied by the private sector parties on a limited or non-recourse basis in which the lenders' recourse is constrained to project assets and cash flows (Zarkrzewski, 1999). Under this form of finance, a loan for the capital costs of a project is recovered by the cash flows associated with the operation of that project. Lenders consider the project's earnings as the source of repayment and the project's assets as collateral. The collateral value does not need to be sufficient to cover the value of the loans, but it is viewed as security to prevent third parties from interfering with the project (Tiong and Alum 1997). In addition, the key characteristic of project finance is that long-term assets are being funded by long-term capital (Carrick, 2000). In this regard, credit risk associated with the borrower is relatively less important. Instead of this, the lenders focus on the risks that threaten the project's completion or operation. Another important criterion in project finance is whether the project can provide an adequate return on the investment (Sarmet, 1980). Generally, the typical objectives that PPP project sponsors try to achieve in structuring the debt financing are maximization of long-term debt, maximization of fixed-rate financing, and minimization of refinancing risk (Tiong and Alum 1997).

The key factor leading to a success of project financing is to structure the financing of a project with as little recourse as possible to sponsors, while at the same time lenders are satisfied with sufficient credit support (Nevitt and Fabozzi, 2000). In order to satisfy the needs and requirements of sponsors, a project financing usually depends on several sources of finance. While the external financiers provide the main part of the capital requirement, the sponsors are expected to provide a certain amount of equity capital in order to demonstrate their commitment to the project (Akintola Akintoye, 2003).

This chapter will analyze crucial financing issues in PPP projects. Section 2 will explore the capital structure of PPP arrangement to show the common funding sources used for financing a project. Then, instruments and tools for financial exchange commonly used in PPP projects to reduce the interest rate risk, currency risk, credit risks are presented in section 3. They can be the basis forms such as swaps, options, forwards and futures. Section 4 will go in deep analysis the inter-relationship between financial providers in a PPP project through the intercreditor agreement. Section 5 of this chapter will analyze the critical issues in financing PPP project that both the host government and the private parties should take into account when investment in this kind of arrangement. Section 6 goes further in examining several financing strategies that need to consider when developing the financial structure for a project by the financial advisors. This chapter also reviews some financial risks that can influence to the success of PPP project in section 7. Section 8 and 9 of this chapter will analyze private funding sources in infrastructure development in Vietnam to specify factors hindering private funding sources from good practices and discuss for improving the current problems. The last section of this chapter will summarize the discussed issues and introduce to the next issues, which will be addressed in later chapters.

3.2. Capital structure of PPP projects

PPP projects are characterized with high debt component in their capital structure. The capital structure in PPP arrangement is a rather complex network with many agreements between shareholders, and stakeholders participating in order to: (1) ensure the basic financial flows and (2) ensure the profitability of the investment for every party involved (Xenidis and Angelides, 2005). Typically, there are three main kinds of funds for a PPP project: equity, mezzanine financing (or subordinated debt or quasi-equity), and senior debt. Each of these funds has each own level of risk-return when investing in a PPP project (figure 3.1) in which equity providers usually require a higher level of return due to assuming a higher degree of risk, while lenders assume a relatively lower degree of risk and require a lower level of return. Between equity financing and debt financing is subordinated debt.

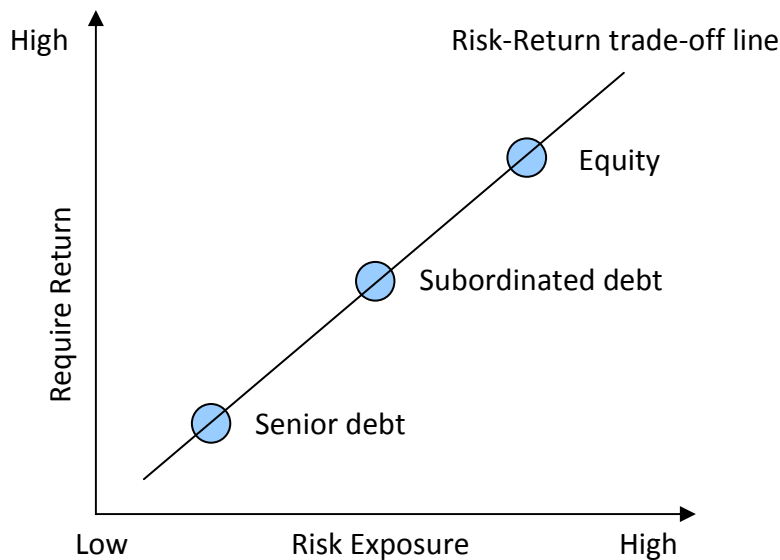


Figure 3.1. Risk-return trade-offs of financial instruments

Source: Sudong Ye (2009)

In addition to that, PPP projects can also raise financing sources from bond finance, project leasing, development finance institutions, export credit agencies and political risk insurance.

3.2.1. Equity financing

It is normal for PPP project to be funded at least in part by equity, and this will be a precondition to the host government granting the concession to the Special Purpose Vehicle (SPV) and to the availability of commercial debt financing (Sudong Ye, 2009). Equity normally can be supplied by sponsors, project promoters, institutional investors, the host government, infrastructure investment funds, and so on. Equity is the lowest ranking capital layer of a PPP project because the claims of equity investors will rank behind those of other creditors of the SPV. In addition, the lenders to the project are likely to restrict the amount and timing of payments of dividends and other distributions from the SPV to the equity investor. Thus, equity investors are likely to bear the greatest risk of loss if the project fails. As the principal of risk-return trade-offs; however, the equity investors will be rewarded with a higher level of return making this type of investment attractive to some financiers and investors. It should be noted that the equity investors would not necessarily benefit from any increases in the value of the SPV's assets in a

PPP project since these assets will be transferred to the host government at the end of the concession period with either little or no cost. Thus, the equity investors need to be satisfied that the return on their investment can be realized from the project revenues during the life of the concession. In the short term, the sponsors are likely to fund their capital contributions to the SPV either internally or from on-balance sheet borrowings, although the expectation is that the amount invested will be at least partly matched by the profits that the sponsors expect to derive from their project contracts with the SPV.

A number of factors determining the limited investors' equity contributions to the total capital requirements are (Darinka et al. 2003, and Wilde Sapte, 1997):

- Project economics: this is one of the factors, which will affect projected source of project revenues. If the project is to be exposed to market risks (for example, its ability to sell product and the price obtained depend on prevailing market condition), the lenders to the project would require the sponsors to contribute a greater percentage of the project cost by way of equity than when the SPV is enter into a take-or-pay arrangement.
- Market perception: the greater the risks perceived by the market associate with the project, the greater the proportion of equity that will be required.
- Cost of equity: a high proportion of equity makes the project more costly for the host government since equity investors seek a higher rate of return on their investment than the commercial lenders to the project. The government will have to strike the right balance when considering whether the project offers value for money.
- Country risk: a high risk associated with implementing projects in certain jurisdictions usually leads to the demand for a greater equity investment.
- Requirement of the jurisdiction of the SPV: the amount and nature of the investment in the SPV will base partly on the accounting standards and the laws of the jurisdiction of incorporation of the SPV such as the ability to issue more than one class of equity or permission to issue equity to foreigners, etc. An important factor in structuring project investment will be the tax treatment of distribution to investors and any money realized on a sale of shares, and the availability of double tax treaties would be relevant. Other factors can be the risk in certain jurisdictions that third party creditors might be able to look through the corporate structure and seek repayment of their debts from equity investors, or that equity investor might incur environmental liability or liability for taxes if the SPV does no comply with local law.
- Host government's requirements: the host government usually requires a minimum equity investment from the sponsors in order to incentive them to ensure the project success.
- Lenders' requirements: commercial lenders can require a minimum equity investment by the sponsors as a measure of their commitment to the project success.

3.2.2. Senior debt

Debt financings are normally provided by the commercial banks, financial institutions, capital markets, national and regional development banks, etc. Large projects can be financed by a mixture of bank loans, fixed rate or index-linked bonds, or sometimes financed with the participation of international financing banks. Each of the syndicate banks will be willing to lend on the same terms and conditions. The syndicate will be subject to the same priority of debt, sharing receipts and willing to accept that a high degree of consensus is reached between them before those terms are changed, the debt becomes immediately repayable or security is enforced. The choice of debt financing method for a certain project based on its specific

requirements, project risks, amount of equity available, and the perceived quality of the consortia. Typically, the senior debt providers start supplying a loan after the sponsors have made their shareholders' contribution. From cashes input from the lenders, future payments are depended on the completion of certain construction phases or milestones. During the entire construction phase, parts of the project's overall loan are continuously drawn, so that the interest and the actual amount of debt are increasing up to the operational phase. When the client starts repaying, the debt decreases until it is eventually repaid a couple of years before the end of the concession period (Darinka et al. 2003)

3.2.3. Mezzanine financing

Mezzanine financing has characteristics of both debt and equity. In terms of the risks involved in contributing this type of capital, it falls somewhere between senior debt and equity. The examples of mezzanine capital are preference shares and subordinated debt (Wilde Sapte, 1997).

- Preference shares: where the finance is provided by way of subscription for preference shares in the capital of the SPV. The rights and obligations of the preference shareholders will normally be set out in the SPV's constitutional documents.
- Subordinated debt: where the finance is to be provided by way of subordinated debt, in which the SPV and the mezzanine providers will enter into a loan agreement that sets out the terms on which the loan will be made. The basis on which the loan will be subordinated to the rights of the senior debt providers and any other lenders to the project will need to be documented separately, and these will normally also be contained in the intercreditor agreement between the SPV and all lenders to the project.

Mezzanine financing is used when there is a gap between senior debt and sponsors' equity. It is supplied when senior debt providers are not prepared to increase the level of debt and the sponsors cannot invest more equity due to the small size of equity provided by the sponsors or specific project circumstances (Morrison, 1998). The attractiveness of mezzanine financing is to provide for the possibility of achieving good commercial return with excessive risks taken. It is faced to greater risk and higher returns compared to the senior debt. These returns might take the form of an increased rate of interest on loans and/or some share in the profits of the project, though the return that mezzanine providers can expect will be less than those required by the providers of equity as they take a greater risk in the project. The mechanism, which mezzanine providers might share in the profits of the project, includes taking share options or warrants to enable them to subscribe for share in the SPV with a low or nominal price so that they will benefit from any appreciation in the capital value of the shares. They should be in a position to benefit from distributions of the SPV by way of dividend (Wilde Sapte, 1997).

Venture capital specialist or certain investment trust and insurance companies can provide the mezzanine capital. The sponsors can benefit from this because the amount of equity that they are required to contribute to be reduced. In return, the mezzanine providers will have the opportunity to earn a reasonable rate of return without taking the full risks of providing equity (Wilde Sapte, 1997).

3.2.4. Bond finance

Beside the financing sources mentioned above, bond financing is an appropriate source for meeting project needs. The development of significant interest in applying bond financing for projects is emerged by difficulties in successfully applying traditional financing techniques to the project structure. An increasing sophistication in financing techniques for projects, the development of a number of approaches to the application of bond finance and an increased risk appetite among institutional investors looking for higher-yielding assets are leading to accelerating growth in the project bond sector (Wilde Sapte, 1997). When using bond financing for PPP project, there are some advantages and disadvantages showed in table 3.1

Advantage of using bonds	Disadvantage of using bonds
<ul style="list-style-type: none"> • The bond markets provide a cheaper source of funds. The sponsors' internal rate of return requirements are favorable due to the longer maturities and a traditional fixed rate comparing with shorter-term bank lending, particularly when taking into account any additional costs required to provide fixed rate hedging in respect of floating rate funding. • Bonds contain less extensive covenants aimed at restricting and controlling the business of the borrower. • The bond market provides a deeper market with various investors than is available in the commercial bank market. The application of project finance techniques to major infrastructure projects with very large financing requirements means that expanding the source of funds beyond the bank market is an essential requirement. • Greater standardization and a consistent approach to commercial covenants lead to a shorter negotiation period and the ability to reach financial close more quickly. • Bonds are tradable instruments that easily transferred through the international clearing systems, whereas loan instruments, even if provided with transfer certificates, tend to be less actively traded. • Project bonds provide a new asset class of investment enabling investors to acquire very specific exposures to industries, technologies and countries, thereby establishing risk profiles, which currently are not easily available. 	<ul style="list-style-type: none"> • The single up-front bond subscription reduces the flexibility for staged payments compared with a syndicated bank, which may provide for stage drawdown to meet the project's needs when they arise. • The sponsors have no central party from whom they can seek waivers, discuss amendments or generally agree an approach. • Bondholders generally tend to have a passive interest in their bond investments and do not have specific industrial expertise. This will restrict the sponsors from making changes of a technical nature to the project. • Disclosure requirements in public offerings are more burdensome than those imposed in the bank market. Political and commercial risks need to be presented and care is required to ensure all relevant requirements and disclosures are adequately complied with. • Potential volatility, particularly in emerging or difficult markets, may restrict the timing of offers and require fall-back arrangements to be established when particular difficulties arise

Table 3.1. Advantages and Disadvantages of bond financing

Source: Wilde Sapte, 1997 (adapted)

3.2.5. Project leasing

Three main reasons for using leasing in the financing of large-scale infrastructure project are:

- The financial benefit of the availability or earlier availability of tax allowances (depreciation allowances) to the project business.
- The introduction of new sources of finance such as manufactures or financing institutions.
- The advantage for the lessor of retaining ownership of the leased assets where law of security interests is under-developed.

The combination of theses features makes leasing as a structured financial product, which can enhance, or even ensure, the economic viability of a PPP project. Depending on the relevant jurisdiction, most of the assets required for the business can be leased in which the concession period is longer than the term of the lease.

Project leasing is applied in PPP project via two types of transaction. In the first type of transaction, the lessor is the sole or main funder, both providing the finance for the acquisition of the leased asset and relying on the cash flow of the project by way of covenant from the SPV to pay the rental and any sum payable on termination. In the second type of transaction, a leasing structure is used within a project financing where primarily project lenders or sponsors take the project risks, not by the lessor. In such cases, the lessor relies primarily on a guarantee or letter of credit provided by some or all of the project lenders to meet the rental and any sum payable on termination, or on security over cash deposits, which may also be provided by the project sponsors. The amount recoverable from such sources will frequently be subject to a maximum so that the lessor takes an element of project risk. This is normally related to changes in rates of taxation applied to project business or to structural failure of the leasing product (Wilde Sapte, 1997). When using project leasing, there are some advantages and disadvantages showed in table 3.2

Advantages	<ul style="list-style-type: none"> • Improve cash flow due to the tax benefit, thus enhancing or ensuring project viability • A new or additional source of project finance • A supplier or manufacturer lessor will be more closely involved in the success of the project business.
Disadvantages	<ul style="list-style-type: none"> • The introduction of further complexity to the negotiation and documentation of projects. It may require additional consents from the host government where project assets are to be owned by a third party (the lessor) and a direct agreement may be required in order to ensure that the leased assets remain available on termination of the concession. • The introduction of a third-party owner of key project assets will raise concerns with project lenders about the creditworthiness of the lessor, and whether the lessor company is itself a single-purpose company. This leads project lenders require security over the leased assets. • The owner of the leased asset will have rights to terminate the leasing and to repossess the asset in circumstance defined in the lease. Such rights will need to be controlled through intercreditor arrangements with the project lenders. • The lessor may require security over the SPV's asset in circumstances where the lessor takes project risks. This will lead to the need to agree priorities and subordination with the project lenders. • Early termination of the leasing may result in an obligation to pay termination fees to the lessor and in a claw-back of the depreciation allowances from the lessor, leading to a direct claim on the SPV. The SPV will also face claims from the providers of any guarantee, letter of credit or security because of the termination. • The terms of the leasing may impose additional performance and financial obligations on the SPV leading to increased costs and liabilities or contingent liabilities. • Change in tax law or its interpretation may lead to unexpected financial burdens falling on the SPV, which would not have occurred if leasing had not been used as a method of financing.

Table 3.2. Advantages and disadvantages of project leasing

Source: Wilde Sapte, 1997

3.2.6. Development finance institutions (DFIs)

Development finance institutions (DFIs) are the creations of governments mandated to assist in the development of the economies of those countries in which they operate. They can be referred as multilateral institutions in the context of financing PPP project, which play an important role in infrastructure project. Their assistance usually takes the form of loans to commercially viable projects in the developing world. There are several well-known DFIs such as the International Finance Corporation (IFC), the European Bank for Reconstruction and Development (EBRD), the Asian Development Bank (ADB) and the European Investment Bank (EIB).

DFIs are usually creatures of treaties entered into by governments and are sponsored by multi-governmental institutions such as the World Bank or the European Union. Treaty members are divided roughly between donor countries and recipient countries. Although often viewed as aid organizations or part of aid programs, most DFI financing is in the form of no-concessionary rate

funding and is geared towards commercially viable projects. There is only a small portion of the DFIs' portfolios reserved for aid or concessionary financing under the form of low interest rate loans with very long tenors (often referred to as "soft loan") for certain sectors or countries. However, in most of the large multi-sourced project financings, DFI interest rates are no lower than those charged by the commercial banks, and it is common to see them slightly higher. In addition to loans, most DFIs are willing to consider taking an equity stake in a project in an effort to provide another source of finance and to contribute to the development of a shareholding culture in the host country.

The justification of DFIs of assisting in the development of emerging economies raises the issue of what they can bring to a multi-sourced project financing and whether their involvement will hinder the objectives of the other lenders. In fact, most DFIs will have a closed relationship with the host government in helping such governments in their economies. As such, a DFI may have better access to, and receive more sympathetic hearing from government agencies. Many DFIs have set up local representative offices and have been making investments in developing countries for years longer than foreign commercial lenders, so they may have a better knowledge of local politics, bureaucracy, legal constraints and business customs than their co-financiers may in a project. Due to the closed relationship to host governments, understanding the sponsors' objectives and having similar concerns to the other lenders, DFIs are uniquely placed to act as a mediator or arbitrator in a project in which DFIs bring "added value" to a project. DFI will try to carve out a niche for them by emphasizing the catalytic effect they can have on a project. Thus, their involvement may convince commercial banks, export credit agencies (ECAs), local investors and/or governments to take an interest in a project, which they might not have without the DFI. Moreover, DFIs can contribute another level of political comfort to complement the political risk cover provided to the commercial banks by the ECAs through the arrangements between member countries' treaties or constitution. DFI will give other lenders, sponsors or the SPV some comfort that the DFI will be able to exercise a degree of influence over the decision of a host government (Wilde Sapte, 1997).

3.2.7. Export credit agencies (ECAs)

An export credit agency (ECA) is a government entity established with a view to promoting and supporting exports by manufacturers operating in its own country. An ECA protects exporters or their financiers against a default in payment by buyers of goods, whether the default is due to commercial or political causes. It can provide an economic advantage to exporters because exporters are willing and able to offer more competitive business terms due to ECA support. In addition, it can assist in the diplomatic aims of the relevant government, where an ECA supports exports to a particular country. This can enhance the political relationship with that country (Wilde Sapte, 1997).

ECAs can offer a broad range of products and services, including:

- Buyer credits: the exporter and the SPV enter into a contract for the supply of goods on terms that the goods are paid for in full at the outset. One or more commercial banks or the ECA enter into a loan agreement with the SPV in which they agree to lend to the SPV up to 85 percent of the contract price. Moreover, the ECA can enter into a support agreement with the commercial banks under which it guarantees or insures the obligations of the SPV under the credit agreement.

ECAs can make available other more direct forms of financing support, including:

- Refinancing: an ECA will agree to refinance the initial commercial bank funding after a given period.
- Interest rate support: an ECA provides interest make-up subsidies, whereby the ECA will make up any shortfall between the rate of interest required by lending banks (normally a floating rate) and the agreed benchmark rate of interest (normally a fixed rate) payable by the SPV. In return, any excess of the agreed rate over the banks' rate will be paid by the SPV directly or indirectly to the ECA.
- Performance bond risk cover: an ECA will provide insurance against loss sustained by a seller as a result of an improper claim by the SPV under a performance bond provided on behalf of that seller.
- Investment insurance: an ECA might provide insurance against losses in respect of investments in overseas entities, which result from political events.
- Project finance: an ECAs can give support short-term, medium-term, long-term, single-source, and multi-source finance, and limited resource financing which is often backed by a sovereign guarantee. The nature and extent of the support available varies according to the ECA and will always be tailor-made to the individual project. It may be in the form of one or more of the types of support referred to above, with or without some adaptations. Most ECAs will often wish to conduct their own assessment and analysis of the commercial, legal and other risks inherent in an individual project, and require risk sharing by the commercial lending sector and by equity investors, and possibly by other ECAs.
- Insurance/guarantees: a contract of guarantee has an established body of law applicable to its interpretation, validity and enforceability. The principles of the law of guarantees are generally protective of the guarantor, and a whole of events can operate to release the guarantor from its obligations. A contract of insurance, on the other hand, is a contract "of the utmost good faith" and imposes on the insured party certain duties of disclosure to the insurer. Essentially, if the insured fails to disclose material information to the insurer, the insurer has the right to avoid the contract.

The capital structure of a PPP project may be total equity financing, or total debt financing, or a combination of both. It is not practical for sponsors to use 100% equity financing because of shortage of capital, unbeneficial investment, and not their core business. It is also difficult to obtain 100% debt financing on the basis of limited or non-recourse due to investment's securities of lenders. In this regard, a high equity financing in project finance can enhance the viability of the project because it motivates the sponsors to do their best when the project is in difficult situations, and it provides debt cushion so that lenders' losses would be reduced if the project company goes bankrupt. However, a high equity investment leads to high capital cost due to higher returns required by providers. Thus, a combination of equity financing and debt financing is usually used in project finance with various ratios of equity to debt based on the providers' risk and return trade-offs (figure 3.2)

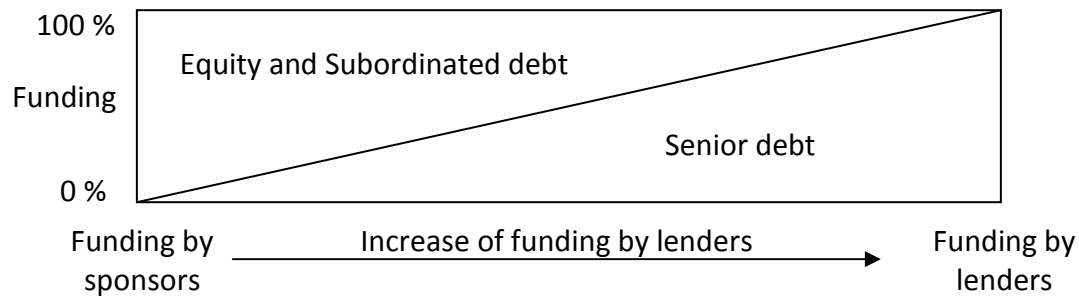


Figure 3.2. Funding for financing projects

Source: Sudong Ye (2009)

3.3. Instruments and tools for financial exchange

A derivative is a financial contract that the value or worth of which depend on the value of one or more underlying assets or indices. Project sponsors can use some basic types of financial derivatives to manage financial risks such as exchange rates, interest rates, currency revenue risk, and price fluctuations. In other words, it can help the project sponsors, investors, or lenders improve the ability to change their return distributions. The main types of derivatives include swaps, options, forwards, and futures. They are the basic building blocks to build complex derivatives and other securities for investors. The value of the financial derivatives is based on cash market instruments such as stocks, bonds, currencies and commodities. The basis idea underlying the use of derivatives is to provide protection against adverse price movements and rates by fixing their future transactional values (Blommestein, 2000).

3.3.1. Swaps

According to Neftci (1996) “a swap is the simultaneous selling and purchasing of cash flows involving various currencies, interest rates, and a number of other financial assets”. Swaps are considered to be fairly complicated instruments, which may stretch over long time periods. Swaps open the possibility of obtaining a fixed price for an asset despite changes in the cash price, and are often used for currency contracts or interest rate markets (Eales, 1995).

3.3.1.1. Interest-rate swaps

The basis interest-rate swaps between the fixed rate and floating rate is used most widely amongst derivatives in PPP finance. Project sponsors usually use interest-rate swap to convert floating-rate bank loans into fixed-rate loans. Any losses of interest rates from one customer are compensated with the corresponding gains from another customer. In a project, project sponsors often borrow funds in the syndicated bank loan market. In this scene, banks lend on a floating-rate basis which exposes the project to interest-rate risk. The sponsors can reduce this risk exposure by swapping the floating interest rate for a fixed interest rate through an interest-rate swap, which turn the floating-rate bank loan into a fixed-rate loan but without having to replace the bank loan (John D. Finnerty, 2007).

Two parties will exchange specified cash flows at specified intervals in a swap contract. In an interest-rate swap, the cash flows are determined by two different interest rates in the same currency. In a currency swap, the cash flows are depended on interest rates in two different

currencies. The two parties usually exchange the amounts of the currencies on which the interest rates are based. The interest rate swaps and currency swaps have similar mechanism.

In an interest-rate swap, two parties exchange interest payment obligations. One could be at a specified fixed rate, and the other at a floating rate, or they might be different floating rates. In interest-rate swap, coupon payments are swapped, not principal. The payments are based on a notional principal amount, as they do not exchange principal. They use this notional principal amounts to calculate the amounts of interest they owe each other. The obligations of interest payment are conditional in which if one party defaults, the other is released from its obligation. In a fixed-rate-floating-rate swap, for example, one interest rate is fixed and the other is floating. One party will pay out a series of cash flows determined by the fixed interest rate R_1 and receives a series of cash flows determined by the floating interest rates R_2 . The other party will pay out and receives the cash flows that are the mirror image of those shown in figure 3.3

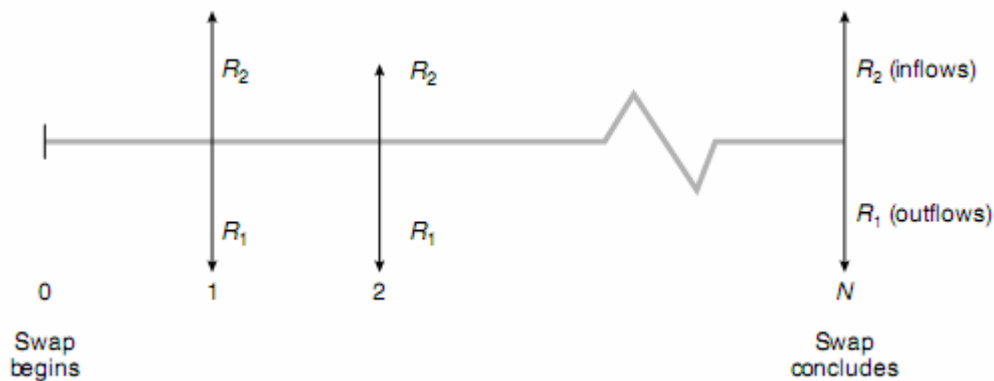


Figure 3.3. An Interest-rate Swap

Source: Emery, Douglas R. (2007)

From an interest-rate swap, a project sponsor can manage a project's interest-rate risk exposure by swapping the floating interest rate for a fixed interest rate through an interest-rate swap. Thus, floating-rate bank loan turns into a fixed-rate loan. The project company can enter into a swap with any number of large financial institutions. For example, in order to remove the interest rate risk from the structure, the SPV may hedge the floating rate exposure by entering into a swap with one of its lending banks or an unconnected counterparty. Under the swap the SPV will receive floating rate payment (to match its debt service requirements) and will pay fixed rate payments (based on a predicted cash flow arising from projected revenues accruing to the project business).

A swap has advantage is that it has a lower default risk than a loan because there is no principal is exchanged, just coupon payment are swapped, and the interest they owe each other are calculated based on the notional principal amounts. Each party calculates what it owes the other. The party owing the greater amount writes a check to the other for the difference.

The principle is similar to that applied for currency exposure. The SPV may hedge its currency exposure by entering into a swap with a lending bank or an unconnected counterparty. The project will receive the relevant foreign currency under the swap (in order to meet its foreign currency debt service requirements) and will pay amounts in local currency (arising from revenue generated by the project). Thus, the ability to hedge clearly requires finding the

counterparty willing to accept the local currency exposure. This can prove difficult in emerging markets where appropriate counterparties may be difficult to find (Wilde Sapte, 1997).

3.3.1.2. Credit default swaps

Credit risk is the risk that a security will lose value as the reduction in the issuer's capacity to make payments of interest and principal. It refers to the likelihood that the issuer will actually default. Even though the payment is made ultimately, the delay in receiving payment also takes some costs.

A credit derivative is a privately negotiated contract the value derived from the credit risk of a bond, a bank loan, or some other credit instruments. A credit derivative can be used to hedge the credit risk by protecting lenders against the risk that a borrower might default. Credit default swaps are the most popular form. In credit default swaps, a bank lender (bond investor) is concerned about the risk that a borrower might default. Thus, lender buys a credit swap based on the value of the borrower's bonds.

In the credit default swap, the two parties agree on a notional amount, the term of swap, the reference asset (a loan, a bond, or a portfolio of loans or bonds), the list of credit events, and the payment features. The lender agrees to make a single up-front payment, or possibly a series of payments to ensure that the borrower has not defaulted, and the seller's obligation is to pay the lender the difference between the face amount of the bond and its market value if one of the specified credit events occurs. If no credit event has occurred by the time the swap matures, then the insurer's contingent obligation expires (figure 3.4).

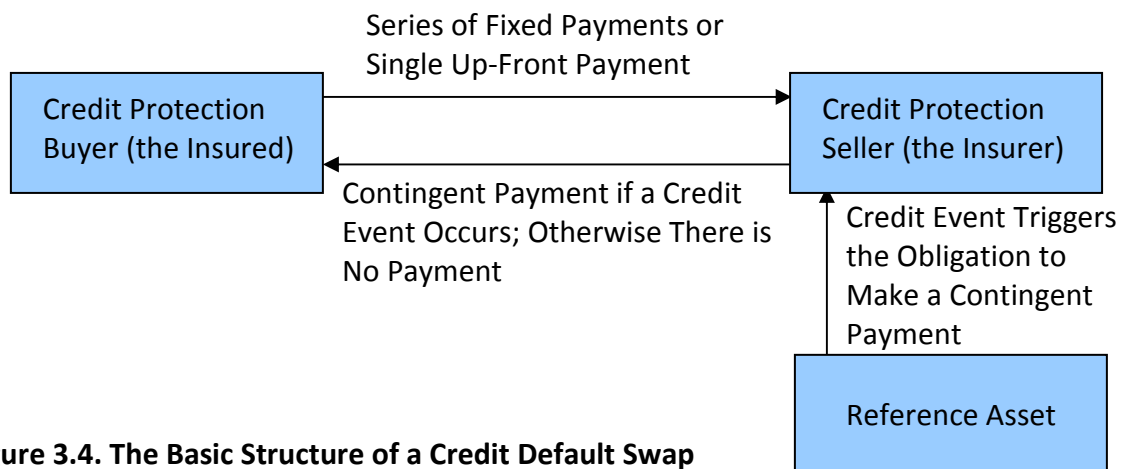


Figure 3.4. The Basic Structure of a Credit Default Swap

Source: Emery, Douglas R. (2007)

The credit events could be a payment default on an agreed-upon public or private debt issue (the reference asset), a filing for bankruptcy, a debt rescheduling, or some other specified events to which the two parties agreed. Typically, the credit events must be an objective measurable event involving real financial distress; technical defaults are usually excluded. The reference credit is usually a corporation, a government, or some other debt issuers or borrowers to which the credit protection buyer has some credit exposure.

Credit swaps are used to hedge credit risk. A credit swap plays a role like insurance, a letter of credit, or a surety bond. It protects an investor such as a bank or other lender to a project from

an event of default or some other specified credit event. Banks and bond investors use credit swaps to hedge the credit risk in their loan portfolios. So long as the value of the loan being hedged tracks the value of this bond closely, the insurance payment will reimburse the lender for the fall in value if the borrower defaults.

Credit swap buyers can be lenders and fixed-income investors who have exhausted their credit limits to a particular borrower but want to lend additional funds or buy additional debt of that borrower. They can hedge their credit risk exposure by purchasing a credit swap linked to the new loan. Likewise, a bank can free up additional lending capacity to a particular borrower by arranging a credit default swap to hedge part of its credit risk exposure on its existing bank lines to that borrower. A bank with large loans to a good client, for instance, might be reluctant to sell some of those loans to its competitor. It can reduce its credit risk exposure to the client by buying a credit swap to transfer some of this risk to others. The banks will have greater capacity to lend to a project that the client is sponsoring (John D. Finnerty, 2007).

There are several other types of buyers of credit default swap. Project sponsors or lenders who are concerned about their exposure to the sovereign credit risk of the country in which the project is located can buy a credit swap linked to the sovereign issuer's outstanding debt. A credit event, for example, could be defined as a reduction in the credit rating of the country's debt. In the case the country's credit rating falls, this causes the value of the sponsor's and lenders' investments in the project to fall, the contingent payoff on the credit swap would at least partly compensate for this loss in value. Project equity investors also can use credit default swaps to hedge the risk that the host government might take some actions that harm the profitability of the project. If the action, such as a discriminatory tax on foreign investors, also causes the value of its sovereign bonds to decrease in value, a credit swap written on those bonds will at least partially compensate the project's equity investors for their resulting loss of value (John D. Finnerty, 2007).

3.3.2. Options

An option gives its holder the right to do something that has no obligation attached to it. Option contracts are usually used to avoid the effect of adverse changes in the price of the underlying asset. A call option is the right to buy an asset. A put option is the right to sell an asset. The strike price is the price at which the option holder may buy or sell the underlying asset when the option is exercised.

The option is in-the-money when an option exercised provides advantages over buying or selling the underlying asset in the open market. Conversely, the option is called out-of-the-money when it would not provide an advantage over buying or selling the underlying asset. Out-of-the-money options are not exercised, but they are frequently sold to others who believe the options might become in-the-money before they expire.

The amount of advantage an in-the-money option provides over buying or selling the underlying asset in the market is called exercise value or intrinsic value. An out-of-the-money option has a zero exercise value. After all, option-holders have the right without obligation, so they will walk away from the option rather than exercise an out-of-the-money option.

An option's expiration is the point in time when the option contract ceases to exist. Option has two types. An American option is an option that can be exercised at any time prior to its expiration. A European option can be exercised only at the end of the contract, not before.

3.3.2.1. A call option

A call option is a financial contract between two parties, the seller (writer) and the buyer of the option. It will give the holder the right to buy an underlying asset at a predetermined price by a specified time before expiration. Investors buy a call option since they believe the underlying asset will go up. They will make money on an increase of underlying asset's price, and the most the holder can lose is the price they paid for the option (option premium). A call option gives its holder the opportunity to benefit from good outcomes.

- The contingency for of the option seller = $\min(\text{market value}; \text{strike price})$
- The exercise value of option holders = $\max(\text{market value} - \text{strike price}; 0)$

The strike price is a break point in the outcomes for both sides of the transaction. If the market value is below the strike price on a call option at expiration, the option is worthless. The option is out-of-the-money, the exercise value is zero, and will not be exercised. However, if the market value is above the strike price at expiration, the option is in-the-money and will be exercised. It will provide an advantage of (market value – strike price) over an open market purchase. The farther the market value is above the strike price, the larger the exercise value is. The exercise value changes dollar for dollar with the market value whenever the market price is above the call option's strike price (figure 3.5)

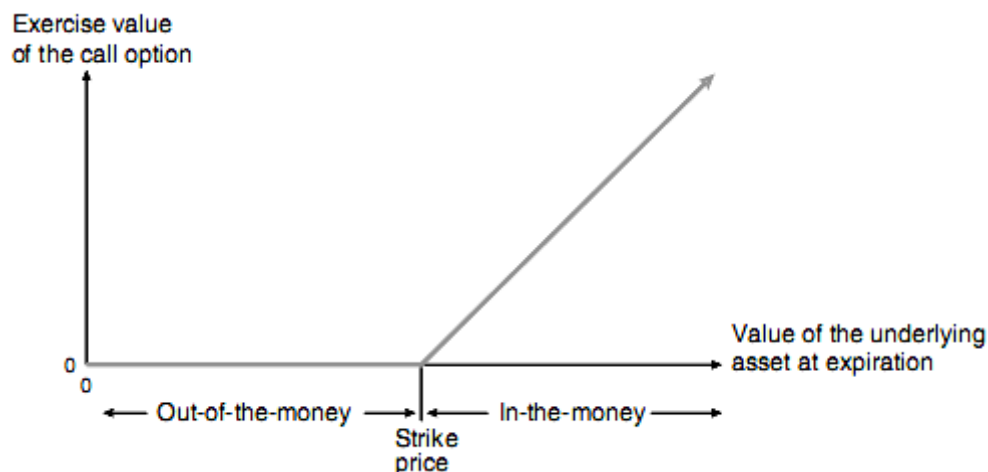


Figure 3.5. Exercise Value of a Call Option Depends on the Value of the Underlying Asset

Source: Emery, Douglas R. (2007)

The figure 3.16 shows the exercise value of a call option against the market value of the underlying asset. The line going up from the strike price at a 45-degree angle shows the dollar-for-dollar relationship as the asset's market value increases and the option becomes deeper in-the-money area. The flat line expresses how the exercise value is zero everywhere in the out-of-the-money area.

3.3.2.2. A put option

A put option is a financial contract between two parties, the seller (writer) and the buyer of the option. In contrast with a call option, it will give holder the right to sell an underlying asset at a

predetermined price by a specified time before expiration. Investors buy a put option since they believe the underlying asset will go down. They will make money on a decline, and the most investors can lose is the price they paid for the option (option premium). Clearly, a put option gives its holder the opportunity to avoid bad outcomes. Generally, an asset owner would have to pay someone to get rid of the bad outcomes. When an asset owner pays someone else to take the bad outcome, the asset owner has purchased a put option on the asset. The exercise value of a put option (the savings from not having to keep the bad outcomes) depends on the value of the underlying asset (figure 3.6).

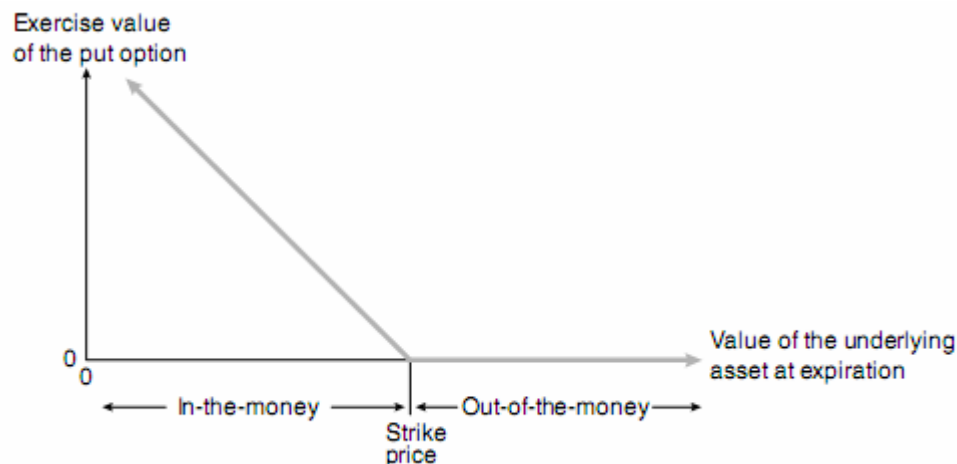


Figure 3.6. Exercise Value of a Put Option Depends on the Value of the Underlying Asset

Source: Emery, Douglas R. (2007)

3.3.3. Forwards and Futures

Forwards and futures are used to hedge commodity price and credit risk.

3.3.3.1. Forward contracts

A forward contract obligates the holder to buy or sell a specified amount of a particular asset at a stated price on a particular date in the future. All these terms are fixed at the time the forward contract is entered into. The specified future price is the exercise price. Most forward contracts are for commodities or currencies.

The net present value of a forward contract is zero because the exercise price is set equal to the expected future price. Neither buyer nor seller will realize a profit unless the actual market price of the asset differs from the exercise price at maturity. The contract holder gets benefits if the actual price exceeds the exercise price. If the actual price is lower than the exercise price, the holder suffers a loss. The holder's gain (loss) is the contract seller's loss (gain).

3.3.3.2. Futures contracts

Futures are a standardized form of forward contracts but differ from them in operational terms. A futures contract obligates the holder to buy or sell a specified quantity of a particular asset at a specified exercise price at a specified date in the future. A futures contract differs from a forward contract with respect to realizing gains or losses. With a forward contract, gains or losses are exercised only on the settlement date. With a future contract, they are realized daily. Moreover, the futures contracts are trade on organized exchanges, whereas forwards are

traded over the counter. The futures contracts are more liquid than forward contracts for two reasons: futures are standardized contracts, and they are traded on organized exchanges.

3.3.4. Issues to be addressed when using hedging instruments

The effect of the SPV entering into any kind of hedging arrangement will introduce an added element to the financing structure, which will need to be addressed in the financial documents (Wilde Sapte, 1997). A number of the issues when using financial exchange are discussed below.

- Will the financiers require that the currency and/or interest rate exposure is completely or partially hedged?

Lenders, host government require the SPV entering into interest rate or currency hedging arrangement depend on their analysis of the project economics, the economic climate at the time the project documents are finalized and their views on potential changes in that economic climate over the life of the project.

The SPV might be given the option in the credit agreement of entering into hedging arrangements within given parameters or it might be considered appropriate for the SPV to enter into a “Swaption”, enable it to enter into a swap in the future at a predetermined price.

The same principle can apply to currency hedging in which the lenders can require the SPV to enter into hedging arrangements for all or part of its anticipated revenues, or give it the option of doing so within clearly defined parameters. The hedging will be by way of a cross-currency swap or through forward foreign exchange agreements (under which the SPV will agree to sell a given amount of one currency for another currency at an exchange rate that is stipulated in the agreement). Difficulties can arise where the SPV has not earned sufficient currency to meet its obligations. The risks of the SPV defaulting under this type of hedge are probably greater than with a fixed/floating interest rate swap due to the long-term of project life cycle. It is essential that the counterparty to the currency hedging agreement would be a party in the intercreditor arrangements with the other parties financing the project to ensure that the project does not collapse because of this default (Wilde Sapte, 1997).

- Will it be a requirement of the financing that hedging agreements are between the SPV and a member of the banking syndicate?

Typically, it will be advantageous for the counterparties of a hedging agreement is the members of a banking syndicate since this leads to avoid the complications of involving a different set of parties in the transaction, protracted time for negotiations, and introducing a further set of creditors. In the case the counterparties are the members of the syndicate, a problem can arise in relation to the pricing of the relevant swap agreement. They will have a conflict of interests. As lenders to the project, they will wish the SPV to secure a hedging agreement that is competitively prices, while their interests will lie in securing pricing which gives them the maximum profit. Thus, a procedure will normally be agreed whereby the swap agreements are priced on a reasonable basis. This may be a screen-based rate where available; it will not be possible to set the pricing of an interest rate swap or cross-currency swap agreement by reference to a specific market price because prices are not quoted for the type of agreement required for a typical amortizing project loan repayment profile (Wilde Sapte, 1997).

- How will creditors dealt with priority and voting right issues?

- Priority issue:

The hedging counterparties should be parties to the intercreditor agreements since they are creditors of the SPV with their own right. The intercreditor agreement would set out the rights which the counterparties would have on, and the circumstances under which they are entitled to exercise the rights. One more issue is the whether the hedging counterparties should have the benefit of the security granted to the lenders. If they are secured creditors, the intercreditor arrangements should deal with the priority ranking of that security and should set out the circumstances which that security can be enforced (Wilde Sapte, 1997).

- Voting right issue:

When the hedging counterparties share in the lenders' security, the intercreditor arrangement should state whether the counterparties should be entitled to voting rights as the lenders are asked to take decisions on enforcement and related issues. The current practice is that the counterparties do not have voting rights because the counterparties could be debtors (not creditor of the SPV) when the market conditions change at the time of voting (Wilde Sapte, 1997).

- How will hedging contracts be included in project ratios calculations?

When the SPV enters into an interest rate swap/cross-currency swap agreement, the lenders will need to consider how the agreement should be reflected in the project cover ratios. One issue will be whether the payment of the floating rate of interest payable under the loan or the fixed rate of interest under the swap agreement should be taken into account in determining debt service cover ratios and maybe the net present value of project revenues. Other issues can be whether "out of the money" positions on hedging contracts (which would oblige the SPV to make a payment to the swap counterparties if the swap was immediately terminated) should be counted in the gearing ratios (Wilde Sapte, 1997).

- What replacement or transfer arrangements will be provided (limits on counterparty credit rating)?

The credit agreement will contain provisions controlling the transfer of a counter party's interest under a hedging agreement. When the counterparty is a member of the banking syndicate, the credit agreement provides that counterparty may only transfer its interests to another bank within the syndicate. It will transfer those interests if it ceases to be a syndicate bank. Another restriction may be applied is counterparty' minimum credit rating (Wilde Sapte, 1997).

3.4. Interest and priority of creditors in the intercreditor agreements

From the previous parts, it is easy to see that the financing for a PPP project will be derived from different sources and creditors. The interests of varied creditors to the multi-sourced project are diverse and their inter-relationship is likely to be governed by the terms of an intercreditor agreement, beside the direct agreements discussed in chapter 2. The purpose of this agreement is to achieve a fair balance of power in determining what course of action

providers should take in a given set of circumstances and a fair distribution of the SPV's assets on an enforcement of the project security or a liquidation of the SPV (Wilde Sapte, 1997).

Some intercreditor issues are common facing in most of PPP projects are:

- The order in which the SPV is permitted to draw down funds under various facilities.
- The maturities of the loan.
- The order in which project revenues are to be distributed to the funding providers.
- The respective voting powers of the funding providers in relation to waivers and amendments to the financing and project documents.
- The restrictions on the rights of funding providers to amend their own financing documents.
- The rights of the funding providers to accelerate their loans and enforce their security.
- The order of distribution of the proceeds of an enforcement of the security and the dividends available on a liquidation of the SPV.

These intercreditor issues can be dictated by the structure of the financing including:

3.4.1. Equity

Share capital is the lowest ranking form of capital and the claims of the shareholders in the SPV will rank behind the claims of all other creditors in liquidation. In practice, the shareholders will be parties to the intercreditor agreement and will undertake not to receive any dividends or over other distributions in contravention of the term of the financing documents.

Similarly, when the sponsors make available subordinated debt to the SPV, the financing documents will impose restriction on the repayment and servicing of that debt. Moreover, the intercreditor agreement will subordinate this debt to all other lending to the SPV. Their subordinated debt will be unsecured (Wilde Sapte, 1997).

3.4.2. Senior debt

The lenders of PPP project are considered the parties taking the greatest risk in a BOT project in exchange for relatively low returns. Thus, the senior lenders will wish to have priority over all other providers of funding and include:

- Control the ability of other funding providers to take action against the SPV to recover their debt in order to ensure the continuation of the SPV's existence and its involvement in the project.
- Ensure that on any enforcement of the security, the senior lenders have first priority over the enforcement proceeds and that the security trustee has regard primarily to the interest of the senior lenders in realizing the security
- Ensure that on any liquidation of the SPV, the senior lenders have first priority over the distribution.

The intercreditor agreement will set out arrangements between the different types of senior lenders. A PPP project involving a syndicate of banks, an ECA and a DFI might provide that decisions are made according to the wishes of a majority in value of the total amount financed by those parties. In addition, the proceeds of enforcement or liquidation dividends are to be shared between the parties according to the ratio of amount owing that they have acceptable degree of control.

The arrangements as to decision-making and sharing of proceeds between the individual members of a bank syndicate are to be set out in the project credit agreement. This agreement will address certain intercreditor issues between the parties such as the imposition to repay other debt and make distributions to its shareholders. If any holding company of the SPV is party to the credit agreement, it can also be made subject to restrictions (Wilde Sapte, 1997).

3.4.3. Export credit agencies (ECAs)

Most of the experienced ECAs recognize that equality should prevail as much as possible based on the amount of the loans outstanding in the intercreditor agreements. However, many ECAs prefer to use their standard forms of loan agreement, and such forms are sometimes in the national language and governed by national law. If each ECA use its own loan agreement, the terms and governing law that are different from those agreed with the other senior lenders, the equality principle would be difficult to implement because the decisions needed for amendments, waivers and enforcement would arise at different times and for different reasons under each loan agreement. When ECAs have insisted on separate loans, there is often an attempt to match some of the more important provisions across loan agreements. The best solution is the use of a common term agreement.

3.4.4. Development finance institutions (DFIs)

The issues in the ECAs can be applied equally to DFIs and the most satisfactory way in which these issues can be resolved is to establish a common terms agreement to which the DFIs are party. However, DFIs will have their own specific requirements in relation to a particular PPP project and these requirements will be dictated by their constitutions (Wilde Sapte, 1997).

3.4.5. Mezzanine capital

Mezzanine capital has the characteristics of both debt and equity. When the mezzanine funding can be seen as debt, its holders will rank ahead of the holders of share capital in the SPV on any liquidation of the SPV. When the funding is in the form of share capital, its ranking as against the ordinary share capital of the SPV is likely to be set out in the SPV's constitutional documents.

The mezzanine lenders are likely to require the benefit of the security provided to the senior lenders. This means that they will provide some form of subordinated debt. Then, the proceeds of enforcement of the security will be distributed first to the senior lenders and any surplus will be left for the mezzanine lenders, though the mezzanine lenders may have first-ranking security over some limited cash collateral. The intercreditor agreement will provide that payments of principal and interest cannot be made to mezzanine lenders if the senior debt service is not current, if security accounts are not fully funded or if project cover ratios are too low. The negotiation usually revolves around how long the payment suspension should last.

Mezzanine lenders usually do not have voting rights but they still want to ensure that key elements of the project structure cannot be substantially amended without reference to them. They will also want to make that the senior lenders do not have the right after an event of default immediately to accelerate the senior loan and enforce the security, since in such circumstances repayment to the mezzanine lenders will be more likely if the default is remedied. This is normally achieved by providing for a standstill period during which the senior

lenders may not accelerate or enforce, with the length of the standstill period varying according to the type of default.

Mezzanine lenders will also want to be able to compel enforcement of security if the mezzanine debt has been in default for a period of time, and will want the security trustee, which is controlled by the senior lenders, to take account of the interest of the mezzanine lenders when enforcing the security.

Mezzanine lenders usually agree not to amend the mezzanine financing documents without the senior lenders' consent. A more difficult issue is whether the mezzanine lenders must consent or to be deemed to have consented to a waiver or an amendment of their financing documents if the senior lenders waive or amend a similar provision in their project credit agreement (Wilde Sapte, 1997).

3.4.6. Bonds

Bond financing is difficult to accommodate in a BOT project financing for the following reasons:

- Bonds are structured so that all the funds are received by the SPV at the date of issue. If the SPV defaults before those funds are used, the issue is that whether the bondholders should have preferential security over the unused funds. In practice, they usually do not.
- Bondholders are not accustomed to monitoring projects and participating in the regular decision-making that is often needed.
- Bondholders can be anonymous. This is the case with bearer bonds, or bond held in a clearing system.
- Bonds tend to have less onerous covenants and events of default when compared with project loans
- Bondholders' decision-making is time-consuming and cumbersome, usually involving meetings of bondholders and it is often difficult to obtain sufficient attendance to meet the trust deed's requirement for a binding vote to be passed.

To solve these problems, a number of patterns for intercreditor agreement should be involved. The first is the use of the monoline insurer for the bonds, which centralizes decision-making in one entity. The second is the delegation by the bondholders of non-material decision making to a coordinator which is also a senior lender to the project, but this may give rise to conflicts of interest. A further alternative is the use of a project agent. When the bonds are guaranteed by a monoline insurer, the insurer will need to be a party to the intercreditor agreements (Wilde Sapte, 1997).

3.4.7. Equipment leasing

The intercreditor agreements between lenders and equipment lessor are the most complex of all the different types of intercreditor agreements in multi-source projects. The lenders and the lessor take separate security over the project with the ranking of the security over the project based on negotiation. In some projects, they rank equally, while in other projects the lessor has second-ranking security. The lessor is likely to have first-ranking security over cash collateral to secure the difference between the amount payable to the lessor on a termination of the lease and the amount of any guarantee, and might have cash collateral to secure rental payments (Wilde Sapte, 1997).

The lenders have the step-in rights in respect of the equipment lease and controls over its termination, so the intercreditor arrangement might include the following provisions:

- Control in favor of the lenders in respect of changes to the leasing document and, conversely, controls in favor of the lessor in respect of changes to the finance documents.
- Provision for the leased assets to continue to be available to the SPV on a voluntary termination of the lease, its expiry by lapse of time or other specified circumstances
- The coordination of insurance arrangements.

3.4.8. Hedging instruments

It is accepted that a default by the SPV under a derivative contract should not of itself be capable of collapsing the project, and each counterparty to a derivative contract will need to be a party to the intercreditor arrangements in order to restrict its rights on a default by the SPV. It is common that the events of default under the derivative contract are the acceleration of the senior debt and the liquidation of the SPV, and any default provisions contained in standard market contracts are not applied. The calculation of termination payment under the derivative contract may need to be tailored for the purpose of the project.

As the derivative products will be tailored to suit the individual project's needs, it is common to provide that only the lenders to the project may act as counterparties to the derivative contracts. This aim at reducing the number of parties involved in the negotiation of the project documentation and avoiding any risk that the derivative contract might be unattractive to potential counterparties when viewed in isolation. Any concerns, which the project sponsors might have in relation to the possibility of collusive and/or anti-competitive pricing of the product, can be resolved by the use of what has become known as "open book" pricing. The sponsors can disclose to them and are able to review the basis on which the products have been priced in relation to prices generally available in the market (Wilde Sapte, 1997).

The counterparties to the derivative contracts usually do not have any voting rights in their capacity. Payments to the counterparties will usually rank equally with the senior debt in terms of both cash flow and distribution of enforcement and liquidation proceeds.

3.5. Critical issues in financing PPP projects

The private sector parties involve in financing of infrastructure projects in two ways: as a project sponsor and as an institutional bond investor. Both ways of investment in PPP projects have considerable risks led to several types funding partnerships between the private and public sectors such as bonds and bank loan transactions between commercial and government-owned institutions; bonds issued directly by government; government-owned enterprises and private companies contracted by government authorities to provide a public service, etc. Such partnerships require a stable fiscal and political environment, a well-structure sector in terms of the market's operation, and a strong legal and juridical system (Demos C. Angelides et al. 2009). A ranking of investors' priority issues for engagement in PPP project is presented in table 3.3

Investor's priority	Critical issue
1	Legal framework defining the rights and obligations of private investors
2	Consumer payment discipline and enforcement
3	Availability of credit enhancement or guarantee from government and/or multilateral agency
4	Independence of regulatory institution and processes from arbitrary government interference
5	Administrative efficiency—lead time to get necessary approvals and licenses
6	Judicial independence—degree of perceived independence from government influence
7	Tenure and stability of elected officials in political process
8	Regulations that clearly define and allow exit for investors in infrastructure
9	Investment grade credit rating for long-term debt
10	Negative perceptions and resistance to private investment amongst members of civil society (trade unions, press, NGOs)
11	Sector in transition to a competitive market structure
12	Country ranking in Transparency International's Corruption Perception Index

Table 3.3. Investors' priority issues for engagement with PPP

Source: Akintola Akintoye (2009)

The requirements in table 3.3 are the crucial points required by investors when they want to involve in a PPP project. The consequence of not meeting these requirements can lead to not attract investors at all or not establish PPP arrangement where the public sector assumed a great part of the risks that should be allocated to the private sector. In these cases, a number of serious problems would exposure that could seriously endanger or cancel PPP projects. A great number of such problems related to financing include:

3.5.1. Lack of strong domestic capital markets

Since the long life cycle of PPP projects, capital markets are essential for a sustainable supply of funds in the phase of operation and maintenance of the infrastructure facilities. Domestic capital markets have the advantage of a better influence on the development of a PPP project in terms of achieving the project's targets, ensuring profits, supporting and operating the project. Moreover, fewer risks are involved in raising funds from domestic capital markets than foreign ones. Thus, domestic capital should be the first choice for infrastructure funding. However, foreign capital should not be excluded as it is also of major importance, especially because the transactions between foreign partners often exceed the financing capability of the local debt market (Demos C. Angelides et al. 2009)

3.5.2. Limited rising of institutional funds

The main obstacles in use of this type of funds are the low level of maturity of institutional debt market, the regulatory restrictions and risk-averse policies engaged in investments of institutional funds. These funds also play a social role and primary scope leading to a conservative exploitation of them and they are used in investments of low-risk projects with a previous record of successful rate of returns. In this regard, the promising contribution of institutional funds to infrastructure development remains unexplored and unfairly limited.

3.5.3. Non-dependable project revenue streams

Project revenue stream should be stable and dependable to pay of the debt service, operation and maintenance costs and generation of profits. However, such revenue stream is considered as not being guaranteed in some cases. This is because the revenue from infrastructure projects consists mainly of user's fees where the user is usually the public or a state or local organization, institution or administrative unit. Payments of these fees are not regular for some reasons (Streeter et al., 2004): (1) Poor organization of local governments or enterprises in collecting revenue from end-users, (2) Unstable transfers from the central government to the local authorities, (3) Weak public acceptance for user fees.

3.5.4. Improper assessment of the value of government guarantees

The private sector not only depends on the project's revenue stream but also on guarantees provided by the host government. The main types of these guarantees include (Fishbein and Babbar, 1996):

- Equity guarantees: the government allows the investors to be bought out with a guaranteed minimum return on equity.
- Debt guarantees: the government ensures the loans repayment either in all cases or just in cases of cash flow deficiencies. As with an equity guarantee, a debt guarantee entails no public cost as long as the project generates sufficient cash flow to service debt.
- Exchange rate guarantees: the government provides the investors with compensation for increases in the local cost of debt service due to exchange rate movements.
- Minimum revenue guarantees: the government provides the investors with compensation in cash if revenue falls below a specified minimum level. Typically, the minimum revenue threshold is set below the expected level in order to reduce government exposure, while providing sufficient coverage to support the debt component of the capital structure.
- Grants and subordinated loans: the government should supply them to strengthen project economics while reducing exposure to risks from the other types of guarantees. Grants and subordinated loans are not dependent on the project's performance. The subordinated loans can be repaid after debt service on senior loans and before returns to equity.
- Concession extensions and revenue enhancements: although these guarantees do not provide capital, time flexibility to the project allows the investors to recover revenues that have not been collected for several reasons.

The appropriate type of guarantees for a certain project is a case-base decision both for the government and for the investor. Figure 3.7 shows the range of guarantees usually offered by government to the investors. The order of the types of guarantees in this range is determined by the significance for the investor and the significance for the government.

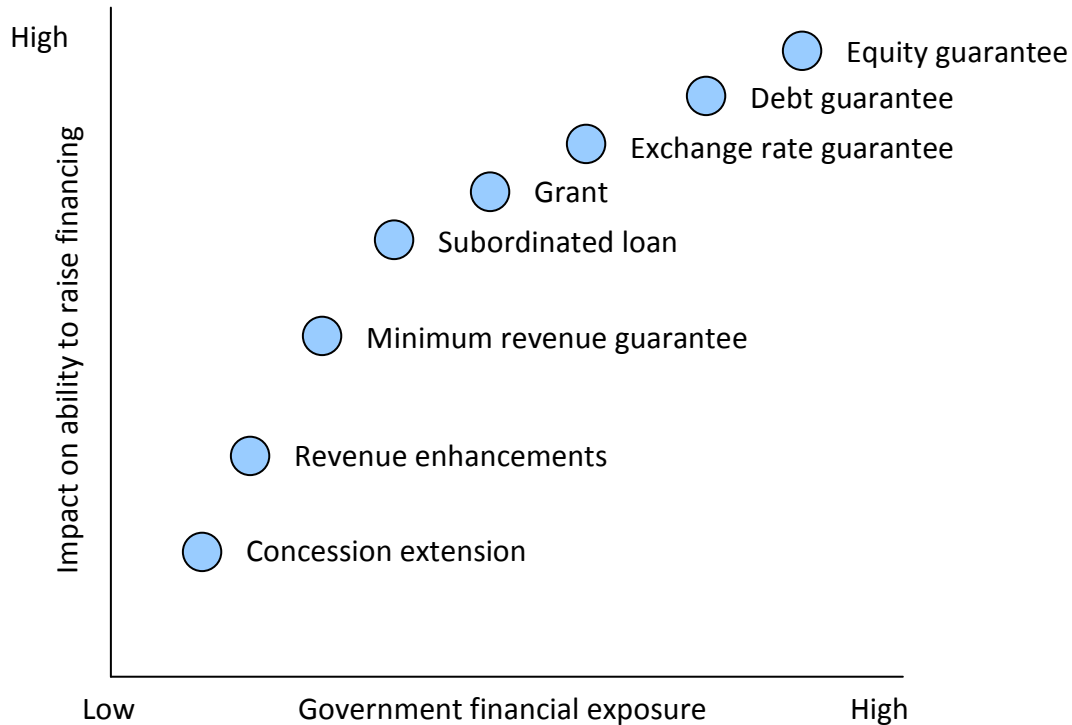


Figure 3.7. Guarantees in PPP with regard to significance for investors and governments

Source: Akintola Akintoye et al. (2009)

In addition to the guarantees mentioned above, the special government's guarantees and incentives required from the public sector to private sector should be provided in developing countries because of the difficulties in raising a substantial amount of equity in the capital market (S C McCarthy and Tiong, 1991) such as:

- Foreign-exchange guarantees: loans are supplied for projects in developing countries are usually in hard currency, while the infrastructure projects in developing countries do not generate income in hard currency. Therefore, it is required a remittance guarantees from the government to enable the project sponsors to remit freely all the project revenues. Guarantees of foreign-exchange convertibility and availability should also be established from the host government to reassure the lenders and investors.
- Offshore escrow account: an escrow account is a trust fund established by the sponsors. The possibility of interference in the project cash flow is reduced by the use of such an account. Thus, the project sponsors should require the government's cooperation in the establishment of an offshore escrow account for all the project revenues and foreign loans. The rights and obligations of the concessionaire's local bank in dealing with foreign currencies should be specified in an agreement with the central bank. This will ensure that the flow of funds and revenues to all the parties concerned is smooth during the entire concession period.
- Concession to operate existing facility: this is a concession for project sponsors to operate existing tolled facilities. This guarantees immediate income for the sponsors and repayments to the lenders and investors.
- Cost overrun: the risks of cost overrun, when the construction cost exceeds the original estimates, can be covered by: additional capital from project sponsors, a standby credit facility

from the original lenders, fixed-price contracts from contractors, a sponsors' escrow fund for completion.

- In some cases, lenders and investors can take consideration of guarantee instrument from World Banks as IDA PRG (International Development Association-Partial Risk Guarantees). It can help the private lenders cover against the risks of a public entity failing to perform its obligations. PRGs ensure payment in the case of default resulting from the nonperformance of contractual obligations undertaken by governments or their agencies in private sector projects. In return, it will help the government and sponsors assure that the loans for the project will be supplied on time. It creates an attractive financial package for both the public and private sectors. Besides, the other two useful guarantee instruments from World Banks, which can be used in PPP project are Partial Credit Guarantees (PCGs) and Policy Based Guarantees (PBGs).

3.6. Financing strategies

The financial structure of the project is conducted by the financial advisor appointed to assist the project sponsors. Financial advisor addresses on developing financing strategies that aims at diverting the risks associated with the project from the sponsors while maximizing the project leverage through a careful mix of the various sources of funds available in the market. Moreover, the financing strategies should lead to a financial package with low capital cost; high credibility; minimal financing risks to sponsors; and minimum burden of debt service capacity on revenue (Tiong and Alum 1997). The crucial strategies, which need to take into account when developing the financial structure for a project by the financial advisor, are:

3.6.1. Project financial-related issues

- **The availability of financing sources for project:** it is very important for success of a project. The sponsors should not only search for the potential lenders and capital markets but also the international financial institutions and foreign investors who usually seek investment opportunities (John E. Schaufelberger and Isr Wipadapisut, 2003).

- **Market requirements:** the needs of the investment market that can be appreciated through the risk/reward appetite of the investors. The considerations are fixed or variable interest rate, short-term or long-term investment, industry type, location, economic expectations, demographic expectations, development of partnerships, and debts and equity (Hans Wilhelm Alfen, 2009).

- **Securities' maturity:** the average life of the project's assets should specify the average maturity of the capital structure because paying back of the project debt should reflect the depreciation patterns of the assets. Matching the project capital with the project assets will assist in reducing the cash flow implications of the repayment for the debt principal (Hans Wilhelm Alfen, 2009). The financial advisor needs to consider the average maturity of the financial sources. The financial sources for the commercial banks have a maturity of about 5 years; while pension and insurance funds are expired at the end of around 25-30 years. Thus, innovative financing mechanisms should be employed in project financing to overcome this asset-liability mismatch of the commercial banks and it is one of the mechanisms commonly employed in developing countries (Murti 2005)

- **Debt/equity ratio:** this ratio designed to determine the capital structure of the PPP project. Sponsors usually want to maximize this ratio but doing this will increase the financing cost as the lenders will charge a higher interest rate and increase the magnitude of the interest payments. Earnings will decrease due to higher interest payments, but earnings per share will increase. On the other hand, a low percentage of equity financing provides risks to project profits and investor dividends. Thus, an appropriate balance between equity and debt is needed (Hans Wilhelm Alfen, 2009). The debt/equity ratio of the project is affected by several factors such as lender's view on leverage in a specific sector and industry, the expected profitability and operating risks of the project, degree of certainty in future cash flows of the project, the adequacy of the project's security arrangements, the creditworthiness of the parties obligated under arrangements, restrictions imposed on the degree of leverage in specific sector and industry by regulating bodies, level bankruptcy risk associated with the project, and so on (John E. Schaufelberger and Isr Wipadapisut, 2003, Hans Wilhelm Alfen, 2009). Lenders will make their own assessments of these factors, and they will limit project leverage accordingly. In the past, equity financing typically covers only 10–30% of total project costs, while debt financing is obtained for the remaining 70–90% (Levy 1996). The debt/equity ratios of different projects vary, so a common strategy is to utilize as much debt as the project cash flow can justify providing an attractive rate of return to equity investors

3.6.2. Project viability-related issues

- **The project conditions:** It relates to the project sponsors' capabilities, working relationship with local firms and government authorities, governmental involvement, concession periods, contractual requirements, and technical requirements in which the concession period and the degree of government involvement are the most important. In one hand, a long concession periods provide financial flexibility and various financing strategies can be chosen. On the other hand, long concession periods may bring greater market and financial risk. Government involvement can help in reducing the political risks by improving legal process and offering support, guarantees, or even financing (John E. Schaufelberger and Isr Wipadapisut, 2003).

- **The interest coverage ratio (Interest coverage = EBIT/Interest):** this ratio measures the project's ability to cover the interest charge. It equals earnings before interest and taxes (EBIT), or the amount of funds available to pay interest, divided by interest charges. The interest charges are the interest that must be paid in cash, whether or not it is capitalized for accounting purposes. In the case the interest coverage ratio below 1.00, it indicates that a project cannot cover its interest charges fully out of operating income. This ratio below 1.00 for the first few years of project operations would show that the project would be incapable of supporting the level of borrowings planned for it. The lenders usually set this ratio greater than 1.00 as the result of uncertainty regarding future income and cash flow (John D. Finnerty, 2007).

- **The fixed charge coverage ratio**

Fixed charge coverage = $(EBIT + 1/3 * \text{rental}) / (\text{Interest} + 1/3 * \text{rental})$

Where $1/3 * \text{rentals}$ denotes one-third of annual rental expense.

A value below 1.00 shows a warning that the level of debt (including rental arrangements) planned for the project is too high. This ratio is considered when the project entity would rent a substantial portion of the equipment that it will need to operate the project. It is important to

calculate projected fixed charge coverage as well as projected interest coverage in order to assess precisely the project's ability to borrow (John D. Finnerty, 2007).

- Debt service coverage ratio:

$$\text{Debt service coverage} = \frac{\text{EBITDA} + \text{Rentals}}{\text{Interest} + \text{Rentals} + \frac{\text{Principal repayments}}{1 - \text{Tax rate}}}$$

Where EBITDA denotes earnings before interest, taxes, depreciation, and amortization. Similar to the interest coverage ratio and the fixed charge coverage ratio, the debt service coverage falls below 1.00 showing that the project cannot fully service its debt. The project will have to borrow funds or seek equity contributions to obtain funds to cover the shortfall. This ratio is usually used in designing the amortization schedule for the project debt in which with a given debt service coverage ratio, it would indicate how much cash flow would be available after required interest (and rental) payment to pay down principal (John D. Finnerty, 2007).

- Loan life cover ratio:

This is the ratio of the net present value of all cash flows available for debt service over the life of the financing to the ratio of the principal amount of the SPV's debt as at the date on which the project forecast is prepared. It is aimed at testing whether the SPV will generate sufficient revenues over the life of the financing to repay the debt.

In a typical project credit agreement, these ratios are used to examine (Wilde Sapte, 1997):

- Events of default: a breach of a project ratio will commonly trigger an event of default. In this context, the ratios are likely to be set at the levels which, if breached, would indicate that the project is in serious difficulties.
- Condition to drawdown: these ratios can be used as a condition to drawing funds if certain ratios are met. For this purpose, the ratios are likely to be set at level which, if not met, might give lenders to the project some causes for concern.
- Condition to a distribution: these project ratios will need to reach a certain levels before the SPV can make distributions to its investors, and to remain at those levels after the distribution is made. For this purpose, the levels will be set at their most stringent under the credit agreement.
- Applicable margin: the interest margin charged by the lenders might vary according to the levels of the ratios, as their risks in lending to the project will also be varying as the ratio levels move.

3.6.3. Project-related risks

Generally, potential project sponsors can select an appropriate financing strategy when they understand precisely the risks faced in pursuing the project. The relationship between the risks of project and the financing strategies is summarized in table 3.4

Risk conditions	Financing strategies
Low risk	<ul style="list-style-type: none"> • Use high debt-to-equity ratio for maximum leverage and maximum return on invested equity. • Establish minimum contingency credit facilities to minimize financing costs. • Use capital markets to procure debt financing to reduce interest costs. • Procure long-term financing early to reduce financing costs
High political risk	<ul style="list-style-type: none"> • Involve international firms or organizations to create leverage with local government authorities. • Seek assistance from influential individuals or organizations who have rapport with local government authorities. • Seek local government support and guarantees. • Procure insurance from government organizations such as the Overseas Private Investment Corporation. • Establish contingency credit facilities to cover unanticipated expenses
High financial risk	<ul style="list-style-type: none"> • Obtain loans from international lending institutions. • Use fixed-rate or standardized-rate debt financing. • Denominate loans in local currency. • Structure debt financing in the same currencies as anticipated revenues • Structure revenues in both local and foreign currencies • Seek government support and guarantees. • Insert revenue escalation provision into the contract. • Establish a contingency credit facility to cover unanticipated expenses.
High market risk	<ul style="list-style-type: none"> • Finance early phases with equity and temporary loans and refinance during the operation phase with lower-cost long-term debt. • Structure the debt repayment schedule to start low and escalate during the initial years of operation. • Negotiate contract terms that allow increases in user fees. • Establish a contingency credit facility to cover unanticipated revenue shortfalls. • Restructure debt, if necessary, to solve cash flow problems during the concession period.

Table 3.4. Relationship between the risks of project and the financing strategies

Source: John E. Schaufelberger and Isr Wipadapisut (2003)

3.7. Financial view of risks

Understanding financial project risks is critical in the selection of an appropriate financing strategy and structuring the capital for PPP project. Financial risks are considered the risks that have a negative impact on the cash flows of the financial plan in a way that can endangers project's viability or limits profitability (Xenidis et al. 2005). Financiers in the PPP project should ensure that risks associated with a project are specified. Lenders and investors tend not to participate in risky projects unless they receive a high rate of return. They are mostly risk averse, and always try to balance the possible benefits with the risks taking. Thus, PPP project sponsors need to select appropriate risk mitigation measures to minimize their financial costs and ensure their bidding are competitive (Tiong 1995b, 1996). There are different classifications of financial risks identified in the financial researches, but they generally include (Akintola Akintoye, 2003):

3.7.1. Systematic (or market) risks

These risks concern changes in broad economic condition that affect the whole market. They may relate to changes in asset values as a result of systematic environmental factors, changes in consumer spending, level of industrial output, interest rates, exchange rates, energy prices, high-impact weather effects, etc. Market risks influence all equities to some extent.

Systematic risks cannot be completely avoided and are considered un-diversification. Banks place capital at risk in order to generate transactions between different market participants and to pursue profits through the efficient supervision of investments. While this function does not alter the structure of the systematic risks in the market, financial institutions make the capital formation process more efficient and reduce inefficient risk taking. This risk redistribution effort motivates more investments in real assets and contributes to the creation of wealth (Greenspan, 1999)

3.7.2. Non-systematic (or specific) risks

These risks relate to a particular asset, company or segment of the market. They do not exert an impact on the whole, but rather on specific components of the market. Since specific risks do not affect the entire market, investors affected by specific risks can diversify into a range of other activities to mitigate their impacts.

3.7.3. Credit risk

This risk can arise from the possible default of a debtor, with respect to settling a credit facility. When debtors fail to fulfill their contractual obligations, the interest and principal on their loans are not paid within the agreed time. In some cases, credit risks are occasioned by systematic risk

3.7.4. Counterparty risk

This risk occurs when one of the trading parties does not perform its obligations as a result of either unexpected systematic factors, or legal or political risks.

3.7.5. Operational risk

This risk arises in the course of processing, confirming and reconciling transactions. It can result from a bundle of factors including human errors, inadequate control, system failure, varying measurement units, inconsistent standards, etc.

3.7.6. Legal risk

This risk arises when new legislation and regulations are introduced with adverse consequences on existing transactions. Legal risks are also associated with actions of fraud or non-compliance with security laws. The consequence of some legal risks could particularly be a big problem for some transactions because the parties affected may not be able to perform their obligations.

A number of previous studies have investigated several other financial risks and risk mitigation measures those investors and financiers should concern when they invest in a PPP project (Appendix 1)

3.8. Implications of project financing issues into PPP projects in Vietnam

After having extensive literature reviews of the financing issues in PPP models, this section will come into analyzing private funding sources in infrastructure development in Vietnam in which the banking system, capital market, infrastructure funds and private investors are addressed to specify factors hindering these funding sources from good practices. From these obstacles, some recommendations are suggested for improving them.

3.8.1. Funding sources for PPP projects in Vietnam:

3.8.1.1. Banking system

In the recent years, the banking system in Vietnam has developed and increased steadily in regards to number of banks, their operation scale and network, and it is dominated by some major state-owned commercial banks (SOCBs). Over the past decade, there are 4 large State Owned Commercial Banks (SOCBs), accounting for about 80% of the capital, lending and assets of the banking system, 35 Joint stock Commercial Banks (JSCBs), 5 Joint-Venture banks (JVs) and 35 branches of foreign banks (FBs). SOCBs have evolved from specialized policy-lending vehicles to more commercially oriented financial intermediaries (World Bank, 2007). Among the banking system, SOCBs are still taking the lending roles in many operating fields (table 3.5)

Year	1991	1993	1995	1997	1999	2001	2005	2006	2007
SOCBs	4	4	4	5	5	5	5	5	4
JSCBs	4	41	48	51	48	39	37	34	35
JVs	1	3	4	4	4	4	4	5	5
Branches of FBs	0	8	18	24	26	26	29	31	35

Table 3.5. Number of banks in the last period

Source: State Bank of Vietnam (SBV)

Vietnamese banks have been moving toward multi-functional commercial bank model, market regime with best safety and profitability as their first priority. Since 2001, following the directions from government and State Bank of Vietnam, Vietnam Development Bank (VDB) has controlled and managed all state budget lending and directed loans. By the end of 2007, total investment of SOCBs on infrastructure project was over \$3 billion in which majority for energy sector over \$1 billion, transport sector plus municipal infrastructure was about \$1 billion, and the rest was for telecommunication, water supply treatment and urban environment facilities (World Bank, 2006-2007, BIDV, 2008).

Even though banking system is the main funding source for infrastructure development, banking system is still facing a limited capacity in proving capital to infrastructure projects because of some reasons:

- The most difficulty is a mismatch between long-term assets and short-term liability. Many banks are challenging with a rather small percentage of medium and long-term deposits over total fund mobilization. Because of price fluctuation and low living standards, people normally do not have the habit of saving and depositing medium and long-term funds in the banks. Thus, the investment capability from banks for infrastructure development, which usually requires long-term financing, is very limited since fund mobilization of banks is mainly short-term deposits with high interest rates.

- Investment in infrastructure projects is not always based on financial ratios, which are the main purpose of banks. In fact, a number of projects are only to serve the public demands and to meet the country's strategic objectives because of the direct lending identified by government instead of effectiveness and gaining profit. As a result, these things set obstacles to banks in injecting capital into such infrastructure projects.
- Number of investment and development banks, which can provide funds for infrastructure projects, is very limited. Although the number of banks is increasing recent years, their small scale of chartered capital has led to a limited financial providing capability.
- Banking system is not the main channel to mobilize funds for investment development and, unfortunately, Vietnamese financial market is still lacking development financial institutions specializing in providing medium and long-term funds.
- There are obstacles and hurdles in managing and controlling project: planning process and site clearance are very sluggish, particularly slow project implementation in comparison with its implementation plan; low internal return rate as well as inconsistent investment policies are major concerns for banks during investment process.
- Banking system is limited in investment appraisal capacity. There is a shortage of competent experts to serve for project selection process.
- Banking system is lack of a risk management framework. The banks are usually dealing with the possibility of borrower's default resulting in restructured and extended loans.

- **Recommendations for improvement:**

Many previous constraints prevent the banking sector from supplying the sufficient capital for large infrastructure in Vietnam and become the key channel for supplying fund. Thus, many researches have been taken place to improve the present pessimistic environment of banking system. The following recommendations proposed by international financing advisors (World Bank 2007) should be taken into account to improve its performance:

- The Vietnamese government should strengthen the commercial orientation of the banks. They should work in an effective and profit-driven in their business rather than direct lending under the heavy intervention of the government.
- Vietnamese banks should be encouraged to use of loan syndications to compensate for the limited investment and appraisal capacity.
- In term of absence of risk management framework, the government should encourage commercial orientation of banks to encourage portfolio diversification and training officers for better risk management. Moreover, the infrastructure projects should be rated by credit rating agencies to enhance the risk appraisal.
- Vietnamese government should establish policies to provide incentives for the banks by freedom in deciding the interest rate with flexible mechanisms to attract the long-term deposits from citizens. The government should play as an "enabler" instead of "doer" in bank's decisions. Furthermore, Vietnamese government should support the development of the securitization market. By doing that, the banks can reduce the mismatch of asset-liability

3.8.1.2. Capital market

- **Equity Market:**

Vietnam's equity market is comprised of the regulated and unregulated market. The Ho Chi Minh Stock Exchange (HOSE; formerly the Ho Chi Minh Securities Trading Center, HOSTC) and the Hanoi Securities Trading Center (HaSTC) are the two regulated markets. As of August 2007,

their combined market capitalization of US\$ 16.9 billion accounted for 28% of GDP (2006). The unregulated market is an informal network of unlicensed stockbrokers and customers dealing in unlisted stocks (World Bank, 2007).

- Regulated equity market: There was a dramatic increase in listed companies and their share prices increased market capitalization. The number of companies listed on the HOSTC (HOSE) grew from 32 at end of 2005 to 193 by the end of 2006, and to 198 as of August 2007. Equity market capitalization grew from 1.2% of GDP at the end of 2005 to 33% by April 2007. Compared to neighboring countries, however, Vietnam's stock market capitalization is still small relative to GDP.

- Unregulated equity market: Estimated daily trade values in the unregulated market currently range from US\$ 30 to 35 million compared to the HOSE's average daily trade value of US\$ 59 million in May 2007. The unregulated market of unlisted stocks is also said to be approximately three to five times as large as the regulated market in terms of market capitalization. The unregulated market has been shrinking relative to the regulated market due to improvements in the regulatory environment. The enactment of the Securities Law and the government granted tax incentive enticed a number of unlisted companies to come to the market.

- Debt market:

Bonds are one of the important funding sources for infrastructure development as they can provide long-term financing. Government bonds dominate the bond market (table 3.6) in which outstanding balance of government bonds stays at less than 10% of GDP (US\$5.6 billion) as of the end of 2006, while corporate bonds and municipal bonds accounted for just 1.1% of GDP each. The principal purchasers of bonds are SOCBs and insurance companies. Both types of institutions are directed to invest in bonds by the government's policies that seek to ensure full subscription. Weaknesses of the Vietnamese debt market include a lack of a benchmark yield curve, a lack of price discovery capacity, and a weak signaling effect. These all appear attributable to the small-scale offers, irregular issuance of government bonds, and a lack of quality non-government bonds on the supply side. The demand side seems to be constrained by the lack of a diversified investor base (especially institutional investors such as pension funds and mutual funds). Deficiencies in market infrastructure, including a lack of market makers for government bonds and the lack of a credible credit rating system, added to the weaknesses (World Bank, 2007).

	2003	2004	2005	2006
Bond Issuance (In million USD)	1,180	1,246	2,031	2,347
1) Government bonds	1,055	1,120	1,822	2,191
2) Municipal bonds	125	125	208	156
3) Corporate bonds	-	19	88	504
Bond outstanding (\$Million (%GDP))	1,778 (4.5%)	2,552 (5.6%)	4,328 (8.3%)	6,835 (11.2%)
1) Government bonds	1,653 (4.2%)	2,283 (5%)	3,776 (7.2%)	5,626 (9.2%)
2) Municipal bonds	125 (0.3%)	250 (0.6%)	446 (0.9%)	599 (1%)
3) Corporate bonds	-	19 (0%)	106 (0%)	610 (1%)

Table 3.6. Debt market in Vietnam

Source: Ministry of Finance, 2007

Generally, the Vietnamese capital market faces difficulties in long-term sustainable development with the obstacles such as the regulator capacity constraints, lagging market

infrastructure, poor corporate governance, rampant unregulated market activity, a flood of novice investor, and swelling foreign portfolio investments which are all pressuring market performance. Moreover, the capital market also shows the constraints by the government's issuance of bonds that remains unsystematic, while corporate and municipal bond issuance is sporadic (World Bank 2007).

- [Recommendations for improvement \(World Bank 2007\)](#)

The Vietnamese capital market is still under-developed and need to be improved for a strong and sustainable development to afford the country's economic development needs. The following recommendations proposed by international financing advisors (World Bank 2007) should be taken into account to improve its performance:

In the case that the Vietnamese capital market is limited in investment vehicles, the Vietnamese government should:

- Issue government bonds with a wide range of terms.
- Provide benchmarks for non-government financial instruments.
- Improve the debt issuance and management by the Treasury by increasing secondary activity and adding liquidity through enhancements to the legal framework.
- Restrain from directing financial intermediaries to purchase bonds to artificially prop up the bond market

In the case of lacking of transparency and adequate rules of disclosure, the Vietnamese government should:

- Strengthen the enforcement of the Securities Law that mandates the registration and continuous disclosure of financial statements
- Improve information disclosure concerning the ability of public authorities to meet debt obligations

In the case of deficient capital market infrastructure, the Vietnamese government should:

- Establish a credible credit-rating system
- Improve the payment /settlement system

[3.8.1.3. Infrastructure funds](#)

Due to the high growth rate of Vietnamese's economy and the high development of the securities market, the investment funds and fund management companies (FMCs) has grew up. There are 70 funds and FMCs now operating in finance, real estate, infrastructure and IT, etc. In duration 2006-2007, there are 20 investment funds were established and the State Security Committee granted operation licenses to 17 FMCs, lead to a total of 30 FMCs licenses now. However, only a small part of the investments is injected to infrastructure development projects. Some recent reports have shown that other sectors such as corporate investments, real estate and financial markets, and consumer products, etc. are considered more financially attractive than infrastructure (World Bank, 2007). There are several reasons to explain for this issue:

- The procedures to implement the infrastructure project are complicated, which can reduce the willingness of investors to project. Too many authorities from national to local level involve in the process of investment in infrastructure projects. In this scene, the Ministry of Transportation is responsible for investment management and development planning in a transportation projects, whereas the Ministry of Finance provides regulations on revenue management, and Ministry of Planning and Investment offers project license and Province

People's Committee are involved in making master plans, land acquisition and resettlement, etc. This shows complicated administrative procedures that can take a long time before the project can start and leads to the high increase of cost for the project. Investors can be frustrated from these complicated procedures and sometime cancel the project.

- The government policies and regulations are unclear and uncertain. Even though Vietnamese government has enacted the Decree for BOT project investment, it remains some ambiguous guidelines and insufficient regulations that can confuse the investors. This could increase the risk exposure to the investors in a project.

- The investment's environment in Vietnam has the high exchange rate risk. The banks are very difficult in appealing the deposit in hard currency from citizens because of the unattractive policy and the regulations of government in managing foreign currencies. Citizens usually prefer selling hard currencies to private institutions rather than to state-owned commercial banks. Thus, these banks are usually in the position shortage of hard currencies for supplying in investment. In addition, the limitations in currency conversion and exchange rate risks work together with onerous bureaucracy discourage foreign investors.

- **Recommendations for improvement (World Bank 2007)**

- In order to reduce the complicate project implementation procedures, Vietnamese government should simplify project implementation procedures, especially improving and fulfilled the BOT Decree.

- The issue of unclear and uncertain government policy can be improved by implementing improve project preparation procedures and involving investors later in a competitive bidding process after the project has been prepared and advertised to the private sector.

- In dealing with the high exchange rate risk, Vietnamese government should make clear and simplify the rules for guarantees and other forms of government support to projects. Moreover, it should establish a government supported long-term debt financing program to support the project to be prepared well based on a qualification criteria.

3.8.1.4. Private investors

The private sector plays an important role in the Vietnamese economy since it has a relative high contribution to Vietnamese GDP (46%) (figure 3.8)

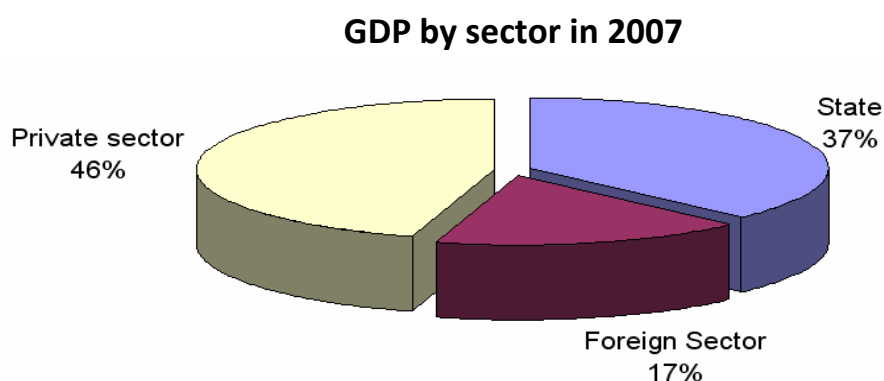


Figure 3.8. Contribution of private sector to Vietnamese GDP

Source: Quan Hoi Vu, 2008

In addition, private sector becomes more and more important in the Vietnamese economy in which it increases the investment in the all sectors from 23% in 2000 to 38% in 2006 (figure 3.9)

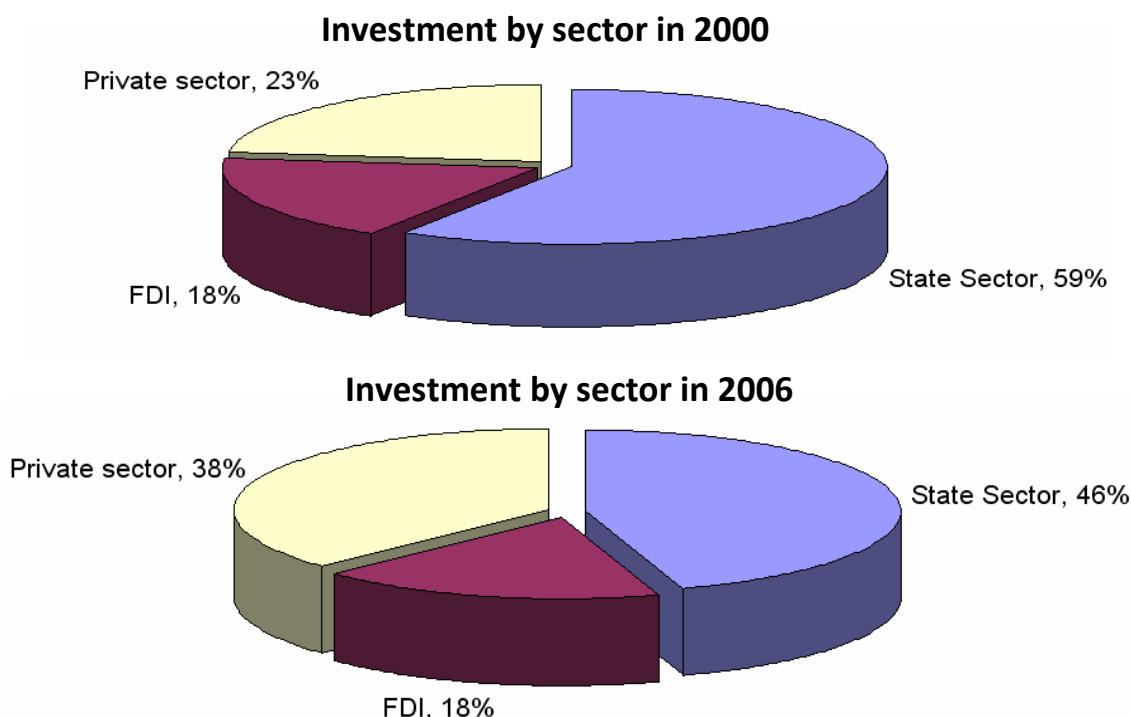


Figure 3.9. Investment in all sectors in Vietnamese economy year 2000 and 2006

Source: Quan Hoi Vu, 2008

The details of the investment from private sector to the infrastructure development are showed in table 3.7.

Private Investment (Contractual Commitments) – US\$ millions							
Year	Ports	Airports	Toll road	Telecoms	Water	Electricity	Gas
1994	10	-	-	-	-	-	-
1995	-	-	-	128	-	-	-
1996	-	15	-	40	-	205	-
1997	70	-	-	714	-	110	-
1998	-	-	-	237	38.8	-	-
1999	-	-	-	-	-	120.5	-
2000	-	-	-	-	20	-	-
2001	-	-	-	-	154	-	-
2002	20	-	10	-	-	480	1300
2003	-	-	-	230	-	412	-
2004	-	-	-	-	-	-	-

Table 3.7. Private Investment in industrial sectors

Source: The World Bank, 2007

However, there has been a limited private participation in Vietnam's infrastructure development because of the following reasons:

- The state-owned enterprises (SOEs) are prevailing over current infrastructure projects. Most of the highly feasible projects are granted to SOEs. In power sector, for instance, medium to big size of hydropower project normally belong to Vietnam Electricity (EVN) and other State-owned Corporations. The private sector is often limited in accessing to information of such

infrastructure projects. Generally, there is an implicit priority for SOEs of infrastructure projects. However, SOEs are poor in governance structure, weak commercial incentives, and lack of management skills for PPP projects. Moreover, projects executed by SOEs are often over-leveraged and have limited funding capacity, which is difficult for them to raise finance from SOCBs. According to The World Bank, the lack of clarity about the role of SOEs in PPP projects not only limits the private participation, but also increases the overall risks to government in executing PPP program.

- There are a small number of foreign investors in infrastructure projects in Vietnam. Until now, there are just two BOT projects invested by foreign investors in Vietnam. According to The World Bank, the difficulties in accessing domestic capital, the absence of domestic private investors, and heavy bureaucracy of paper work in infrastructure projects reduce the potential investments of foreign investors.
- The bidding procedures in infrastructure project are lack of competitiveness. Very few infrastructure projects until now have involved competitive bidding; instead, the government prefers choosing the best bidder for a project without bidding. This results in poor outcomes and the inadequate allocation of risk.
- The infrastructure projects are usually not financially viable. When the private sector participates in the project, it often bears a heavy cost burden because of the limited long-term debt provided by banks. Vietnamese Development Banks (VDB) loans are of strict terms and limited amount. In addition, private sector does not entitled to favored loans from international donor such as ODA (Official direct assistance), Loans from ADB (Asian Development Bank), World Banks, etc. Moreover, the high initial cost required for a project but the revenue earned from the project are often limited by the regulation of ministry of finance, the affordability of domestic users, and the unreliable estimate of revenue. Thus, the infrastructure investments are usually not financial viable because the optimal financial structure is hard to arrange and private sector only get a moderate rate of return from long-payback period projects.
- Private sector also has to deal with complex project risks such as:
 - + High interest rate risk due to high leverage and long-term debt, lack of hedging instruments in Vietnamese market, variability of market interest rate in Vietnam,
 - + Exchange rate risk which is associated with foreign currency debt, which can offer lower and less variable interest rate
 - + Inflation risk which are prominent for emerging country like Vietnam. This risk can lead to increasing cost of construction, operation and cost of capital.
 - + Demand risk results from long lifecycle of project, imprecise prediction. These will have large impacts on project viability
 - + Political risk, policy, taxes, toll road, land related and local policies may change during the project lifecycle
 - + General risks occurs as result of change in design, natural climate, geographical conditions, etc.

- **Recommendations for improvement (World Bank 2007):**

- Vietnamese government should clarify the rules for the role of SOE's in infrastructure development to eliminate the dominance of SOEs in the PPP projects.
- Vietnamese government should establish qualification criteria for government financial support to encourage competitive bidding.

- Government should create chances for private sector can access to favored credit provided by international donors like World Bank, ADB, JBIC, etc. and introduce derivatives as hedging instruments that could help managing exchange rate risk and interest rate risk, etc.
- Government should play a proactive role in assisting private sector such as giving incentives to make infrastructure project appealing enough to private investors in regard of funding, tax incentives, land use rights, and so on. In addition, government should share cost burden and risks through providing governmental guarantees for low interest private's loans. Private sector should be received supports form domestic banking system to mobilize long-term funds at a competitive interest rate to finance infrastructure projects.
- To attract foreign investor to PPP projects in Vietnam, government should develop clear and consistent rules for the use of government guarantees to foreign investors and/or their projects
- To improve the financial viability of the project, Vietnamese government should establish an explicit and transparent governmental subsidy mechanism and prescribe qualification criteria. The mechanism must have clear rules on how the subsidy will be allocated, including a maximum percentage of the capital costs that may be contributed. In addition to that, the government should use credit rating of large projects to allow access to private finance with longer tenures
- A clear and comprehensive risk management framework and new policies should be established to help in minimizing project risks. Government should permit flexible toll road, for example, and other usage fees based on the project characteristics instead of putting ceiling on these charges. The government should take the responsibilities in land acquisition. Government develops capital market to facilitate funds rising and exit strategies of investors. The preparation process should be shortened to put PPP framework into practical use.
- Government can collaborate with international organizations to provide trainings and supports to authorized state agency on project preparation, including implementation of competitive bidding procedures. This will improve the capacity and knowledge of government officials about PPP procurement.

3.8.2. Crucial financial risks facing in executing PPP projects in Vietnam

3.8.2.1. Currency risk

Currency risk is the most important risk that foreign investors should take into account when invest in BOT projects in Vietnam. The exchange rate between the local currency and the hard currency is fluctuated unexpectedly in Vietnam. In addition, it is difficult to exchange local currency to foreign currency or transfer it to foreign bank accounts if the investors do not get commitments from the government. The low level of hard currency budget reserved in Vietnam also confuse the investor when they want to invest in infrastructure development because the cost for project is usually by hard currency while revenue received from the project from local currency. With currency risk, it will take a lot of time for investors to get commitment from the government for guarantees. The investors could be delayed in currency transfer due to a weak and low reliability of the Vietnam banking system leading to not meeting schedule for debt obligation. In addition, the unstableness and depreciation of VND (Vietnamese currency) against hard currencies also cause potential foreign exchanged risk and frustrate foreign investors.

3.8.2.2. Interest rate risk

The interest rate fluctuation would cause high impact to the project finance in term of revenues received. The private sectors usually have an agreement with banks or other financial

institutions to acquire loan during the project implementation that could bring them at risk of increasing in the interest rate. The increasing in the interest rate would reduce the private sector's potential profit. In addition, private sector may get penalties if it they cannot make the loan payment on time. However, the Vietnamese government tends to make the late payments in a project so that the private sector usually accepts the consequences of this interest rate risk.

3.8.2.3. Inflation risk

The financial viability of projects in Vietnam is highly impacted by a high inflation (table 3.8). Especially in 2009, the inflation rate nearly 25% and it is likely that the inflation rate in the coming years is still in a high number.

Year	Inflation Rate (Consumer Prices)	Rank	Percent Change	Date of Information
2003	3.90 %	91		2002 est.
2004	3.10 %	115	-20.51 %	2003 est.
2005	9.50 %	189	206.45 %	2004 est.
2006	8.30 %	175	-12.63 %	2005 est.
2007	7.50 %	166	-9.64 %	2006 est.
2008	8.30 %	175	10.67 %	2007 est.
2009	24.40 %	211	193.98 %	2008 est.

Table 3.8. Inflation rate in Vietnam recent years

Source: Ministry of Finance, 2010

Construction material price increased by 24% in the year from May 2007 and the inter-bank lending rate increased steadily as high as 18%-20% leading to the increasing of construction cost. The increase in construction cost requires an additional funding, which in turn the cost of that funding increases and it became much scarcer.

3.8.2.4. Credit risk

Base on the previous analysis, it is easy to see that the domestic commercial banks are limited in both quantity and quality; and Vietnam capital market is underdeveloped. On the international market, unfortunately, the rating of Vietnamese country by rating agency Standard & Poor is BB while the mainstream international investors mostly require a BBB rating minimum. At this regard, thus, Vietnamese capital market is not capable to participate substantially in the provision of the total amount necessary for the substantial long-term project financing in Vietnam. Thus, the investors in BOT projects in Vietnam usually face the exposure of credit risk if they do not have a well-prepared initiation.

3.8.2.5. Demand risk

Many BOT projects in Vietnam usually take the risk of low demand from users which can lead to low revenue to service debt obligation. This results from the unreliable statistical system to record the information of demand. The governments usually have an optimistic forecast than the private sectors. They can create a bias evaluation on the actual demand of the society while producing an unrealistic forecast on the ability of the project to investigate the future economic development. The recent reports about BOT projects in Vietnam have shown that less than 50% BOT projects can recoup its cost. For example, the BOT Yen Linh bridge project has been suffered from the huge losses since the toll revenues of the first 6 months are not enough to pay for project costs and it can prolong to the future because of an imprecise estimate. Thus,

the sponsors of the project have to request the government to buy this project since this is the most feasible solution to prevent the future losses and bankruptcy of the investors.

3.8.2.6. Competition risk

Vietnam government has executed many BOT projects to develop the infrastructure. However, sometimes such projects, which are developed without careful planning, can bring potential competition risk. Especially, this risk is the most serve in bridge and road sector since there are many toll roads and bridge across regions over the nation that can lower demand and revenue from users, raise the public objection from many high toll fees from using service facilities. For example, BOT provincial road 741 of Binh Duong city has suffered from competitions of other routes as there are more than 10 other routes around; and the users have to pay three times for toll-fee if they want to use the BOT Phu My Bridge, etc.

3.9. Discussion of financing project in Vietnam

From the previous analyses, it is easy to see that the Vietnamese financial market is immature and underdeveloped that cannot be capable to participate substantially in the provision of the total amounts necessary for the financing infrastructure projects in Vietnam. On one hand, the domestic local funding sources and national financial sources are limited in both quantity and quality. This issue can be proven by a low level and no immediate of capital available for long-term investment, very immature bond and equity markets. In recent years, BOT projects in Vietnam are supplied with a limited extent and for a limited period, mostly five years and sometimes up to over thirteen years, whereas the average duration of a BOT project varies from 20-30 years. On the other hand, the Vietnamese country rating is BB, which will hinder the international investors to participate in infrastructure development in Vietnam since many risks facing to them. In fact, the number of foreign investors in BOT projects in Vietnam is very limited (2 projects until now)

In addition, there are many factors hindering the financial viability of infrastructure projects in Vietnam. Because of the prominence of the SOEs, which usually poor in finance sources and management skills, the private sector involving in the public project is very limited due to the unfair competition between the SOEs and private companies. In such situation, the SOEs have a priority in accessing to government guarantees for their bond issue and accessing soft loans under ODA agreements and other preferred funding sources from international organizations, whereas the private sector is required to pay commercial rates for loan finance and limited for money that they can borrow without guarantees from government. The absence of competitive bidding and low public acceptance for an infrastructure project also should be taken into consideration. Furthermore, the environment for BOT projects in Vietnam has various potential risks creating the revenues from the projects is in a high uncertainty. The evidences from previous BOT projects show that more than 50% BOT projects in Vietnam are unsuccessful and such project are usually cost overrun and delayed right after the construction phase. These are the reasons to explain for the unwillingness of private sector to participate in infrastructure development in Vietnam.

From the existing difficulties and recommendations from many international advisors above, financial guided actions for implementation infrastructure projects in the future are proposed:

- Government should make a detailed market-based legal, administrative rules and regulations to strengthen the commercial orientation of the banks. They should work in an effective and profit-driven in their business rather than direct lending under the heavy intervention of the government and use loan syndications to compensate for the present limited investment and appraisal capacity.
- Improving and creating the procedures for competitive investor selection, bid evaluation, negotiation and contract award in a fair and transparent policy and legal. Moreover, monitoring and managing the contract is required
- Reducing the complicate project implementation procedures should be executed by simplifying project implementation procedures, especially improving and fulfilled the BOT Decree.
- Vietnamese government should establish an explicit and transparent governmental subsidy mechanism and prescribed qualification criteria for government financial support to encourage competitive bidding. The mechanism must have clear rules on how the subsidy will be allocated, including a maximum percentage of the capital costs that may be contributed. The government should establish the Transparent Viability Gap Financing Mechanism to provide financial support for private sector to make well-prepared PPP projects become financially viable. Moreover, it should establish a government supported long-term debt financing program to support the project to be prepared well based on a qualification criteria.
- Continuing in the development of the key channels for attracting private investment in infrastructure development is necessary. Vietnamese government should establish policies to provide incentives for the banks by freedom in deciding the interest rate with flexible mechanisms to attract the long-term deposits from citizens. Furthermore, Vietnamese government should support the development of the securitization market. As a result of this, the banks can reduce the mismatch of asset-liability.
- Vietnamese government should clarify the rules for the role of SOEs in infrastructure development to eliminate the dominance of SOEs in the PPP projects. Government should create chances for private sector can access to favored credit provided by international donors like World Bank, ADB, JBIC, etc. and introduce derivatives as hedging instruments that could help managing exchange rate risk and interest rate risk, etc. Private sector should be received more supports from domestic banking system to mobilize long-term funds at a competitive interest rate to finance infrastructure projects
- To attract foreign investors to PPP projects in Vietnam, government should develop clear and consistent rules and policy for the use of government guarantees to their projects.
- Piloting PPP projects to validate and operate the financing guided actions and learn lessons from feedbacks from private sector and get guidance from Global Expert Panel. In the mean time, government and experts should learn the international lessons from successful projects.
- Government can collaborate with international organizations to provide trainings and supports to authorized state agency on project preparation, including implementation of competitive bidding procedures. This will improve the capacity and knowledge of government officials about PPP procurement.

3.10. Conclusion

Through out this chapter, the financial issues of PPP projects are presented. The funding sources for this kind of arrangement were investigated. They can be equity financing, senior debt, mezzanine financing, bond finance, project leasing, development finance institutions, and export credit agencies. This chapter also introduced the basic hedging instruments commonly used in reducing the interest risk, currency risk, and credit risk such as swaps, options, forwards and futures. The problems facing to the multi-funding-source project are the varied interest of creditors in regard of their security and priority ranking in project that could harm to the success of project. These issues were addressed in the intercreditor agreements, which specify clearly each creditor's role, responsibilities, and rights. Moreover, this chapter also presented the critical issues that all the parties usually face in PPP projects such as lacking of the domestic capital markets, limited in raising of institutional funds, non-dependable project revenue streams, and government guarantees. These are very important factors that could influence to the success of a PPP project. The consequence of not meeting these factors can lead to not attract investors at all or not establish PPP arrangement. The financing strategies related to project financial-related issues, project viability-related issues and project-related risks as well as financial risks were also discussed to make clear what should be taken into consideration when development a PPP project. Based on this knowledge of project finance in PPP model, this chapter has analyzed private funding sources in infrastructure development in Vietnam in which the banking system, capital market, infrastructure funds and private investors are addressed to specify factors hindering these funding sources from good practices, and the suggestions for improving them are proposed. In general, Vietnamese financial market is nascent and underdeveloped that cannot be capable to participate substantially in the provision of the total amounts necessary for the financing infrastructure project in Vietnam. Moreover, due to many risks involving, un-competitive bidding procedure, domination of state-own enterprises, not financial viability, and a shortage of practical institutional policy and legal regulation, the infrastructure development in Vietnam is not developed as expected. These are the issues will be discussed in the next chapters of this research.

Chapter 4: Risk Management of PPP projects

4.1. Introduction

From the previous chapters, it is easy to see that PPP procurement is a complex model with the complicated organizational structure, various stakeholders involving, complicated network of contractual agreements between the public and private sectors, multi-funding sources. In addition to that, PPP arrangement is also considered a very risky investment as the nature of complexity of this kind of model; many things can go wrong. The complexities can result from the government's goals that are not precisely defined initially, or result from the government's objectives conflict with others, with implications that many subsequent activities cannot be undertaken on time, over budget, or result from variety stakeholders' and shareholders' interests that can conflict with others in a project, etc. Thus, understanding of risks and managing them are indispensable to the success of a PPP project. Failing in identifying and managing risks can jeopardize the project.

Given with the objective of exploring risk in PPP projects, this chapter is structured as follow. Section 2 of this chapter is an overview of risk management in which the definition, the procedure for risk management are presented. Section 3 of this chapter will present the positive and negative risk factors and major risks that a PPP project can face during the life cycle of development. The perspectives of public and private sectors about risk, and risk allocation in PPP projects are investigated in section 4 of this chapter. Also in this section, several important factors influencing on the proper risk allocation as well as the success of PPP project are also examined. From the basic knowledge of risk management, a framework of risk management in PPP projects is introduced in section 5. Then, the chapter will go in analyzing major important risks, the risk management practice in PPP projects in Vietnam. The last section of this chapter will summarize the discussed issues and introduce to the next issues, which will be addressed in later chapters.

4.2. Overview of risk management

4.2.1. Definition of risk and risk management

PMBok (2000) states *"Project risk is an uncertain event or condition that, if it occur, has a negative effect on project objectives... Project risk includes both threats to the project's objectives and opportunities to improve on those objectives"*. In PPP projects, risks arise from the decision-making of project stakeholders engaged in pursuing project's objectives at procurement, functional or strategic levels (Akintola Akintoye et al, 2003). In addition, each stakeholder in a PPP project has different perceptions and treatments with risks. Therefore, it is necessary to create an effective and united risk management between parties in a PPP project.

Risk management is a continuing process over the lifecycle of the project. According to PMBoK (2000), risk management is defined as the systematic process of identifying, analyzing, and responding to project risk. Similar to the risk management applying in traditional procurements, typical risk management process in PPP projects also involves several main steps: (1) Establish the context or system description, (2) risk identification, (3) risk mitigation, (4) and evaluation of risks (figure 4.1). This process includes maximizing the probability and consequence of positive events and minimizing the probability and consequences of negative events to project

objectives. With these steps, risk management should be applied as an iterative process continuously, and not in the discrete phases of identification, evaluation and control.

Figure 4.1. Illustration of the risk management process

The first step in risk management process is establishing the context to describe the system of project. Then, the next step is risk identification step. It is followed by a search for solutions or mitigations that can eliminate the risks involved. If the risks are successfully eliminated from the project, then one can ignore it. Conversely, if one has to encounter these risks, the cost implications of the mitigating solutions should be evaluated. The outcomes of the evaluation should be fed back to the identification step to re-appraise the new risk profile of the project. In some cases, after the risk mitigation step takes place, the secondary or residual risks is emerged which in turn must be addressed again through identification-evaluation-mitigation process. The iterative process of identification-evaluation-mitigation process continues until a satisfactory outcome is reached (Akintola Akintoye et al. 2003).

This is the first step in risk management process. Establishing the project context is to describe the system of project, and develop a structure for the risk identification and assessment tasks later. This step includes the following tasks:

- Specifying the main objectives and outcomes required from the project. Objectives lie at the heart of the context definition, and they are linked into the risk management process via criteria for measuring success.
- Identifying a set of success criteria against with consequence of identified risks to be measured. Such success criteria are the basis for measuring the achievement of objectives, and are used to measure the impacts or consequences of risks that might jeopardize project's objectives. The requirements of organization and key stakeholders are used to derive a set of criteria for the project. These criteria will be used to determine the specific scales against with the consequences of risks assessed in the following stages of the risk analysis. They may also form the basis of project evaluation at the end of the acquisition (Dale Cooper, 2005).
- Defining a set of key elements for structuring the risk identification and assessment process. Except for very small projects, risk identification will generally be unproductive if an attempt is made to consider the project as a whole. It is much more effective to disaggregate the project into sections or key elements for risk identification. Key elements are set of topics to be considered one by one during risk identification. The key elements may be based on different aspects of the project, depending on the objectives and key issues of concern to the organization and the stakeholders. Each topic of element is narrower than the project as a whole allowing those performing the identification to focus their thoughts and go into more depth than they would if they tried to deal with the whole project at once. A well-designed set of key elements will stimulate creative thought, and ensure that all important issues are put in advance before identifying risks. Specifying inappropriate key elements can lead to significant issues being omitted inadvertently, with potentially serious consequences, as well as making the following processes very inefficient. The common tool used for setting key element is Work Breakdown Structure (WBS), which can use as a good starting point for setting key element for structuring the risk identification and assessment process (Dale Cooper, 2005).

Inputs to specify objectives and criteria include key project documents, such as the project execution strategies, project charter, cost and schedule assumptions, scope definitions, engineering design and studies, economic analysis, stakeholders involving, and any other relevant documentation about the project and its purposes.

The outputs from this stage are the concise statement of the project objectives and specific criteria for success, the objectives and scope for the risk assessment itself, stakeholder analysis, and a set of key elements for structuring the risk identification process in the next stage.

4.2.3. Risk identification

Risk identification is the process of identifying all the risks relevant to the project. Risk identification is very important in a project because if risks facing a project that cannot be determined earlier, then any or some of them can materialize at any time in the lifecycle of project and hinder the achievement of the project's objectives. It was thought of considerable importance by Al-Bahar (1988) since the processes of risk analysis and response management may only be well performed once potential risks are identified effectively. Consequently, the process must involve an investigation into all possible potential sources of project risks and their consequences. Hence, with respect to Al-Bahar (1988), risk identification is defined as "the process of systematically and continuously identifying, classifying, and assessing the preliminary significance of risks associated with a project".

The public sector has a major role in identifying risks in PPP projects because of the nature of PPP procurement where the public sector's project documentations include a risk matrix. In this regard, it will give an indication of those risks, which it is prepared to take during the project. The public sector will analyze and identify those risks the private sector should take, those risks are remained by it, and those risks will be shared between public and private sectors. Private sector can accept the public sector's propositions or negotiate on the re-allocation of some risks based on the spirit of co-operation (Akintola Akintoye et al. 2003).

PPP procurement essentially encourages innovative inputs from the private sector. Private sector plans designed solutions in a particular PPP type, so it tries to identify and assess risks associated with it. Such assessment allows a consortium to price its bid more competitively. Therefore, private sector participants are also heavily involved with risk identification in PPP model.

There are many techniques used to identify risks involving in a project. Useful ways of risk identification such as personal and corporate experience, safety reviews, intuitive insights, brainstorming, site visits, using of organizational charts, using of flow charts, researches, interviews and surveys, analyzing of assumptions, and consultation of experts.

4.2.4. Risk evaluation

Data collection is the first step in the risk evaluation process. This is the collection of data relevant to the risk exposure to be evaluated. These data may come from historical records that the contractor experienced in past projects. In this case, such data will be considered as objective or statistical in nature, and may be presented as histograms or frequency distributions. In many cases, directly applicable historical data concerning the risk are not available in adequate amount, and a subjective assessment will be required. Therefore, available data collected, which can be subjective, must be obtained through careful questioning of experts or persons with the relevant knowledge (Al-Bahar, 1988).

Modeling of uncertainty of a risk exposure is considered as to "explicit quantification of likelihood of occurrence and potential consequences based on all available information about the risk under consideration" (Al-Bahar, 1990). Likelihood of occurrence will be presented in terms of probability, and potential consequences are usually presented in financial monetary terms. An organization or consortium assesses risks based on these two figures to decide on a course or courses of action.

The probability of a risk occurring and its impacts on a project are used in tandem as decision aids. If the chance of a risk is assessed to be high and its potential impact is equally high, then such risk is accorded high priority. Table 4.1 shows a macro prioritization of risks, where a risk is designated with five stars is accorded utmost priority, given that its impact is high and its chance of happening is high too (Akintola Akintoye et al. 2003).

Probability	High	**	****	*****
	Medium	**	***	****
	Low	*	**	***
		Low	Medium	High
		Impact		

Table 4.1. A prioritization of risks

Source: Akintola Akintoye et al (2003)

A one-star risk has a low chance of occurring, and its impact is not significant. Thus, during the planning phase lesser attention may be paid to such minor risks but not ignore it. Management needs to be sure that everything is in place for the project. However, management's time is better served if their energy and capabilities are directed towards the crucial issues. Moreover, it is the fact that risks cannot be mapped on a permanent basis. It should be flexible. What may be a major risk today may turn out to be a minor issue tomorrow. Risk management growth and experience embellishes itself. Thus, the profile of risks is always changing and many risks are managed unconsciously. As each scheme is approached, the risks that influence heavily on the project should be established. This reinforces the management principles of risk identification-mitigation-evaluation.

4.2.4.1. Type of risk evaluation

There are different ways to assess the two features of risks (table 4.2)

Type	Outlook
Qualitative	Both probability and impact are assessed subjectively
Semi-quantitative	Probability assessed subjectively but impact assessed objectively
Full quantitative	Both probability and impact assessed objectively

Table 4.2. Risk assessment classification

Source: Akintola Akintoye et al (2003)

A risk assessment could be qualitative, quantitative or semi-quantitative due to the amount of information, time available and the need for the assessment.

A qualitative assessment is used when uncertainty is prevailing as the lack of information. It is usually used to list the likely risk sources and their consequences. Some of the commonly use of qualitative assessment are risk registers and probability-impact tables (Hans Wilhelm Alfen et al, 2009). Risk registers have a tabular form to compile all the risks relevant to the projects along with the information necessary for management of the risks. With probability-impact tables, the probability and impact of the risks are subjectively evaluated using qualitative scaling factors such as very high, high, medium, low, and very low. These scaling factors are then converted into values/weights and the scores of the risks are computed by multiplying the values of probability and impact.

A semi-quantitative assessment can be employed where the impact of risks can be estimated fairly accurately.

A full quantitative approach is used when the information is available for both probability and impact of risks. It is used to assess the risks and represent the likelihood and impact of the risks

in terms of either time or money. Deterministic and probabilistic analyses are two commonly used of this approach (Hans Wilhelm Alfen et al, 2009). Sensitivity analysis is the most representative approach amongst the deterministic analyses. It examines the variations in the values of the model's dependent variable by changing the values of one or more of the input variables to the model. Performing the sensitivity analysis by changing the value of just one variable at a time helps in analyzing the influence of the independent variable on the dependent variable. The other type of sensitivity analysis is scenario analysis, which allows explanation of the affect on the model output due to combinations of simultaneous changes of the input variables, known as scenarios. Typically, three types of scenarios are optimistic scenario, base scenario, and pessimistic scenario. On the other hand, analytical and simulation approaches are the two approaches to do quantitative risk assessment using probabilistic analysis. In analytical approach, probability distribution function (PDF) is assigned to the uncertain variable and PDFs of the input variable are mathematically combined to derive the probability distribution function of the model output. The simulation techniques such as Monte Carlo simulation techniques do the analysis through random sampling of the values for each probability distribution within the model to produce number of scenarios that are used to create the probability distribution of the model outcomes.

4.2.4.2. Assessing the probability of risks occurring

The chance of a risk materializing can be assessed through statistical analysis. The assessment of probabilities can then facilitate the accurate mapping of contemporary risks. However, most risks are difficult to quantify in terms of measuring a real probability because the underpinning information is usually unavailable or insufficient. In the absence of reliable information, a subjective estimation of the probabilities might suffice.

4.2.4.3. Assessing the impact of risks

Organizations participate in a project aim to make profit, so they have to take care of the impacts of risks as the impacts of a risk on a project affect the return. The impacts of risks are usually assessed in terms of how it affects an organization financially. Risks are assessed on several dimensions, like potential delays to the project, embarrassment to be faced, effect on function or quality of product, etc. all these influences are subsequently translated into financial terms. Therefore, monetary units are ultimately used to assess the impact of risks (Akintola Akintoye et al. 2003).

Furthermore, it is necessary to consider interdependencies between different risk events that it is common to find one risk event depends on one or more other risk events. Therefore, to understand the potential impact of these risks, the risk analysis must address the combined effect of risk events, and treat explicitly the interdependencies among all risks. Such treatment of interdependency will give a better understanding of pervasive risks that manager should take into account.

4.2.4.4. Risk assessment strategies

Organizations or consortia can use risk assessment either as a step for risk management or tool for winning bids in PPP procurement (Akintola Akintoye et al. 2003). They manage and assess risks such that they underbid other competitors. In this regard, different organizations use different strategies while assessing risks, including the following:

- Assessing every risk

When using this strategy, every feasible risk in the project is assessed, and count probably price into the bid. Sub-contractors prefer this strategy because they may face fewer but higher-impact risks. When the risks are few, it is also viable to assess their impacts in detail.

- Assess every risk but model the price via probabilities

When using this strategy, most or all risks are priced but controlling their cost consequences through probabilistic considerations. Following this strategy, the average estimation of a risk is equal to probability multiply with impact of risk. The effect of each risk is considered in the foregoing manner and added into the bid. This strategy implies that not all risks will materialize in the project, and that the amount allowed as risk cover will be sufficient to take care of those risks that eventually materialize. This form of analysis aims to balance the losses of some projects against the gains of others.

- Assessing the main risks only

Organizations consider main risks when they involved at the top tier of a PPP project. Risk evaluation at this level is partly used as tool to win a bid. Therefore, many organizations find it worthwhile not to price every risk but to concentrate on the key issues.

- Benchmarking

Some organizations use a template as a starting point for assessing risks. When a current project is being assessed, its risks are compared with the template to see how their profile deviates from the template. This approach is applicable where data is available.

- Adjudication in risk evaluation

This is a strategy where there is a fair degree of subjectivity in risk evaluation. Organizations assess probabilities and values of risks and put them together to see how comfortable they feel with the balance of the outcome. There is no definitive measure for predicting such outcomes, and judgment is often based on intuition. Such a decision is often made on a collective basis involving the key personnel of an organization, most often the board of directors.

- Reactive risk assessment

This strategy entails waiting for risks to manifest before they are assessed and addressed. Risks that are known are assessed initially, but those that are unknown are not assessed until a negative event has occurred.

- Proactive risk assessment

Proactive risk assessment is being alert and not leaving anything to chance. All potential risks are identified in the proactive approach, and solutions sought for them in advance. The benefits of a thorough risk assessment must be weighed against the cost. Moreover, risk allocation and risk ownership is important in a project. Management can assign different risks to different personnel. Senior personnel can deal with the high risks while junior officers are empowered to address the routine and minor issues. The various activities can be aggregated in a coordinated manner.

- Sensitivity analysis in risk evaluation

Whichever way the risks are evaluated, some forms of sensitivity analysis should be conducted to identify the most volatile risks. In sensitivity analysis, the cumulative influences of the risks on the project's objectives are assessed. It is viable to conduct sensitivity analysis, after the many risks have been individually assessed. The sensitivity analysis will then assess the impact of one or more risks on the overall project outcome.

4.2.5. Risk mitigation

Risk mitigation is the process of controlling the likelihood of occurrence of risks and/or the extent of the consequence of the risk. Risk mitigation involves finding solutions to treat risks. Risk mitigation is an important stage in risk management. Risk mitigation should last continuously throughout the life of a project, as new solutions can emerge that will change previous actions. Each time a risk is controlled, the overall risk profile of the project is altered. For the sake of accountability, a process of risk monitoring in the course of project delivery is necessary. There could be endless ways in which risks could be mitigated. Thus, the decision that is taken on each risk or a set of risks is careful, depending on the peculiarity of an organization, and the surrounding circumstances (Akintola Akintoye et al. 2003).

4.2.5.1. Risk mitigation strategies

- Risk elimination

This strategy is referred to as risk avoidance or risk aborting. Actions to avoid the risk can involve the completed elimination of risk. These actions can be drastic, as in a client refusing to proceed with a very risky project. A contractor could refuse to bid for a very risky project, thus avoiding the risks that would have been faced.

- Risk reduction

If risks are not eliminated, acquiring more information can reduce them. In view of their adverse consequences, attempts should be made to minimize their effects. Actions that could be taken to minimize some risks concern the redesign of facilities to minimize health and safety risks, interacting with unions to minimize disruptions to works, etc.

- Risk transfer

Responsibilities for some risks can be transferred to other parties who are in a better position to manage and control the risk at a lower premium. Some risks can be transferred through use of insurance and performance bonds. It is usually more effective and efficient to transfer the risks to specialists who can handle them better. Similarly, outsourcing is employed in other types of projects when appropriate. In PPP projects, network of contractual relationships is sometimes used for risk transferring. Project Company usually transfers the risks related with the construction and design to the engineering-procurement-construction contractors or sub-contractors, the operation and maintenance to the O&M contractor, etc.

- Risk retention

Risk retention is also known as risk absorption or risk pooling. After reducing the potential impact of risks, those that cannot be eliminated or transferred away are absorbed by the organizations. The risks that are suitable for retention by organization are those with minimal consequences. Another criterion that influences organizations to accept risks is their ability to control the risks in question.

4.2.5.2. Risk mitigation tools

In controlling risks, a number of tools can be applied. Those tools are more prominent in the financial sector (Akintola Akintoye et al. 2003). An overview of some risk mitigation tools include:

- Guarantees: these are issued on behalf of contractors by banks, governments, or their agencies to ensure that the client has recourse to compensation, in case of contractor's default.
- A "letter of credit" (LOC): this is a form of guarantee issued by a bank on behalf of a contractor operating overseas. The LOC entitles the client to withdraw cash on production of certain

documents or upon fulfilling certain conditions. Usually the exercise of such right is associated with the non-performance of the contractor.

- Bid bonds: these are issued to safeguard the client, such that if and when a contractor's bid was accepted by the client, that contractor would not renege on entering into a contract with the client.
- Performance bonds: these are issued by a surety company to cover the aspect of non-performance on the part of a contractor.
- Surety bonds: these are a form of guarantee that other forms of resolution would be sought, in the face of non-performance, before the cash-withdrawal penalty is applied.
- Insurance: can be used to mitigate risks that cannot be managed in any other way. Insurance is usually used to protect an organization from the consequences of disasters.
- Risk premium: the equivalent of this term in construction is the contingency sum, which is usually added to an estimation to account for unforeseen eventualities that cannot be fully priced when an estimate is prepared.
- Risk-adjusted discount rate: is mostly used in banking and business to adjust a risk-free discount rate by accounting for future inflation and extraordinary risks.

4.2.6. Monitor and review

Continuous monitoring and review of risks ensure new risks are detected and managed, and ensure that action plans are implemented and progressed effectively. Reviewing processes are often implemented as part of the regular management meeting, supplemented by major reviews at significant project phases and milestones. Monitoring and reviewing activities link risk management to other management processes. They also facilitate better risk management and continuous improvement.

The main input to this step is the list of major risks that have been identified for risk treatment action. The outcomes are in the form of revision to the risk register, and a list of new action items for risk treatment (Dale Cooper, 2005).

4.2.7. Communicate and consultation

Communicate and consultation with project stakeholders may be a critical factor in undertaking good risk management and achieving project outcomes. They can help owners, clients and end users understand the risks and trade-offs that must be made in a large project. This ensures all parties are fully informed, and thus avoid unpleasant surprises. They can also help maintain the consistency and reasonable decisions of risk assessment and their underlying assumptions.

Generally, regular reporting is an important component of communication. Managers report on the current status of risks and risk management as required by sponsors. Senior managers need to understand the risks they face, and risk reports provide a complement to other management reports in developing this understanding.

The risk register and the supporting action plans provide the basis for most risk reporting. Reports provide a summary of project risks, the status of treatment actions and an indication of trends in the incidence of risks. They are usually submitted on a regular basis or as required, as part of standard management reporting. Major projects may require a more extensive reporting on a periodic basis or at key milestones (Dale Cooper, 2005).

4.3. Positive and negative risk factors and major risks of PPP projects

Identifying risks properly is one of the most important tasks in risks management of a PPP project. Before undertaking a project, all participants will want to identify the risks involved, as well as the steps that may be taken to manage them. The key issue is the participation of the private sector in PPP projects and hence the transfer of risks from the public to the private sector. Risks in infrastructure projects are heightened by the large capital outlays, by the long lead-times typically associated with such projects and by lenders and investors having to rely primarily on the project cash flows for their returns. Therefore, the identification of risks plays a key role in the structuring and financing of PPP projects and has to be handled in a well-organized and disciplined manner (UNIDO, 1996).

Therefore, to ensure managing risk effectively, a list of risks involved in a PPP project should be specified through several techniques mentioned earlier. However, it is not easy to establish the risks inherent for all PPP projects because the risk profile of a certain PPP project varies with many factors including the host country's conditions, the type of infrastructure sector, and the unique socio-economic environment surrounding the project (Hans Wilhelm Alfen et al, 2009)

4.3.1. Risk factors

Risk factors are issues that can influence negatively and positively to the project objectives. A number of studies have been undertaken worldwide to specify risks that affect performance of PPP projects. Patrick X. W. Zou et al., 2008, introduced in their research some risk factors leading to success or failure of project in table 4.3

Risk factors leading to success	Risk factors leading to failure
<ul style="list-style-type: none">• Transparency of the process• Competitiveness of the bids• Technical capability of the bids• Developers' return commensurate with risks• Credit enhancements• Effective procurement• Appropriate risk sharing and management• Government guarantees• Stable policy regime• Strong market needs• Favorable economic conditions• Available financial market• Reliable concessionaire consortium with strong technical strength• Good collaboration among stakeholders• Reputation, trust and motivation• Good public acceptance• Meet environmental protection standards	<ul style="list-style-type: none">• Poor transparency• Difference in interests and expectations• Inappropriate feasibility study• Lack of government commitment and objectives• Complex decision-making• Poorly defined sector policies• Inadequate legal and regulatory framework• Poor risk sharing and management• Low credibility of government policies• Inadequate domestic capital markets• Lack of mechanism to attract long-term finance from private sources at affordable rates• Lack of competition

Table 4.3. Risk factors contributing to success or failure of PPP projects

Source: Patrick X. W. Zou et al., 2008

4.3.2. Major risks

Typically, risks can relate to project-financing activities, relate to specific characteristics and type of project in PPP arrangement. Risks can be:

- Technical risks due to design failures;
- Construction risks as faulty construction techniques which lead to escalation and delays of project;
- Operation risks due to higher operating and maintenance costs;
- Revenue risks as low demand for the products and services;
- Financial risks result from inadequate hedging of revenue streams and financing costs;
- Environmental risks as the adverse impacts the project may have on the environment;
- Regulatory and political risks because of planning changes, legal changes and unsupportive government policies;
- Majeure risks because of calamities and acts of god;
- Risks also can result from weak organizational structure; lack of clarity; poor communication; inappropriate risk modeling; lack of internal capacity; inadequate planning and poor set up; lack of operational focus; failure to realize value for money; and so on.

In the content of PPP project, these risks are divided into the following categories for the purpose of risk identification:

4.3.2.1. Country-related risks

These are risks normally associated with political, legal, social and commercial risks of the host country and over which the project sponsors generally have little or no control. They include of factors that can affect the demand of the project outputs or services and the projects' ability to meet contractual obligations.

- Political risks: these are risks which associated with the nature of the political support towards private sector in PPP project, changes in the country's taxation regime, nationalization or expropriation of infrastructure by the host government, failure to honor the concession agreement, imposition of restriction on import/export, and delay or failure in issuing the necessary permits and land acquisition for the implementation of the project.
- Commercial risks: these risks are associated with the restrictions imposed on the convertibility of the revenue from the project into foreign currencies, foreign exchange, fluctuation in the interest rate and inflation volatility.
- Legal risk: these risks are related to changes in laws and regulations, framework regarding the enforceability of the contracts, and the delays in calculating the compensation.

The risks in this category are also the inadequate approved project budgets, lack of project controls, administrative interference, poor project brief, variations in project specifications, delays in the settlement of contractor's claims, and so on.

4.3.2.2. Concessionaire-related risks

These are risks related to technical risks, construction risks and operational risks, which to some extent are controllable by project sponsors. They include:

- Project-related risks: these are the risks, which the project sponsor has to control to a certain extent. These risks include cost and time overruns, poor contract management, contractual

disputes, delays of tendering and selection procedures, poor communication between project parties, lack of management technique, and so on.

- Design-related risks: These risks represent inadequate soil investigation, delays in design, ambiguities and inconsistencies in design and design changes, and so on.
- Contractor-related risks: These risks include inadequate estimates, financial difficulties, lack of experience, poor management, difficult in controlling nominated sub-contractors, and so on
- Consultant-related risks: These risks represent lack of experience, performance delays, and poor communication with other project parties, and so on.

4.3.2.3. Market-related risks

These are risks related to financial risks, revenue risks in PPP projects. They include taxation, inflation, foreign exchange, loan security, unfavorable economy conditions, and so on.

4.3.2.4. Other risks

Those risks do not belong to the kinds of risk mentioned above. They include force majeure risks, safety risks, health risks, environmental risks, risks caused by third party, and so on.

The lifecycle of PPP projects may be divided into four main stages of pre-investment, implementation, operation/maintenance, transfer and the project specific risks associated with these phases are:

- Pre-investment phase: major risks in this phase are the bidding risks, delay in planning risks, and approval risks. Bidding risks refers to the likelihood of loss of tender to other competitor leading to the loss of expenditures associated with the bidding. These expenditures relating to preparation of the detailed design, comprehensive planning, and preparation of extensive bid documents could be very large in a large PPP projects, etc.
- Implementation phase: the major risks in this phase are the risks that actual cost of construction is over the budget cost of construction, time taken to complete the project is more than the projected time to completion, and the failure to achieve completion, etc
- Operation/maintenance phase: there are certain risks that can have an influence on the project's capacity to earn its projected revenue and in meeting the budgeted operating and maintenance expenses. Some of the risks in this phase are technical risk, demand risk, force majeure risk, and revenue risk, etc.
- Transfer phase: there are little risks involving in this phase.

These groups of risks have their sub-group of risks and the risk events involved. Based on the previous researches, the typical risks associated with the process of PPP arrangement are shown appendix 2. From this result, it is easy to see that risks are presented in all phases of PPP projects. They can even present in the early stages of a project. This inspires the need of an accurate risk analysis and assessment throughout the whole lifecycle of PPP project. In addition, there are risks materializing in more than one phase. This issue provokes further consideration in an effort to assess properly the total risks of a PPP project. The implementation and operation/maintenance phases suffer the most from risks compared to the other phases. This indicates the time when special attentions and mitigation measures for managing risks should be regarded in the lifecycle of a PPP process.

4.4. Risk evaluation of PPP projects

The distinguishing characteristic of PPP model from the traditional public procurement systems is the amount of risks allocated to the private sector. Risk allocation is the process of assigning the consequence's responsibility of the risks to one or more of the parties to the contract. The appropriate allocation of risks between the public and private sectors is a key requirement for achievement of value-for-money in PPP projects. The risks should be allocated to either the public or private sectors depending on the type of risk and the ability of either sector to control and manage them. The general principle in PPP risk allocation is that each risk is identified and allocated to the party who are able to manage that risk best.

Risk allocation starts with the initial simple risk allocation matrix prepared by the public sector (table 4.4). In the PPP arrangement, the public sector would state its preference and state how the project risks should be shared between it and the private sector. By individual assessing, the private sector can either agree or disagree with the proposition. Then, the individual bidders can decide whether they should bear certain risks or not by negotiations with the public sector to sort out the ownership of risks. These negotiations would continue until all risks are priced and allocated to one of the parties.

Risk category	Public sector's responsibility	Private sector's responsibility	Share responsibility
Demand	X		
Design		X	
Construction		X	
Operational		X	
Residual value		X	
Third party income			X

Table 4.4. Initial risk allocation matrix

Source: Akintola Akintoye et al (2003)

The profile of risks distributed to the private sector depends on the type of PPP model used for the project. The relationship between the types of PPP model and the risk-sharing extent for both the government and private sector involving in a PPP project is showed in figure 4.2

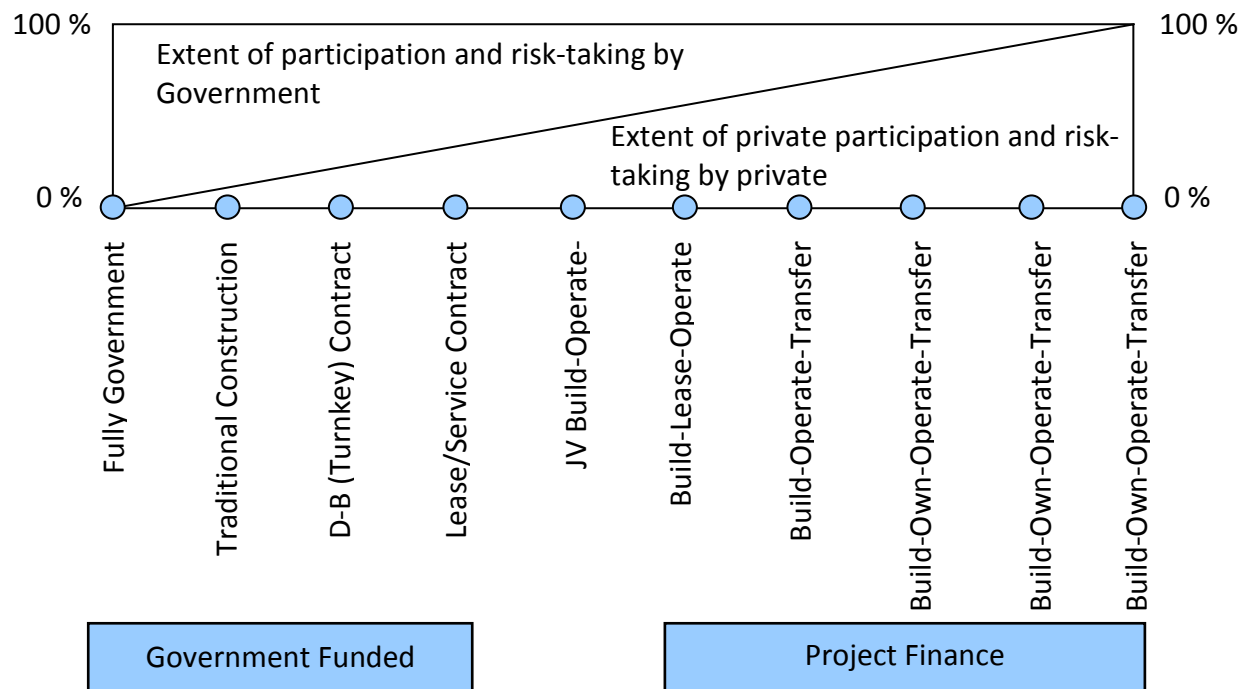


Figure 4.2. PPP procurement mode and risk-taking by the public and private parties

Source: Patrick X.W. Zou, 2008

At the one end of the spectrum is the position where the public party bears all the risks and responsibilities associated with the project, whereas the private party bears the least. This is corresponding to the type of project is fully government funded. On the other end is the position where the private party bears all the risks and responsibilities associated with the project, whereas the public party bears the least. This is corresponding to the Build-Own-Operate-Transfer type of PPP model. In between these two extremes, there are number of types of PPP model in which the proper risk allocation between the public and private sectors should be achieved for gaining value-for-money of both parties. In each type of PPP model, the role of public and private sector will varied in risk sharing. Depend on the perception of risks and the objectives of the projects, both the public and private sectors will choose one type of PPP model, which satisfies their goals, which they feel most comfortable and motivate them participate in PPP arrangement.

4.4.1. Perception of risks between main parties in PPP projects

The perception of risk between the public and privates sectors is different with each other. Grimsey and Lewis (2002) categories three major stakeholders involved in PPP project to analysis risks. They are host government, sponsor (investor), and lender. For each of three main stakeholders of entities, they summaries stakeholders' risk perspective, the key variable, the major risk they face, and the risk analysis which is appropriate (figure 4.3)

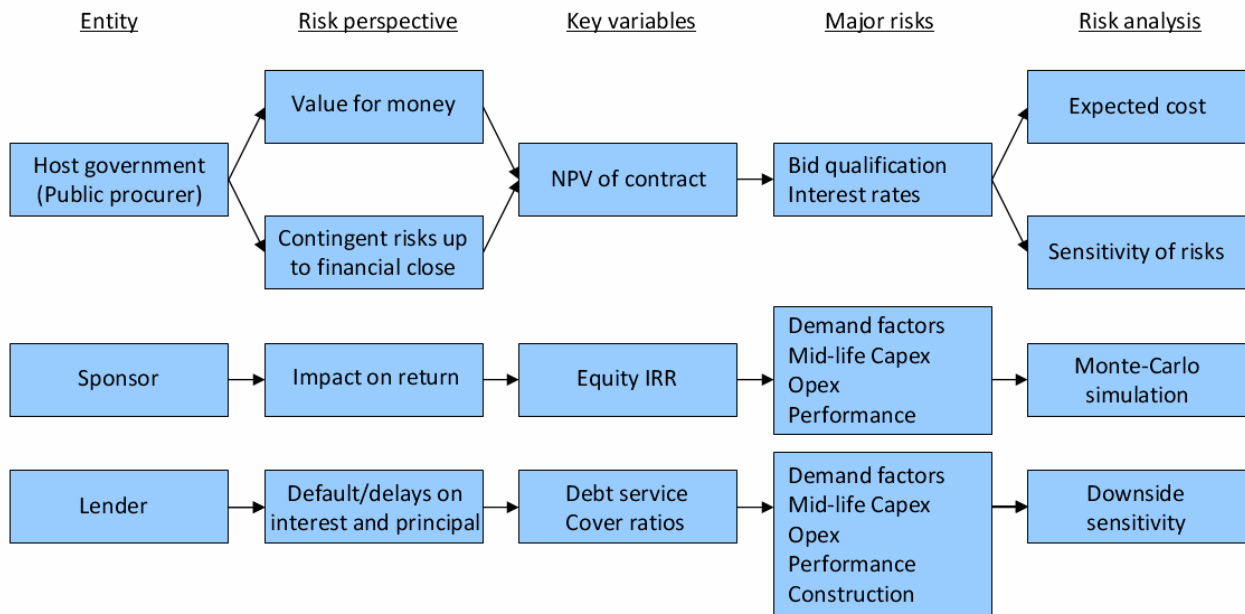


Figure 4.3. Perception of risks between parties

Source: Darrin Grimsey et al (2000)

4.4.1.1. The viewpoint of the public sector

The host government as the procurer of PPP project needs to ensure that money is spent economically, efficiently and effectively. In PPP project, the government seeks to utilize the private sector finance in the provision of public sector infrastructure and services and thereby achieve value-for-money. Value-for-money is defined as the effective use of public funds on a capital project through the private sector's innovations and skills in asset designs, construction techniques and operational practices. It comes from the transferring key risks in design, construction delays, cost overruns and finance and insurance to private sector entities. Value-for-money requires equitable allocation of risks between the public and private sector partners and there may be inherent conflicts between the public sector's need to demonstrate the value-for-money against the private sector's need for robust revenue streams to support the financing arrangements. The value-for-money criterion should establish the best means for achieving the required project function for the least cost. Part of the value-for-money analysis involves a comparison of the project against a traditional public sector procurement and operation route known as the public sector comparator (PSC) (Darrin Grimsey et al. 2000). PSC is a model of cost incurred by the government through conventional publicly financed and managed approaches. The public sector analyzes risks to establish the expected cost of them, then adjusts the NPV of the bid and chooses the bidder who offered the best qualifications. During the lifecycle of project, the specific risk is any increase in the level of interest rate, and thus of the financing costs for the project prior to financial close. This increase will result in a higher tariff being levied. Interest rate risk is difficult to quantify with any real precision. To get a feel for the impact of this risk, sensitivity analysis should be carried out on the financial model. Public sector should also carry inflation rate risk to the extent that the Retail Price Index (RPI) deviates from that projected in the financial model. Like interest rate, inflation is difficult to predict and sensitivity techniques were used again.

4.4.1.2. The viewpoint of the sponsor

From the perspective of the sponsor, PPP is essentially a project financing characterized by the formation of a special-purpose company for the project vehicle and consequently relied on direct revenues to pay for operating costs and cover debt financing while giving the desired return on capital (Darrin Grimsey et al. 2000). Therefore, PPP projects are viable only if a reliable, long-term revenue stream can be established.

The relevant sponsor's risks for analysis were: (1) Volume or demand risk; (2) The risk of mid-life capital expenditure; (3) Operating expenditure; and (4) Operating performance. The risk that the predicted revenues do not materialize is the greatest risk to the commercial viability of a project. Thus, the risk analysis addresses on establishing the potential risks involving that affect the equity returns. In order to review public sector's perspective toward the project, an analysis of the impacts of the risks on the financial model has to take account of potential upside as well as downside risk. After having identified the relevant risks for examination, a simulation exercise would be carried out using the risk computer software package to determine the distribution of the relevant risks. From this analysis, an assessment is made about the risks and impacts on the blended equity or subordinated debt IRR for a profitable investment.

The risk of construction delay is not included because the risk analysis looks at the risk from the project sponsor's perspective as equity investors in the PPP project. For them delay risk is dealt with contractually through liquidated damages contained in the construction contract and also business interruption insurance. Therefore, the risk resides with the construction contractor and the insurer and not with the project sponsor.

4.4.1.3. The viewpoint of the senior lenders

Typically, the lenders look to the project's cash flow as the source of funds for repayments. Financial security against the project company is not sought as the company usually has minimal assets and because the financing is limited or without the recourse to the sponsor companies. However, sponsor companies should make good performance guarantees available in favor of the lenders. Thus, the key principle for large PPP projects is to achieve a financial structure with as little recourse as possible to the sponsors while at the same time providing sufficient credit support so that the lenders are satisfied with the credit risks.

From the viewpoint of the senior lenders, the nature of non-recourse or limited recourse funding clearly brings a rather different risk or credit assessment than a conventional full recourse loan. With project financing in PPP model, the facilities often do not have a capital worth, in terms of a wide market, to which lenders would wish to attribute value. Lenders insist on having the opportunity to step in and rescue a failing project but they cannot simply sell off the asset to realize value. Thus, the senior tends take a pessimistic view where risk analysis is concerned. The key difference between the senior lenders with private party is that for the senior lenders holding debt rather than equity in which there is rarely any potential upside gain the project, only downside risk that could reduce the ability of the borrower to make principal and interest payments under the loan agreement (Grimsey and Lewis, 2002).

Senior lenders focus on the income stream over the term of the loan and analysis risks to establish robustness by reference to cover ratios. There are two most important ratios: (1) the loan-life-cover ratio (LLCR) and the annual debt service cover ratio (ADSCR). The LLCR gives information about a given of the NPV of the estimated cash flows from that date until retirement of the loan relative to the loan outstanding on that particular date. On the other hand, ADSCR is an historic ratio that measures the cash flow for the previous year in relation to the amount of loan principal and interest payable for that period. The senior lenders usually use the sensitivity analyses to capture the risks left with the service company rather than the project as a whole. They seek to mitigate key risks by allocating them away contractually (Grimsey and Lewis, 2002).

4.4.2. Risk allocation and pricing

Risk allocation is a primary assignment between the public and private sectors. In this regard, the public sector initially identifies the risks involving in the project in a risk register, and sets out the risks relevant to each stage of the project (Li Bing et al, 2004). The risks are estimated with the likelihood of occurrence for each risk event and the corresponding financial consequences. This analysis helps the public sector establish the types and groups of risks that it seeks to transfer them to the private sector. Then, the bidders receive tender documents completed with the risk factors, matrix or preliminary allocation framework. They can carry out their own analysis and assessment of the risks. The bidders can price the risks, look to recover the estimated cost and manage them through the bid-price mechanism. After continuous negotiations, a contract can be awarded if the price of bid is acceptable and the net present value of the payment streams for the project is lower than the equivalent Public Sector Comparator (PSC).

The risk allocation and pricing of risk focus on the structuring of project's financing. Thus, the objective is to minimize the risks associated with the project. Thereafter, the process is on of insuring, controlling and apportioning risks according to the parties' willingness to bear them. Risk allocation and pricing specify the appropriate party to manage each identified risk and the pricing consequence of risk to that party. There are several principles (Dale F.Cooper et al. 2005):

- Each risk should be allocated to the party best able to manage it at least cost;
- Not all risks need be transferred: inappropriate risk transfer incurs penalties and may create new risks;
- Worthwhile risk transferring requires flexibility in the contract: the party allocated with risk must be able to choose the ways to handle it;
- The partnership structure should take account of responsibility for managing risks.

In order to make risk allocation effective and take advantage of the opportunities created through PPP projects, public sector procurement organizations must change the ways in which they seek to accept and allocate risks. It must focus on:

- Identifying clearly the policy's objectives that they wish to achieve through project;
- Identifying the service they are seeking from the private sector and specifying the outcomes and outputs of that service;
- Identifying the core capability that is required to be delivered by the equipments, systems or facilities; and

- Structuring the most suitable payment mechanism for the provision of the service or output specifications in accordance with the public sector's objectives for the initiative.

The project agreements between the public and private sector granting the concession gives the basis framework for risk allocation between the government and the project sponsor (Hans Wilhelm Alfen et al, 2009). This agreement defines the commitments of each party including how risks are to be allocated or shared between them. Then, project sponsors can also enter into contracts with other private parties to re-allocate the risks allocated to them by the government through the project agreements. These contracts will also define how the risks allocated to the project company by the government will be distributed between the sponsors and the other project participants.

Typically, the public sector distributes the risks related with design, construction and operation of the project to the project sponsors. The project sponsors, then, allocate the construction and completion risks to EPC contractors and the operating risk to the O&M operators. The risk of ownership and operation of the asset is often left with the private sector. Risk of ownership and operation consist the design, procurement management, defect rectification, fitness for purpose, maintenance and disposal of the asset, and they should consist with the principle that the party best able to control the risks should be responsible for their management. Allocating the risk in this way requires the responsible parties to use their specialist skills and capacity to implement appropriate risk strategies to ensure that the contract's requirements are fully met.

While the private sector retains the risks associated with asset ownership, the responsibility for provision of the capability remains with the public sector. Moreover, through the allocation of asset ownership risks to the private sector, the nature of risks associated with the successful outcome of the asset's intended use will change and new risks will emerged. In turn, these new risks will need to be identified, assessed, evaluated and treated where appropriate. The public sector will always have responsibility for the management of some aspects of the capability requirements and its risks. From an accountability perspective, the public sector will ultimately bear the consequences of contractor performance failure. Specifically, government usually bears the political risks due to delays in obtaining required approvals, permits, and licenses and they either compensate the project company accordingly or prolong the concession period. The project company can bear the risks of change/imposition of taxes, tariffs, or custom duties as no government will give an assurance that tax will not be increased or imposed.

The demand and revenue risks are amongst the set of risks where there is disagreement between the public and private sectors on the level of sharing between them. If the project company assumes these risks, then it will demand guarantees for a minimum demand/revenue level or insists on other credit enhancement measures.

A number of studies have been undertaken worldwide about risk allocation that can be used as the preference when distributing the risks between the public and private sector in PPP project. The summary of risk allocations between the public and private sector in PPP projects is put in appendix 3.

Risk allocation cannot be standardized on a permanent basis as individual circumstances determine what is best (Dale F.Cooper et al. 2005). Thus, the risk allocation in appendix 3 should

represent as a reasonable starting position for negotiations, not an ambit claim. A template can be established which will inform risk allocation in the current projects. Although the risk allocation between the parties may be different for every type of PPP model and industry sectors, it is necessary to have a substantial risk transferring, particularly in the areas of design, construction and operations for a PPP arrangement. The risk profile will continuously be further developed for each risk category to establish a thorough risk allocation matrix for all aspects of the project. The further development of risk allocation matrix is undertaken when the scope and constraints of the project are known.

4.4.3. The important factors influence the proper risk allocation

There are several factors influence on the proper risk allocation and, further, on the success of PPP projects. According to Abednego (2006), the underlying reasons for failing in proper risk allocation is a lack of knowledge about the unique characteristics of PPP projects. In fact, most of the stakeholders do not recognize that, beside management concerns dealing with short-term issues, a PPP project also has governance concerns dealing with long-term issues. Failing in recognizing the governance concerns, proper risk allocation and overall success of PPP projects will be affected.

The first main issue is the fairness principal in which the host government's unwillingness to provide necessary supports and guarantees prevents the risks from being allocated properly and creates unfair condition. The negotiation in risk allocation like a political game where in most case the government has more power than the private sectors and it is common to recognize the unfairness in risk allocation. This condition is worse by the ambiguity in the agreements between the government and the private sector, and by the constant interference by the government during the whole course of the project. Thus, the private sector was not able to properly identify the project risks, which cause them not willingness to assume the consequence that were not actually theirs responsibility. This would negatively affect the private sector's revenue in the long-term and eventually jeopardize the overall success of projects.

The second main issue is the transparency principle in which there is a problem in information dissemination in PPP projects. Instead of being shared, the information of a PPP project is usually obscured, which results in misperception and misinformation in the project. Unfortunately, this problem is usually created by the government to prevent the private sector from making claims by using the information. Moreover, the existing information management system is insufficient and still requires further improvements. This prevents private sector from collecting right information about the project. These circumstances also prevent the private sector from developing accurate plans and making better preparation for management of risk. Furthermore, the government may not be able or not willing to make reasonable adjustments on the project financing strategy as previously agreed because of its strategic behaviors in PPP projects. Due to the lack of information and financial transparency, conflicts and disputes are inevitable, causing additional problems during the project life cycle.

The third issue is the accountability principle in which the government and the private sector usually overlooked the end-users of the infrastructure as well as its surrounding communities in the process of developing projects. Especially in Asia countries, the end-users are usually not

given a chance to raise their concerns or even offer suggestions for the project, which prevent them from participating and contributing directly to the project.

The last main issue is the sustainability principal in which the lack of coordination between government agencies and between the government and private sectors may prevent the stakeholders from sustaining their partnership in the long-term. Thus, this would affect project performance. Lack of coordination, for example, would result in inappropriate information dissemination creating difficulties to produce accurate estimation in terms of project cost. This would affect the development of a suitable project financing strategy and payback structure. Ultimately, disputes are inevitable and the sustainability of the project is at risk.

4.5. Risk management framework of PPP model

Based on the issues discussed in the previous sections, it is clear risk identification and assessment should be conducted from a lifecycle perspective starting at the feasibility study stage and carried out through the operation and transfer stages with continuous monitoring. Thus, the phases of a PPP project are used as a basis for explaining the framework of risk management (figure 4.4). This framework presents process for identifying, assessment, allocating and monitoring risks and its aim is to achieve balance of interests between different parties and ultimately realize the value-for-money for all partners of the project.

The following sections address on the main activities performed within each step. Typically, most of activities within the risk identification stage are undertaken by the public sector, while the private sector plays a main role within the risk assessment and risk allocation stage. The last stage, continuous risk negotiations in the stage of implementation and operation, concerns much more mutual efforts between the two sectors (Akintola Akintoye et al., 2003).



Figure 4.4. Framework for risk analysis and management of PPP projects

Source: Akintola Akintoye et al. (2003)

4.5.1. Stage 1: Establishing the project context

At first, both the public and private parties have to establish and understand explicitly the following issues:

- Establishing and understanding the organizational structure, contractual structure, project environment, and thorough stakeholder analysis. This step is very important to the risk management of a project since PPP project has a complex and complicated organizational structure and network of stakeholders which should be defined clearly for project's success.

- Specifying the main objectives and outcomes required of the project in which based on that all parties can have a whole view of what they have to achieve and what should be done.
- Identifying a set of success criteria against consequence of identified risks to measure the achievement of objectives, the impacts or consequences of risks.
- Defining a set of key elements for structuring the risk identification and assessment process in order to disaggregate the project into sections or key elements and should ensure that all important issues are put in place for identifying risks.

The inputs to specify objectives and criteria include key project documents, such as the project execution strategy, project charter, cost and schedule assumptions, scope definitions, engineering design and studies, economic analysis, stakeholders involving, and any other relevant documentation about the project and its purpose.

The outputs from this stage are the concise statement of the project objectives and specific criteria for success, the objectives and scope for the risk assessment itself, stakeholder analysis, and a set of key elements for structuring the risk identification process in the next stage.

4.5.2. Stage 2: Identifying risks involving in the project

This stage is pertains to the preliminary phase of a PPP project, and involves a range of activities performed by the public sector. Its role is varied from setting project conception up to the issues of approval the project. In this stage, the public sector plays a crucial entity concerning the future project, whereas the private sector plays a rather passive role, other than identifying potentials for involvement in a PPP project in terms of resources available to the organization and the sector in which it would like to be involved (Akintola Akintoye et al. 2003). The activities are executed by the public sector in this stage include the following:

- Defining initially the accurate scope and nature of the public services required
- Establishing the bidding procedures and appraising the bidders in term of affordability, the value-for-money (VFM) criteria, and the impacts of risk allocation under different alternatives
- Conducting a feasibility study to select or justify the bidders
- Investigating the competencies available within the organization
- Choosing the external consultants (legal, financial, engineering, etc.) on a competitive basis
- Gathering project team members, who have experience and expertise in the relevant fields
- Drafting an initial view on a desirable risk allocation in the project
- Developing the first draft of the “public sector comparator” (PSC) and a shadow financial model and developing them in an iterative manner continuously through the project lifecycle
- Conducting a final assessment of the bidder
- Developing the risk matrix, using the VFM criteria, and preparing the outline business case
- Summarizing the main project features in an “Information Memorandum” and giving it to the private sector.

The main outputs arising in this step on the public sector side include:

- The preparation of the PSC as a benchmark for the evaluation of bids
- The development of the initial project risk matrix
- The development of the outline business case

- The generation of the “Information Memorandum” to explain the project details to potential bidders

In this step, the techniques can be used by the public sector are:

- Experience acquired from similar or previous projects
- Brainstorming
- Workshops
- Checklists
- Site visits

The objectives at the end of this step are the public sector should have a thorough understanding of the type of project risks and their desirable contractual distributions. Moreover, strategies for achieving value-for-money should also be specified at this stage.

In the meantime, the bidders could use different forms of enquiries to identify projects. By associating themselves with project partners, consortium can gain information about projects that are about to come on stream. In doing so, private sector participants may be able to identify a PPP project before it is highlighted proactively.

4.5.3. Stage 3: Risk assessment

At this step, the main activities are addressed on creating a bidding consortium that will win the project. Each consortium will initially go through the pre-qualification stage during which six to eight consortia, for example, will be shortlisted to precede to the next stage of bidding. The shortlisted consortia will then submit detailed proposals that will inform the selection of the three best bidders. At this step, the private sector organizations could do the following actions:

- Forming a definite opinion on the suitability of the project
- Developing an initial assessment of opportunities and risks
- Selecting partners to group with
- Choosing bidding strategies
- Establishing lines of responsibility and consolidate the project team
- Appointing external consultants
- Developing an initial estimation of the risks, usually in a subjective manner. Then, refining the risk estimation through an iterative process supported by the external experts
- Deciding on ways to deal with risks: removing risks, reducing risks, transferring risks, accepting risks, etc.

The private sector could use the following tools and techniques at this stage:

- Using the preliminary financial model to identify and assess risks
- Consultations with experts

The aim of this stage is the consortia should be fully acquainted with the project and its anticipated risks. They should also have formed their own view on the desirable risk distribution. All potential risks should be assessed in terms of their probability and impact. Meanwhile, the main task of public sector at this stage is the comparative analysis of bids, both during pre-qualification and subsequent shortlist of bidders. It should use PSC as a benchmark for comparison of risks. In addition, developing and using the shadow financial model is very

important at this stage. It can be used to support on projections. At the end of this stage, the public sector should summarize its findings and select the best three bidders, for instance, for the next phase of procedures.

4.5.4. Stage 4: Risk allocation between parties in the project

In this stage, both the public and private sectors dedicate additional efforts towards achieving a more favorable risk distribution. The public sector could force the private sector to produce quotations, which reflect different risk allocation scenarios. At this stage, a full range of qualitative and quantitative risk assessment techniques can be used to inform the estimated returns by the consortia. Further, these bidders can re-analyze their own financial models and conduct sensitivity analysis to evaluate risks in more details.

The private sector at this stage can use the following techniques:

- Experience and intuition
- Probabilistic analysis
- Simple arithmetic analysis
- Eliciting the opinions of advisers
- Sensitivity analysis through a Monte Carlo simulation

The outputs produced from this stage could be:

- Establishment of project costs/prices
- Assessment of clearer profit margins (especially by the private sector)
- Assurance that the project is still within the government's affordability
- Initial identification of the payment mechanism

In order to assess the private sector's evolving risk profiles at this stage, the public sector could use the shadow financial model and updated version of the PSC. In this regard, public sector would be mainly interested in meeting the affordability criteria and optimizing VFM, whereas the private sector could concern with the balance between profitability and risks borne by them. At the end of this stage, the public sector awards a preferred bidder, and begins to negotiate with that consortium.

4.5.5. Stage 5: Final risk negotiation

This stage includes signing the contract and financial close. Until this stage, most of the risks involving project would have been assessed and allocated during the earlier stages. Any remaining deal-breaking issues will be sorted out, and missing details will be clarified. Both parties should scrutinize their earlier estimations using the same methodology and tools, and arrange the final distribution of risks through the negotiations.

At this stage, the senior lenders also engage external consultants to examine due diligence (Akintola Akintoye et al. 2003). The purpose of this activity is threefold:

- Double-check the reliability of all estimations;
- Investigate any possible legal shortfalls;
- Provide assurance that there are no discrepancies

At the same time, the consultants scrutinize the legal, technical and financial aspects of the whole project as well as audit the financial model. Financial model at this stage can be used to re-evaluate different scenarios as negotiated decisions are made. Until the consultants' assurance that the project is acceptable, the private sector participants feel confident enough to enter the project agreement.

This stage should produce the following outputs:

- The project agreements between the main parties;
- The agreed risk matrix;
- The risk-adjusted version of the public sector comparator

The end of this stage is financial close. However, it does not mean the end of risk management. The agreements between the two parties are monitored in both during the subsequent construction and operation phases. If there is any risk facing the project during these stages, it should be addressed in the most appropriate manner. The risks happening in these stages are reported and fed back into the project documentations, and noted for future use.

4.5.6. Stage 6: Continuous risk negotiations

It is important to notice that the risk negotiations should take place between the time the initial risk estimation is undertaken and the time the final risk negotiation is reached. These activities would ensure the risk feedback between the private sector and the public sector. This should guide against deal-breaking risks, which could materialize if the risk negotiation was only taken place at the end of the process.

4.6. Risk management practice in PPP projects in Vietnam

Developing of PPP model has emerged in Vietnam in recent years under BOT-type procurement. The Vietnamese government even amended the Law on Foreign Investment to facilitate for Build-Operate-Transfer (BOT) regulations in practice. Now, the BOT regulations were enacted under Government Decree, which is still inadequate and in the process of improving. This indicates efforts of Vietnamese government in trying to apply PPP arrangement in developing infrastructure. The number of BOT projects in Vietnam increase highly in term of quantity and quality. From 1990 up to now, Vietnam has had nearly one hundred BOT projects in infrastructure. Some of them could not be finished on time and overrun budget. Significant reasons affecting success of BOT projects are improper risk identification and assessment when developing BOT projects. Even though there are many difficulties in managing risks in PPP projects, there are not many researches in the area in the Vietnamese conditions. Thus, it is really necessary for studying a risk management framework if Vietnamese government wants to be successful in applying PPP model.

Based on the study previous BOT projects executed in Vietnam, the author identified some important risks in BOT projects in Vietnam. Then, the mitigation measures and government supports and guarantees are also proposed. The results are shown in table 4.5:

Table 4.5. Major important risks, mitigation measures in BOT projects in Vietnam

Major risks	Description	Mitigation measures	Government supports and guarantees
Delaying in land acquisition risk	<ul style="list-style-type: none"> The governance delays in clearance the site for the project leading to delays in the start of construction, which results in escalation of project cost. This risk has a high probability to be happened in Vietnam because the land is still a state subject and the acquisition process is very time-consuming. 	<ul style="list-style-type: none"> Provision of land acquisition for construction of facilities in time should be made as a prerequisite condition in the concession agreement. 	<ul style="list-style-type: none"> The government should take this risk because it is out of the investors' capacity. If the delay is related to consents, approvals, clearances, the government should guarantee granting necessary permissions within specific time. If the delaying in land acquisition happens, the government should support investors in extending the concession period with an appropriate time to compensate for the loss suffering by them, and this provision should be regulated in the concession contract.
Delaying in approval risk from government agencies	<ul style="list-style-type: none"> The host government authority may not approve the project-related issues in time or even cancel those already approved. Obtaining approvals or permits in Vietnam for a BOT project from various government departments can be extremely time-consuming and may even delay the entire project development process and impair the project's financial viability. The lengthy approval process results from an unprofessional and incompetence of the government officials, poor implementation of the law and regulations by the government, complex and high bureaucratic approval procedures, and decentralization with unclear responsible provisions which creates unnecessary requirements from many divisions and overlapping levels for just one simple problem in a project. 	<ul style="list-style-type: none"> It should be sure that all government approvals necessary for the development of the project have been obtained in advance. Create and maintain a good relationship with both central and local government by trying to understand them as well as their requirements such as showing the benefits that project will offers in the short- and long-term socioeconomic development of the local community and the region: creating job, improvement of living standard, tax income, etc. Create good relationship with environment authority, NGOs by assessing environmental impact and social impact required to be carried out for infrastructure projects to satisfy regulatory requirements, and remain productive and competitive throughout the project's life. Familiar with approval procedures and understanding local laws and regulations by establishing database for past project approvals and forming templates of approval documentation. 	<ul style="list-style-type: none"> Host government guarantees on various permits should be obtained. Remove and streamline unnecessary approval procedures for gaining approval from ASBs. Operating "one-door" mechanism to reduce the time to get approvals by authorizing one ASB in approving the necessary submissions. If the delay related to consents, approvals, the government should guarantee granting necessary permissions within specific time. If the delaying in approval from the government agencies happen, the government should support the investors in extending the concession period with an appropriate time to compensate for the loss suffering by investors, and this provision should be regulated in the concession contract.
Massive cost escalation	<ul style="list-style-type: none"> Cost escalation can result from various things such as the inability to implement strictly the findings from the feasibility study, 	<ul style="list-style-type: none"> The project reports should be made clearly and in detail about the cost estimated for various sub-components of the project on the basis of which the EPC bids should be 	<ul style="list-style-type: none"> Government could share this risk with investors in extending the concession period with an appropriate time to compensate for the massive

Table 4.5. Major important risks, mitigation measures in BOT projects in Vietnam (continue)

	<p>incorrect using the right procedure and inability to identify all the factors that have negative impacts towards the project, thus making the project difficult to be kept under control.</p> <ul style="list-style-type: none"> • If the Engineering - Procurement-Construction (EPC) contract is not a fixed price contract, there is possibility of an increase in the project cost more than expected. Most of the BOT projects in Vietnam encounter with the huge increase of project costs during its development phase. 	<p>invited.</p> <ul style="list-style-type: none"> • Establish an adequate contingency provision and buy insurance for unforeseen circumstances. • Strict construction monitoring by independent engineer, consultants, advisors, etc. • This risk can be covered by additional capital from project sponsors, a standby credit facility from the original lenders, fixed-price contracts from contractors, a sponsors' escrow fund for completion. 	<p>cost escalation suffering by investors.</p> <ul style="list-style-type: none"> • Government can support investors by allowing increase the tariff/toll fee. • Government should establish a government financial fund to support for investors in case of massive cost escalation.
Risk of transportation network in adjacent region	<ul style="list-style-type: none"> • The project is suffered the loss from the competition of other projects in adjacent areas. • BOT projects in Vietnam often suffer losses by availability of alternative roads, the construction of competing routes as well as the poor and deteriorating condition of the connecting roads due to the weak in planning policy of the government. 	<ul style="list-style-type: none"> • Provision of minimum level of competition from other projects should be made as a prerequisite condition in the concession agreement. • Place the location of toll-stop appropriately to prevent conflicting with other projects' interest. 	<ul style="list-style-type: none"> • Government should guarantee a minimum level of competition from other projects. • Guarantee a good policy in planning and development of the projects. • Government allows the investors re-position of the toll-stop in a suitable location. • Government plays an intermediary role in reconciling the interests of investors when this risk happens.
Currency risks, Foreign currency exchange risk, Currency inconvertibility risk and transfer restriction	<ul style="list-style-type: none"> • Vietnam has a low level of hard currency budget reserved. • The exchange rate between the local currency and the hard currency is fluctuated unexpectedly in Vietnam. • The downfall of exchange rate between the Vietnamese currency gaining from the project and the hard currency, or the Vietnamese currency devaluation is often happened. • It is difficult to exchange local currency to foreign currency or transfer it to foreign bank accounts if the investors do not get commitments from the government. 	<ul style="list-style-type: none"> • Assess the host country's foreign exchange reserved position. • Obtain rights under local law to convert local currency into foreign currency and transfer the converted currency to the lenders for payments of interest, fees and principal. • Establish an offshore account. • Obtain government supports and guarantees on preferential access of the project to foreign exchange, conversion and transfer. 	<ul style="list-style-type: none"> • Government guarantees investors in availability of hard currency, converting local currency into foreign currency and transferring it to foreign bank accounts. • Government provides the investors with compensations for increases in the local cost of debt service due to exchange rate movements. • Government supports investors by allowing them to establish an offshore escrow account • Government supports investors by reducing the time to get commitments from the government for guarantees in time. • Government introduces hedging instruments to investors such as swaps, options, futures and forwards, etc.

Table 4.5. Major important risks, mitigation measures in BOT projects in Vietnam (continue)

Overestimated forecast on future economic development and demand	<ul style="list-style-type: none"> • BOT projects in Vietnam usually based on the optimistic-government forecast about the demand • The government usually produces a bias evaluation on the actual demand of the society and creates an unrealistic forecast on the ability of the project to activate future economic development. This risk results from the fact that there has not any adequate research about the elasticity of demand in the introduction of tolls in the Vietnamese BOT projects. 	<ul style="list-style-type: none"> • The estimation of future economic development and demand should be calculated in conservative scenarios. • The concession agreement should also provide for an extension in concession period until the designated returns are achieved. • The tariff/toll price should be set in different levels and in a flexible tariff/toll adjustment mechanism with the governing by government policy 	<ul style="list-style-type: none"> • The government should guarantee a minimum level of revenue, demand with the investors as well as prescribe maximum the benefits. • Government can build different levels tariff/toll price and establish a good mechanism for adjusting the tariff/toll fee such as base on the real development of region, demand, project's revenue, inflation rate, consumer price index (PCI), etc. • Government supports investors with concession to operate existing facility to produce immediate income for the sponsors and repayments to the lenders and investors.
High inflation risk	<ul style="list-style-type: none"> • The inflation rate increase can increase the project cost and reduce the value of revenue obtained. Thus, the profit that the investors got from project would be reduced and it results in a total loss for investors. • Vietnam is one of the countries with high inflation rate e.g. the inflation in 2009 was 24.4 %. 	<ul style="list-style-type: none"> • Tariff/toll price should be adjusted for inflation during the operation phase and should be formulated in the concession agreement. • Gaining the government guarantee in supplying the raw material for construction of project at a predetermined price, or use call option contracts, forward or future contracts, etc. 	<ul style="list-style-type: none"> • Government should guarantee investors in increasing the tariff/toll price for inflation. • Government guarantees investors in supplying raw material for construction of project at a predetermined price. • Government should establish a government financial fund to support for investors in case of investor suffering with high inflation risk.
General corruption	<ul style="list-style-type: none"> • The host country's government officials may use political, legal, or regulatory leverage to extract additional costs which none will ever admit and the project developers can never recoup • Corruption by the government agencies is common in Vietnam and that it has spread far and deep into many government departments. In Vietnam, the two most popular government agencies involving to corruption are the department of construction and the land administration agency. 	<ul style="list-style-type: none"> • Maintain good relationship with the government authorities, especially with officers at state or provincial levels • Provision of preventing corruption should be made in the concession agreement. 	<ul style="list-style-type: none"> • Increase the government official's salary to reduce the asymmetries in salaries between the public sector and private sector. • Vietnamese government should increase the transparency and accountability mechanism in executing BOT projects. • Design codes of conducts and create training programs. • Remove and streamline of unnecessary procedures that can produce corruption and applying "one-door" mechanism in submission and approval.
Expropriation risk	<ul style="list-style-type: none"> • The host government may nationalize arbitrarily a project without compensation. 	<ul style="list-style-type: none"> • The concession agreement should provide for termination in case of certain politically risks affecting to 	<ul style="list-style-type: none"> • The government should guarantee investors about expropriation risk and should be prescribed

Table 4.5. Major important risks, mitigation measures in BOT projects in Vietnam (continue)

	<p>This type of risk is great in high profile projects that are often associated with public ownership. The expropriation can take the form of nationalization through either “wholesale” or “creep” expropriation whereby the government changes laws to gradually control the project.</p> <ul style="list-style-type: none"> • This risk has low probability in Vietnam where the political system is rather stable with just only one party and the political conflicts are seldom happen. 	<p>the project. In this regard, the guarantees of reasonable compensation in case of any nationalization should be provided.</p> <ul style="list-style-type: none"> • Establish Joint Venture with local partners, especially with central government agencies or state-own enterprises. • Internationalize the risk by co-financing the project with multilateral and bilateral agencies, e.g. ADB, World Bank, International Finance Corporation, export credit agency, etc. • Appropriate insurance package for the project should be designed that provides adequate cover against political risks e.g. guarantee instrument from World Banks IDA PRG (International Development Association-Partial Risk Guarantees), Asia Development Bank-Political Risk Guarantee (ADB PRG) to help investors cover against the risks of a public entity failing to perform its obligations. 	<p>in the concession agreement.</p>
Change in law risk	<ul style="list-style-type: none"> • The host country government may change laws that consequently render a project unprofitable. These include changes and reinterpretation of laws and regulations, changes in the procedures to deal with inflation, currency conversion and transfer, taxation rates, tolls/tariffs, and imports/exports. • BOT projects in Viet Nam often deal with this risk because of the vague and inconsistent language in laws and regulations, high inflation, devaluation of Vietnamese currency, uncertainty in taxation rates, toll/tariff price, etc. 	<ul style="list-style-type: none"> • Ensure concession agreement having the flexibility to provide for changes in law, including circumstances where contracts may be frustrated • Include equitable price adjustment clauses in the concession agreement to provide for changes to legislation that may impact upon the base contract price • Determine whether the public sector carries out the risks associated with major tax changes, and include appropriate provisions in contracts. • Insuring these risks with international political risk insurers. • Shift and share these risks with loan borrowers and output purchasers. 	<ul style="list-style-type: none"> • Host government guarantees against changes concerning import/export restrictions, price control and tax increase having significant effects on the project’s profitable operation.

From these general risks, every stakeholder has his or her own perception of risks. The perception of project's risks relates to how a particular stakeholder engages in the project's decision-making in concerning with achieving project objectives. This can be the source of conflicts because different parties have different interests in a project. The real causes of conflicts are varied and broad ranging. They can come from misunderstanding, values, interests, and personnel, etc. The perspective of government, investors, and contractors toward major risks of BOT projects in Vietnam are exhibited in table 4.6.

Risks in government's perspective	Risk in investors' perspective	Risk in contractors' perspective
<ul style="list-style-type: none"> - Focus on the benefits of the construction rather than the profit of whole life cycle of the project. - Poor financial, resources of invertors and contractors. - Unrealistic forecast future economic development, operational revenue and demand of the society. - Poor quality of construction. - Not follow the regular facilities maintenance. - Incorrect analysis of duration of ownership. - Land acquisition delay and compensation. - Delay transfer due to a desire to collect more profit. - The concession consortium convinces government to agree on converting BOT type into Build-Transfer type after project operated for a short time. - Cash flow inadequacy to meet debt servicing due to traffic revenue decline. - Inadequate experience in BOT project. 	<ul style="list-style-type: none"> - Lack of appropriate toll adjustment mechanism. - Risk of transportation network in region influencing to BOT project. - Risk of competitive projects. - Incorrect analysis of duration of ownership. - Delay in approval from government agencies. - Land acquisition delay and compensation. - Uncertainties in the traffic volume during the long contract period. - Poor prospect for economic growth of the local economy. - The government do not upgrade/ maintain infrastructure facilities linking to project. - Inflation rate increasing. - Unsuitable payment structure. - Maintenance cost higher than expected. - Change in planning policy. 	<ul style="list-style-type: none"> - Delay in approval from government agencies. - General corruption and untrustworthiness of public official. - Unstable material prices. - Delay in financial closure. - Land acquisition delay and compensation. - Unforeseen ground, bad weather condition. - Construction cost overrun. - Construction time delay. - Maintenance cost higher than expected. - Delay in procedure for approval. - Inadequate experience in BOT project. - Construction cost overrun. - Change in planning policy. - Operational revenues below expectation. - Interest rate volatility. - Exchange rate volatility. - Change in tax regulation Insolvency/default of sub-contractors or suppliers.

Table 4.6. Risk perspectives of parties of BOT projects in Vietnam

BOT-project risks in Vietnam can be classified in sector of construction, finance, legal and political perspective corresponding to process of risk management: risk identification, risk analysis and assessment, and risk allocation. Details of the process of risk analysis and assessment in dealing with risks applying in Vietnam are shown in table 4.7.

Steps of risk management	Construction risks	Financial risks	Legal and political risks	Tool and techniques
Risk identification	- Construction risks influence time and require money to be re-addressed. It relates to construction contractor, sub-contractor more than other stakeholders.	- Financial organization had a standard format or scheme for identification of relevant risks based on knowledge from previous projects, checklist, and external consultant.	- It is very difficult for stakeholders to identify relevant political and legal risks. Process of identification requires parties to have knowledge of law system and overview trend of politic movement as well as relationship between legal, political and economic.	- Checklist, experience, intuition, site visit, diagramming techniques, database, case study, brainstorming, workshops, external consultants.
Risk analysis and assessment	- Qualitative analysis: probability/impact analysis due to technique experience, intuition, influence diagram. - Quantitative analysis: monetary value, sensitivity analysis.	- Qualitative analysis: external consultant, experience, and intuition. - Quantitative analysis: sensitivity analysis, monetary value.	- The most tool and technique used to analyze legal and political risk are checklist and influence diagram under the form of qualitative analysis.	- Qualitative analysis. - Quantitative analysis.
Risk allocation	- Design and construction risks should be transferred to the BOT contractor through: fixed price contract, design risks, fund operations. - Contractor can reduce construction and design risks by risk premium and buy premium insurance.	- Lenders try to allocate the risks to other parties. They transfer all major construction risks to the construction companies (time and cost overruns, design risks). All operational risks such as escalating life cycle costs or technological changes are usually transferred to the operational companies, while the political and legislation risks are transferred to the public sector.	- Legal and political risks should be retained by government. - The government better retains the risk of land acquisition delay as the government has experience and resources to deal with this risk. - Other risks as demand risks, transfer risks should be share between government, users, investors and operators.	- Technique: risk elimination, Risk reduction, risk transference, risk retention. - Tools: guarantees, insurance, contract.

Table 4.7. Construction, financial, legal and political risks of BOT projects in Vietnam

4.7. Conclusion

This chapter has investigated many crucial aspects of risk management in PPP projects. It reviewed of risk management processes with many techniques, tools and strategies involving in each step. The crucial risk factors and major risks of PPP project were also outlined. They can be country-related risks, concessionaire-related risks, market-related risks that should be addressed in developing PPP projects. Risk should be evaluated through out the whole project lifecycle since risks are presented in all phases of projects. The general principal in risk allocation is that risks are distributed to party who are best in management them with less cost. In addition to that, the important principals such as fairness, transparency, accountability, and sustainability should be considered for a proper risk allocation. This chapter also built a framework of risk management of PPP model that can be helpful for applying in practice. This framework presents process for identifying, assessment, allocating and monitoring risks and its aim is to achieve balance of interests between different parties and ultimately realize the value-for-money for all partners of the project. The framework shows the requirements, actions, activities, and outcomes that each party in a project should do in each step of risk management process accompanied with the project phases to improve performance and achieve the project's objectives. Furthermore, it also proposed the useful techniques and strategies that should be approached to increase efficiencies. The authors hope this framework will help investors improve their risk management process for investing in PPP projects in general and in BOT projects in Vietnam in specific.

Based on the analysis of risk management practice in BOT projects in Vietnam, many crucial risks, stakeholders' perspectives and risk management practice are presented. The mitigation measures to deal with major important risks as well as the government guarantees and supports are also proposed in this chapter. Based on such analysis, the author sees that almost BOT projects in Vietnam have not allocated risks properly and systematically that usually lead to conflicts and even failures of project. Therefore, developing a practical risk management framework as discussed in this chapter is the most important strategy for improving performance of PPP projects in Vietnam nowadays. The framework of risk management discussed here can be set as an example in managing risk in Vietnamese BOT projects. Through the framework, partners in a PPP project will see clearer and more systematic activities in managing risks and avoiding the confused activities when managing risks. However, one must notice that it is impossible to establish a rigid framework that can apply in every situation, in every project due to the distinct characteristics that require us have to be flexible when applying this framework. In more general, transplantation a successful institution from one project in a country to another project in another country is not sure the success. It should be based on several relevant aspects on specific context. Thus, the proposed framework of risk management here is only conceptual and qualitative. It needs further modification and testing. In the next chapter, the research will explore the institutional policy and legal framework, the principles of good project governance for the success of PPP project.

Chapter 5. Institutional policy and legal framework of PPP projects

5.1. Introduction

Institutional policy and legal framework must be in place when using PPP model to promote infrastructure development in a country. Establishing a clear institutional policy and legal framework can help both the public and private sectors understand the core value for a PPP project; and help the public sector execute the project efficiently. Private sector always examines the legal framework and its ability to ensure the effectiveness of long-term contracts. Legislation is needed to allow private sector to charge and collect user fees under a concession of PPP model. Specific laws may also be required to allow the public sector to contract with private sector for the delivery of services. Conversely, PPP projects will be very difficult to deliver in an unstable policy and legal environment.

In addition to that, the government has to demonstrate a clear, long-term and consistent political commitments when use PPP model to develop infrastructure system. Such commitments are really needed due to the inherent highly complex commercial and financial structures of PPP projects. The complexities can result from many stakeholders involved, a wide range of risks associated with the project, and the long-term nature of multi-funding-source project. Thus, it is required that the arrangements of policy and legal regulations must be flexible to response to circumstances which is changing over time, especially with project developed under PPP scheme. To meet these requirements, it is necessary to have a reliable and well-developed institutional policy and legal framework.

Furthermore, a good institutional policy and legal framework can be worthless if it is not underpinned by an effective system of public administration. In PPP projects, the role of host government is different with that in a traditional procurement. The government's role can be of exercising general supervision throughout the project lifespan, inspecting, monitoring and regulating. One of the most important functions of government is to manage procurement processes appropriately in order to facilitate the project meet the set of project objectives.

Given objectives of exploring the institutional policy, legal regulations, and governmental role in PPP project, this chapter is organized as followings. Section 2 of this chapter will investigate which actions should be done to create a good policy and legal framework. Section 3 will explore the principles of good project governance, which are usually used to motivate investors participating in PPP projects and ensure a good investment environment for them. The knowledge of these two sections will be use in analyzing policy and legal regime of BOT project environment in Vietnam in section 4 to examine the good and bad regulations of its. The summary of the problems in BOT project environment in Vietnam and recommendations for improving are also presented in this section. The last section of this chapter will summarize the discussed issues and introduce the next issue, which will be addressed in later chapter.

5.2. Institutional policy and legal framework of PPP projects

5.2.1. Policy framework

Proposition: The Public-Private Partnership process should have a coherent policies in which clear objectives and principles, realistic targets and measure of achieving them are set up

appropriately in order to win the support of the population for the PPP approach (United Nations Economic Commission for Europe (UNECE), 2008).

It is necessary to set up clear economic objectives in PPP policy. Governments should have clear goals and objectives in their PPP policies to drive their strategies in development infrastructure. For example, governments can argue that whether a given service should remain in the hands of the state, or be turned over to other private organizations to offers the best “value for money” in PPP scheme. Thus, government should set up the most efficient method to achieve it goals and objectives (UNECE, 2008).

Such efficiency method would not be sufficient to convince members of the public and other stakeholders that the PPP approach is best suited to deliver public services unless it links to strong social objectives. In fact, public services are not commercial products since they tend to be heavily dependent on taxpayers money. Moreover, public services have unique characteristic such as commitment to the community so that the public interest goals cannot be substituted in public services. Such public interest goals can be social equity, inclusiveness, accessibility, transparency and accountability, etc. These goals are especially very important to developing countries since they want to both increase the efficiency of their services and increase accessibility of basis services to citizens, specifically with those who are economically and socially disadvantaged (UNECE, 2008).

In addition to that, a good policy should be linked with “core values and principles” of governments that will be used when implement the government goals. It is important to clarify that those core values principles need to be safeguarded in PPP model. The typical key concerns of the public such as:

- What are the core values of government must protect?
- How can public officials maintain the integrity of these values?
- In what ways can PPP projects serve the public interest in a manner that is both equitable and sustainable?

These questions concern a number of important issues such as access to services, cost to citizens, fairness and equity, conflicts of interest, financial accountability, stability and quality of services provided. In order to examine how core values and principles are implemented, governments can take into consideration the following aspects:

- The types of PPP projects that governments will use
- The degree of risk that government will allow
- How government proposes to manage risk
- The risks government is not plan to accept
- The criteria for determining whether PPP project are a viable method of service delivery
- Governmental policies on the involvement of stakeholders

Moreover, PPP policies should be ready for change and try to reach consensus between stakeholders in such change. During developing of PPP procurement, mistakes will be unavoidable and refinements are really needed. The policy process can become one of continuity with an inherent ability to innovate and take on new models of cooperation. As PPP procurement has a nature of complexity because of many stakeholders involving, the elaboration of PPP policy should involve all relevant parties within government as well as out side government. Governments should bring together all representatives from different ministries to discuss the use of PPP model so that some good ways can be found for

implementation and avoid contradictions and overlapping. An effective policy implementation will be enhanced by a good coordination and cooperation within the government. In addition, it is also helpful to consider consultation with most relevant stakeholders while preparing the policy so that it can influence various existing policies and arrangements. This will give all stakeholders a chance to be involved in the policy's preparation (UNECE, 2008).

During the process for preparation of a good policy for PPP projects, it is crucial to identify the right PPP projects that have realistic targets. It is difficult to select the right projects and sectors in order to achieve success. However, there are some good starting points that can be used as a reference for applying as following:

- The projects should satisfy a social and economic need, while their delivery should be important to most political opinions.
- The projects can be robust if they involve known and tested technologies with a potential market of suppliers.
- The project payment stream should be affordable by the sponsors. It is important that the project should be of a sufficient size to interest international financiers and concession companies.
- The payment stream should not only be affordable to the end-users but also be creditworthy to avoid public objections to the project.

Then, governments should prioritize and identify realistic goals for their PPP policy by starting with those projects that are most likely to be successful and are relatively simple and straightforward. It is also important for the governments to establish procedures for consultation between the public and private sectors. Misunderstanding and even conflicts can exist between government and private sector, so establishing an informal mechanism and opportunities for dialogue between them are important to reduce problems before more serious problems can emerge (UNECE, 2008).

Lastly, a good policy framework should provide comprehensive and simple guidelines and enough confidence to the investors. Governments can give incentives to investors by supplying useful information of policy for investors from the stage of planning and preparation of project. Moreover, there should be an appropriate number of projects coming into the market at the right pace to ensure that constructions and facility management firms have the capacity and financial ability to keep pace with the potential projects (UNECE, 2008).

5.2.2. Legal framework

Proposition: Investors in PPP projects need predictability and security in fewer, simpler and better rules. In addition to that, the legal framework needs to take into account of the beneficiaries and authorize them to participate in legal process to protect their rights and guarantee them access in decision-making (UNECE, 2008).

Framework of law and regulation should be clear, secure, predictable, stable, consistent and commercially oriented in order to motivate PPP projects to flourish. Such characteristics of legal and regulation would create a favorable environment and stimulate private sector participating in PPP projects. To create a good law and regulation framework, governments could base on following key principles and priorities:

- The rights of investors of disposing of their property and assets should be protected.

- Quality of legislation can be promoted by a fewer, better and simpler rules.
- Making enforcement more business sensitive.
- The effectiveness of the judiciary can be improved by the enforcement of contracts.
- The legal framework for PPP project should be developed on the basis of thorough consultation in areas which most directly affect the start up of the project and its operation, including concession, tax, competition, procurement and company laws, etc.

PPP legislation should be fewer and flexible in which it is permissive in focusing on achieving outcomes, while setting various parameters in order to provide incentives for partners can design and implement projects efficiently. The over-complicated and rigid of legislation will hinder investors' willingness to invest in infrastructure development. To make the PPP legislation be fewer and flexible, governments should execute the following tasks:

- Removing burdensome legal constraints on investors using public assets.
- Revising the provisions in the constitutions.
- Removing, streamlining unnecessary approval procedures for construction and land use.
- Removing legal restrictions on the investors' right to use the benefits of their investment, such as the ability to dispose of their equity investment in the Project Company at market prices and to repatriate the profits out of the country.

On another aspect, simple procedures of PPP legislation will improve competition from which governments can have many chances to choose good partners for PPP projects. In order to simplify the procedures of PPP projects, governments can standardize contracts to promote a common understanding between stakeholders. As a result of this, they can share understanding of the main risks, create consistency of approach and price across a range of similar projects and reduce the time and costs of negotiation by enabling all parties to agree a standard approach without extended negotiations. Another practice can be used to reduce the procedures of PPP projects is bundling projects. This approach involves contracting with just one partner to provide several small-scale projects and incremental partnership that allow a partnership to be developed by stages rather than in one time. In these practices, economies of scale, lower costs are used to boost incentives for investors. Another practice also can be used by the governments is the "Competitive Dialogue". This approach involves working with bidders to develop technical and commercial solutions. This approach can lead to solutions that overcome the inherent complexity of PPP projects, whereas the contracting authority must to guarantee the fairness in the tendering procedures and avoid favoritism.

PPP legislation would be better if it is knowable and secure. This will allow investors to plan investment decisions in a longer-term when entering into PPP projects. These factors can attract a better quality of investment. In PPP project, better predictable rules can allow lenders and investors to better quantify risks leading to more efficient in identifying, assessment and allocating risks between parties. As a result of this, an overall success of projects will be enhanced. Thus, lenders and investors will often look for a predictable and reliable framework on investment laws, tax, security, corporate law, contracts, and dispute resolution law in the host country, etc. Due to the nature of limited recourse in project financing in PPP projects, lenders usually look mainly to the legal and contractual framework for protection and need to be assured of its long-term stability and predictability. Such predictability can include such things as no restrictions on foreign or private ownership, exemption of construction and other expenses, tax treaties in the host country, no withholding tax on interest or dividend payments and the offer of other suitable tax incentives, etc. (UNECE, 2008).

Improving legal processes can improve the arbitration processes together with fair and consistent enforcement. In fact, governments can improve the legal framework to diminish the lawsuits, which can be very expensive and burdensome in PPP projects if they happen. The investors need to be confident that the judiciary will enforce the laws and enforce contracts. In addition, the necessary administrative documents such as authorization and licenses to implement the PPP project must be easily obtainable. The concern of the investors is that local courts favor the local public partners due to the obligation for arbitration to take place in local courts. The local judiciary will not enforce the decision if the judgment is held outside the country. Thus, arbitration needs to be widely recognized and generally not obstructed. The recent trends in arbitration in PPP model are the use of foreign courts to deliver arbitration settlements and increase interest in the use of mediation. In regard of fairness and consistency, governments need to make enforcement and implementation more business-friendly by helping investors to comply with rules and become real partners in PPP projects (UNECE, 2008).

Finally, it is important to train lawyers and judges, while empowering citizens to use the legal processes, which are also essential to creating good legal framework. This is because many legal issues in PPP project will be new and required to update for applying. Legal framework is required to extend the rules of law to groups that do not have access to laws to protect their right. Legal empowerment especially refers to the socially and economically disadvantaged citizens who need to improve their access to basic services. One way to improve legal empowerment is to well inform citizens of their rights to access good services and to enable them to participate in decision-making, especially while the project is still in the planning stage. Governments should create mechanisms for early public participation and build up the constituencies who will use them. Otherwise, legal empowerment will become a right that cannot be used or implemented (UNECE, 2008).

5.3. Main principles of good project governance

From the policy and legal framework mentioned above, it is easy to see that the involvement of government in PPP project plays one of the critical roles to ensure for project to be successful. It can promote the mobilization private loans and equity for projects by governmental supports and guarantees in long-term PPP projects, which can enhance the financial viability of PPP project within uncertain environments and various kinds of stakeholders involving. Good supports and guarantees from the host government will provide sufficient confidence to investors so that the project becomes financially viable. The questions emerged now are how can government motivate private sector participate in PPP projects? What are good project governance in PPP projects?

In a research about stimulating private parties investing in public urban infrastructures in a sustainable manner and discouraging opportunistic behavior, Koppenjan and Enserink (2009) presented good and bad practices in the policies, laws and institutions that regulate private sector participation in infrastructure development. These practices refer to the attempts of governments to realize and regulate private investment in public infrastructure and to the institutional environment in which these attempts take place. What makes a practice good or bad depends on its ability to influence on the behaviors of public and private partners by stipulations in the policy to govern the project. The host government can use these practices to create a willingness to invest from the private investors, establish a good design of contract, and prevent regulation from failure in infrastructure projects (table 5.1).

Key issues		Good Practices	Bad Practices
Creating a willingness to invest from private parties	Making private parties confidence in prospects for return on investments	<ul style="list-style-type: none"> Trade-off return on investment with the user charges. Give chances for private sector participation in the planning and preparation phase to apply its knowledge for improving the financial viability of the project. 	<ul style="list-style-type: none"> Too little attention to affordability problems and efficient use of resources, resulting in unequal access to public services or underinvestment and inefficient use of scarce resources.
	Managing good scope in combing with externalities	<ul style="list-style-type: none"> Cross-subsidizing of the profitable and unprofitable project parts. Internalizing positive externalities and package deals. 	<ul style="list-style-type: none"> Lack of scope management can lead to missing opportunities for reconciling business opportunities and sustainability. Private parties invest only in the profitable parts of the project at their own discretion.
	Managing risks perceived by private parties	<ul style="list-style-type: none"> Selecting reliable and professional parties committed to project team. Preventing transfer of many commercial risks to government. Guarding a minimal level of competition. 	<ul style="list-style-type: none"> Fail in selecting the reliable partners. Private parties have chances to transfer many risks and costs to government, taxpayers, and end users. Creation of private monopolies.
	Reducing political uncertainty	<ul style="list-style-type: none"> Placing regulator at arm's length of politics. Good coordination between government agencies. Clear, consistent and coordinated institutional framework. 	<ul style="list-style-type: none"> The government agencies are lack of coordination. Unstable coordinated policies, legal and institutional framework.
Design of the contract	Form of the contract	<ul style="list-style-type: none"> Contract form should fit specific technological, strategic and institutional setting. 	<ul style="list-style-type: none"> One size fits all.
	Getting the incentives right	<ul style="list-style-type: none"> Setting good price regulation, service quality standards, coverage targets. Provisions for modifying tariffs, service levels, technologies, and renegotiation during operation. 	<ul style="list-style-type: none"> Establishing the monopolistic arrangements can lead to market failures. Rigid contracts; practice of unanticipated ex post renegotiation of contract conditions and hold-up.
	Financial capacity building	<ul style="list-style-type: none"> Benefit sharing agreements. 	<ul style="list-style-type: none"> Failure to prevent excessive private profits, wrong concession duration. No provisions for financial capacity building.
	Affordability problems	<ul style="list-style-type: none"> Income measure and credit facilities. Differentiation of tariffs, services, and management solutions. 	<ul style="list-style-type: none"> Failure to prevent realization of expensive, overengineered infrastructures resulting in central, standardized service delivery, unequal access, limited coverage, affordability problems and political instability.
	Process of contract design	<ul style="list-style-type: none"> Competitive bidding or competitive negotiation. Early private involvement; design space. Involvement of all stakeholders and end users. 	<ul style="list-style-type: none"> Un-competitive negotiation bidding. No early private involvement. Lack of mechanism to articulate stakeholders' interests.
Prevention of regulation failure	Preventing regulatory capture	<ul style="list-style-type: none"> Build regulatory capacity; get the right mix of expertise. Provide resources, guidelines, training programs, indicators and standards, knowledge exchange facilities. 	<ul style="list-style-type: none"> Lack of regulatory capacity. Inappropriate mix of skills and expertise in regulator's office. Lack of in-house expertise and of mechanisms for developing knowledge and expertise.
	Preventing regulatory rent seeking	<ul style="list-style-type: none"> Increasing transparency and accountability mechanism. Design codes of conducts; create training programs; develop strong corporate spirit, reduce asymmetries in salaries. 	<ul style="list-style-type: none"> Regulator and staff try to get their own personal profit because of the close relationships with private providers, high corruption. Lack of transparency, accountability structures, and asymmetries in salaries.

Table 5.1. Principles of good project governance in public infrastructure development

Source: Joop F. M. Koppenjan and Bert Enserink, 2009 (adopted)

These good and bad practices are set as the basis points for investigating the policy and legal regime of BOT project environment in Vietnam. Through such investigating, we will find out what are the problems of BOT project environment in Vietnam. The purpose is to find appropriated ways to improve it, and therefore enhance the performance of PPP projects in Vietnam as well. Furthermore, the notions of good and bad practices in this table also can be served as references to correct some problems, and obstacles existing in BOT project environment in Vietnam.

5.4. Policy and legal regime of BOT project environment in Vietnam

5.4.1. Vietnamese BOT Decree

Vietnamese government has a very limited budget to fund for infrastructure projects. It is aware that the country's economic growth could be deterred if its infrastructure development falls behind. Thus, Vietnamese government has applied PPP model under form of Build-Operate-Transfer (BOT) scheme. This form is considered as an attractive measure to develop new infrastructure projects in Vietnam because of its benefits bringing to infrastructure development. Since the early 1990s, government has announced its desires for domestic and foreign private investment in development public infrastructure system in Vietnam through Investment Law with many incentives and guarantees, especially for power and transportation development. The government's determination was shown via passing of the BOT law during this period. The latest BOT law is Decree 78 of the government date 11th May 2007 on investment in the form of Build-Operate-Transfer (BOT), Build-Transfer-Operate (BTO) and Build-Transfer (BT) contracts. This BOT legislation plays an important role as the legal framework for all infrastructure projects developed under these types of procurement in Vietnam. This section will analyze briefly some crucial points in this decree to illustrate some of the main regulations in BOT law in Vietnam. Through this analysis, this section also discusses some of shortcomings that the decree remains and exhibit its good and bad regulations based on the knowledge discussed previously. It is also especially useful for foreign investors to know more about legal framework of BOT scheme in Vietnam.

5.4.1.1. Governing scope

This BOT Decree presents some ways for the private sector to invest in infrastructure in Vietnam. Article 1 of this BOT Decree provides that Build-Operate-Transfer (BOT), Build-Transfer-Operate (BTO), and Build-Transfer (BT) are the three main ways for private sector participating in public projects in Vietnam. Besides, it also stipulates that investors may invest in other relevant contract forms of PPP model depend on the approval of the Prime Minister. Even though this BOT Decree does not specify clearly which alternative forms can be used (such as Build-Operate-Own (BOO), Build-Operate-Sell (BOS), and Build-Lease-Transfer (BLT)), the Prime Minister will have the discretion to decide on different methods of investment in infrastructure by the private sector. However, the shortage of unclear procedure and lack of detailed specifications from the regulation, such projects in alternative forms can be swamped with many unnecessary requirements when they are executed. The bureaucracy has to obtain time-consuming instructions from heavy hierarchical governmental agencies before proceeding (Freshfields Bruckhaus Deringer, 2007). Therefore, although the BOT Decree stipulates that private sector can apply other forms of PPP model, but in practice no private investor wants to apply them because of complicated requirements required.

5.4.1.2. Sectors in which project is encouraged

According to article 3 this BOT Decree, the government encourages private sector participate in (1) land roads, bridge, tunnels and related utilities; (2) railways and tramways; (3) airports, seaports, river-ports and ferry-landings; (4) water plants, drainage systems and waste or sewage treatment systems; (5) power plants, power transmission lines; and (6) other infrastructure facilities as decided by the Prime Minister. The projects outside this list are also prepared to examine if investors propose. An annual list of projects, which call for investment in the form of BOT contracts, is published to every domestic and foreign investor. Nevertheless, this list is not exhaustive since the Prime Minister has the discretion to decide on other infrastructure sectors or projects that can get the same problems as discussed in the previous part. Moreover, it is easy to see that distribution infrastructure such as water, gas or electricity distribution, which requires a huge of capital, and telecoms cannot be built by way of BOT projects if the Prime Minister does not make any special decision (Freshfields Bruckhaus Deringer, 2007).

5.4.1.3. Capital of the project

Article 4 provides that the equity of investors used for carrying out a BOT project shall be raised in accordance with the schedule agreed in the project contract and must reach the following minimum ratio:

- (a) With respect to projects with total investment capital of below VND 75 billion, the equity of the investors must not be lower than 30% of the total investment capital of such project;
- (b) With respect to projects with total investment capital of between VND 75 billion and below VND 1,500 billion, the equity of the investors must not be lower than 20% of the total investment capital of such project;
- (c) With respect to projects with total investment capital of VND 1,500 billion or more, the equity of the investors must not be lower than 10% of the total investment capital of such project.

Through this article, the BOT decree does not mention the sources of funding for project as well as the limitation on the source of debt. The debt can be raised partly or wholly from the state-banking sector. It also does not prescribe limitation on any payment or subsidy by the state to the investors or project enterprise.

Article 5 of this BOT Decree stipulates that state budget funds may only used to contribute capital in a BOT project of up to 49 percent of the investors' equity. This good point can slow down the participation of State-Owned Enterprises in BOT projects.

The project company can issue shares to the public if it meets the requirements in section 1 of the article 12 of the Law on Securities and Securities Market: Joint Stock Company must have the charter capital of VND 10 billion or above and have profit in the previous year and have no accumulated loss.

5.4.1.4. Security for implementation the project contract

According to article 19 of BOT Decree, investors must provide security that the project will be built. It requires that the security must be provided when the BOT contract is signed. The amount of money as security for the obligation to implement the project contract must be equal to the following minimum percentage:

- (a) One percent (1%) of the total investment capital of the project in respect of projects with total investment capital of VND 1,500 billion or more.

- (b) Two percent (2%) of the total investment capital of the project in respect of projects with total investment capital from VND 75 billion to below VND 1,500 billion;
- (c) Three percent (3%) of the total investment capital of the project in respect of projects with total investment capital of below VND 75 billion.

However, this decree does not state under which circumstances, the security will be surrendered in the BOT contract.

5.4.1.5. Selection of investors for project contract negotiations

According to article 10 and article 11, BOT decree stipulates that the selection of investors can be applied in two ways: tendering process and direct selection. Vietnamese government requires tendering process in all circumstances with a few exceptions for selection of contractors and direct negotiation with investors. However, the tendering bidding is usually very slow and not completely competitive in practice, especially with big projects developed under BOT scheme since the vague language in the BOT decree regulations. The appointment of the investors to enter directly into project contract negotiations shall only be conducted when one of the following conditions is satisfied:

- The Authorized State body has carried out pre-qualification of investors for project contract negotiations, but there is only one investor who satisfies the requirements of the pre-qualification;
- The project is required to be implemented in order to satisfy an urgent requirement for use of infrastructure facilities or to ensure a continuous requirement for use of products or services, but it is unable to carry out tendering for selection of the investor(s) for project contract negotiations;
- An investor proposes its own project and does its own pre-feasibility study (unless two investors propose a similar project, in such case a tender is required);
- Other cases as decided by the Prime Minister.

This article leaves some spaces for coming into being as the conditions for direct appointment of investors. The private investors, especially foreign private investors, usually make use of the second exception of this article to require for direct negotiations without tendering from government. They justify that the project is in urgent and know that Vietnamese government does have not enough budget and the domestic private investors cannot execute these huge capital investment. They will just wait for the suggestion from the host government so that they will have more power in putting the price of tariff/toll of service. The third exception is considered as an un-transparent way to get the public projects without real competitive tendering procedure.

5.4.1.6. Right of lenders

If the project company defaults on loan agreement or the BOT contract, lenders will have the right to step-in and take over the BOT project partly or wholly. This is a good point of this BOT Decree. The section 3 of article 15 of this BOT Decree stipulates such step-in rights must be set out in the financing documents and must be agreed by the Authorized State Body (ASB). Issues consist of the following:

- Lenders will need rights of remedy for a sufficient period of time to step-in, and appointment of an interim operator and/or substitution. However, there is no specific confirmation that the ASB will provide such consents and acknowledgements of the lender rights as are necessary because of the absence of relevant regulations.

- Lenders have to perform fully all the respective obligations of the project company or the investors as stipulated in the BOT contract. However, lenders will not want to be responsible for obligations that have accrued prior and up to date of the step-in notice.

5.4.1.7. Dispute resolution

This BOT Decree stipulates dispute resolution based on the sources of the investment capital. Article 42 of this decree provides that:

- Disputes between domestic investors or between domestic investors and authority state bodies (ASBs) under the BOT contract must be referred to either Vietnamese arbitrators or Vietnamese courts.
- Disputes involving a foreign-invested project company may be referred to foreign, international or ad hoc arbitration.
- Disputes between foreign investors, foreign-invested project companies and the ASB may be referred to arbitration or courts outside of Vietnam.

The good point in this BOT Decree is that it allows the application of foreign law with respect to BOT contracts, contracts guaranteed by the government and other contracts connected to the project. However, the condition is that the foreign law must not conflict with the basis principles of Vietnamese law. This may require investors to obtain a Ministry of Justice opinion each time the application of foreign law is used.

5.4.1.8. Tax incentive

Article 35 provides that project companies are entitled to the same corporate income tax incentives as are available to special preferential investment projects. Under the current regulations on corporate income tax in Investment Law, projects on the special preferential investment project list will be entitled to a corporate income tax of 10 percent for at least the first 15 years. Article 35.1 stipulates that preferential corporate income tax rates applicable to project companies will be applied for the whole duration of the project. Thus, it is unclear whether project companies would automatically enjoy a corporate income tax of 10 percent for the whole duration of the project or whether they are still required to obtain the approval of the Prime Minister.

Project companies will also be granted a tax exemption of four years after starting the first-profit making year and a 50 percent exemption for a further nine years.

Project companies are also entitled for an import duty exemption on equipment, machinery and specialized vehicles including spare parts and accessories that are utilized for creating assets of the project, as well as fuel, raw materials and other kind of supplies used for the BOT project.

Protected industrial property rights, technical know-how, technological process and technical services required to implement a BOT project are exempted from payment of taxes relating to the technology transfer.

5.4.1.9. Government guarantees and supports

The government may guarantee the conversion of Vietnamese Dong into foreign currency in respect of projects in the power, transportation infrastructure and waste treatment sectors.

The government may provide loan guarantees, guarantees in respect of offtake obligations, raw material input obligations and other contractual obligations, and specifically guarantees

of the obligations of state monopolies regarding the sale of raw material to, and purchase of products and services from the project company.

Project companies may use assets that are financed by loan proceeds or other forms of security in accordance with Vietnamese law and regulations to secure foreign loans. However, they may not grant a mortgage of land-use rights to any foreign investors, lenders. Instead, they may mortgage or pledge the following things:

- Plant and equipment, buildings and other assets purchased or constructed with the invested capital of the BOT company (invested capital includes loan capital).
- Other assets owned by the BOT Company.
- The value of the land use rights (as referred to above)
- The property rights of the BOT Company such as rights in project agreements and receivables arising from the project agreements

However, any mortgage or pledge must be approved by the State body with whom the investors enter into the BOT contract.

The government also gives the project company the right to use land free of land rent from the whole duration of the project. In addition, the government also supports the BOT Company directly in regard of granting the investors the right to collect toll/tariff on an existing adjacent facility; and granting land development rights in the road corridor. However, this option is being reconsidered because of the non-transparency in the cost of land-use-right since the BOT decree does not mention anything about it.

There are some issues in the government's incentives and guarantees. First, it is vague about the responsibilities of the assigned authorities under which situations, they grant the guarantees to investors. It is uncomfortable that investors, who need government guarantee for a project, will need to be make sure that the guarantee requested is approved by the Prime Minister before the BOT contract is negotiated. Unfortunately, the bureaucratic approval process is usually ambiguous. While various short time frames are provided to obtain decisions from government authorities on BOT project quickly, they all start from the receipt of all "eligible documents" which is very complicated and time-consuming. One of the deterrents for investors is the slow speed and lack of transparency in the evaluation process. While the Ministry of Finance will be responsible for evaluating the investor's submission and act as guarantee provider, it does not have any representative in the Inter-branch working group, which is established by ASB to assist the ASB and investors in resolving the issues related to project. Moreover, the budget allocation for financial supports such as capital grant, service payments or subsidies to investors has not been executed well by the Ministry of Finance because of the lack of competent government officials and relevant regulations. The provision for state subsidy of long-terms is not mentioned which makes the project's financial viability be reduced. These unclear allocations of authority's responsibilities, un-transparent procedure for executing and lack of fiscal management make the investors to be uncertain in gaining these incentives, guarantees and supports from the government for projects.

5.4.1.10. Toll/tariff price issue

Reaching agreement on price is usually the hardest part of negotiating a BOT deal in Vietnam. The government sets the ceiling for toll/tariff rigidly and they usually cannot be used to serve the debt service. Thus, the negotiation of change in toll/tariff is often happened. According to article 27, the BOT Decree allows the parties to increase price with

the conditions applying to such price increases. According to the law, any changes in tolls, fees and charges other than those contemplated in the BOT contract must be approved by the ASB. Investors and financiers in certain sector can get some difficulties in such provisions due to the lack of independent regulators that can prolong time and costly for investors. Thus, the investors usually are difficulty in negotiating and changing price of BOT project if something happen. The World Bank (2008) states that this is not good because it is better for the independent regulator to approve these changes such as Ministry of Finance. Moreover, the decree does not mention about how fee exemption and discount to be applied and about how tariff are to be adjusted.

5.4.2. The procedure to execute BOT projects in Vietnam

The procedure to execute a BOT project in Vietnam takes place in six stages: Project identification and preparation, Project Bidding, Contract execution, Project approval, Project Implementation, Project termination as in the figure 5.1

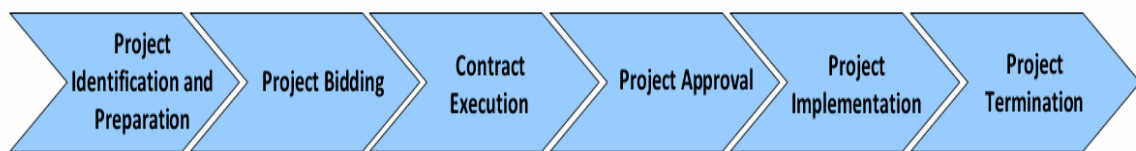


Figure 5.1. Stages of BOT project in Vietnam

Source: The World Bank (2008)

5.4.2.1. Project identification and preparation

Typically, Vietnamese government will take the responsibility of planning development process of BOT projects through a master plan, and then it announces a list of potential projects to public to call for the private investors invest into them. The authorized state bodies (ASBs) such as Ministry of Planning and Investment (MPI), Ministry of Transportation (MOT), Ministry of Industry and Trade (MOIT), Provincial People's Committees (PPCs), etc will be responsible for project identification and preparation. MPI is responsible for the giving the comments on all lists of projects calling for investment submitted by ASBs, and it must render this task within 30 days.

When the project lists are approved, the ASBs will develop project proposal, assessing projects' feasibility and developing tender invitations by themselves or renting the competent experts, consultants.

The investors may get information about these lists of projects calling for investment via governmental websites or state newspapers and may contact directly with the designated government agencies for details.

There are some issues need to be discussed in this stage. It is easy to see that the investors are not involved early in this stage. Therefore, they cannot contribute their voices, knowledge and expertise in this phase. In addition, even though they can carry out the feasibility study itself, it is usually under the control of the government agencies since the this feasibility study will base on the information provided in master plan, which often includes the optimistic data. As a result, the project design and planning work was actually based on biased information, so it is obviously unreliable. Unfortunately, the investors had to accept the consequences of these unprofessional and incompetent behaviors of the government officials without bargain. The consequence is that the concession company will get the low revenue and profit than estimated in the feasibility study to serve the loan debt.

Furthermore, local organizations, stakeholders and end-users are not presented in this stage that harm to the sense of project ownership. The lack of competence of government officials and un-coordinated between ministries and agencies are also the problems causing delaying in approval and the inaccuracy of data. The coordination between agencies and related ministries involving is not compulsory during this phase. The BOT Decree let decision-making right with individual ASB.

5.4.2.2. Project Bidding

According to BOT Decree, the project bidding can be operated by the Tender Specialists Group (TSG). This group will be responsible for preparing the tender invitation, organizing bidding procedure; evaluating and rating the bidders followed the approved selection criteria and requirements. One of the good points in this BOT Decree is that it provides for the establishment of an Inter-Branch Working Group (IBWG), which is formed by ASB to support the negotiation of BOT contracts provided in article 6. This group is funded by the state budget. If applying this article, the investors may eliminate numerous cumbersome authorities to reach an agreement by having a central coordinator to resolve conflicts during the process development.

Then, investors can participate in tendering procedure to select the most qualified bidder for implementation of the BOT projects. Each investor may submit one bid as a single entity or a joint venture with other bidders. The decree requires tendering process in all circumstances with a few exceptions for selection of contractors and direct negotiation with investors. A good point in this BOT Decree is that it allows investors to negotiate various relevant contracts such as contracts for land lease, construction, installation of machinery and equipment, consultancy services, inspection, purchase of raw materials, sale of products, services, provision of technical services, loans, mortgage or pledge or property and other contracts at the same time as they are negotiating the BOT contract. This will help such contracts are consistent with the BOT contract (article 14).

There are some issues should be discussed here. Firstly, the establishment of inter-branch working group is a good point in this BOT, but the decree does not make the establishment of this group mandatory. It is base on the discretion of ASB to decide on the establishment and operation duration of this group. In addition, this group is usually shortage of budget for operating efficiently and effectively. Thus, this good point of this decree can be eliminated because of the lacking of financial sources and uncertainty for its compulsory establishment in every project. Secondly, there is not any representative of Ministry of Planning and Ministry of Finance in the Tender Specialists Group and Inter-Branch Working Group. The lack of representatives in these groups can lead to the conflict interests between TSG, IBWG with MPI, MOF in term of the approving investment license, the ancillary contracts, government guarantees and other relevant agreements, etc. This problem can cause dallying in approval and sometimes the contracts need to be renegotiated costly. Thirdly, the decree also does not prescribe when and how international or domestic bidding is set up.

5.4.2.3. Contract execution

The investors will sign project agreement with ASBs after they are selected in bidding step. With the projects with government guarantees, ASBs are required to submit their proposals to the Prime Minister for approval before negotiating the project agreement.

In case of incorporation of the project company, BOT Decree allows that company to become a signatory to the BOT contract and to assume rights and responsibilities established in the contract. It can assume the investors' rights and obligations. This is a good point in this contract because investors prefer imposing rights and obligations directly on the project company and limiting their obligations regarding the implementation of the BOT project to certain agreed areas.

The shortcoming of the decree in the step is that although investors is allowed to negotiate a wide range of ancillary contracts and other contracts, the decree is unclear in allocating ASBs the responsibility to facilitate the negotiation of them. In this regard, it is likely that the negotiation environment for these contracts would be emerged. It will be time-consuming for investors that every government guarantee for BOT project needs to be approved by the Prime Minister before the contract is executed because of the bureaucratic approval process, un-transparent procedure in the evaluation process and complicated "eligible documents".

5.4.2.4. Project approval

According to article 17 of this BOT Decree, The Ministry of Planning and Investment shall be the core point to organize evaluation and issuance of investment certificates to projects. Investors in domestic project companies must carry out business registration procedures after being granted an investment certificate. Investors in foreign-invested project companies are not required to do so because the investment certificates for foreign-invested project companies also serve as business registration certificates.

The BOT Decree provides that all BOT projects will have to be licensed by the Ministry of Planning and Investment after consulting with the relevant ministries and provincial people's committees and/or the Prime Minister for projects requiring Government guarantees.

The problem in this step is that as the MPI shall be the core point to organize evaluation and issuance of investment certificates to projects. Thus, this raises question about the extent to which the State of Vietnam stands behind a BOT project and whether there is any room for a future government to assert that it is not bound by a particular BOT contract that turns out to be disadvantageous (Freshfields Bruckhaus Deringer, 2007).

5.4.2.5. Project Implementation

The project implementation will start when the project agreement is signed and the project enterprise is established. There are four steps in this phase: site preparation and clearance; technical design and performance of construction; construction supervision and commission; management and exploitation of the project.

The process for site preparation and clearance is the most time-consuming step in executing infrastructure projects in Vietnam. It involves a notification of intention of land acquisition for the project, survey, file public objections if any, and hearing, decision by competent authority, declaration, compensation and processing of the land and the land details, such as the extent of the land required, classification, cost, and ownership. The land acquisition process can vary due to the size of the project and the amount of political supports given by the government. There are many issues in land acquisition in Vietnam as following:

- The land price for compensation is applied according to the Government's price, but it is not followed the market price. The landowners usually receive very low compensation's

money and have no bargaining power. With very low compensation's money, the landowners cannot use this money to purchase a new land with the same value at that price.

- The land compensation price is applied according to different legal documents of provinces under project sites; as a result, there are differences on land compensation amount between provinces. Those who are received less land compensation amount will make lawsuits on these differences.

- In the case of agricultural land, the farmers are usually become unemployed after land is withdrew since the compensation amount is insufficient to buy a similar type of land and the government does not possess this type of land to compensate them. Therefore, farmers do not want to return land to the government for conducting the project and receiving low land compensation amount.

- The government officials, who involved in the acquisition process, can cause the delaying in land acquisition due to their mistakes in compensation. They may declare the compensated money wrongly to reduce the price of land compensation, which was approved before. They reduce the land compensation price in order to get benefit the gap between the compensation amount and the actual market price. This phenomenon is very popular in Vietnam and it raises many lawsuits in Vietnam now. The land acquisition process also presents an opportunity for corruptions from government officials.

- Even if the land for a project is acquired, physical possession of land free from existing utility services and other encumbrances involves lengthy and complicated coordination of many government departments. The government official is very weak in coordinating with others. Each government agency only cares about their own development plan and most of their projects were initiated and constructed with very few or even without synchronization with other departments. Instead of the spirit of supportive environment between government agencies, they create a competitive one to maximize their profit.

- The problem of fragment development has existed for a long time on Vietnamese roads and land acquisition along the road for enlarging often faces encroachment problems. Government cannot be full responsible for proper rehabilitation of encroachers but assists fund that is insisted in projects to help them move to new places. Identification and procurement of sites for rehabilitation of impacted persons near project areas could lead to the delay as well as a substantial increase in the land acquisition cost.

However, the BOT decree does not introduce any measures to secure the lands in time when the investors want acquired lands necessary for project execution.

In regard of the technical design and performance of construction, the ASBs have responsibilities in ensuring the consistent between the approved preliminary design and the technical design prepared and submitted by the project company. However, the decree does not clarify whether the project company is allowed to commission the designing consultants hired by the project company to do the design and build the project for it.

Tasks of construction supervisions, commissioning, management and exploitation of the project are the responsible of the hired consultants, project enterprise, state agencies, or ASBs. However, the BOT decree does not stipulate whether the private partners supervises itself or not in the construction phase.

5.4.2.6. Project termination

At the end of the duration of commercial operation of a project facility as stipulate in the BOT contract, the investors will transfer to the host government, without compensation and

free of debt, the project facility and the documents relating to exploitation or operation of the facility. The preparation time for handover the project is one year in advance. The decree also prescribes that the ASB shall only take over the transfer if the facility and equipment or property relating to the operation of the facility have been maintained and repaired as agreed in the project contract. In addition, the project enterprise shall be responsible for technology transfer, training and provision of necessary operational guidelines to the entity assigned by the State to further operate the facility, etc.

The obligations to ensure a proper transfer of the facility to the ASBs are the responsible of both the project enterprise and the investors. This regulation is likely contrary with the other regulation in which BOT Decree allows Project Company to become a signatory to the BOT contract and to assume investors' rights and responsibilities established in the contract.

5.4.3. Summarize problems and recommendations for improvement

From the previous section, one can see that the BOT Decree in Vietnam fails to address adequately many of the issues necessary for practicing PPP model to be successful. The BOT Decree has close relationships and is impacted by Law of Investment and other specialized regulations while these regulations are not synchronized. This causes some uncertainties and conflicts while operating BOT projects. The policy and legal framework is still unfulfilled. It fails in creating a good environment for the willingness to invest from the private investors, in establishing good design of contract, and in preventing regulation from failure. Thus, it needs to be improved.

In this section, the author will summarize all the examined problems existing in BOT project environment in Vietnam via BOT Decree and the procedure to executive a project. As mentioned before, the basic background for analysis the problems in BOT project environment in Vietnam is the principles of good project governance mentioned in table 5.1. Therefore, the problems will be classified following the key issues of this table in order to know what aspects in the Vietnamese policy and legal regime need to be improved. Some recommendations for improving these problems are suggested. The results are presented in table 5.2.

Table 5.2. Problems in BOT project environment in Vietnam and recommendations for improving

Key issues		Bad Practices	Recommendation for improving
Creating a willingness to invest from private parties	Making private parties confidence in prospects for return on investments	<ul style="list-style-type: none"> • The affordability of users toward the facilities is usually overestimated because of the unreliable information and data in the feasibility study. This problem results from not involving the end users in the identification and preparation phase. • Private investors are not involved in the early stage of development a BOT project. Thus, their knowledge and business expertise in project identification and preparation are not contributed. • Local organizations, stakeholders and end users are not presented in development of project. This often creates public objections in the future because of lacking of sense of project ownership. • Private investors can do the feasibility study themselves, but this feasibility study usually bases on the information provided in master plan of the government, which often includes the optimistic data and unreliable information. • The shortcoming of competent government officials, authorized agencies and un-coordinated relationships between ministries and agencies also reduce the willingness of investors to invest in BOT projects in Vietnam. The reason is that the coordination between agencies and related ministries in the project usually not compulsory. The authorized state body can abuse their political power to make the decision-making individually and usually for looking their own benefits. 	<ul style="list-style-type: none"> • Vietnamese government should create good conditions for private investors to be involved in the planning and preparation step to make use their knowledge and business expertise to project development. • All the stakeholders, local organizations, end users and impacted citizens should be guaranteed to access in decision-making of project development and ensure that their voices are listened in order to reduce the future public objections, potential conflicts. • The accuracy of feasibility study can be enhanced by involving all the stakeholders, shareholders, local organizations, and end users through a transparent, accountable process. The information should be published to all stakeholders. • The coordination between agencies and related ministries in a project should be mandatory and synchronic to enhance the effectiveness of operation. • Increase the transparency, accountability, and sustainability of relevant government agencies, authorized state bodies, and officials in operating PPP model. • Increase the effectiveness and efficiency in the administration procedure in term of knowledge management, document process, etc.
	Managing good scope in combining with externalities	<ul style="list-style-type: none"> • BOT decree does not cover the sectors such as water, gas or electricity distribution, and telecoms if the Prime Minister does not make any special decision. This shortcoming eliminates the cross subsidizing of profitable and unprofitable projects in developing infrastructure system in Vietnam and shows the missing opportunities for reconciling business opportunities. • There is no representative of Ministry of Planning and Investment and Ministry of Finance, which is responsible for evaluating the investors' submission and act as guarantee providers, in the Tender Specialist Group and Inter-Branch 	<ul style="list-style-type: none"> • The sectors such as water, gas or electricity distribution should be included in the BOT Decree to enhance the cross subsidizing of profitable and unprofitable projects by creating a favorable mechanism in investment as well as the procedure to get approval from Prime Minister. • The complexity of the procedure can be reduced by applying a “one-door” mechanism in which all the steps to get approval should be authorized to one government agency. • The BOT Decree should stipulate that the Tender Specialist Group and Inter-Branch Working group must be established mandatory; government

Table 5.2. Problems in BOT project environment in Vietnam and recommendations for improving (continue)

		<p>Working group. This can reduce the effectiveness of these groups and prolong the time for executing project because of the conflicts interests between them.</p> <ul style="list-style-type: none"> • The Ministry of Finance does not function well in financial support allocation mechanism such as grant, service payments or subsidies to inventors. Moreover, the state subsidy mechanism in the long-term to support investors (especially with domestic investors) is not provided which makes the project's financial viability to be reduced. • The establishment of Inter-Branch Working Group and Tender Specialist Group are good points in BOT decree, but the decree does not make the establishment of these groups to be mandatory. Moreover, the state budget supported for their operation is often inappropriate leading to the bad practice. • There are many issues in land acquisition in Vietnam. These problems usually prolong the duration for executing the project and increases dramatically project's budget. Moreover, there is no any measure to ensure the clear site for project execution to investors. 	<p>should supply an appropriate state budget to support for their operation; and should have representatives of Ministry of Planning and Ministry of Finance in these groups to speed up the procedure for evaluating investors' submission and granting guarantees, etc.</p> <ul style="list-style-type: none"> • Enhance the effectiveness in financial support allocation mechanism such as grant, service payments or subsidies to inventors by improving the competence of ASBs. • The government should establish a transparent mechanism for state subsidy in the long-terms to support investors. • The government should increase the effectiveness in land acquisition by reducing unnecessary complicated procedure in land acquisition, reviewing legal, institutional and financial impediments in land acquisition, the amount of money to compensate for impacted people should be appropriate and should reflect the real price of land at the time for acquisition, and ensure them a place for resettlement, etc. • The government should guarantee the clear site to investors for starting the project on time to increase the willingness of them.
	Managing risks perceived by private parties	<ul style="list-style-type: none"> • The important risk with foreign investors is the ownership rights with the land in BOT projects in Vietnam. BOT decree stipulates that the government will not grant a mortgage of land-use rights to any foreign investors, lenders. • There is not any good measure in Vietnamese regulations to prevent the private parties from transferring many risks and costs to government, taxpayers, and end users because of the weakness in managing risks, unclear regulations, and lack of competence of government officials, weak law systems. • Because of the shortcomings in competitive tendering and many political games in winning the biddings happening in Vietnam, BOT projects often fail in choosing the reliable investors, contractors. The consequence of failure in executing projects by these incompetence partners is the loss to government. • Some projects in the operation phase often suffered huge loss because of the competition from other projects. • Private investors often deal with many risks in bidding phase, 	<ul style="list-style-type: none"> • The government should stipulate the ownership of land to foreign investors when they invest in BOT projects in Vietnam to increase their confidence and reduce the political risk. • Increase the knowledge of regulators, government officials, authorized state bodies, etc. about the risks in BOT projects and produce a good strategies to deal with risks. • In order to choose reliable investors, contractors, the BOT projects should be tendered in a competitive bidding or competitive negotiation and the BOT decrees should be fulfilled to eliminate the abuse of shortcomings in the decrees for direct negotiation by limiting the number of cases for direct negotiation. • The government should guarantee a minimal level competition from other projects to ensure the financial viability of the project. • Operate a transparency and competitive tendering process, make a well feasibility study, get consultancies from experts in tendering phase (identifying risks, allocating risks, giving comments, increase capacity for operation, etc.), eliminate unfeasible projects, and put more efforts on

Table 5.2. Problems in BOT project environment in Vietnam and recommendations for improving (continue)

		contracting phase, implementation phase, operation phase and political risk from government.	feasible projects, etc.
	Reducing political uncertainty	<ul style="list-style-type: none"> • Unclear procedure, lack of detailed specifications from the regulation in applying other forms of PPP model and in other sectors in development of infrastructure can made the investors to be swamped with many unnecessary requirements, time-consuming procedure. • The BOT decree does not prescribe on calculating capital-supplying mechanism, limitation on any payment, subsidy by the state, level of dependence on government or government guarantees from the investors or project enterprise. • The Decree does not regulate under which circumstances, the security money will be surrendered in the BOT contract. • There is no specific confirmation that the ASBs will provide the consents and acknowledgements of the lender's step-in right when the project in trouble because of the absence of relevant regulations. In addition to that, there is no stipulation of the responsibilities and/or obligations of the lenders when they use step-in right. • The applying of foreign law to BOT projects in Vietnam must be approved from Ministry of Justice, which takes time-consuming. • In the tax incentives offering to investors, it is unclear whether project companies would automatically enjoy a corporate income tax of 10 percent for the whole duration of the project or whether they have to obtain the approval from the Prime Minister for this duration of tax incentives. This is caused by the conflict in regulation of BOT Decree and Investment Law about duration of corporate income tax. In addition, the decree does not mention about how fee exemption and discount mechanism to be applied and how tariff/toll fees are to be adjusted. • In the government's supports to investors in giving the project company the right to use land free of land rent, the right to collect toll/tariff on existing adjacent facility, and land development rights in the road corridor, the BOT decree does not stipulate clearly the cost of land-use-right. • The responsibilities and participation of Ministry of Finance and 	<ul style="list-style-type: none"> • The BOT decree should clarify the detailed specifications in applying other forms of PPP model and in other sectors. • Remove and streamline of unnecessary approval procedures for gaining approval from ASBs. • The BOT decree should regulate clearly on calculating capital-supplying mechanism, limitation on any payment, subsidy by the state, level of dependence on government or government guarantees from the investors or project enterprise • The Decree should regulate in details under which circumstances, the security money will be surrendered in the BOT contract. • The BOT decree should update all the details related to step-in rights of lenders and obligate the ASBs to conform to all the regulations toward lenders. • The procedure for applying foreign law to BOT project should be speeded up by removing and streamlining of unnecessary approval procedures for gaining approval from Ministry of Justice. • The BOT decree should make clear the government incentives about duration of corporate income tax incentives stipulated in BOT Decree and Investment Law. • The BOT decree should prescribe in details about the fee exemption and discount mechanism, and the mechanism for changing tariff/toll fees. • The BOT decree should stipulate clearly the cost of land-use-right in the government's supports about right to use land free of land rent, the right to collect toll/tariff on existing adjacent facility, and land development rights in the road corridor. • The responsibilities and participation of Ministry of Finance and of authorized state bodies in government guarantees and undertakings to investors should be regulated clearly in the BOT decree. • Remove the regulation about getting approval from Prime Ministry toward government guarantees before contract is executed. The government can grant the guarantees in certain stage of the BOT project. • The decree should prescribe in detail when and how international or domestic bidding is set up.

Table 5.2. Problems in BOT project environment in Vietnam and recommendations for improving (continue)

		<p>of authorized state bodies in government guarantees and undertakings to investors are vague in the BOT decree because the Prime Minister directs and sign them.</p> <ul style="list-style-type: none"> • It will be time-consuming for investors that every government guarantee for BOT project needs to be approved by the Prime Minister before the contract is executed because of the bureaucratic approval process, un-transparent procedure in the evaluation process and complicated “eligible documents”. • The decree also does not prescribe when and how international or domestic bidding is set up. • The decree is unclear in allocating ASBs’ responsibilities to facilitate the negotiation of a wide range of ancillary contracts and other contracts in the contract execution phase. • The Ministry of Planning and Investment is the core point to organize evaluation and issuance of investment certificates to project; so this raises the uncertainty to investors about the extent to which the state of Vietnam stands behind a BOT project and whether there is any room for future government to assert that it is not bound by a particular BOT contract that turns out to be disadvantageous. • The decree does not stipulate whether the project company is allowed to commission the designing consultants hired by the project company to do the design and build the project for it, and whether the private partner supervises the construction itself or not in the implementation phase. • The conflict in regulation about the responsibilities in transferring of the facility to ASBs belong to both the project enterprise and investors with the regulation that Project Company to become a signatory to the BOT contract and to assume investors’ rights and responsibilities established in the contract. 	<ul style="list-style-type: none"> • The ASBs’ responsibilities in facilitating the negotiation of a wide range of ancillary contracts and other contracts in the contract execution phase should be regulated. • The government should make the investors to be secured and confident in investing in BOT projects by the guarantees about political risks and express their indispensable role in BOT project thoroughly. • The decree should prescribe clearly whether the project company is allowed to commission the designing consultants hired by the project company to do the design and build the project for it, and whether the private partner supervises the construction itself or not in the implementation phase. • The BOT Decree should make clear the responsibilities of the enterprise and investors in the transferring phase because of the conflicting in regulation.
Design of the contract	Form of the contract	<ul style="list-style-type: none"> • The BOT Decree just prescribes only three kinds of PPP model: Build-Operate-Transfer (BOT), Build-Transfer-Operate (BTO), and Build-Transfer (BT) that could not fit well to all kind of infrastructure projects and sectors. 	<ul style="list-style-type: none"> • The decree should have adequate forms of PPP to fit for specific projects with technology, strategy and sectors such as: Build-Operate-Own (BOO), Build-Operate-Sell (BOS), Build-Lease-Transfer (BLT), etc.
	Getting the	<ul style="list-style-type: none"> • State-Owned Enterprises completely depend on the 	<ul style="list-style-type: none"> • The government should limit the range of guarantees to SOEs in BOT

Table 5.2. Problems in BOT project environment in Vietnam and recommendations for improving (continue)

	incentives right	<p>government guarantees to mobilize capital for BOT projects</p> <ul style="list-style-type: none"> • The tariff/toll level for any BOT project is usually set by the government agencies and is fixed at a maximum of twice of the level of tariff/toll fee for non-BOT projects. • The mechanism for calculating and adjusting the tariff/toll collection is not clear. • The mechanism for renegotiation is not prescribed clearly in BOT Decree. 	<p>projects e.g. just considering guarantees in the case the project have national importance and in urgent need to be developed.</p> <ul style="list-style-type: none"> • Establish a good mechanism for adjusting the tariff/toll fee such as base on the real development of region, demand, project's revenue, inflation rate, consumer price index (PCI), etc. • The government should guarantee a minimum level of revenue with the investors as well as prescribe maximum the benefits. • Stipulate clearly when and under which conditions investors can renegotiate with the government about tariff/toll price.
	Financial capacity building	<ul style="list-style-type: none"> • The BOT decree does not prescribe the mechanism for benefit sharing between the public and private sectors to prevent excessive private profits. 	<ul style="list-style-type: none"> • Vietnamese government should establish a mechanism for benefit sharing between the public and private sectors to prevent excessive private profits.
	Affordability problems	<ul style="list-style-type: none"> • The government sets the ceiling for toll/tariff price rigidly and fixed at a maximum of twice of the level of tariff/toll fee for non-BOT projects. It is not flexible when dealing with the changes in toll/tariff price due to many uncertainties in cash flows of BOT projects. • BOT Decree allows the investors to increase toll/tariff price with the conditions applying to such price increases. According to the law, any changes in tolls, fees and charges other than those contemplated in the BOT contract must be approved by the ASB. Investors and financiers can get some difficulties in such provisions due to the lack of independent regulators that can prolong time and costly for investors. • The affordability of users toward the facilities usually overestimated because of the unreliable information and data in the feasibility study. Typically, the affordability of users toward the facilities is often lower than expected in practice. 	<ul style="list-style-type: none"> • The government should establish differentiation of toll/tariff price base on the specific context of a project and establish a flexible mechanism in dealing with changes in toll/tariff price. • Remove and streamline of unnecessary approval procedures in changing toll/tariff price. • Increase the accuracy in collecting information about studying the affordability of the end users by involving them in the identification and preparation phase to study for their interests and affordability. • Increase the creditworthiness of the facilities.
	Process of contract design	<ul style="list-style-type: none"> • Although Vietnamese government prefers competitive bidding for all BOT projects, it is not likely in practice. Firstly, the BOT decree leaves many rooms for direct appointment from investors such as regulation in section 2 of article 11, and regulation about the project proposed by investors out of the list of projects calling for investment from the government in article 12. Secondly, the tendering bidding is usually very slow and not completely competitive, especially with big projects developed under BOT 	<ul style="list-style-type: none"> • The BOT decree should be fulfilled the shortcomings in regulation of tendering to eliminate the abuse of such shortcomings for direct negotiation by limiting the number of cases for direct negotiation such as only allow for direct negotiation when there only one bidder, or in the urgent need to develop infrastructure following the regulations of Prime Ministry. • BOT projects should be tendered in a competitive bidding or competitive negotiation (if cannot apply bidding) by getting consultancies from domestic and oversea tendering advisors or getting assistance from The World Bank.

Table 5.2. Problems in BOT project environment in Vietnam and recommendations for improving (continue)

		<p>scheme since the vague language in the BOT decree regulations.</p> <ul style="list-style-type: none"> • Government agencies are lacking of capacity to establish a completely competitive tendering • Investors are not involved in the early stage of development a BOT project. As a result, their knowledge and business expertise are not contributed in developing project. • The local organizations, stakeholders and end users are not presented in identification and preparation phase. This easily creates public objections in the future because of lacking of sense of project ownership. 	<ul style="list-style-type: none"> • Remove unnecessary vague language in tendering. • Vietnamese government should create good conditions for private investors to involve in the planning and preparation step to make use their knowledge and business expertise to project development to prepare well for the project. • All the stakeholders, local organizations, end users and impacted citizens should be guaranteed to access in decision-making of development project to reduce the public objections, potential conflicts, and listen to their voice.
Prevention of regulation failure	Preventing regulatory capture	<ul style="list-style-type: none"> • There are very little experts in the field of PPP model in Vietnam can handle well the process to execute the BOT projects, especially with local government agencies. • The institutional policy and legal framework for BOT projects is unfulfilled and lack of regulatory capacity. • The mechanism for developing knowledge and expertise of PPP model is weak. 	<ul style="list-style-type: none"> • Train the government officials about the PPP model. • Study the experience from PPP models applied successfully in other countries. • Make use of the assistance from The World Bank in training experts in PPP model. • Establish PPP units to assist government in effective management of PPP project; central role in assisting implementation of PPP contracts; study, identify projects with potential benefits for both public and private sectors; provide technical assistance to public agencies in conducting feasibility study, procurement and project management.; study, revise legal environment for PPP contracts: revise legal framework, develop implementation manuals, provide training, disseminates information on project, to manage knowledge of PPP procurement, to train for local government officials, and to share the knowledge with other countries, etc. • Fulfill the institutional policy and legal framework for BOT projects and increase the regulatory capacity of BOT Decree.
	Preventing regulatory rent seeking	<ul style="list-style-type: none"> • The corruption rate in Vietnam is very high, especially in construction sectors. The governmental officials often use their political power to get their own profits. • The procedure to execute BOT projects is usually lack of transparency, accountability structure. • Feasibility study is based on the information provided in master plan, which often includes the optimistic data to maximize the chances of being approved by Vietnamese government for the government officials' profit. 	<ul style="list-style-type: none"> • Increase the government official's salary to reduce the asymmetries in salaries between the public sector and private sector. • Vietnamese government should increase the transparency and accountability mechanism in executing BOT projects by designing codes of conducts and create training programs. • Remove and streamline unnecessary procedures that can produce corruption and applying "one-door" mechanism in submission and approval.

5.5. Conclusion

This chapter has presented the guided actions to build up a good institutional policy and legal framework that governments should do for PPP model to create incentives and guarantees for private participation in PPP projects. The policy framework should have clear objectives and principles, realistic targets and measure of achieving them in order to win the support of the population for the PPP approach, while the legal framework should make the private sector to be secured and confident. Moreover, a good institutional policy and legal framework should take into account all the stakeholders involved and guarantee them access in decision-making while preparing for the development of PPP projects.

The role of government is to create a favorable investment environment by creating a willingness to invest from the private investors, establishing a good design of contract, and preventing regulation from failure in infrastructure project, and offering government guarantees and incentives to support the private investors participating in PPP projects. Such principles of good governance can be the basis theoretical notions for the government to practice for improving the performance of PPP projects.

Although there are some good points in the BOT Decree in Vietnam, it fails to address adequately many of the issues necessary for practicing PPP model to be successful. From the analysis of BOT decree and procedure to execute BOT projects in Vietnam in this chapter, it can be seen that the BOT Decree has close relationships and is impacted by Law of Investment and other specialized regulations while these regulations are not synchronized. This causes some uncertainties and conflicts while operating BOT projects. The policy and legal framework is still unfulfilled. It fails in creating a good environment for the willingness to invest from the private investors, in establishing good design of contract, and in preventing regulation from failure. Thus, it needs to be improved. The suggestions given in this chapter will play as preferences for government to stimulate the private investors participating in BOT projects in Vietnam as well as for improving practicing BOT projects in Vietnam. The next chapter will investigate the reasons for failure and inadequate of practicing in BOT projects in Vietnam until now. Then, these reasons will be illustrated clearly through a case study.

Chapter 6. PPP projects in Vietnam

6.1. Introduction

Vietnamese government has recognized that the development of infrastructure is one of the important ways to keep pace with the high economic growth rate in Vietnam. If infrastructure is poor and under-developed, it will hinder the improvement of economy of country. Thus, Vietnamese government has spent a high portion of national budget for development of infrastructure in recent years, especially with preference in PPP model under BOT scheme. However, the success from these BOT projects is still suspicious. Many BOT projects have executed until now. Nevertheless, very little of them are successful and the investment from the foreign investors into this kind of procurement is very low. Until now, foreign investors invest only two BOT projects in Vietnam. The failure of these projects and unwillingness from private investors results from the high uncertainties and risky environment of BOT projects in Vietnam.

Given the objectives to figure out the current infrastructure development and practicing of BOT projects in Vietnam, this chapter will explore these issues and it is organized as followings. Section 2 of this chapter will present the infrastructure development in Vietnam through four sectors: transportation, electricity, water and sanitation, and telecommunication. Section 3 will investigate the reasons for failure and inadequateness in applying PPP model in Vietnam that make private sectors feel very frustrated when they want to invest in BOT projects. A case study of BOT Phu My Bridge Project will be presented in section 4. The case study will analyze the common risks, risk perception between the parties, and risk allocation that are practiced in BOT projects in Vietnam. Furthermore, the case study is also analyzed base on the concept of good project governance to illustrate the fairness, transparency, sustainability, effectiveness and efficiency of this project. Section 5 will summarize all the discussed issues of this chapter.

6.2. Infrastructure development in Vietnam

Over the past decade, Vietnam has made spectacular progress in GDP growth and poverty reduction. Annual per capita growth has averaged 5.9%, the eighth highest in the world over the decade. Since 1990, poverty measured at the \$1 a day threshold has fallen from 51% of the population to just 8% (The World Bank 2007) (Figure 6.1).

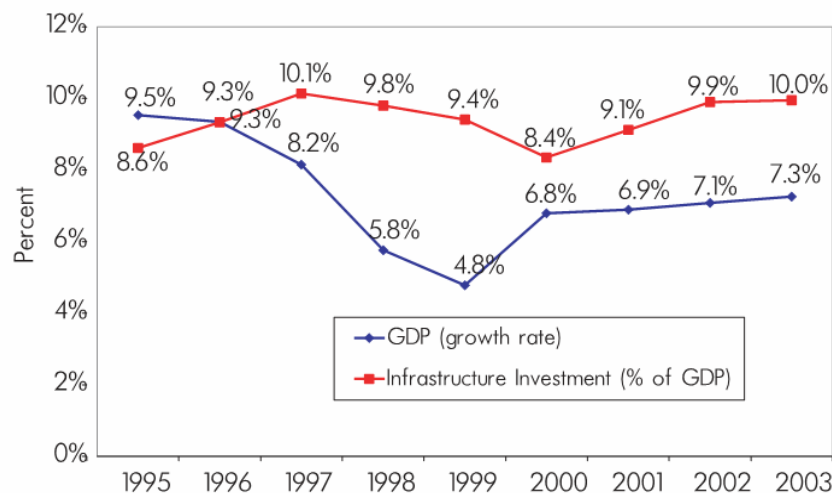


Figure 6.1. Growth and Infrastructure Investment

Source: General Statistics Office

A critical part of this success has been a high level of investment in infrastructure. Based on the reports from The World Bank, nearly 9%-10% accounted in Vietnam's GDP was invested for infrastructure development. Concerning the transportation sector, Vietnam had experienced quite significant improvement and it is shown by the total length of road network which had double since 1990 as well as its substantial quality improvement. The number of fixed and mobile phones per 100 people has multiplied nine-fold since 1995. Access to improved water grew from 26% of the population to 49% between 1993 and 2002, and during the same time, access to hygienic latrines grew from 10% to 25% of the population.

In the duration 2010-2020, The World Bank reports have also confirmed that Vietnam will require a nearly sum of 11.4% of its GDP to support its infrastructure development, an increase of nearly 2% of GDP over recent levels. However, the data in the infrastructure development in previous years show that it is unlikely to achieve this number in the future due to national budget deficits (table 6.1).

	1999	2000	2001	2002	2003
VND billion					
Water & Sanitation	2,132	2,306	2,532	2,778	
Telecommunications					8,422
Electricity			13,517	18,172	19,548
Transport	11,219	11,660	17,871	21,576	
US \$ million					
Water & Sanitation	153	163	172	182	
Telecommunications					534
Electricity			918	1,189	1,260
Transport	805	823	1,214	1,412	
% GDP					
Water & Sanitation	0.53	0.52	0.53	0.52	
Telecommunications					1.39
Electricity			2081	3.39	3.23
Transport	2.81	2.64	3.71	4.03	

Table 6.1. Vietnam's recent investment in Infrastructure

Source: World Bank, 2006

Table 6.1 provides rough estimates of recent investment levels in the different infrastructure sectors. The greatest investment has been in transport and energy, with roughly 3-4% of GDP each; while water and sanitation and telecommunications infrastructure investment have been in the order of 0.52% and 1.39 % of GDP respectively. Across sectors, these investments sum to about 9.2% of GDP, without taking account of gas sector investment.

Most of the funds for previous infrastructure developments had originated from the State budget (11%) and from the official development assistance ODA (37%) (Table 6.2 and Figure 6.2)

Finance source	Transport	Electricity	Telecoms	Water	Total
Users	-	0.9	0.3	0.1	1.3
ODA	1.7	1.2	0.3	0.3	3.5
Budget	0.8	0.1	-	0.1	1.0
Gov. Bonds	1.2	-	-	-	1.2
SOCBs	0.1	-	0.2	-	0.3
Private	0.2	1.2	0.6	-	2.0
Community	-	-	-	0.1	0.1
Total	4.0	3.4	1.4	0.6	9.4

Table 6.2. Infrastructure investment financing mechanism (percentage of GDP)

Source: World Bank, 2006

**Infrastructure Investment Financing Mechanism
(Percentage of Investment Finance)**

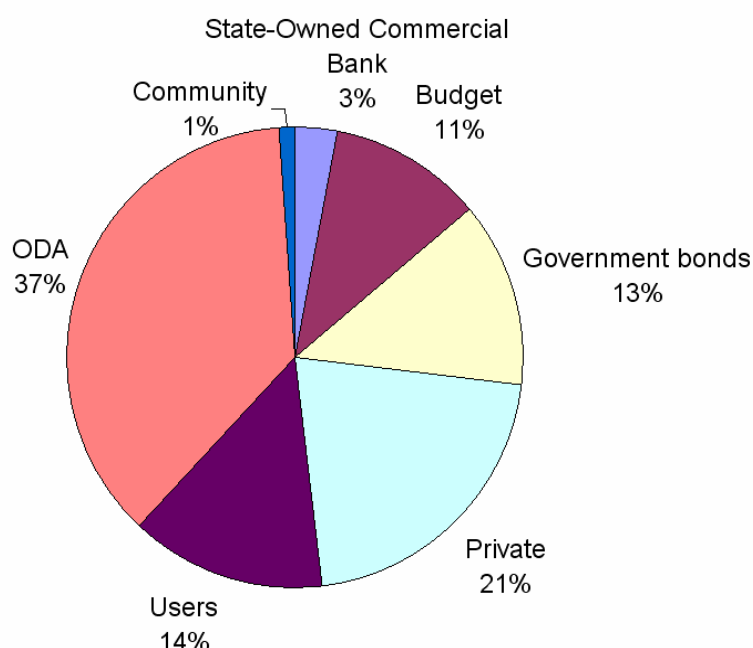


Figure 6.2. Infrastructure investment financing mechanisms

Source: The World Bank, 2006

In the future, however, Vietnam will encounter major difficulties if it only depends on these sources. Over the next five to ten years, official development assistance (ODA) is unlikely to grow at the same pace as the economy, and it will thus occupy a smaller part of total infrastructure investment. Furthermore, grants and the most concession forms of donor financing will become increasingly difficult to obtain. This is due to the fact that Vietnam had experienced a significant economic growth in which its GDP per capital had exceed the permissible threshold of the donor community that makes Vietnam no longer entitled to preferential loans from donors.

In all infrastructure sectors, there is a need to develop new sources of long-term finance as alternatives to ODA. Much of that finance will need to come from financial markets or direct private finance, requiring reforms of consumer pricing, enterprise restructuring, and revised

regulation to establish the credit-worthiness of infrastructure enterprises. Thus, private sector participation is expected to play a major role in providing the sufficient capital for infrastructure in Vietnam nowadays.

6.2.1. Transportation sector

In the transportation sector, the Ministry of Transportation estimated future capital spending to 2010 would be average 4.1% of GDP per year. The development of transportation infrastructure in Vietnam so far depends heavily on the public sector, which has usually played the major role in financing, constructing and operating. The private investment in this sector has been very low with accounting for just 2% of the total capital expenditure in the last decade. There is very little foreign investor in this sector. The implementation of Vietnam's transportation construction projects is mainly managed by the Project Management Units (PMUs), while the construction is usually executed by the State-Owned Enterprises (SOEs) that are mostly attached to the Ministry of Transportation (MOT) as well as the provincial government, along with several private companies. There are nearly 200 SOEs under the MOT of Vietnam and most of them are grouped into 12 corporations such as five Civil Engineering Construction Corporation (CIENCOS). Although these SOEs are principally independent, they are practically under the instruction of the MOT.

The Vietnamese government has a very strong commitment to modernize the transport system since the development of transportation will support the country's overall economic growth. This commitment is shown by an increase of 21% annually between 1994 and 2002 for the development of the transportation sector (The World Bank, 2006).

6.2.2. Electricity sector

In the electricity sector, investments required to meet the Fifth Power Master Plan amount to \$13.743 billion in the years 2005-2010, or about 3.9% of GDP. This figure is now regarded as an underestimate since the higher than expected demand growth in recent years. The financial model used by Electric of Vietnam (EVN) to plan future investments suggests that during 2005-2010 capital expenditure will amount to \$16 billion, which in annual terms is about 4.7% of GDP. The demand for electricity grew by 15% per annum over the period 1995 to 2005 and expected to reach 16% in the period 2005 through 2010.

Sources of finance for power development in Vietnam come from EVN's funds, Official Development Assistance (ODA) loans, Vietnam's Development Assistance Fund (DAF), commercial loans and foreign export credit, as well as Independent Power Producers (IPP) developers (private sector). These sources only meet about 66% of the total investment requirements. A considerable number of foreign investors have shown keen interest in developing power projects in Vietnam, but few projects have been realized due to obstacles including legal and regulatory issues, low electricity purchase prices by EVN, currency convertibility, performance risk of Vietnamese contractual counter-parties, a lack of a transparent and competitive market as well as poor coordination among related government agencies. In practice, most of the power generation transaction in the past has been negotiated with State-owned Enterprises (SOEs) (The World Bank, 2006).

6.2.3. Water and Sanitation sector

In the water and sanitation sector, the government's targets to 2010 are 85% for urban water and sanitation, and 75% for rural water and sanitation, which would require investment of \$3.62 billion during 2005-2010, or 1.2% of GDP annually.

Sources of finance for water and sanitation sector development depend heavily on official development assistance (ODA) loan. Approximately \$1 billion invested over the past 10 years coming from ODA. The ODA loan will be limited in the future and exploiting from other finance sources is necessary now. The development of water and sanitation sector in Vietnam is difficult because the low tariff charged by water companies and the un-affordability of the users (The World Bank, 2006).

6.2.4. Telecommunication sector

In the telecommunication sector, it would require about \$3.6 billion during the period 2005-2010 to achieve a purpose of 35 lines per 100 populations by 2010. One of the major obstacles for the development of the Vietnam telecommunication sector is the lack of investment capital. Vietnam Post and Telecommunications (VNPT) recognizes that it should not depend only on capital from the State Budget, but it should seek funding from outside sources such as loans and the stock market, Foreign Direct Investment (FDI) and Official Development Assistance (ODA). FDI would focus on the development of telecom and Internet in urban areas, while ODA on the development in rural and remote areas. The only revenue for private and foreign investors in basic telecom networks has been through Business Cooperation Contracts (BCCs) schemes, in which foreign companies finance capital investment and share in revenues, but have no equity share, and limited or no management control. In the future, the VNPT will look for new sources of finance such as bonds or issuance of shares, etc. (The World Bank, 2006).

6.3. Reasons for failure and inadequateness in applying PPP model in Vietnam

Vietnam has had more than 100 infrastructure projects developed under the BOT scheme until now. However, there have been many problems in the development of infrastructure projects with private participation in Vietnam. Most of the problems occurred due to the difficulty in capital mobilizing, negotiation process with the government agencies, the reluctance of the majority of government officials to provide the necessary guarantee and appropriate assurance towards the private sector regarding the long-term security of the project's revenue cash flows, the private sector's ability, etc. Typically, the reasons for failure and inadequateness of BOT scheme in Vietnam can be grouped into the following aspects:

6.3.1. The nascent and immature financial market

As mentioned in the earlier chapter, the Vietnamese capital market is limited and underdeveloped. It cannot supply the immediate substantial long-term funding for BOT projects. Capital mobilize outside budget is very difficult mainly due to the low capital return from tariffs of BOT projects, while the direct capital investment from state budget in project is unavailable. In recent years, many BOT projects in Vietnam have utilized loan finance through a limited number of State-Owned-Commercial Banks, but not private commercial banks. Thus, it is now important to have private foreign investments not only for financing purpose but also for the experience and knowledge.

6.3.2. Investors and the issue of fair competition between SOEs and private companies

The vast majority of BOT projects have not had a true private sector party, who theoretically owns 100% private capital. In fact, most of BOT projects in Vietnam have been executed by the large State-Owned Enterprises (SOEs) or Joint Stock Companies (JSCs) with majority shareholding of SOEs. These SOEs and JSCs are practically related to government agencies and have many prior political powers. According to the Enterprise Law of Vietnam, the company is called corporation when the private sector owns more than 50% share, while these subsidized companies are called SOEs since the government still hold more than 50% share although they are privatized. These SOEs are usually limited in finance sources, organized structure, and poor experience in executing BOT projects. These enterprises can be shareholders of the Project Company, but they do not operate on a commercial, but for their own benefit basis. Very few BOT projects have included private firms, and these firms have often taken a minority equity share in a Special Purpose Vehicle (SPV) led by large SOEs. The numbers of foreign investors are even less than that of private domestic investors in the BOT projects in Vietnam. They were identified in very few cases of BOT projects, only 2 cases until now. One of the most reasons is the lack of clarity in ownership and heavy bureaucracy that lowers the appetite of foreign investors in Vietnam BOT projects.

The domination of SOEs hinders the involvement of domestic private and foreign investors in BOT projects since they cannot compete with SOEs, which have prior political powers and close relationship with government agencies. These SOEs, for example, can get priority in accessing to government guarantees for their bond issuance, or accessing to the favored loans from international donors (ODA loans, loans from ADB, World Banks) with favorable interest rate, etc. In contrast, the private companies are very difficult in accessing to capital funding for investment in BOT projects while it has to bear a heavy cost burden initially and the long-term debt. They are very restricted to financing sources and are usually borrowed with very high interest rate, required to pay commercial rates for loan finance, etc. In addition, the government guarantees are not occur in small-scale projects due to the government budget deficits, which make the investors become more difficult in getting financial closures from banks and financial institutions.

However, it cannot be denied that the inexperienced domestic private investors are also the main reason for failure of some BOT projects. There are very few domestic private companies with well-equipped knowledge, techniques, technology and financial resources to provide sufficient equity for infrastructure development now in Vietnam.

6.3.3. Transparency of project selection, bidding and negotiation process

Unclear and weak criteria in selecting projects stipulated in BOT Decree in Vietnam lead to imprecise practice of BOT procurement. Moreover, because of the dominance of many SOEs, who have the prior political powers in every project sector, the project selection process is often lack of transparency and fairness between the private companies and SOEs. Thus, this leads to a private sector's constant skepticism towards the government in selection process, which had played a major part in some of the delays in approval and unwillingness of private companies.

The procurement of BOT projects is usually unsolicited bidding. There are no clear criteria for selection of bidders, no transparency and uncompetitive bidding process, no standardized

contracts and financing structures for BOT projects. Many BOT projects are chosen by negotiation rather than competitiveness. This does not lead to the financial viability of BOT projects. Thus, many BOT contracts have been renegotiated or the investors entreat the government change type of project from BOT to BT resulting in loss of value to the government.

There are several reasons why the private sector prefers negotiated bidding. In the case of foreign investors, they prefer negotiated contract to competitive bidding since negotiated contract can help them have more bargain power in achieving a higher price of toll/tariff. The toll/tariff in BOT projects in Vietnam is usually set too low and the project cost cannot be recovered from it. Moreover, it is complicated and very difficult for them to increase the toll/tariff price because the toll/tariff is often set with the ceiling-price stipulated by the Vietnamese government agencies, Ministry of Finance. Therefore, if the foreign investors participate in competitive bidding, it is very hard for them to make the project to be profitable. Another reason is that the foreign investors believe that the government is unlikely to find other potential private investors with sufficient financial sources to invest in large and important BOT projects, so they wait for the government put them into the negotiated bidding in which they can achieve their objectives.

Moreover, the domination of SOEs, which have political powers backed by the government agencies, has prevented the competitive bidding. They use their political powers to “lobby” on the bidding decision and usually lead to negotiated contract. In addition, these SOEs use strategic ways to win the contract such as overestimating project revenues and underestimating project cost to have a prefer bidding comparing to other private bidders. Ironically, they use the capital gaining from the winning project to compensate for other in-trouble projects to pay the existing huge debts for the banks, suppliers and labors.

Inadequate in tendering in Vietnam also expresses via collusion of bidders in bidding. Collusive tendering takes place as several number of companies, which have been invited to tendering process, agree between themselves either not to bid or to bid in such a manner as not to be too competitive with each other. When there is a collusive agreement between bidders, the government’s choice for best bidders is restricted influencing to the financial viability of project. Collusion can appear in many kinds such as communication with other bidders, bribery, withdrawal, artificial inflation of tender prices, and covering price. Although collusive tendering is illegal in Vietnam, it is difficult to detect whether there exists collusion in tendering process. Consequently, the government often suffers from this problem.

For example, in the case of Ha Noi-Hai Phong Road BOT project, the negotiated contracts were chosen in collecting investor, subcontractor and consultant. The justification for choosing negotiated contract is that the competitive bidding is time consuming and costly, whereas the project is the national core project to meet urgent need of society. In the case of BOT Phu My bridge, although the Phu My Project Company already selected the suitable subcontractor Hai Phong Water Transport Security company (HPWTSC) for subcontract of technical solutions and management of water transport for the future execution of the bridge with the lowest price VND48.4 billion (lower than the amount of Project Company expected). However, the Ministry of Transportation used its exclusive political power to influence this selection decision by sending a document to “suggest” the Phu My Project Company to choose Navigation Security

company 2 (NSC2) for this subcontract although NSC2 suggested VND56.4 billion (17% higher than HPWTSC). The Phu My Project Company was put into a dilemma position since if the execution of this subcontract was late for the construction main contract starting; the main contractors would fine the Phu My Project Company \$25,000 USD/day, approximately \$1.5 million for duration of 2 months late. The final decision from the Project Company was to choose both of the subcontractors (HPWTSC and NSC2) for this subcontract even though this decision was not fair for HPWTSC. One anonymous expert said that the status of exclusiveness of SOEs, which are belong to Ministry of Transportation, in the infrastructure projects has existed for a long time. With the public project, they are rarely “struggle for work”, but in BOT projects these SOEs are very “eager” for work with nearly 100% efforts (Vy Anh, 2007). In the case of Ong Thin BOT bridge project in Ho Chi Minh City. The Ho Chi Minh transportation department only allowed investors to collect the toll under 65% figure stipulated by ministry of finance, and the toll was exempted for motorbikes, cars and bus. The Cienco 5 (one of the SOEs of ministry of transportation) estimated the project company would get loss of VND 3 billion for the first operation year and it would be higher in the following years, but it still did the project in order to have money from this project to pay for other projects, which were being stalemated. The project’s toll collection has started from September 2001 to 2013 as intended. However, the revenue from toll was not able to compensate for the project costs and became worse and worse. The Cienco 5 had to entreat ministry of transportation to buy the project with VND 31.2 billion in order to rescue it from bankruptcy.

6.3.4. Lifecycle of project implementation and price escalation

Some BOT projects could not be completed on time, or budget overrun due to a lack of knowledge in term of project procurement system/procedure; and the risks that have the possibility to occur in the project were not assessed properly during the project development stage. When the project got into trouble, the project was unlikely to overcome the problems since the planned capital of the investors was insufficient to implement the recovery for the project. In addition, protracted administrative procedure required for negotiation and award of contracts could also reduce the willingness of private sectors and increase the project cost, and even stop the project. Moreover, during the implementation, the imprecise definition of the project scope and lengthy procedures for approval of design changes also bring many difficulties and frustrate the private sector. Many disputes between the project stakeholders often arise due to their misunderstanding and different perceptions on construction, financial and legal issues of projects that are also important reasons leading to the failure of projects.

A recent feature of BOT projects in Vietnam is the massive cost escalation due to the underestimation of land acquisition cost and resettlement at the project feasibility stage and the impacts of slow construction progress. The land compensation price is usually set by the state government in which often does not truly reflect the market price of the land. The price for compensation is usually very low, while the market value of land is much higher. Thus, this used to result in disputes regarding compensation from the affected persons and legal suits with the effect of delaying construction and pushing prices up dramatically. The initial project cost in BOT projects in Vietnam is also increased very high due to the dramatic rising of land and property market caused by delaying in land acquisition. For example, in the case of Rach Mieu Bridge BOT project, the initial investment had to increase from VND 599 billion at the beginning to VND 697 billion later and to VND 988 billion at the end due to the huge cost for land compensation. In

the case of Binh Trieu 2 Road BOT project, while the construction cost was estimated at VND 659 billion, the compensation for the site acquisition was up to VND 2.8 trillion, approximately 4 times of the construction cost, etc.

The price escalation can also be caused by the changes in government policies leading to the project scope changed in construction phase in which the increasing cost make the private sector cannot control the project any more. For example, in the case of Binh Trieu 2 Bridge and Road BOT project, the initial project cost was VND 341 billion with 11-year concession period. However, the project cost was increased to VND 1,600 billion when the provincial committees changed their planning policies to widen the road from 32m to 53m and the concession period was extended to 25 years. Thus, the project company faced the possibility of bankruptcy and the project has halted until now. In the case of Highway 15 BOT project, the project cost increased from VND 178 billion to VND 3,000 billion due to many times scope changed. The similar situation in the case of Phu My BOT project when the cost increase from VND 370 billion at the beginning to 2,540 billion.

6.3.5. Lack of risk management

On the current practice of BOT projects in Vietnam, there has been no explicit identification and allocation practice of project risks. This leads the government has to take most project risks. On the other hand, due to the shortage of knowledge of risks and hesitance of government in giving supports and incentives for the private sector, there are insufficient motivations on the investors to maximize the efficiency and minimize costs of BOT project through risk management. Government also does not ensure greater value for money in BOT projects than conventional procurement process, which reducing the willingness of private sector. The lack of proper and efficient risk management also creates government budget pressure during construction phase due to the unexpected and sudden needs required from government supports by private sector.

6.3.6. Low revenue to recoup the project cost

The tariff/toll in BOT projects in Vietnam is too low to recovery the investment cost. The tariff/toll level for any BOT project is usually set by the government agencies and is fixed at a maximum of twice of the level of tariff/toll for non-BOT projects. A mechanism of adjusting the tariff/toll collection period is not clear. In addition, the affordability of users of the tariff/toll in Vietnam is low. They cannot afford for the price of the service because most of the citizens in Vietnam are still in poor finance. Therefore, it is very difficult for private sector to increase the tariff/toll in the future to ensure the financial viability of future projects. Most of the BOT projects in Vietnam cannot recover from tariff/toll and the private sector often sells it again the government after a few operation years. Recent reports in transportation have shown that more than 50% road projects are in difficult situation to recoup their investment and they require government supports.

6.3.7. Poor capacity of government agencies to manage BOT projects

Vietnam government does not have much experience and knowledge on public-private partnership in investment in infrastructure. Policies on PPP investment are insufficient resulting in difficulties and passive choice of investors. While the initial investment in infrastructure is urgent, the process for selecting investors lasts for a long time. Moreover, the absence of good

governmental policies on state capital contribution to projects results in difficulties in capital mobilization. Although most of the government agencies at national and provincial level currently implement projects through BOT type contracts, there is a shortage of governmental officials with the training and experience required for managing PPP projects with complexity of the contracts and associated negotiations.

6.3.8. Recommendations for improving

Through these problems, some recommendations can be applied for improving followings:

- The Vietnamese government has to create a good investment environment for investors with favorable political and social commitment. It should create an enabling environment for private sector participation through good project governance principles discussed earlier. It is required to produce an accurate risk assessment and establish appropriate risk allocation and financial support mechanisms. Moreover, the host government should encourage and support an introduction and development of PPP project via sufficient and in time incentives and guarantees. Besides, to enhance the effectiveness of practicing BOT projects, Vietnamese government should train the government officers about skills and knowledge of this procurement and build the capacity to initiate, prepare and manage BOT projects.
- In regard of legislative and regulatory, Vietnamese government should ensure an efficient regulatory and institutional framework for the identification, preparation, evaluation, procurement, implementation and management of BOT project. In the mean time, it should improve its credit status in order to increase the confidence of investors, especially with foreign investor when investment in BOT projects. Moreover, the government should encourage competitive bidding for projects to optimize the quality to cost ratio of projects. The tariff/toll rates should be established based on market sound research on capability and willingness to pay of the end-users and clarification on the extent to which PPP projects are exempt from the law on tendering. Lastly, measures of the host government require addressing on institutional capacity concerns within government for the management and regulation of PPP.

6.4. Case study – BOT Phu My Bridge Project in Ho Chi Minh city, Vietnam

6.4.1. Project brief

Ho Chi Minh City is the largest city in Vietnam with the population of more than 9 million people. It is the most important economic center in Vietnam as it accounts for a high proportion of Vietnam's economy and as an important driving impetus of economy of Vietnam. This city just account for 0.6% land area, 7.5% population of population of Vietnam, but it accounts for 20.2% GDP, 27.9% industrial output and 34.9% FDI projects in Vietnam in 2005. In 2009, GDP per capital reached USD \$2,800 USD, compared to the country's average level of USD \$1,042. With the large of population and high city's economic growth rate, Ho Chi Minh City is now in need of vast increase in public infrastructure.

The BOT Phu My Bridge is one of the largest public projects in Ho Chi Minh City. It will span the Saigon River between district 7 and district 2. The bridge will form part of a new ring road currently under construction around Ho Chi Minh City (Figure 6.3). The ring road will be an important transport link from the southern Mekong delta region to the central and northern parts of Vietnam. The bridge will also help reduce vehicular traffic through the city center and provide a shortcut for travel between the southeast and southwest. It will ease traffic on two

sides of the Saigon River such as district 4, 7, 2, 9, Nha Be and link up other major roads such as Ho Chi Minh city-Trung Luong and Ho Chi Minh City-Long Thanh-Dau Giay expressways.

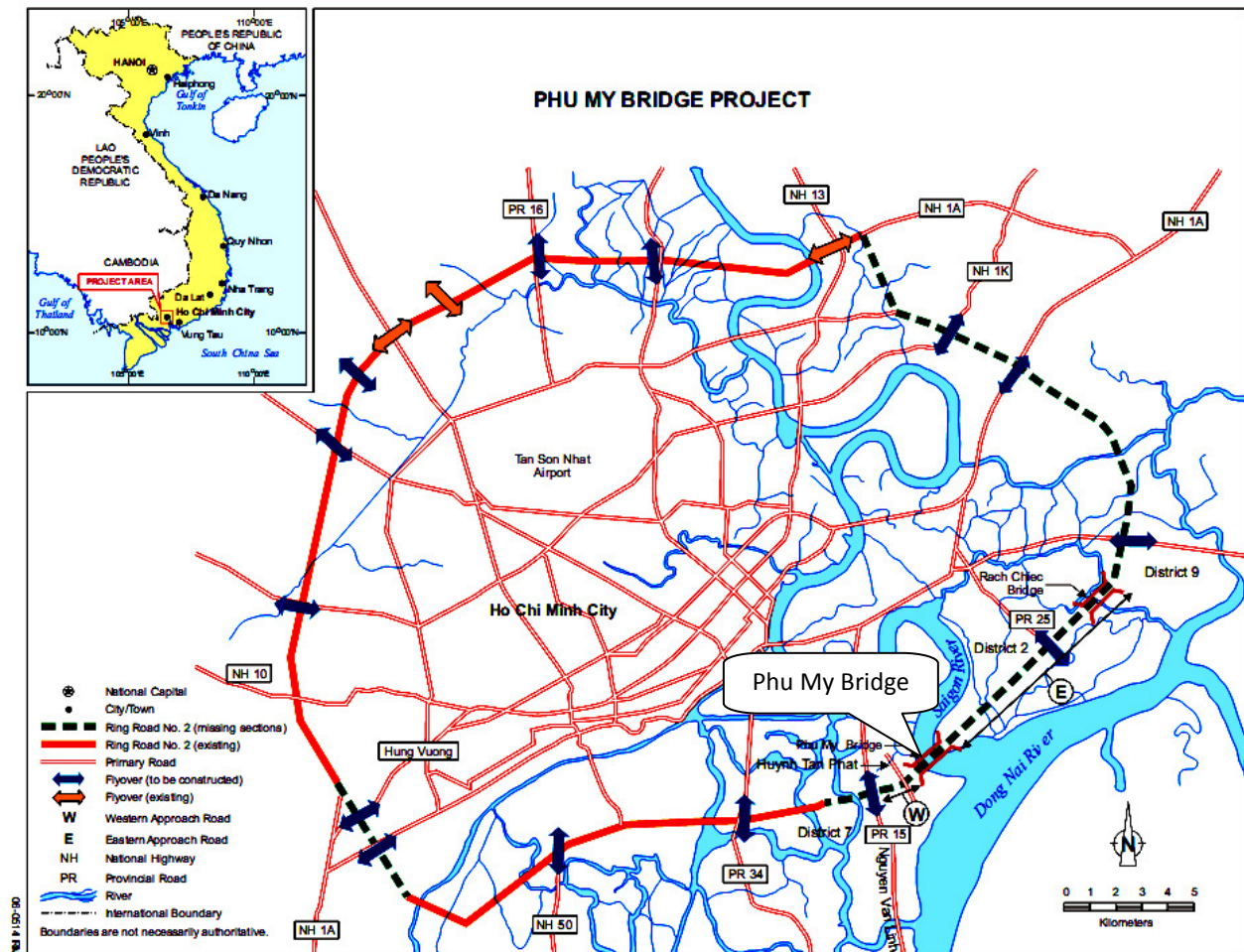


Figure 6.3. Location of Phu My Bridge on the map

Source: Asian Development Bank, 2006

The Phu My Bridge is a 705m long cable-stayed bridge and 27.5m wide with a span of 380m. Clearance to river traffic is provided with 45m vertical clearance in a 200m wide zone. The crossing of the bridge consists of three lanes of traffic in each direction, two car and a truck lanes and a separated motorcycle lane. Footways are also provided for pedestrians. Each of the two main bridge pylons is supported on twenty-eight large bored piles of approximately 2.1m diameter and 75m length. The pylons carrying the deck are designed as an H profile and are approximately 140m high. The approach viaduct structures on either side of the river are approximately 758m on District 7 and 638m on District 2.

The BOT Phu My Bridge is constructed under Build-Operate-Transfer (BOT) model. The investors of this bridge formed a Special Purpose Company, called Phu My Bridge Corporation (PMC) as a joint stock company comprised of the following shareholders: Ha Noi Construction Corporation (SOE), Construction Investment and Development Company (SOE), 620 Chau Thoi Concrete Corporation (private companies), Thanh Danh Construction and Trading Company (domestic private companies), and Ho Chi Minh City Infrastructure Development Joint-Stock Company.

The contractor for this project is the BBBH consortium comprised of the parties: Germany's Bilfinger Bergerm (own 60%) and Australia's Balderstone Hornibrook (own 40%). The construction was executed under the engineering-procurement-construction (EPC) contract. The main subcontractors are France's Freyssinet and Vietnam's 620 Chau Thoi Concrete Corporation. The designers for this bridge are France's Arcadis (main bridge) and Australia's Cardno (approach structures). The consultant and project manager is Australia's Maunsell.

The initial project value for the bridge had been VND 1,806 billion, but was subsequently increased to VND 2077 billion (nearly US \$115 million) due to modified technical standards. The initial equity had been 30% of the project value, but was later reduce to 20 % with the same reason. Part of the funding for this project is granted by the French Bank Societe Generale and German Calyon Bank with mount of US \$93million loan (80% of the project value) to Ho Chi Minh City Investment Fund for Urban Development (HIFU). Then, the PMC borrowed again this money from HIFU. The remaining 20% of the project value was mobilized from the domestic financing sources. The foreign loan with loan repayments is guaranteed by the Vietnamese Ministry of Finance with the duration of 10 years, and 3 years extended. The structure of the stakeholders in the BOT Phu My Bridge project is shown in figure 6.4

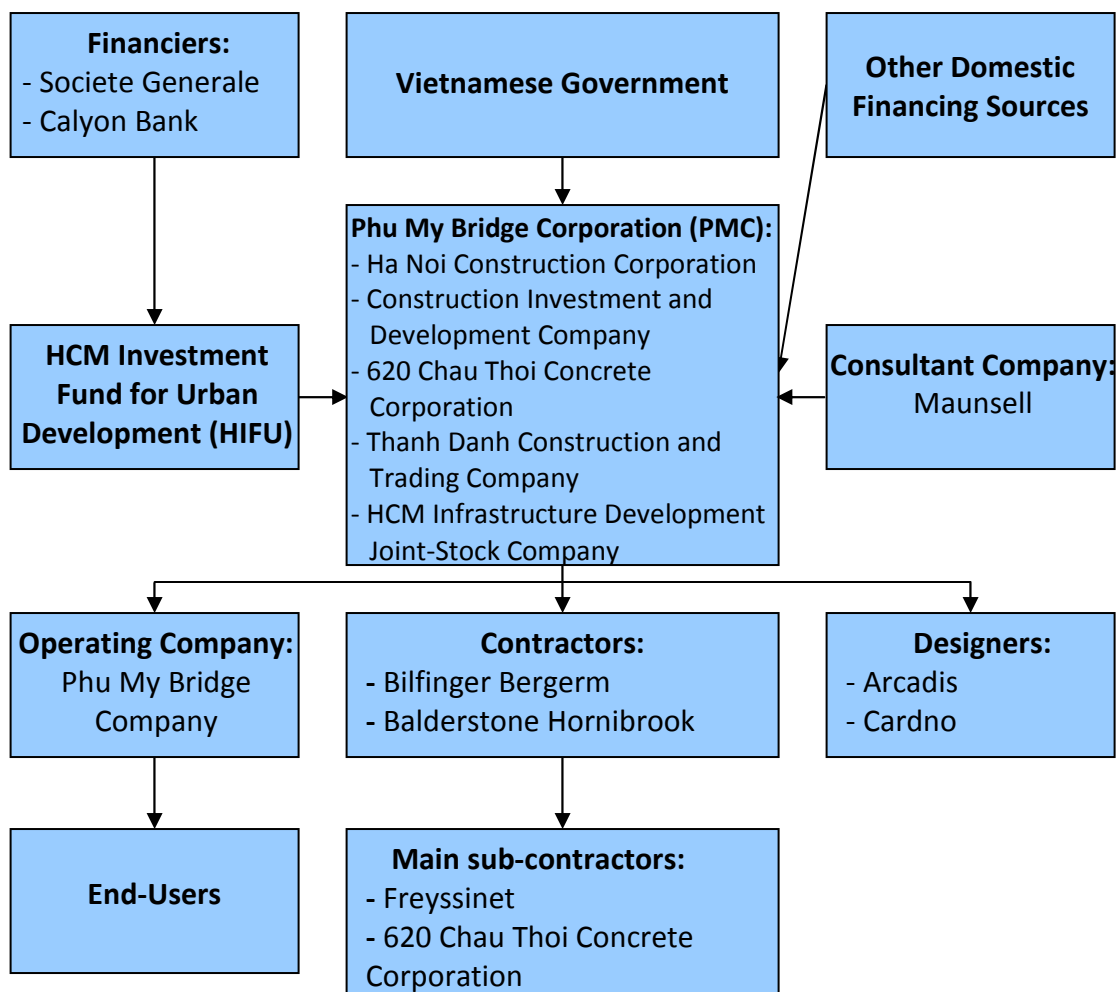


Figure 6.4. Structure of the stakeholders in the BOT Phu My Bridge Project

The project is now in the operating phase. Traffic flow of this project was estimated about 100,000 vehicles a day. The estimated concession period for this project is 26 years. It would be transferred over to the local government after the concession period be over.

PMC is also developer of the approach roads of the bridge and related components under the build-transfer (BT) form. The company is carrying out three road projects with a combined length of 11 km, including an elevated road in South Saigon area, a 1.6-km road section starting from Nguyen Van Linh Boulevard in District 7 and a 9-km road from Rach Chiec Bridge in District 2. The total cost of these roads plus seven small bridges along the road and a traffic junction amounts to VND1.44 trillion (US\$84.7 million). These items will be completed by the end of December and handed over to the city in early 2010.

6.4.2. Risk identification in BOT Phu My Bridge project

Like many other BOT projects in Vietnam, the BOT Phu My Bridge project has faced many risks during the lifecycle of project. These risks not only exposing in this project but they are generally typical risks in any BOT projects in Vietnam. This section will give an analysis of these risks.

6.4.2.1. Delaying in land acquisition risk

Infrastructure projects under the BOT scheme require large stretches of land free from all nuisances prior to the commencement of construction. The risk of delaying in land acquisition can have a significant influence to the overall success of a BOT infrastructure project. Delay in acquisition of even a small stretch of land may also affect the entire schedule and viability of the BOT project due to delay in the start of construction phase and commercial operation date. Although the amended Vietnamese Land Law 2001 empowers the Government to quickly take possession of land for project development, it has not been effective because the land is still a state subject and the acquisition process is very time-consuming. The processes involve notification of intention of land acquisition for the project, survey, file public objections if any, and hearing, decision by competent authority, declaration, compensation and processing of the land and the land details, such as the extent of the land required, classification, cost, and ownership. The land acquisition process can vary due to the size of the project and the amount of political supports given by the government. Generally, the process can take place from one to three years before the project can start. The process of land acquisition in Vietnam is illustrated in figure 6.5.

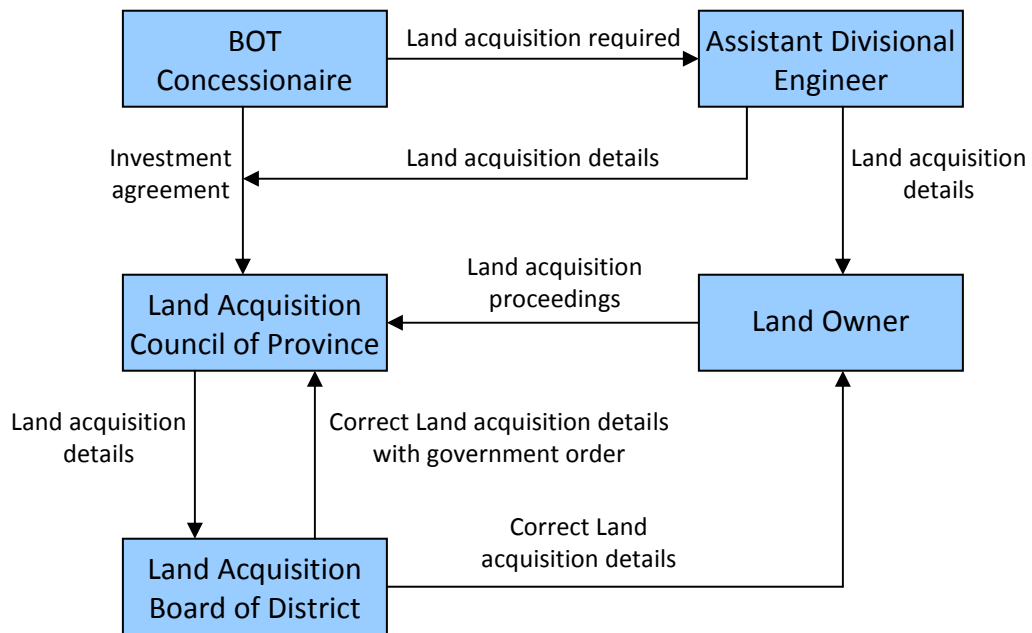


Figure 6.5. Land acquisition process in Vietnam

Source: Ninh (2006)

Delaying in land acquisition in Vietnam can be caused by many reasons such as violate of agreement between the relevant stakeholders (private sector, government and land owners), compensation's measures, land owners' rehabilitation and resettlement, environmental issues, legal suits, public interest legal actions, etc. This project and many other infrastructure projects in Vietnam have experienced the following issues in land acquisition:

- The land price for compensation is applied according to the Government's price, but it is not followed the market price. The landowners usually receive very low compensation's money and have no bargaining power. With very low compensation's money, the landowners cannot use this money to purchase a new land with the same value at that price.
- The land compensation price is applied according to different legal documents of provinces under project sites; as a result there are differences on land compensation amount between provinces. Those who are received less land compensation amount will make lawsuits on these differences.
- In the case of agricultural land, the farmers are usually become unemployed after land is withdrew since the compensation amount is insufficient to buy a similar type of land and the government does not possess this type of land to compensate them. Therefore, farmers do not want to return land to the government for conducting the project and receiving low land compensation amount.
- The government officials, who involved in the acquisition process, can cause the delaying in land acquisition due to their mistakes in compensation. They may declare the compensated money wrongly to reduce the price of land compensation, which was approved before. They reduce the land compensation price in order to get benefit the gap between the compensation a mount and the actual market price. This phenomenon is very popular in Vietnam and it raises many lawsuits in Vietnam now. The land acquisition process also presents an opportunity for corruptions from government officials.

- Even if the land for a project is acquired, physical possession of land free from existing utility services and other encumbrances involves lengthy and complicated coordination of many government departments. The government official is very weak in coordinating with others. Each government agency only cares about their own development plan and most of their projects were initiated and constructed with very few or even without synchronization with other departments. Instead of the spirit of supportive environment between government agencies, they create a competitive one to maximize their profit.
- The problem of fragment development has existed for a long time on Vietnamese roads and land acquisition along the road for enlarging often faces encroachment problems. Government cannot be full responsible for proper rehabilitation of encroachers but assists fund that is insisted in projects to help them move to new places. Identification and procurement of sites for rehabilitation of impacted persons near project areas could lead to the delay as well as a substantial increase in the land acquisition cost.

This project experienced delaying in land acquisition that made the project delay more than a half year for the project can start.

- The important reason was due to the difficulty in land acquisition of the port of Vegetable Joint-stock Company. This company did not agree to give 120 square meters of area of the port for construction of main bridge. Its justifications were that the local government must compensate the mount of VND 7.9 billion for land acquisition and compensate VND 1.6 billion for losses of production, worker's jobless, etc. The local government asserted just only compensate for that mount of money if the company could prove that the port was their capitalized property. If the affected area were the property of government, the local government would not compensate anything for land acquisition. However, in several months, the company could not prove such evidences leading to delaying for the project. The local government were sanctioned \$50,000 USD/day for delay in land acquisition. According to Nguyen Thanh Tai, director of PMC, "The project was delayed and extended 3 times; thus, even though the project had not started; the PMC still had to pay for the foreign parties of this project up to 750,000 USD/month".
- Even when the project finished earlier than planning, it still could not allow vehicle to go through the bridge because the approach roads for the bridge either two sides of it were not finished. The main reason for this was the delinquent of the local government in land acquisition. According to the local government's commitment with the Project Company (PMC) the construction site in district 7, 2, 9 must be clear for construction of the approach roads. However, in district 7 there were obstacles in many other technical infrastructure projects such as water pipe system, telephone lines, 110kV underground electric lines, the middle and low electric lines of the City's Electric Company and of the Hiep Phuoc industrial area, electric cable system, public light cables, and the objections of the affected people in the area of the project, etc. It were the same obstacles in district 2 in which the land acquisition just achieved 70% of the planning at that time, and the worst things in district 9 with 12% of the planning. The progress of land acquisition was 6 months behind the planning comparing with what the local government promised with PMC. The main contractors of the bridge would fine PMC \$50,000 USD/day if the construction were not transferred in time. This created many troubles for the Project Company. In further, the project faced the risk of servicing the foreign debt in time that could create the losses for the Vietnamese government because the foreign bankers would sanction it by the international regulations.

6.4.2.2. Delaying in approval risk from government agencies

Delay in approval from government agencies is the most common risk in any BOT projects in Vietnam. This phenomenon has existed from past until now and become an acceptable issue without arguments. In a project, the government agencies do not grant an approval on a certain issue on time and sometimes they even cancel those that had been approved before. Thus, the approval process for any project in Vietnam is a very time-consuming and it could result in a delay on the overall project development process and impair the project's financial viability. The lengthy approval process results from an unprofessional and incompetence of the government officials, poor implementation of the law and regulations by the government, complex and high bureaucratic approval procedures, and decentralization with unclear responsible provisions which creates unnecessary requirements from many divisions and overlapping levels for just one simple problem in a project. Foreign investors are usually very frustrated when they invest in Vietnam because of the lengthy approval process and bureaucratic. If they want to speed up the process, they have to “add lubricant (money) to the machine (government officials)”. This easily creates an opportunity for corruption. Thus, it is not surprised that Vietnam is in a high position of corruption.

The problem can result from the government, both in terms of the official as well as an entity or organization. In the case of government officials, they are selected by an un-transparent recruitment process, which mostly based on the arrangements made by the ruling government. It is easy to see many relative members work in one government agencies in Vietnam. They are selected by the arrangement of their family members in that company. It is worse that a high power position in these government agencies is usually held by them who are incompetent. Therefore, most of these officials do not have the proper competent for their position since their qualifications are mostly irrelevant and sometimes even under-qualified for their job. The others are very difficult to have a good position in such company and have low promotions for a higher level. In the organizational level, the time and work management is not strict and efficient among senior and junior staff, and the punishment for junior staff who break rules is unclear and usually very formalism. Thus, this creates un-respect to government agency's rules and senior levels. When assigning work tasks, senior levels do not give specific requirements on time of completion and work quality so this creates favorable conditions for junior staff to lengthen the duration of implementation without taking any responsibilities. Unclear responsibility decentralization in divisions, units of government agencies and among ministry line agencies create many requirements permissions from many levels and sectors for a project.

In addition to that, Vietnamese current laws and regulations have become obsolete since they are based on the subsidized mechanism in the past. They cannot be applied to control the current actual demands. Some of these laws and regulations can only be applied in general cases, but it is difficult and impossible if they are applied to specific cases due to their poor content. Once a law or a regulation is enacted, it cannot be applied immediately. It has to wait for a long time to have specific instructions to apply. Moreover, some of these laws and regulations are changed quickly and gone through a series of amendments making them difficult to be applied practically. Staffs of government agencies are still influenced by ideas of centralized, subsidy and bureaucracy era so they are bossy, making unreasonable requirements for enterprises doing BOT investment projects when solving related issues.

The project has faced this risk during its development process. From the date to sign the contract with foreign contractors, the project had to extend their times for starting construction of main bridge due to delaying in approval the technical-planning documents and completing the documents for starting the construction from Ministry of Transportation. Thus, PMC had to pay amount of \$750,000 USD/month to the contractors for delay.

Furthermore, the contractors could have stopped the project because the credit contract between the foreign banks and the PMC was late for effective due to delaying in approval from government agencies. According to the Vietnamese regulations for domestic and foreign procedure in approving credit contract, it would take at least 2 months for the credit contract to become effective, in which 1 month for guaranteed procedures would be in Vietnam. In the mean time, the main contractors could not wait more than one and a half month for that because the project had been very late for construction (more than a half year). Therefore, the main constructors decided that if the credit contract were not effective after 1.5 months, they would give up the project. Thus, the PMC might be sanctioned a huge money for contract and would have to renegotiate a new contact that could take several years more for that.

In the worse case, when the project was finished, the PMC could not receive the toll from users due to the delay in approval of toll mechanism from local government. The reason was that even though the project was finished, the total of investment cost had not been approved yet by the Ministry of Finance. The local government had to wait for that to enact the toll mechanism for PMC. This problem caused the loss of billions VND toll revenue for PMC every delay day, and it faced difficulties in serving the debt because just some small vehicles could go through the bridge and some of them are exempted.

6.4.2.3. Risk of transportation network in adjacent region

The revenue for BOT project is mainly from the tariff/toll of users. However, there are many possible causes of volatility in toll revenues. In Vietnam, small isolated stretches of highways, bypasses and bridges have been developed under BOT concession and explicit economic gain is not visible to vehicle users because of the bottlenecks remaining in the undeveloped stretches of the highway. Moreover, the revenue of these projects are impacted adversely by the availability of alternative roads, the construction of competing routes as well as the poor and deteriorating condition of the connecting roads due to the weak in planning policy of the government.

This BOT Phu My Bridge project can be an example for this risk influencing its revenue. One of the reasons for development of this bridge is to link from the southern Mekong delta region to the central and northern parts of Vietnam, reduce vehicular traffic through the city center, provide a shortcut for travel between the southeast and southwest, ease the heavy traffic on sides of the Saigon River, etc. Unfortunately, that is not the case in practice because at the same time with this project another project with the same service has been executed. That is the East-West Boulevard, which is nearly finished now. This project can harm to the Phu My Bridge project' revenue and even make the investors go to bankrupt because its toll fee is cheaper and the distance for traveling is shorter than using the bridge. When the users use the bridge, they have to pay 3 times of fee for three toll-stops from other BOT projects along the way. Besides that, there are several more local alternative roads that users can take without fee to go. That is

really a challenge to the investors now to recoup its investment because of the adjacent projects. Moreover, others projects relocate their toll-stop to collect fee for their projects around this project can influence negatively to the project's revenue in recouping the investment cost and serve the debt because the user have to pay toll fee several time before using the bridge. Those are improper planning from the local government leading to the different number of transportation projects going through this area. The result of this is the project's revenue is not achieved as the estimation in the project's feasible study. The Project Company now wants to sell toll-collection right for other investors because of improper placing of toll-stop from planning of local government.

In addition, the execution of the bridge during the construction phase could endanger activities of four big ports in the construction area, which influenced to the schedule of the project. These ports had a possibility to be laid off during the execution of the bridge. According to the requirement for execution of this bridge, the vertical clearance for shipping was 37.75 m from the highest water level. However, the average high of common ships, which come in and out the city's port, is average 40m-42m. Thus, these ships would not come in and out the ports, so the ports could be stopped during the execution time of about 10 months. In a worse scene, it would hinder the activities of 1,000 ships and amount of 40 million ton of goods would be influenced. This risk required a long time for resolution during the project development. This shows a weak seeing of planning from the local government in supporting for project.

6.4.2.4. Massive cost escalation

Cost escalation can result from various things such as the inability to implement strictly the findings from the feasibility study, incorrect using the right procedure and inability to identify all the factors that have negative impacts towards the project, thus making the project difficult to be kept under control. The factors have the possibility to influence on the project's cost are inappropriate design, lack of resources, disputes, site conditions, management errors, human resources incompetence, changes in the scope of work, unpredictable weather conditions, unsuitable technology implementation, political and economic instability, and so on.

Although the quality of the design work conducted by Vietnamese contractor recently have improved, mistakes on technical design as well as implementing technology still exist. Moreover, the geological condition and climate measurement of project investigation are not practical sometime. Thus, the amount of additional cost to carry out repair and additional work is still significant. This cost can be increased as the long and complex procedure for applying, approving and authorizing repair. The additional work is complicated by the ineffectiveness of the government agencies. It will cause further delay on the overall project completion and result in an even larger additional cost.

The inflation fluctuation and increasing price of major materials are also one of the major reasons of cost overrun. The material price is sometimes different and often higher at different points of time impacting to the budget estimation, the construction implementation and the construction completion.

In addition, the poor management of BOT concessionaire consortium, contactors, subcontractors, operation company can cause the loss of materials, poor quality of the constructions, increase of maintenance cost are also cause of cost overrun.

The huge cost escalation was happened in this project. The initial total investment cost of this project increased and decreased from time to time. At first, the PMC proposed the increase of VND 644 billion (From 1,806 billion at the beginning to VND 2,450 billion). According to PMC, this amount of increase would be used to modify several additional tasks of the project, subordinate tasks, building toll-stop, operating management offices, increasing tax, and so on. The PMC justified that this increase also accounted for “loan’s interest during the construction phase” in which the PMC did not mentioned in initial approved total investment cost. In addition to that, this increase due to changes as the requirements of the local government in project’s scope, technical standards and structure solutions comparing to the approved feasibility study. Moreover, the PMC claimed that the Value Added Tax (VAT) and Business Income Tax (BIT) of the foreign constructors in Vietnam did not calculate at the beginning. However, the PMC would have to pay these taxes instead of the constructors due to the new Vietnamese tax regulation, and this amount would up to VND 200 billion. On the other hand, the PMC explained that this increase also came from the high increase of raw material for construction from 30% – 70% that was the heavy burden of the constructors. Other reasons can be the interest rare fluctuation, monitoring and managing fee, insurance, etc. The increase of the total investment cost could lead to the increase in toll fee and concession duration. The concession duration could increase from the 26 years at the beginning to 54 years. Fortunately, the amount of increase of total investment cost modified from VND 644 billion to VND 187 billion because the consultant and experts had shown the inappropriate points in the PMC’s proposal. Then, the local government agreed to amount of increase of 271 billion (From VND 1,806 billion to VND 2,077 billion). Moreover, the local government also allowed for the change of investors’ equity from 30% at the beginning to 20% due to this increase. This change was followed by the Decree 134/2005/ND-CP of government about the loan guarantees for BOT project.

6.4.2.5. Overestimated forecast on future economic development and demand

The demand of a BOT project are greatly depends on the clear economic value or return attached to the usage of the project. The un-affordability of tariff/tolls from users, and absence of understanding and accepting commercialization concepts among the public can cause reduction in demand. Forecasts of current and future demand are seldom exact and are often incorrect. Natural biases and an agent problem rising in forecasting result from the host government optimistic of the economic development and demand, which is usually more than private operators’ expects. With the protection of limited liability, investors could be more optimistic than lenders in their expectations.

The demand risk has a very high severity impact on Vietnamese BOT projects. To make the project be profitable, it is necessary to know whether the users have the proper knowledge, whether the users understand as well as accept toward the commercialization of the facilities. Through this analysis, investors will have a proper and thorough picture of the actual demand for the project, which greatly depends on its clear economic value. BOT projects in Vietnam usually based on the optimistic-government forecast about the demand. For the past years from

2000 to 2009, Vietnam's economy has been developed at very high rate, on the average of 7.5 % per year. Along with the direction of industrialization and modernization, it is required to develop infrastructure ahead and faster. Policy makers and investors are very optimistic on this development and make very high forecast figures without concerning other risk factors, which can make the economy grow slower than expected. Moreover, Vietnam's economy has been developed mainly based on Foreign Direct Investment (FDI), so it is very difficult to forecast which areas will receive more project investment. If one of areas received more project investment, as the result their infrastructure will not meet the demand. Otherwise, BOT infrastructure project investment, in contrast, will not get their expected stream revenue. Thus, the government usually produces a bias evaluation on the actual demand of the society and creates an unrealistic forecast on the ability of the project to activate future economic development. This risk results from the fact that there has not any adequate research about the elasticity of demand in the introduction of tolls in the Vietnamese BOT projects. Very few BOT road projects in Vietnam have realized the projected traffic demand. Thus, when these projects are operated in practice, they are unable to realize their project demand. The demand loss usually varied between 20%-30%. The demand risks can also be created by the development or renovation of alternative project and overestimate on the socio-economic development of the surrounding region. There could also be forecasting errors in the traffic projections. The error could be due to data, model specification, model inputs or network assumptions. The continuous fluctuation in factors like government funding, growth of industrialization and agriculture, land use pattern and population growth rate will make long-term demand forecasting be a difficult task in the Vietnam context.

This project experienced the loss caused by this risk. The overestimated forecast of the users will use the bridge and the alternative project (East-West Boulevard) are threatening the project's cash flow and serving debt. While the estimation of 100,000 vehicles will go through the bridge, it turn out that this figure is hardly to achieve in nearly one-year operation. In addition to that, the delay in approving the toll mechanism for this project cause the project cannot generate the project to serve the debt. The users see that if they take the East-West Boulevard, the toll fee can be cheaper and the distance can shorter. The economic development and the demand of the society around the bridge are not high as in the feasibility made by the government. Thus, this project's revenue is heavily impacted leading to the risk of default from the investors. The Project Company now entreats the local government for permission to collect toll fee to motorcycle to help investor out of bankruptcy, even though other infrastructures do not collect toll-fee with motorcycle until now. In addition to that, the Project Company now also requests the local government stop the toll-stop in district 7 from another project to attract the citizens use the bridge since if not, users will not use the bridge due to having to pay several toll fees before using the bridge. This is the first time a BOT project request to collect toll fee with motorcycle and to cross out another project's toll-stop for its benefit in Vietnam. Furthermore, the Project Company also requests the local government advance VND 350 billion in order to serve the loan and bank's interest in the first year operation. This shows a weak management and capacity, shortage of financial budget, of the investors to overcome the difficulties and the weakness in planning policy of local government.

6.4.2.6. High inflation risk

The inflation rate increase can increase the project cost and reduce the value of revenue obtained. Thus, the profit that the investors can get from project would be reduced and it results in a total loss for investors. Therefore, it is necessary to have a proper assessment of the inflation rate so that no shareholders of the project would face any unnecessary loss.

An increasing in the initial total investment cost amount of VND 271 billion discussed earlier also results from the increase of material's price required for construction of the project. The high increase of main construction material for construction in this project was from 30% – 70% that was the heavy burden of the constructors and investors. This increase leads to the toll's price and concession increase as well. Therefore, this is one of the reasons for explanation of the higher the toll fee in this project than other projects, which lead to the boycott of users to the bridge.

6.4.2.7. Incorrect analysis of concession duration

The concession duration can influence heavily to the project's revenue. Thus, it is necessary to consider the interest of both the government and the investors into this issue. In general, one party must not be given more benefit at the expense of the others. Generally, a longer concession period is more beneficial to the private investor, but a prolonged concession period may induce loss to the concerned government. Conversely, if the concession period is too short, the investors will reject the contract or are forced to increase the service fees in the operation of the project. Most of all, the users of the facility have to bears the high price and longer-toll time for using the facility. In Vietnam, the financial method is usually used to estimate the concession period of a BOT project. It has been approved by Vietnamese Ministry of Finance and applied in most projects in Vietnam. Discount rate is used in this method taking into account the effects of inflation, such as an increase in the operation and maintenance cost.

For this project, the discount rate was determined at 11% per year, which means that the investors of this project will not be able to recover fully their capital investment if the inflation rate increases over 11%. However, the inflate rate of Vietnam is often very high as discuss in the earlier part in which in 2009 the inflation rate was 24%. Therefore, it is risky for BOT project in Vietnam in dealing with inflation risk. In reality, the project experienced risk of inflation during the construction phase of this project, which created a massive cost escalation as mentioned in the previous section. Thus, the future financial condition and the concession duration of this facility appeared to be doubtful as this increase.

6.4.2.8. General corruption

Corruption is based on using political, legal, or regulator leverage to extract additional costs for which no one admits and the project developer can never recoup. It occurs when the government's officials and representatives receive an unlawful consideration or commission or utilize any unlawful influence in connection with awarding agreement to the project developers. Developing countries in general and Vietnam in specific are usually dealing with the risk of corruption. The World Bank report has stated that corruption by the government agencies is common in Vietnam and that it has spread far and deep into many government departments. In Vietnam, the two most popular government agencies involving to corruption are the department of construction and the land administration agency. A recently case of corruption

was in the East-West Boulevard project in which the Vietnamese government officials received bribes of more than \$800,000 USD from a Japanese PCI Company for winning of construction of this project. Although the corruption could generally cause quite significant loss to project, it is often considered acceptable since the majority of businessmen and entrepreneurs in Vietnam have become accustomed to corruption. Thus, this making corruption become a common and acceptable practice in Vietnam.

6.4.2.9. Foreign currency exchange risk

This is one of the most important risks for the BOT projects using the foreign loans in Vietnam. The exchange rate between the local currency and the hard currency is fluctuated unexpectedly in Vietnam. In addition, it is difficult to exchange local currency to foreign currency or transfer it to foreign bank accounts if the investors do not get commitments from the government. The low level of hard currency budget reserved in Vietnam also confuses the investors when they want to invest in infrastructure development because the cost for project is usually by hard currency while revenue received from the project from local currency. With currency risk, it will take a lot of time for investors to get commitment from the government for guarantees. The investors could be delayed in currency transfer due to a weak and low reliability of the Vietnam banking system leading to not meeting schedule for debt obligation. In addition, the unstable and depreciation of VND against hard currencies also cause potential foreign exchanged risk and frustrate foreign investors. Because this project itself only generates VND (the Vietnamese currency), the project could only buy foreign currencies from Vietnamese Banks to repay the foreign loans according to the Vietnam policies. This risk is likely happening in this project.

6.4.2.10. Political risk

This risk associated with the nature of the political support towards private sector in PPP project such as changes in the country's taxation regime, nationalization or expropriation of infrastructure by the host government, failure to honor the concession agreement, imposition of restriction on import/export, and delay or failure in issuing the necessary permits and land acquisition for the implementation of the project, etc. Generally, Vietnam's stable macro-political-economic development environment provides good external conditions. The Ho Chi Minh City People's Committee gave strong supports to this project. However, the uncertainty of local government policies and change of governmental officials poses political risks to this project. The increase in initial total investment cost discussed in the previous part also comes from the changing of the government policies. In addition to that, the PMC also take a big political risk in the issue of selecting the contractors of the subcontract for technical solutions and management of water transport for future execution of the Phu My Bridge. In this case, the PMC set up a competitive tendering for this subcontract under an approved document number 7938/BGTVT-VT by Pham The Minh, Deputy Minister of Transportation: "The issue of choosing the company for executing the technical solutions and management of water transport for future execution of the Phu My Bridge is decided by the PMC independently". PMC finally chose the subcontractor Hai Phong Water Transport Security Company (HPWTSC) for this subcontract with the lowest price VND 48.4 billion (94.58% of budget cost expected by PMC). Later, however, the PMC received another document number 2016/BGTVT-PC by Ngo Thinh Duc, other Deputy Minister of Transportation to suggest The HCM City People's Committee and PMC choose Navigation Security company 2 (NSC2) for this subcontract, although NSC2 suggested VND 56.4 billion (17% higher than HPWTSC) and fail in the bidding procedure before, with the

justifications that: “Navigation Security company 2 is the only company provided with the duty of management, design, install and operation the whole signal of shipping navigation system from Quang Ngai city to Kien Giang province. It has the function of regulating, controlling, and secure shipping navigation including the Phu My construction area...” Thus, The PMC was put into a dilemma position since the PMC had signed the subcontract with HPWTSC and this company executed for 15 days. If PMC chose NSC2 for this subcontract, it would unfair to the HPWTSC and the PMC had to compensate for the NCS2. Furthermore, choosing another constructor at that time would affect to the planning of construction the main bridge and the main constructors would fine \$25,000 USD/day for delay, mount of \$1.5 million USD for 2 months late. The situation became worse later when the Ministry of Transportation assumed that if any delay happened during the construction of Phu My Bridge due to not choosing NCS2 for the subcontract, the PMC would consume all the responsibilities. In return, the PMC also asserted that the company might sign the contract with NSC2 but all the consequences later, which create the delay for construction of Phu My Bridge, sanctions due to cancel the contract with HPWTSC, etc. the PMC would not take this responsibility. Fortunately, the final decision was to choose both of the subcontractors (HPWTSC and NSC2) for this subcontract, although the NSC2 just wanted to do the subcontract alone earlier. The remarked points here are that NSC2 is one of the State-owned enterprises related to Ministry of Transportation and they just only want to reduce 1% of the contract value before; but later they suddenly accepted to reduce 15%. This shows a devaluation of the contract’s price from this company with many underlying political games. One anonymous expert said that the status of exclusiveness of SOEs in infrastructure projects, which belong to Ministry of Transportation, has existed for a long time. With the public project, they are rarely “struggle for work”, but in BOT projects, these SOEs are very “eager” for work with nearly 100% efforts because of the profit gaining from the BOT projects as analyzed above.

6.4.3. Risk Perceptions between the parties

Since this project is a public infrastructure project procured under PPP, it had to work with tactical issues as well as strategic issues. Therefore, the project must be assessed in terms of its project management process and its output achievement based on good project governance discussed in the previous chapter.

6.4.3.1. Government’s point of view

The most threat in this project from the viewpoint of government is the investor’s focus on the benefits of construction rather than the profit of the whole life cycle of the project. Even though this is considered quite extraordinary, this is very common in Vietnam. This results from the fact that majority of infrastructure investors in Vietnam are somehow related to state-owned enterprises or joint-venture companies in which the government has the major control to decision of the project. They are supported strongly by politics and government. In BOT Phu My Bridge project, investors: Ha Noi Construction Corporation, Construction Investment and Development Company, and Ho Chi Minh City Infrastructure Development Joint-Stock Company are the state-owned companies which government holds controlling. Chief executive officers of these companies are re-appointed every five years. The pressure of earning high benefit in their tenure leads them to conduct as many new projects as possible in which they can get high gains by building construction of project rather than managing the company to operate in a sustainable manner for a long-term. To achieve their purposes, these investors make BOT to be

feasible with more optimistic data than realistic to convince the government for project approval. After the construction stage, problems that not specified before turn out occurring as potential risks affecting the project objectives. Consequently, the Project Company and government usually have to share cost overrun or prolonged schedule. The present common trend in Vietnam is that the concession company convinces host government to agree on converting BOT type into Build-Transfer (BT) type after project operates unprofitably for a short time. In this project, to help investors from bankruptcy, Ministry of Finance is thinking of reporting to Prime Minister to offer that transferring BOT Phu My Bridge project to BT Phu My Bridge project.

Other risk is usually considered by the Vietnamese government is the poor financial resources and backward technology of investors and contractors, which are the main reasons for poor construction quality, construction delay and project cost overruns. Unrealistic forecast on future economic development, demand and poor construction quality are also major risks, which affect the traffic flow while also increasing maintenance cost. It is mostly due to inappropriate technical application, bad material, construction management inefficiency and corruption.

Incorrect analysis of duration of concession risks discussed earlier and delay transfer due to a desire to collect more profit is another aspect that Vietnamese government usually takes into account because they can influence profit of investors and government in terms of economic. Indeed, investors often bring proper reasons forward government to convince delaying transfer BOT project to government when BOT contract nearly finishes. The proper reasons are usually inflation rate increasing, cost overrun, shortfall cash flows, high maintenance cost, improper profit, other expenditures, and so on. This demanding is sometimes refused but it is easier if such investors are supported by politicians in the case of these investors are one of the state-owned enterprises. Government has to guarantee that a win-win scenario of BOT infrastructure project will be achieved, a failing of BOT project will bring losses and deter investors from investing in similar projects and ultimately the host government will suffer such losses.

Moreover, government also concerns of inappropriate facility maintenance that causes the quality of the infrastructure to be decreased rapidly. The inappropriate maintenance of facility can result from the fact that the investors desire to reduce the maintenance cost as much as possible with the lowest acceptable level of quality. Although the government has tried their best to control the construction quality through law, criteria and investigations, their efforts are still insufficient to improve the quality as expected in the recent projects.

6.4.3.2. Investors' point of view

The main objectives of investors to invest in BOT projects are to get profits and look for effective mechanism to protect their investment fund. In investor perspective, threats of failing to achieve these objectives are risks. The lack of an appropriate toll adjustment mechanism is considered as the most threatening risk since it is beyond the ability of the private sector to handle it. To cope with unforeseeable events, primarily changes imposed by the government authorities and periodical reviewing toll adjustment formula are regarded as an effective ways. For those unusual cost or cash flow change, pre-setting tariff/toll adjustment formula is the most common method. The relevant formula mainly includes those for coping with such risks as exchange rate fluctuation, inflation, or demand change. The mechanism for tariff/toll fee

adjustment is under the authority of the Ministry of Finance. Concession can only propose the increase of tariff/toll in a constraint scale and they have to wait for approvals by many government agencies.

Moreover, transportation network in adjacent region influencing the BOT project is considered the main reason for a lower cash flow than estimation. In case of the risk of incorrect analysis of ownership duration, it is very much based on many unpredicted variables in the long-term as well as mathematical and financial method. These are the other two risks that investors concern when participation in BOT project in Vietnam.

Investors also care of the risk of delay in approval from government agencies and land acquisition delay. These risks are more related to political risk rather than financial risk, but they directly influence the investors' investment cost. Generally speaking, both the central and local government agencies often do not approve the project-related documents on time, even though they realize that time is very crucial in BOT project. These issues were also experienced in this case study. Thus, this problem is likely to reduce the investors' confidence to participate in future infrastructure development in Vietnam.

Uncertainties in the traffic volume during the long contract period in operation phase and poor prospect for economic growth of the local economy are also taken into account by private sector when investment in BOT projects. Most BOT projects, which rely on market-based revenues, often face traffic volume risks that relate to demand and price. In the case of the actual traffic volume generated by the project lower than forecast, and then it will lower the rate of return of the project. However, uncertainties in the traffic volume depend on economic growth of the local economy, where the BOT infrastructure projects are located. That is the reason why if economic growth rate of the local economy increase, traffic volume in this area will be raised. On the contrary, traffic volume goes down following local economy.

6.4.3.3. Contractors, subcontractors and operators' point of view

Contractors, subcontractors confronted with risks only during the construction stage of the project, which generally proceed for 2-3 years. The main objectives of contractors and subcontractors involving in BOT infrastructure projects include completing the project on time, within approval budget, and meeting appropriate standard of quality or fitness for purpose. In contractors' perception, risk is a function of the interaction of uncertainty and the magnitude of the potential loss or gain. Construction work involves considerable risks due to the complex nature and uncertainties inherent in the construction process. Consequently, the contractors, operators suffer cost overrun, delay, and redress risk from several factors.

Contractors, subcontractors and operators consider the delay in approval from government agencies, general corruption and untrustworthiness of public officials are the most important risks. As mentioned, the approval from the Vietnamese government requires a thorough procedure just like any other government agencies, but with unnecessary bureaucracy and complexity. For any BOT projects in Vietnam, if the constructors are not supported from the government, they will have to face difficult processes and un-transparent procedures. This is due to the unprofessional and incompetence of the staff of local government regulatory agencies, unclear decentralization of responsibility within the agency and relatively poor law

implementation along with common corruption practices and high untrustworthiness of these government officials.

The poor support from the government is presented through the uncertainty in the crucial raw material price. The government should provide more cooperation and encourage private investors by assembling supportive regulations because it as the owner of the project and as the one who has the authority to make strategic decisions in such case. Without the government's support in this risk, the contractors will face with the condition where these material prices increase dramatically and become unmanageable. They are forced to find a solution for themselves in order to at least minimize the loss.

Delay in financial closure is also the risk that is considered as a threat to them. BOT Phu My Bridge project is one of common examples of this risk happening in Vietnam. This is shown in case that the contractors intended to quit the project because of the long delay of financial closure.

Land acquisition delay is also a risk factor influencing contractors in case that process of land acquisition has not finished but owner convince contractors starting to perform construction project. Land for BOT infrastructure project is often taken in a long time, some parts of site construction is ready to execute the project and others have to wait for a process of compensation without due dates. This condition creates a financial burden to the contractors, which include labor cost, cost of non-working machine, bank interest and waste of time.

Actual traffic revenue that is lower than estimate in operation phase is related directly to operator's perception toward that risk. Concession Company often creates a new company or employs itself to operate BOT facilities. The operation company has to manage effectively BOT facilities, which can get gains for Concession Company and finance maintenance, labor cost with fluctuant cash flow. Thus, if traffic stream lower than estimate before, operator will suffer the losses.

6.4.4. Risk allocation in BOT Phu My Bridge project

Risk allocation in this project specified in three main aspects: construction viewpoint, financial viewpoint, and legal and political viewpoint. This section will analyze all of these three aspects in term of risk allocation.

6.4.4.1. The construction viewpoint

The primary risk allocation in this project is to structure the BOT project contractually in such a way that most risks should be transferred to the appropriate parties who can handle those risks with less cost. According to this perception, design and construction risks in this project should be transferred under BOT projects. Some features of the BOT structure can help transfer of design and construction risks to the BOT contractors as following:

- Fixed price contract: fixed price contract can help the contractor from cost overruns. However, the host government also has to share cost overruns on some major BOT projects if reason of cost overrun by government increases on monopolistic critical material or minimum salary of labor.

- Design risks: with the design risks, the contractor must take responsibility to develop a design that satisfies the service requirement as stipulated in the contract.
- Fund operations: the contractor should be responsible for the balance between design quality and service provision necessary to meet contract requirements throughout the contract period.

In dealing with design and construction risks, contractors can reduce them by risk premium. Risk premium is contingency sum, which is usually added to an estimate to account for unforeseen issues that cannot be fully price when an estimate is prepared. An alternative way that contractor can reduce cost overrun is to buy a premium insurance to prevent unforeseen ground and bad weather condition risks.

6.4.4.2. The financial viewpoint

A bank can deal effectively with financial risks since most of the banks seek to be fairly certain that most relevant risks have to be passed to other parties. In such case, financiers transfer all major construction risks to the construction companies such as construction time and cost overruns, design, etc. Operational risks such as cost escalating during the life cycle of technological changes are usually transferred to the operational companies. The political and some legislation risks are transferred to the public sector. However, lenders should have to accept some risks, which are related to their core activities, as well as some residual project risks such as interest rates and inflation, which they seek to hedge through an agreed hedging policy.

Concession Company tends to avoid fluctuation interest rate risk by using fixed interest rate of borrowed fund, and transfer inflation risk, which is related to uncertainty of price of critical materials to contractors.

Constructors have to bear the delay in financial risk. Service will not be performed until the facility is completed and commissioned and the authority will make no payment until such time. Thus, the contractor will bear the risk of time overrun.

With the demand risk in term of financial and affected cash flow of BOT project, government, users, operating company, and investors will share this risk. Government will reduce tax, users should bear increasing fee, and the operating company and investors agree to reduce gains.

6.4.4.3. The legal and political viewpoint

Government should retain political risk since investment fund covers the BOT project are tight. Thus, if change in law, regulation, political will be strongly affect BOT project, and the other parties cannot resist. Moreover, the host government also should retain the risk of land acquisition delay since the host government has the experience and resources to deal with this risk.

6.4.5. Discussion of the case study based on the good project governance principles

6.4.5.1. Fairness

Typically, Vietnamese government will take the responsibility of planning development process of BOT projects through a master plan, and then it announces a list of potential projects to public to call for the private investors invest into them. Even though the concession company

carried out the feasibility study in this project, it was under the control of the government through Ministry of Transportation since the feasibility study based on the information provided in master plan. With the political powers, the government officials made strategic decisions to look for their own benefit and did not make an effort to help the project company to sustain in the long-term during development processes of this project. They tend to gain as much benefit as they can for themselves during their office term. Thus, the feasibility study included the optimistic data to maximize the chances of being approved by Vietnamese government. As a result, the project design and planning work was actually based on biased information, so it is obviously unreliable. Unfortunately, the concession company had to accept the consequences of these unprofessional and incompetent behaviors of the government officials without bargain. The consequence was that the concession company got the low revenue and profit than estimated in the feasibility study to serve the loan debt from foreign banks.

Moreover, the Vietnamese government agencies also failed to provide the necessary supports to the investors and constructors in the form of regulations, legal systems and policies. This led to many difficulties and conflicts between the stakeholders in this project. Claims and disputes common happened during the development of this project. With the same set of regulations and policies, but they are defined and interpreted differently by the government agencies so that they may be used to serve the government agencies' purpose rather than letting their function for the intended purpose. This issue can be tracked in the case of subcontract project for technical solutions and management of water transport for future execution of the Phu My Bridge mentioned earlier. Two disputes minister of Ministry of Transportation ironically gave the different approval documents for the same issue that made the PMC was very frustrated in their decisions. The legal system in the country is set up and structured by the government, so it is likely used to give more advantage towards the government agencies. Despite the fact that the law should be executed equally among all parties, unfortunately it is not likely happening in practice. The government agencies often exploit and make use of the law system for looking their own benefit. Therefore, it truly shows that fairness was not achieved in this project.

6.4.5.2. Transparency

There was a lack of understanding of risk perception between the stakeholders in this project due to each of the stakeholders has different goals, objectives and concerns. These differences in their interests affect the form of perception on such risks, which are considered to have the highest potential threat. Therefore, each of them treated these risks with different strategies based on their needs and abilities creating conflicts among the stakeholders in many cases. When the conflicts happened in this project between the PMC, Ministry of Transportation and local government in the issue of subcontract project for technical solutions and management of water transport for future execution of the Phu My Bridge, they tried to avoid the responsibility of the consequence by passing it to other parties instead of collaborating to resolve it together. It is necessary to notice that the information regarding these differences should have been disseminated properly between the stakeholders through better communication initially to prevent future conflicts. A comprehensible information management practice and continuous communication is required to avoid any unnecessary conflicts between the stakeholders.

In addition to that, this project also faced the problem of financial management. This project is initiated and proposed by government officials, but they tend to exploit their authority for their own benefits. Thus, the project development plan and investment strategy was flawed since it was based on biased information. The risks that had been not managed effectively before, they began to create problems later and subsequently both the concessionaire and the government had to share this burden. In this project, even the bridge did not start construction but PMC had to pay \$750,000 USD/month for the delay. In addition to that, the project's revenue was lower than planning in the operation phase; it put the investors in many problems. Thus, the project faced many troubles and investors had not choice to request the government to convert this previously BOT scheme project into Build-Transfer (BT) type project and is waiting for the government approval. Therefore, it is clear that there was no proper planning in term of project financing for this project resulting in an ambiguous investment strategy, cost overruns, etc. These conditions prove that there is a lack of transparency within this project.

6.4.5.3. Accountability

The accountability of the government in this case is shown in the issue of unrealistic forecast of future economic development and demand. This is considered as one of the most potential risks and it occurred during the life cycle of this project. Since the forecast is based on overly optimistic data of the government agencies, the revenue for this project had become overestimated. The facility in reality was not able to attract the expected revenue due to insufficient traffic influencing to the project's profit. Such insufficiency also results from the existence of a competing transportation network around the bridge and also due to the inadequate road conditions that link to the bridge and the lateness of approach roads at each side of the bridge. In addition to that, the expected economic development did not happen in the area around the bridge as expected to gain an increase land value due to its strategic location and high demand. The issue of the construction of the bridge influencing to the nearing ports' activities is also counted for the government's accountability. Overall, the government is considered accountable for the facility's inability to neither generate the necessary returns nor produce the required impact around the region.

6.4.5.4. Sustainability

Collaboration between the government agencies as well as between government agencies and private parties in this project was obviously a problem. The shortage of collaboration among the government agencies is considered in regard of infrastructure development rather than constructing a supportive environment through a collaborative partnership. When the project was in trouble, there has very little effort given to solve these kinds of problems through stakeholder management approach. Thus, potential conflicts between stakeholders happened unavoidably and were uncontrolled. Generally, the existing and practiced conflict-resolution approach in Vietnam is still insufficient and unable to impose equal treatment, so it influence the project sustainability in the long-term while it also discourages future private participation. This, in turn, would endanger future Vietnamese infrastructure development.

6.4.5.5. Effectiveness and Efficiency

In the case of effectiveness and efficiency, the administration procedures should be improved in this project, especially in term of documentation process. In fact, due to the lack of historical information regarding risk sources, the risk management process in Vietnamese BOT projects is

very weak and ineffective. It is very difficult for the government and future private investors to predict the potential risks that may occur in future infrastructure projects. Thus, this issue will prevent them from making a proper estimation as well as accurate planning for the project lifecycle. Moreover, the shortage of knowledge of risks also hinders the stakeholders to approach projects with the most appropriate risk management strategies. Therefore, it is important now for Vietnamese BOT projects to have proper project risk documentations in order to achieve an effective and efficient managing of BOT projects.

6.5. Conclusion

From these sections of this chapter, the author recognizes that transportation sector, electricity sector, water and sanitation sector, and telecommunication sectors in infrastructure of Vietnam are still under-developed and in an urgent need of improvement against an increasing high demand. They face many problems such as shortage of capital for investment, lack of technical experts, weak management skills, high risk and uncertainty, etc. The development of these sectors depends heavily on capital of official development assistance (ODA) (37% of Infrastructure Investment Financing). However, ODA is unlikely to grow at the same pace as the economy, and it will occupy a smaller part of total infrastructure investment over the next five to ten years. Grants and the most concession forms of donor financing will become increasingly difficult to obtain since Vietnam had experienced a significant economic growth in which its GDP per capital had exceed the permissible threshold of the donor community that makes Vietnam no longer entitled to preferential loans from donors. Thus, private sector participation is expected to play a major role in providing the sufficient capital for ever-hungry-capital infrastructure in Vietnam.

However, practicing of BOT projects in Vietnam has faced many difficulties reducing the willingness of investors for participating in this procurement. These problems can be the nascent and immature financial market; the domination of State-Owned Enterprises; lack of transparency project selection; bidding and negotiation processes; weak risk management skills; poor capacity of government agencies to manage BOT projects, etc. Due to many inherent risks and uncertainties in BOT projects in Vietnam, such projects often face with massive price escalation and low revenue to recoup the project cost and serve the debt service.

The case study has shown some important risks commonly faced by BOT projects in Vietnam. They are delaying in land acquisition risk, delay in approval risk, risk of transportation network in adjacent region, cost overrun, improper analysis of concession duration, corruption risk, foreign currency exchange risk and political risk. Lastly, it is seem that fairness, transparency, sustainability, effectiveness and efficiency are hardly to obtain in environment of BOT project in Vietnam due to both the subjective and objective reasons.

Chapter 7. Conclusion and recommendations

7.1. Introduction

This chapter discusses the summary of the chapters and the conclusions withdrawn from these chapters. The summary of each chapter also express the purpose of it in fulfilling the objective and sub-objectives of the research as well as the relevant research questions listed in chapter 1. The conclusions of this chapter are discussed to answer for the research questions listed in chapter 1. Then, the short-term and long-term strategies for executing the recommendations in this study are proposed. Lastly, the recommendations for further study on the practice of BOT projects in Vietnam are proposed.

7.2. Summary of the chapters

Chapter 1 of the research introduced some general points about the thesis. They are about the motivations and purposes of research, research problems and research questions for the thesis. This chapter also mentioned the scope and limitations to do the research as well as the expected contributions from the research. Through this chapter, we can see that Vietnam has a high economic growth rate, so it has to develop infrastructure system if it wants to keep this high rate. Therefore, demand for infrastructure investment in Vietnam is very high, but the government budget is very limited. Vietnam will encounter more difficulties in the future because the assistance from international organizations will be reduced as Vietnam is out of the poor countries, which are entitled to preferential loans from donors.

The problem of the development of infrastructure in Vietnam now is government budget deficits, so attracting new sources of long-term finance as alternatives to traditional financial sources, which are heavily depended on ODA, is necessary. Thus, private sector participation in PPP model is expected to play a major role in providing the sufficient capital for infrastructure development in Vietnam now and in the future. However, many BOT projects have executed until now in Vietnam, most of these projects could not finished on time and overrun budget right after the construction stage. Moreover, foreign investors invest only two BOT projects in Vietnam until now. The failure of these projects and unwillingness from private investors results from nascent financial market, which cannot sustain for long-term and huge capital investment of BOT infrastructure projects. In addition to that, BOT projects in Vietnam contain many risks involved in which such projects cannot be successful without government supports and guarantees. Thus, the security of their investments and return from the project are not ensured. The uncertainties, risks in BOT projects in Vietnam are mostly caused by the unfulfilled institutional policy and legal regime of BOT project environment in Vietnam. The policy and regulations for BOT scheme fail in creating the willingness to invest from investors because of many complex approval systems by many authorities involved with corruption, time-consuming, vague language and uncertainties in regulations, etc.

Among many critical success factors influencing to performance of BOT practice in Vietnam, the author recognizes that Vietnamese government should try all its efforts to improve the financial market, ability to manage risks, legislation and regulation to leverage for private involvement in BOT scheme. The other factors can be achieved by the learning curve process on the course of local and international PPP practice.

The goals of Vietnam now are finding good ways to attract private funding sources to participate in infrastructure development. The banking system, capital market, infrastructure funds and private investors are the main private funding sources in infrastructure development in Vietnam that need to be improved. At the same time, in order to increase investors' willingness and confidence when they invest in BOT projects in Vietnam, the government should give guarantees, incentives, and supports to isolate them from risks involved in BOT projects in Vietnam. Risks and uncertainties can also be eliminated by a good policy and legal regime, so the government also should build a good policy and legal framework for PPP model. By ensuring these things, the performance of PPP project will be improved as well.

Based on the foregoing points, the author is inspired to do the research with the following objectives:

- To study concept, characteristics of PPP projects in term of project financing aspect, risk management aspect, policy and legal aspect in PPP model.
- To determine the issues existing in private funding sources in infrastructure development in Vietnam where the banking system, capital market, infrastructure funds and private investors are analyzed and look for ways to improve them.
- To determine, analysis major risks commonly exposing in BOT projects in Vietnam and look for mitigation measures to deal with them as well as what supports and guarantees that government should give to investors to enhance their confidence and make them to be secured.
- To investigate the policy and legal regime in BOT project environment in Vietnam to figure out what are the problems in it and find ways to improve them.

Building on these objectives, several research questions for the study are:

- 1. Because investors just only participate in PPP projects in the host country with favorable and advanced financial market so that they can easily mobilize funds for huge-capital and long-term PPP project, what are the factors hindering private funding sources from good practices in infrastructure development in Vietnam? How can these factors be improved?*
- 2. Because we know that PPP projects inherently contain many risks involved, investors should be made sure that their investment would be secured and they can gain returns from investment, what is the framework for risk management of PPP projects? What are the most important risks in BOT projects in Vietnam? What are the mitigation measures to deal with these risks? What supports and guarantees should Vietnamese government give to investors?*
- 3. Because private sector always examines the policy and legal framework and its ability to ensure the effectiveness of long-term contracts, what is the good policy and legal framework to motivate and facilitate PPP project promoters? What are the obstacles in policy and legal regime of BOT project environment in Vietnam? How can these obstacles be improved?*

Chapter 2 of this research aims to study concept and characteristics of PPP model. The crucial issues and dimensions of PPP model has been examined and analyzed. This chapter analyzed the definition, characteristics, and the benefits as well as the limitations of PPP model. The important dimensions of PPP procurement are also discussed such as organizational structure, stakeholders, and contractual structure. The organizational structure of PPP model is chosen based on the complexity of construction and the characteristics of fund providers. It can be the mono-entity structure, dual-entity structure, multi—entities structure, or mixed organizational

structure. Many parties participating in PPP arrangement can complicate the PPP process and potential conflicts between these parties usually happen due to their differences in interests, viewpoints and core business. The contractual structure of PPP procurements is a complicated network of relationships between many stakeholders, shareholders in which the concession agreement is the most important one. In order to ensure the continuance of the project, the lenders and host government can enter into a direct agreement with counter-contracting party. By using direct agreements, the lenders can secure their investment and take over the SPV's role when necessary to help project overcome difficulties and repay the debt. However, it is easy to see that the lenders are not eager for investing in PPP projects since the process for executing PPP process usually takes place in a long time accompanied with various risks in the life cycle of project. The possibility of volatility in project's revenue in the future is high which can lead investors to go bankrupt. This chapter also presented the phases of a PPP project with the clear role of public and private sectors in each stage of project development. Moreover, the common types of PPP projects were also investigated. They can be Service Contracts, Build Operate and Invest, State Owned Enterprises and Joint Ventures, or Privatization.

Chapter 3 of this research aims to study the characteristics of financing aspect of PPP model and determine the factors hindering private funding sources from good practices in infrastructure development in Vietnam and look for ways to improve them. The funding sources for PPP arrangement were investigated. They can be equity financing, senior debt, mezzanine financing, bond finance, project leasing, development finance institutions, and export credit agencies. This chapter also introduced the basic hedging instruments commonly used in reducing the interest risk, currency risk, and credit risk such as swaps, options, forwards and futures. The problems facing to the multi-funding-source project are the varied interest of creditors in regard of their security and priority ranking in project that could harm to the success of project. These issues were addressed in the intercreditor agreements, which specify clearly each creditor's role, responsibilities, and rights. Moreover, this chapter also presented the critical issues that all the parties usually face in PPP projects such as lacking of the domestic capital markets, limited in raising of institutional funds, non-dependable project revenue streams, and government guarantees. These are very important factors that could influence to the success of a PPP project. The consequence of not meeting these factors can lead to not attract investors at all or not establish PPP arrangement. The financing strategies related to project financial-related issues, project viability-related issues and project-related risks as well as financial risks were also discussed to make clear what should be taken into consideration when development a PPP project. Based on this knowledge of project finance in PPP model, this chapter has determined the factors hindering private funding sources from good practices in infrastructure development in Vietnam in term of the crucial financial risks, the difficulties, obstacles, and the suggestions for improving are proposed.

The purposes of chapter 4 are to study the risk management aspect of PPP model, analyze crucial risks, stakeholders' perspectives, risk management practice in BOT projects in Vietnam and look for the mitigation measures as well as government guarantees and supports to deal with risks. This chapter reviewed risk management processes with many techniques, tools and strategies involving in each step. The crucial risk factors and major risks of PPP project were also outlined. They can be country-related risks, concessionaire-related risks, market-related risks that should be addressed in developing PPP projects. Risk should be evaluated through out the

whole project lifecycle since risks are presented in all phases of projects. The general principal in risk allocation is that risks are distributed to party who are best in management them with less cost. In addition to that, the important principals such as fairness, transparency, accountability, and sustainability should be considered for a proper risk allocation. This chapter also built a framework of risk management of PPP model that can be helpful for applying in practice. This framework shows the requirements, actions, activities, and outcomes that each party in a project should do in each step of risk management process accompanied with the project phases to improve performance and achieve the project's objectives. Furthermore, it also proposed the useful techniques and strategies that should be approached to increase efficiencies. The author hopes this framework will help investors improve their risk management process for investing in PPP project. Based on the analysis of risk management practice in previous BOT projects in Vietnam, many crucial risks, stakeholders' perspectives were presented in this chapter. The mitigation measures as well as the government guarantees and supports to deal with such risks are also proposed in this chapter. Based on such analysis, the author sees that almost BOT projects in Vietnam have not allocated risks properly and systematically that usually lead to conflicts and even failures of project. Therefore, developing a practical risk management framework as discussed in this chapter is the most important strategy for improving performance of PPP projects in Vietnam nowadays. The framework of risk management discussed here can be set as an example in managing risk in Vietnamese BOT projects. Through the framework, partners in a PPP project will see clearer and more systematic activities in managing risks and avoiding the confused activities when managing risks.

The purpose of chapter 5 is to study policy and legal aspect of PPP model and investigate the policy and legal regime in BOT project environment in Vietnam to figure out what are the problems in it and find ways to improve them. This chapter has presented the guided actions to build up a good institutional policy and legal framework that governments should do for PPP model to create incentives and guarantees for private participation in PPP projects. The policy framework should have clear objectives and principles, realistic targets, while the legal framework should be fewer, simpler and better in order to make the private sector to be secured and confident. Moreover, a good institutional policy and legal framework should take into account all the stakeholders involved and guarantee them access in decision-making while preparing for the development of PPP projects. The role of government is to create a favorable investment environment by creating a willingness to invest from the private investors, establishing a good design of contract, and preventing regulation from failure in infrastructure project, and offering government guarantees and incentives to support the private investors participating in PPP projects. Such principles of good governance can be the basis theoretical notions for the government to practice for improving the performance of PPP projects. BOT Decree in Vietnam fails to address adequately many of the issues necessary for practicing PPP model to be successful. From the analysis of BOT decree and procedure to execute BOT projects in Vietnam in this chapter, it can be seen that the BOT Decree has close relationships and is impacted by Law of Investment and other specialized regulations while these regulations are not synchronized. This causes some uncertainties and conflicts while operating BOT projects. The policy and legal framework is still unfulfilled. It fails in creating a good environment for the willingness to invest from the private investors, in establishing good design of contract, and in preventing regulation from failure. Thus, it needs to be improved. The suggestions given in this

chapter will play as preferences for government to stimulate the private investors participating in BOT projects in Vietnam as well as for improving practicing BOT projects in Vietnam.

Chapter 6 of this research aims to introduce readers about the status of applying PPP scheme in Vietnam. It presented the reasons for failures, inadequateness in BOT projects in Vietnam after having a quite extensive knowledge of PPP model from the previous chapters and of BOT project environment in Vietnam. Then, it suggested some recommendations for improving practicing BOT projects in Vietnam. Lastly, a case study in Vietnam will be analyzed thoroughly to validate for the findings from the previous chapters. From the sections of this chapter, the author recognizes that transportation sector, electricity sector, water and sanitation sector, and telecommunication sectors in infrastructure of Vietnam are still under-developed and in an urgent need of improvement against an increasing high demand. They face many problems such as shortage of capital for investment, lack of technical experts, weak management skills, high risk and uncertainty, etc. The development of these sectors depends heavily on capital of official development assistance (ODA) (37% of Infrastructure Investment Financing). However, ODA is unlikely to grow at the same pace as the economy, and it will occupy a smaller part of total infrastructure investment over the next five to ten years. Grants and the most concession forms of donor financing will become increasingly difficult to obtain since Vietnam had experienced a significant economic growth in which its GDP per capital had exceed the permissible threshold of the donor community that makes Vietnam no longer entitled to preferential loans from donors. Thus, private sector participation is expected to play a major role in providing the sufficient capital for ever-hungry-capital infrastructure in Vietnam. However, practicing of BOT projects in Vietnam has faced many difficulties reducing the willingness of investors for participating in this procurement. These problems can be the nascent and immature financial market; the domination of State-Owned Enterprises; lack of transparency project selection, bidding and negotiation processes; weak risk management skills; poor capacity of government agencies to manage BOT projects, etc. Due to many inherent risks and uncertainties in BOT projects in Vietnam, such projects often face with massive price escalation and low revenue to recoup the project cost and serve the debt service. The case study has shown some important risks commonly faced by BOT projects in Vietnam. They are delaying in land acquisition risk, delay in approval risk, risk of transportation network in adjacent region, cost overrun, improper analysis of concession duration, corruption risk, foreign currency exchange risk and political risk. Lastly, it is seem that fairness, transparency, sustainability, effectiveness and efficiency are hardly to obtain in BOT projects in Vietnam due to both the subjective and objective reasons.

7.3. Conclusion from this research

Conclusion from the research, which is withdrawn from findings of the previous chapters, will answer the research questions listed in chapter 1.

▪ *In term of the first research questions: What are the factors hindering private funding sources from good practice in infrastructure development in Vietnam? How can these factors be improved?*

The summary of factors hindering private funding sources in infrastructure development in Vietnam and recommendations for improving are shown in the table 7.1

Table 7.1. The factors hindering private funding sources from good practice and recommendations for improving

Financing channels	Key issues	Recommendations for improving
Banking system	<ul style="list-style-type: none"> • Mismatch between long-term assets and short-term liability. • Vietnamese financial market is still lacking development financial institutions specializing in providing medium and long-term funds. 	<ul style="list-style-type: none"> • Vietnamese government should establish policies to provide incentives for the banks by freedom in deciding the interest rate with flexible mechanisms to attract the long-term deposits from citizens. • Vietnamese government should support the development of the securitization market. • Continue in the development of the key channels for attracting private investment in infrastructure development is necessary.
	<ul style="list-style-type: none"> • Direct lending identified by government instead of effectiveness and gaining profit from the banks. 	<ul style="list-style-type: none"> • Government should make a detailed market-based legal, administrative rules and regulations to strengthen the commercial orientation of the banks. They should work in an effective and profit-driven in their business rather than direct lending under the heavy intervention from the government.
	<ul style="list-style-type: none"> • Banking system is limited in investment appraisal capacity. There is a shortage of competent experts to serve for project selection process. 	<ul style="list-style-type: none"> • Strengthen the commercial orientation of the banks. • Use loan syndications to compensate for the present limited investment and appraisal capacity. • Train and improve the knowledge of BOT procurements for officials.
	<ul style="list-style-type: none"> • Banking system is lack of a risk management framework. The banks are usually dealing with the possibility of borrower's default resulting in restructured and extended loans. 	<ul style="list-style-type: none"> • The government should encourage the commercial orientation of the banks to stimulate portfolio diversification and enhance the better risk management through training officials and get consultancies from advisors in BOT projects. • Use credit ratings of projects by credit rating agencies to enhance risk appraisal.
Capital Markets	<ul style="list-style-type: none"> • The capital market has limited investment vehicles. 	<ul style="list-style-type: none"> • Vietnamese government should issue government bonds with a range of terms to attract more sources of funding for BOT projects. • Improve debt issuance and management by the Treasury by increasing secondary activity and adding liquidity through enhancements to the legal framework. • Restrain from directing financial intermediaries to purchase bonds to artificially prop up the bond market.
	<ul style="list-style-type: none"> • The capital market is lack of transparency and adequate rules of disclosure. 	<ul style="list-style-type: none"> • The government should strengthen the enforcement of the Securities Law that mandates the registration and continuous disclosure of financial statements. • Information disclosure concerning the ability of public authorities to meet debt obligations should be improved in a transparent and accountability ways.
	<ul style="list-style-type: none"> • Capital market for infrastructure development is deficient. 	<ul style="list-style-type: none"> • The government should establish a credible credit-rating system and improve the erratic payment /settlement system.
Infrastructure funds	<ul style="list-style-type: none"> • The procedures to implement the infrastructure project are complicated. 	<ul style="list-style-type: none"> • Reduce the complicated project implementation procedures by removing and streamlining the unnecessary procedures in implementation BOT projects under Decree 78, improving and fulfilling the BOT Decree.
	<ul style="list-style-type: none"> • The government policies and 	<ul style="list-style-type: none"> • The project preparation procedures should be improved; and the investors should be involved later in a competitive

Table 7.1. The factors hindering private funding sources from good practice and recommendations for improving (continue)

	regulations are unclear and uncertain.	bidding process after the project has been prepared well and advertised to the private sector.
	<ul style="list-style-type: none"> • The investment's environment in Vietnam has the high exchange rate risk. 	<ul style="list-style-type: none"> • The government should guarantee and offer some forms of government support to prevent high exchange rate risk such as guarantee in exchange rate, introduce good hedging instruments such as swap, options, future and forwards. • The government should establish a government supported long-term debt financing program to support well prepared projects based on a qualification criteria.
Private investors	<ul style="list-style-type: none"> • The state-owned enterprises (SOEs) are prevailing over current infrastructure projects. 	<ul style="list-style-type: none"> • Vietnamese government should establish clear rules for the role of SOE's in infrastructure financing in order to eliminate the dominance of SOEs in the PPP projects. In the long-term the SOEs should either act as associated public agencies involved in project implementation or autonomous agencies acting as investors in infrastructure projects. • Guarantee private investors in accessing to favored credit provided by international donors like World Bank, ADB, JBIC. • Introduce hedging instruments such as swap, options, future and forwards that could help managing exchange rate risk, currency risks, interest rate risk, etc. • Private sector should be received more supports form domestic banking system to mobilize long-term funds at a competitive interest rate to finance infrastructure projects under the sufficient government guarantees.
	<ul style="list-style-type: none"> • There are a small number of foreign investors in infrastructure projects in Vietnams. 	<ul style="list-style-type: none"> • To attract foreign investors to PPP projects in Vietnam, government should develop clear and consistent rules and policy for the use of government guarantees to their projects. • Grant foreign investors the ownership of lands in BOT projects.
	<ul style="list-style-type: none"> • The bidding procedures in infrastructure project are lack of competitiveness. 	<ul style="list-style-type: none"> • Vietnamese government should establish an explicit and transparent governmental subsidy mechanism and prescribed qualification criteria for government financial support to encourage competitive bidding. The mechanism must have clear rules on how the subsidy will be allocated, including a maximum percentage of the capital costs that may be contributed. • Monitoring and managing the tendering procedure are required.
	<ul style="list-style-type: none"> • The infrastructure projects are usually not financially viable. 	<ul style="list-style-type: none"> • The government should establish the Transparent Viability Gap Financing Mechanism to provide financial support for private investors, who follow prescribed qualification criteria, to make good preparation for PPP projects. • Establish a government supported long-term debt financing program to support the project to be prepared well based on a qualification criteria by cooperating and gaining assistances from international organizations, The World Bank, etc. • The government should develop transparent and consistent rules for the use of government guarantees. • Use credit rating of large projects to allow investors to access to government guarantees with longer tenures.
	<ul style="list-style-type: none"> • Inadequate project preparation. 	<ul style="list-style-type: none"> • Government should establish a government financial support for investors, who meet the qualification criteria, to prepare well for BOT projects. • Government can collaborate with international organizations to provide trainings and supports to authorized state agency on project preparation, including implementation of competitive bidding procedures. This will improve the capacity and knowledge of government officials about PPP procurement. • Government should establish a standardized private sector oriented format for Authorized Stated Bodies. • Piloting PPP projects to validate and operate the financing guided actions and learn lessons from feedbacks form private sector and get guidance from Global Expert Panel. In the mean time, government and experts should learn the international lessons from successful projects.

From the table, it is easy to see that there are many factors hindering financing channels from good practice in BOT projects in Vietnam such as: asset-liability mismatch, lack of commercial orientation from the banks, heavy intervention from the government, limit in investment appraisal capacity and risk management, complex project implementation procedures, uncertainty policies and regulations, lack of transparency and adequate rules, dominance of SOEs, and absence of competitive tendering, etc. Thus, it can be concluded that the Vietnamese financial market is immature and underdeveloped that cannot be capable to participate substantially in the provision of the total amounts necessary for the financing infrastructure projects in Vietnam. On one hand, the domestic local funding sources and national financial sources are limited in both quantity and quality. This issue can be proven by a low level and no immediate of capital available for long-term investment, very immature bond and equity markets. In recent years, BOT projects in Vietnam are supplied with a limited extent and for a limited period, mostly five years and sometimes up to over thirteen years, whereas the average duration of a BOT project varies from 20-30 years. On the other hand, the Vietnamese country rating is BB, which will hinder the international investors to participate in infrastructure development in Vietnam since many risks facing to them. Thus, these financing channels for PPP projects in Vietnam should be improved by suggestions provided above.

▪ *In term of the second questions: What is the framework for risk management of PPP projects? What are the most important risks in BOT projects in Vietnam? What are the mitigation measures to deal with these risks? What supports and guarantees should Vietnamese government give to investors?*

Chapter 4 of the research has built a framework of risk management of PPP model that can be helpful for applying in practice. This framework presents process for identifying, assessment, allocating and monitoring risks and its aim is to achieve balance of interests between different parties and ultimately realize the value-for-money for all partners of the project. The framework shows the requirements, actions, activities, and outcomes that each party in a project should do in each step of risk management process accompanied with the project phases to improve performance and achieve the project's objectives. This framework also proposes the useful techniques and strategies that should be approached to increase efficiencies. The authors hope this framework will help investors improve their risk management process for investing in PPP projects in general and in BOT projects in Vietnam in specific.

The most important risks in BOT projects in Vietnam and mitigation measures as well as government guarantees are shown in table 7.2. These risks are important risks because most of them are out of the control of the investors, and investors need government supports and guarantees.

Table 7.2. The most important risks in BOT projects in Vietnam, mitigation measures and government supports and guarantees

Major risks	Description	Mitigation measures	Government supports and guarantees
Delaying in land acquisition risk	<ul style="list-style-type: none"> The governance delays in clearance the site for the project leading to delays in the start of construction, which results in escalation of project cost. This risk has a high probability to be happened in Vietnam because the land is still a state subject and the acquisition process is very time-consuming. 	<ul style="list-style-type: none"> Provision of land acquisition for construction of facilities in time should be made as a prerequisite condition in the concession agreement. 	<ul style="list-style-type: none"> The government should take this risk because it is out of the investors' capacity. If the delay is related to consents, approvals, clearances, the government should guarantee granting necessary permissions within specific time. If the delaying in land acquisition happens, the government should support investors in extending the concession period with an appropriate time to compensate for the loss suffering by them, and this provision should be regulated in the concession contract.
Delaying in approval risk from government agencies	<ul style="list-style-type: none"> The host government authority may not approve the project-related issues in time or even cancel those already approved. Obtaining approvals or permits in Vietnam for a BOT project from various government departments can be extremely time-consuming and may even delay the entire project development process and impair the project's financial viability. The lengthy approval process results from an unprofessional and incompetence of the government officials, poor implementation of the law and regulations by the government, complex and high bureaucratic approval procedures, and decentralization with unclear responsible provisions which creates unnecessary requirements from many divisions and overlapping levels for just one simple problem in a project. 	<ul style="list-style-type: none"> It should be sure that all government approvals necessary for the development of the project have been obtained in advance. Create and maintain a good relationship with both central and local government by trying to understand them as well as their requirements such as showing the benefits that project will offers in the short- and long-term socioeconomic development of the local community and the region: creating job, improvement of living standard, tax income, etc. Create good relationship with environment authority, NGOs by assessing environmental impact and social impact required to be carried out for infrastructure projects to satisfy regulatory requirements, and remain productive and competitive throughout the project's life. Familiar with approval procedures and understanding local laws and regulations by establishing database for past project approvals and forming templates of approval documentation. 	<ul style="list-style-type: none"> Host government guarantees on various permits should be obtained. Remove and streamline unnecessary approval procedures for gaining approval from ASBs. Operating "one-door" mechanism to reduce the time to get approvals by authorizing one ASB in approving the necessary submissions. If the delay related to consents, approvals, the government should guarantee granting necessary permissions within specific time. If the delaying in approval from the government agencies happen, the government should support the investors in extending the concession period with an appropriate time to compensate for the loss suffering by investors, and this provision should be regulated in the concession contract.
Massive cost escalation	<ul style="list-style-type: none"> Cost escalation can result from various things such as the inability to implement strictly the findings from the feasibility study, 	<ul style="list-style-type: none"> The project reports should be made clearly and in detail about the cost estimated for various sub-components of the project on the basis of which the EPC bids should be 	<ul style="list-style-type: none"> Government could share this risk with investors in extending the concession period with an appropriate time to compensate for the massive

Table 7.2. The most important risks in BOT projects in Vietnam, mitigation measures and government supports and guarantees (continue)

	<p>incorrect using the right procedure and inability to identify all the factors that have negative impacts towards the project, thus making the project difficult to be kept under control.</p> <ul style="list-style-type: none"> • If the Engineering - Procurement-Construction (EPC) contract is not a fixed price contract, there is possibility of an increase in the project cost more than expected. Most of the BOT projects in Vietnam encounter with the huge increase of project costs during its development phase. 	<p>invited.</p> <ul style="list-style-type: none"> • Establish an adequate contingency provision and buy insurance for unforeseen circumstances. • Strict construction monitoring by independent engineer, consultants, advisors, etc. • This risk can be covered by additional capital from project sponsors, a standby credit facility from the original lenders, fixed-price contracts from contractors, a sponsors' escrow fund for completion. 	<p>cost escalation suffering by investors.</p> <ul style="list-style-type: none"> • Government can support investors by allowing increase the tariff/toll fee. • Government should establish a government financial fund to support for investors in case of massive cost escalation.
Risk of transportation network in adjacent region	<ul style="list-style-type: none"> • The project is suffered the loss from the competition of other projects in adjacent areas. • BOT projects in Vietnam often suffer losses by availability of alternative roads, the construction of competing routes as well as the poor and deteriorating condition of the connecting roads due to the weak in planning policy of the government. 	<ul style="list-style-type: none"> • Provision of minimum level of competition from other projects should be made as a prerequisite condition in the concession agreement. • Place the location of toll-stop appropriately to prevent conflicting with other projects' interest. 	<ul style="list-style-type: none"> • Government should guarantee a minimum level of competition from other projects. • Guarantee a good policy in planning and development of the projects. • Government allows the investors re-position of the toll-stop in a suitable location. • Government plays an intermediary role in reconciling the interests of investors when this risk happens.
Currency risks, Foreign currency exchange risk, Currency inconvertibility risk and transfer restriction	<ul style="list-style-type: none"> • Vietnam has a low level of hard currency budget reserved. • The exchange rate between the local currency and the hard currency is fluctuated unexpectedly in Vietnam. • The downfall of exchange rate between the Vietnamese currency gaining from the project and the hard currency, or the Vietnamese currency devaluation is often happened. • It is difficult to exchange local currency to foreign currency or transfer it to foreign bank accounts if the investors do not get commitments from the government. 	<ul style="list-style-type: none"> • Assess the host country's foreign exchange reserved position. • Obtain rights under local law to convert local currency into foreign currency and transfer the converted currency to the lenders for payments of interest, fees and principal. • Establish an offshore account. • Obtain government supports and guarantees on preferential access of the project to foreign exchange, conversion and transfer. 	<ul style="list-style-type: none"> • Government guarantees investors in availability of hard currency, converting local currency into foreign currency and transferring it to foreign bank accounts. • Government provides the investors with compensations for increases in the local cost of debt service due to exchange rate movements. • Government supports investors by allowing them to establish an offshore escrow account • Government supports investors by reducing the time to get commitments from the government for guarantees in time. • Government introduces hedging instruments to investors such as swaps, options, futures and forwards, etc.

Table 7.2. The most important risks in BOT projects in Vietnam, mitigation measures and government supports and guarantees (continue)

Overestimated forecast on future economic development and demand	<ul style="list-style-type: none"> • BOT projects in Vietnam usually based on the optimistic-government forecast about the demand • The government usually produces a bias evaluation on the actual demand of the society and creates an unrealistic forecast on the ability of the project to activate future economic development. This risk results from the fact that there has not any adequate research about the elasticity of demand in the introduction of tolls in the Vietnamese BOT projects. 	<ul style="list-style-type: none"> • The estimation of future economic development and demand should be calculated in conservative scenarios. • The concession agreement should also provide for an extension in concession period until the designated returns are achieved. • The tariff/toll price should be set in different levels and in a flexible tariff/toll adjustment mechanism with the governing by government policy 	<ul style="list-style-type: none"> • The government should guarantee a minimum level of revenue, demand with the investors as well as prescribe maximum the benefits. • Government can build different levels tariff/toll price and establish a good mechanism for adjusting the tariff/toll fee such as base on the real development of region, demand, project's revenue, inflation rate, consumer price index (PCI), etc. • Government supports investors with concession to operate existing facility to produce immediate income for the sponsors and repayments to the lenders and investors.
High inflation risk	<ul style="list-style-type: none"> • The inflation rate increase can increase the project cost and reduce the value of revenue obtained. Thus, the profit that the investors got from project would be reduced and it results in a total loss for investors. • Vietnam is one of the countries with high inflation rate e.g. the inflation in 2009 was 24.4 %. 	<ul style="list-style-type: none"> • Tariff/toll price should be adjusted for inflation during the operation phase and should be formulated in the concession agreement. • Gaining the government guarantee in supplying the raw material for construction of project at a predetermined price, or use call option contracts, forward or future contracts, etc. 	<ul style="list-style-type: none"> • Government should guarantee investors in increasing the tariff/toll price for inflation. • Government guarantees investors in supplying raw material for construction of project at a predetermined price. • Government should establish a government financial fund to support for investors in case of investor suffering with high inflation risk.
General corruption	<ul style="list-style-type: none"> • The host country's government officials may use political, legal, or regulatory leverage to extract additional costs which none will ever admit and the project developers can never recoup • Corruption by the government agencies is common in Vietnam and that it has spread far and deep into many government departments. In Vietnam, the two most popular government agencies involving to corruption are the department of construction and the land administration agency. 	<ul style="list-style-type: none"> • Maintain good relationship with the government authorities, especially with officers at state or provincial levels • Provision of preventing corruption should be made in the concession agreement. 	<ul style="list-style-type: none"> • Increase the government official's salary to reduce the asymmetries in salaries between the public sector and private sector. • Vietnamese government should increase the transparency and accountability mechanism in executing BOT projects. • Design codes of conducts and create training programs. • Remove and streamline of unnecessary procedures that can produce corruption and applying "one-door" mechanism in submission and approval.
Expropriation risk	<ul style="list-style-type: none"> • The host government may nationalize arbitrarily a project without compensation. 	<ul style="list-style-type: none"> • The concession agreement should provide for termination in case of certain politically risks affecting to 	<ul style="list-style-type: none"> • The government should guarantee investors about expropriation risk and should be prescribed

Table 7.2. The most important risks in BOT projects in Vietnam, mitigation measures and government supports and guarantees (continue)

	<p>This type of risk is great in high profile projects that are often associated with public ownership. The expropriation can take the form of nationalization through either “wholesale” or “creep” expropriation whereby the government changes laws to gradually control the project.</p> <ul style="list-style-type: none"> • This risk has low probability in Vietnam where the political system is rather stable with just only one party and the political conflicts are seldom happen. 	<p>the project. In this regard, the guarantees of reasonable compensation in case of any nationalization should be provided.</p> <ul style="list-style-type: none"> • Establish Joint Venture with local partners, especially with central government agencies or state-own enterprises. • Internationalize the risk by co-financing the project with multilateral and bilateral agencies, e.g. ADB, World Bank, International Finance Corporation, export credit agency, etc. • Appropriate insurance package for the project should be designed that provides adequate cover against political risks e.g. guarantee instrument from World Banks IDA PRG (International Development Association-Partial Risk Guarantees), Asia Development Bank-Political Risk Guarantee (ADB PRG) to help investors cover against the risks of a public entity failing to perform its obligations. 	<p>in the concession agreement.</p>
Change in law risk	<ul style="list-style-type: none"> • The host country government may change laws that consequently render a project unprofitable. These include changes and reinterpretation of laws and regulations, changes in the procedures to deal with inflation, currency conversion and transfer, taxation rates, tolls/tariffs, and imports/exports. • BOT projects in Viet Nam often deal with this risk because of the vague and inconsistent language in laws and regulations, high inflation, devaluation of Vietnamese currency, uncertainty in taxation rates, toll/tariff price, etc. 	<ul style="list-style-type: none"> • Ensure concession agreement having the flexibility to provide for changes in law, including circumstances where contracts may be frustrated • Include equitable price adjustment clauses in the concession agreement to provide for changes to legislation that may impact upon the base contract price • Determine whether the public sector carries out the risks associated with major tax changes, and include appropriate provisions in contracts. • Insuring these risks with international political risk insurers. • Shift and share these risks with loan borrowers and output purchasers. 	<ul style="list-style-type: none"> • Host government guarantees against changes concerning import/export restrictions, price control and tax increase having significant effects on the project’s profitable operation.

These are the top ten important risks that the investors usually deal with when they invest in BOT projects in Vietnam. The risk of delaying in land acquisition and delaying in approval from government agencies have a high possibility to be happened and the investors often have to adopt to these risks. Most of BOT projects in Vietnam encounter with huge cost escalation and suffer losses from the availability of alternative roads, competition of other projects as well as the poor and deteriorating condition of the connecting roads in adjacent areas. The investors may also take the currency risk and delaying in currency transfer due to weak and low reliability of Vietnamese banking system leading to not meeting deadline for debt obligation. In addition to that, high inflation, high corruption rate, unreliable forecast of future economic development and demand, and political risks are also taken into consideration in BOT project development in Vietnam. For projects to be successful, it is extremely critical that the major risks affecting projects are thoroughly examined and treated with the most appropriate and practical strategies. This research has proposed many mitigation measures that investors can use to deal with risks as well as guarantees, supports that host government can give to investors to enhance the their confidence and willingness from investment.

▪ *In term of the third questions: What is the policy and legal framework to motivate and facilitate PPP project promoters? What are the obstacles in policy and legal regime of BOT project environment in Vietnam? How can these obstacles be improved?*

The institutional and legal framework has been developed in chapter 5 of this research. The policy framework should have clear objectives and principles, realistic targets, while the legal framework should be fewer, simpler and better in order to make the private sector to be secured and confident. Moreover, a good institutional policy and legal framework should take into account all the stakeholders involved and guarantee them access in decision-making while preparing for development PPP projects.

The obstacles in policy and legal regime of BOT project environment in Vietnam and recommendations for improving are shown in table 7.3.

Table 7.3. Obstacles in policy and legal regime of BOT project environment in Vietnam and recommendations for improving

Key issues		Bad Practices	Recommendation for improving
Creating a willingness to invest from private parties	Making private parties confidence in prospects for return on investments	<ul style="list-style-type: none"> • The affordability of users toward the facilities is usually overestimated because of the unreliable information and data in the feasibility study. This problem results from not involving the end users in the identification and preparation phase. • Private investors are not involved in the early stage of development a BOT project. Thus, their knowledge and business expertise in project identification and preparation are not contributed. • Local organizations, stakeholders and end users are not presented in development of project. This often creates public objections in the future because of lacking of sense of project ownership. • Private investors can do the feasibility study themselves, but this feasibility study usually bases on the information provided in master plan of the government, which often includes the optimistic data and unreliable information. • The shortcoming of competent government officials, authorized agencies and un-coordinated relationships between ministries and agencies also reduce the willingness of investors to invest in BOT projects in Vietnam. The reason is that the coordination between agencies and related ministries in the project usually not compulsory. The authorized state body can abuse their political power to make the decision-making individually and usually for looking their own benefits. 	<ul style="list-style-type: none"> • Vietnamese government should create good conditions for private investors to be involved in the planning and preparation step to make use their knowledge and business expertise to project development. • All the stakeholders, local organizations, end users and impacted citizens should be guaranteed to access in decision-making of project development and ensure that their voices are listened in order to reduce the future public objections, potential conflicts. • The accuracy of feasibility study can be enhanced by involving all the stakeholders, shareholders, local organizations, and end users through a transparent, accountable process. The information should be published to all stakeholders. • The coordination between agencies and related ministries in a project should be mandatory and synchronic to enhance the effectiveness of operation. • Increase the transparency, accountability, and sustainability of relevant government agencies, authorized state bodies, and officials in operating PPP model. • Increase the effectiveness and efficiency in the administration procedure in term of knowledge management, document process, etc.
	Managing good scope in combining with externalities	<ul style="list-style-type: none"> • BOT decree does not cover the sectors such as water, gas or electricity distribution, and telecoms if the Prime Minister does not make any special decision. This shortcoming eliminates the cross subsidizing of profitable and unprofitable projects in developing infrastructure system in Vietnam and shows the missing opportunities for reconciling business opportunities. • There is no representative of Ministry of Planning and Investment and Ministry of Finance, which is responsible for evaluating the investors' submission and act as guarantee providers, in the Tender Specialist Group and Inter-Branch 	<ul style="list-style-type: none"> • The sectors such as water, gas or electricity distribution should be included in the BOT Decree to enhance the cross subsidizing of profitable and unprofitable projects by creating a favorable mechanism in investment as well as the procedure to get approval from Prime Minister. • The complexity of the procedure can be reduced by applying a "one-door" mechanism in which all the steps to get approval should be authorized to one government agency. • The BOT Decree should stipulate that the Tender Specialist Group and Inter-Branch Working group must be established

Table 7.3. Obstacles in policy and legal regime of BOT project environment in Vietnam and recommendations for improving (continue)

		<p>Working group. This can reduce the effectiveness of these groups and prolong the time for executing project because of the conflicts interests between them.</p> <ul style="list-style-type: none"> • The Ministry of Finance does not function well in financial support allocation mechanism such as grant, service payments or subsidies to inventors. Moreover, the state subsidy mechanism in the long-term to support investors (especially with domestic investors) is not provided which makes the project's financial viability to be reduced. • The establishment of Inter-Branch Working Group and Tender Specialist Group are good points in BOT decree, but the decree does not make the establishment of these groups to be mandatory. Moreover, the state budget supported for their operation is often inappropriate leading to the bad practice. • There are many issues in land acquisition in Vietnam. These problems usually prolong the duration for executing the project and increases dramatically project's budget. Moreover, there is no any measure to ensure the clear site for project execution to investors. 	<p>mandatory; government should supply an appropriate state budget to support for their operation; and should have representatives of Ministry of Planning and Ministry of Finance in these groups to speed up the procedure for evaluating investors' submission and granting guarantees, etc.</p> <ul style="list-style-type: none"> • Enhance the effectiveness in financial support allocation mechanism such as grant, service payments or subsidies to inventors by improving the competence of ASBs. • The government should establish a transparent mechanism for state subsidy in the long-terms to support investors. • The government should increase the effectiveness in land acquisition by reducing unnecessary complicated procedure in land acquisition, reviewing legal, institutional and financial impediments in land acquisition, the amount of money to compensate for impacted people should be appropriate and should reflect the real price of land at the time for acquisition, and ensure them a place for resettlement, etc. • The government should guarantee the clear site to investors for starting the project on time to increase the willingness of them.
	Managing risks perceived by private parties	<ul style="list-style-type: none"> • The important risk with foreign investors is the ownership rights with the land in BOT projects in Vietnam. BOT decree stipulates that the government will not grant a mortgage of land-use rights to any foreign investors, lenders. • There is not any good measure in Vietnamese regulations to prevent the private parties from transferring many risks and costs to government, taxpayers, and end users because of the weakness in managing risks, unclear regulations, and lack of competence of government officials, weak law systems. • Because of the shortcomings in competitive tendering and many political games in winning the biddings happening in Vietnam, BOT projects often fail in choosing the reliable investors, contractors. The consequence of failure in executing projects by these incompetence partners is the loss to government. • Some projects in the operation phase often suffered huge loss because of the competition from other projects. • Private investors often deal with many risks in bidding phase, 	<ul style="list-style-type: none"> • The government should stipulate the ownership of land to foreign investors when they invest in BOT projects in Vietnam to increase their confidence and reduce the political risk. • Increase the knowledge of regulators, government officials, authorized state bodies, etc. about the risks in BOT projects and produce a good strategies to deal with risks. • In order to choose reliable investors, contractors, the BOT projects should be tendered in a competitive bidding or competitive negotiation and the BOT decrees should be fulfilled to eliminate the abuse of shortcomings in the decrees for direct negotiation by limiting the number of cases for direct negotiation. • The government should guarantee a minimal level competition from other projects to ensure the financial viability of the project. • Operate a transparency and competitive tendering process, make a well feasibility study, get consultancies from experts in tendering phase (identifying risks, allocating risks, giving comments, increase capacity for operation, etc.), eliminate unfeasible projects, and put more efforts on feasible projects,etc.

Table 7.3. Obstacles in policy and legal regime of BOT project environment in Vietnam and recommendations for improving (continue)

		contracting phase, implementation phase, operation phase and political risk from government.	
	Reducing political uncertainty	<ul style="list-style-type: none"> • Unclear procedure, lack of detailed specifications from the regulation in applying other forms of PPP model and in other sectors in development of infrastructure can made the investors to be swamped with many unnecessary requirements, time-consuming procedure. • The BOT decree does not prescribe on calculating capital-supplying mechanism, limitation on any payment, subsidy by the state, level of dependence on government or government guarantees from the investors or project enterprise. • The Decree does not regulate under which circumstances, the security money will be surrendered in the BOT contract. • There is no specific confirmation that the ASBs will provide the consents and acknowledgements of the lender's step-in right when the project in trouble because of the absence of relevant regulations. In addition to that, there is no stipulation of the responsibilities and/or obligations of the lenders when they use step-in right. • The applying of foreign law to BOT projects in Vietnam must be approved from Ministry of Justice, which takes time-consuming. • In the tax incentives offering to investors, it is unclear whether project companies would automatically enjoy a corporate income tax of 10 percent for the whole duration of the project or whether they have to obtain the approval from the Prime Minister for this duration of tax incentives. This is caused by the conflict in regulation of BOT Decree and Investment Law about duration of corporate income tax. In addition, the decree does not mention about how fee exemption and discount mechanism to be applied and how tariff/toll fees are to be adjusted. • In the government's supports to investors in giving the project company the right to use land free of land rent, the right to collect toll/tariff on existing adjacent facility, and land development rights in the road corridor, the BOT decree does not stipulate clearly the cost of land-use-right. • The responsibilities and participation of Ministry of Finance and of authorized state bodies in government guarantees and 	<ul style="list-style-type: none"> • The BOT decree should clarify the detailed specifications in applying other forms of PPP model and in other sectors. • Remove and streamline of unnecessary approval procedures for gaining approval from ASBs. • The BOT decree should regulate clearly on calculating capital-supplying mechanism, limitation on any payment, subsidy by the state, level of dependence on government or government guarantees from the investors or project enterprise • The Decree should regulate in details under which circumstances, the security money will be surrendered in the BOT contract. • The BOT decree should update all the details related to step-in rights of lenders and obligate the ASBs to conform to all the regulations toward lenders. • The procedure for applying foreign law to BOT project should be speeded up by removing and streamlining of unnecessary approval procedures for gaining approval from Ministry of Justice. • The BOT decree should make clear the government incentives about duration of corporate income tax incentives stipulated in BOT Decree and Investment Law. • The BOT decree should prescribe in details about the fee exemption and discount mechanism, and the mechanism for changing tariff/toll fees. • The BOT decree should stipulate clearly the cost of land-use-right in the government's supports about right to use land free of land rent, the right to collect toll/tariff on existing adjacent facility, and land development rights in the road corridor. • The responsibilities and participation of Ministry of Finance and of authorized state bodies in government guarantees and undertakings to investors should be regulated clearly in the BOT decree. • Remove the regulation about getting approval from Prime Ministry toward government guarantees before contract is executed. The government can grant the guarantees in certain

Table 7.3. Obstacles in policy and legal regime of BOT project environment in Vietnam and recommendations for improving (continue)

		<p>undertakings to investors are vague in the BOT decree because the Prime Minister directs and sign them.</p> <ul style="list-style-type: none"> • It will be time-consuming for investors that every government guarantee for BOT project needs to be approved by the Prime Minister before the contract is executed because of the bureaucratic approval process, un-transparent procedure in the evaluation process and complicated “eligible documents”. • The decree also does not prescribe when and how international or domestic bidding is set up. • The decree is unclear in allocating ASBs’ responsibilities to facilitate the negotiation of a wide range of ancillary contracts and other contracts in the contract execution phase. • The Ministry of Planning and Investment is the core point to organize evaluation and issuance of investment certificates to project; so this raises the uncertainty to investors about the extent to which the state of Vietnam stands behind a BOT project and whether there is any room for future government to assert that it is not bound by a particular BOT contract that turns out to be disadvantageous. • The decree does not stipulate whether the project company is allowed to commission the designing consultants hired by the project company to do the design and build the project for it, and whether the private partner supervises the construction itself or not in the implementation phase. • The conflict in regulation about the responsibilities in transferring of the facility to ASBs belong to both the project enterprise and investors with the regulation that Project Company to become a signatory to the BOT contract and to assume investors’ rights and responsibilities established in the contract. 	<p>stage of the BOT project.</p> <ul style="list-style-type: none"> • The decree should prescribe in detail when and how international or domestic bidding is set up. • The ASBs’ responsibilities in facilitating the negotiation of a wide range of ancillary contracts and other contracts in the contract execution phase should be regulated. • The government should make the investors to be secured and confident in investing in BOT projects by the guarantees about political risks and express their indispensable role in BOT project thoroughly. • The decree should prescribe clearly whether the project company is allowed to commission the designing consultants hired by the project company to do the design and build the project for it, and whether the private partner supervises the construction itself or not in the implementation phase. • The BOT Decree should make clear the responsibilities of the enterprise and investors in the transferring phase because of the conflicting in regulation.
Design of the contract	Form of the contract	<ul style="list-style-type: none"> • The BOT Decree just prescribes only three kinds of PPP model: Build-Operate-Transfer (BOT), Build-Transfer-Operate (BTO), and Build-Transfer (BT) that could not fit well to all kind of infrastructure projects and sectors. 	<ul style="list-style-type: none"> • The decree should have adequate forms of PPP to fit for specific projects with technology, strategy and sectors such as: Build-Operate-Own (BOO), Build-Operate-Sell (BOS), Build-Lease-Transfer (BLT), etc.
	Getting the incentives right	<ul style="list-style-type: none"> • State-Owned Enterprises completely depend on the government guarantees to mobilize capital for BOT projects • The tariff/toll level for any BOT project is usually set by the 	<ul style="list-style-type: none"> • The government should limit the range of guarantees to SOEs in BOT projects e.g. just considering guarantees in the case the project have national importance and in urgent need to be

Table 7.3. Obstacles in policy and legal regime of BOT project environment in Vietnam and recommendations for improving (continue)

		<p>government agencies and is fixed at a maximum of twice of the level of tariff/toll fee for non-BOT projects.</p> <ul style="list-style-type: none"> • The mechanism for calculating and adjusting the tariff/toll collection is not clear. • The mechanism for renegotiation is not prescribed clearly in BOT Decree. 	<p>developed.</p> <ul style="list-style-type: none"> • Establish a good mechanism for adjusting the tariff/toll fee such as base on the real development of region, demand, project's revenue, inflation rate, consumer price index (PCI), etc. • The government should guarantee a minimum level of revenue with the investors as well as prescribe maximum the benefits. • Stipulate clearly when and under which conditions investors can renegotiate with the government about tariff/toll price.
	Financial capacity building	<ul style="list-style-type: none"> • The BOT decree does not prescribe the mechanism for benefit sharing between the public and private sectors to prevent excessive private profits. 	<ul style="list-style-type: none"> • Vietnamese government should establish a mechanism for benefit sharing between the public and private sectors to prevent excessive private profits.
	Affordability problems	<ul style="list-style-type: none"> • The government sets the ceiling for toll/tariff price rigidly and fixed at a maximum of twice of the level of tariff/toll fee for non-BOT projects. It is not flexible when dealing with the changes in toll/tariff price of BOT projects. • BOT Decree allows the investors to increase toll/tariff price with the conditions applying to such price increases. According to the law, any changes in tolls, fees and charges other than those contemplated in the BOT contract must be approved by the ASB. Investors and financiers can get some difficulties in such provisions due to the lack of independent regulators that can prolong time and costly for investors. • The affordability of users toward the facilities usually overestimated because of the unreliable information and data in the feasibility study. Typically, the affordability of users toward the facilities is often lower than expected in practice. 	<ul style="list-style-type: none"> • The government should establish differentiation of toll/tariff price base on the specific context of a project and establish a flexible mechanism in dealing with changes in toll/tariff price. • Remove and streamline of unnecessary approval procedures in changing toll/tariff price. • Increase the accuracy in collecting information about studying the affordability of the end users by involving them in the identification and preparation phase to study for their interests and affordability. • Increase the creditworthiness of the facilities.
	Process of contract design	<ul style="list-style-type: none"> • Although Vietnamese government prefers competitive bidding for all BOT projects, it is not likely in practice. Firstly, the BOT decree leaves many rooms for direct appointment from investors such as regulation in section 2 of article 11, and regulation about the project proposed by investors out of the list of projects calling for investment from the government in article 12. Secondly, the tendering bidding is usually very slow and not completely competitive, especially with big projects developed under BOT scheme since the vague language in the BOT decree regulations. • Government agencies are lacking of capacity to establish a completely competitive tendering 	<ul style="list-style-type: none"> • The BOT decree should be fulfilled the shortcomings in regulation of tendering to eliminate the abuse of such shortcomings for direct negotiation by limiting the number of cases for direct negotiation such as only allow for direct negotiation when there only one bidder, or in the urgent need to develop infrastructure following the regulations of Prime Ministry. • BOT projects should be tendered in a competitive bidding or competitive negotiation (if cannot apply bidding) by getting consultancies from domestic and oversea tendering advisors or getting assistance from The World Bank.

Table 7.3. Obstacles in policy and legal regime of BOT project environment in Vietnam and recommendations for improving (continue)

		<ul style="list-style-type: none"> • Investors are not involved in the early stage of development a BOT project. As a result, their knowledge and business expertise are not contributed in developing project. • The local organizations, stakeholders and end users are not presented in identification and preparation phase. This easily creates public objections in the future because of lacking of sense of project ownership. 	<ul style="list-style-type: none"> • Remove unnecessary vague language in tendering. • Vietnamese government should create good conditions for private investors to involve in the planning and preparation step to make use their knowledge and business expertise to project development to prepare well for the project. • All the stakeholders, local organizations, end users and impacted citizens should be guaranteed to access in decision-making of development project to reduce the public objections, potential conflicts, and listen to their voice.
Prevention of regulation failure	Preventing regulatory capture	<ul style="list-style-type: none"> • There are very little experts in the field of PPP model in Vietnam can handle well the process to execute the BOT projects, especially with local government agencies. • The institutional policy and legal framework for BOT projects is unfulfilled and lack of regulatory capacity. • The mechanism for developing knowledge and expertise of PPP model is weak. 	<ul style="list-style-type: none"> • Train the government officials about the PPP model. • Study the experience from PPP models applied successfully in other countries. • Make use of the assistance from The World Bank in training experts in PPP model. • Establish PPP units to assist government in effective management of PPP project; central role in assisting implementation of PPP contracts; study, identify projects with potential benefits for both public and private sectors; provide technical assistance to public agencies in conducting feasibility study, procurement and project management.; study, revise legal environment for PPP contracts: revise legal framework, develop implementation manuals, provide training, disseminates information on project, to manage knowledge of PPP procurement, to train for local government officials, and to share the knowledge with other countries, etc. • Fulfill the institutional policy and legal framework for BOT projects and increase the regulatory capacity of BOT Decree.
	Preventing regulatory rent seeking	<ul style="list-style-type: none"> • The corruption rate in Vietnam is very high, especially in construction sectors. The governmental officials often use their political power to get their own profits. • The procedure to execute BOT projects is usually lack of transparency, accountability structure. • Feasibility study is based on the information provided in master plan, which often includes the optimistic data to maximize the chances of being approved by Vietnamese government for the government officials' profit. 	<ul style="list-style-type: none"> • Increase the government official's salary to reduce the asymmetries in salaries between the public sector and private sector. • Vietnamese government should increase the transparency and accountability mechanism in executing BOT projects by designing codes of conducts and create training programs. • Remove and streamline unnecessary procedures that can produce corruption and applying "one-door" mechanism in submission and approval.

Through the analysis, one can see that there are many obstacles in the BOT project environment in Vietnam and the BOT Decree fails to address adequately many of the issues necessary for practicing PPP model to be successful. The BOT Decree has close relationships and is impacted by Law of Investment and other specialized regulations while these regulations are not synchronized. This causes many gaps, uncertainties and potential conflicts while operating BOT projects. The policy and legal framework is still unfulfilled. It fails in creating a good environment for the willingness to invest from the private investors, fails in establishing good design of contract, and in preventing regulation from failure. Thus, it needs to be improved by suggestions as discussed.

Until now, it can be considered that all of the study objectives as proposed in chapter 1 have been achieved in this research. The research questions for the study are also answered. The issue now is how to apply such suggestions, government guarantees, supports proposed in this study in practice effectively. Because there are many things that Vietnamese government should do now to improve the attractiveness of BOT projects to private investors as well as improving performance of PPP projects, it should rank their tasks in doing so. There are some suggestions for this issue:

In the short term

The most important action now is that government should focus on financial market development so that investors can easily mobilize sufficient funds for huge-capital, long-term PPP project and high demand from infrastructure development to solve the bottleneck of economic development. Because the Vietnamese banking system now is lack of long-term assets and development institutions in proving medium and long-term, the government should encourage the commercial orientation of the banks and use loan syndications to compensate for the present limited investment and appraisal capacity of banks. The government should let the banks work in an effective and profit-driven in their business instead of heavy intervention and give them freedom in deciding the interest rate with flexible mechanisms to attract long-term deposits from citizens. Moreover, with a more commercial orientation, they can develop portfolio diversification, increase investment appraisal capacity and enhance better risk management by training officials, getting consultancies from consultants, experts, and advisors in BOT area.

To help private investors have more chances to participate in BOT projects and create equality in competition between private investors and State-owned enterprises, the government should establish clear rules for the role of SOE's in infrastructure financing. In the short-term, the government can eliminate the dominance of SOEs in the BOT projects by limiting the range of government guarantees to SOEs in PPP projects e.g. just considering government guarantees in the case projects have national importance. In the long-term, the SOEs should act either as associated public agencies involved in project implementation or as autonomous agencies acting as investors in infrastructure projects, which will be a potential partners for foreign investors, by improving their competitive capacity in a transparent and competitive bidding.

Because the private investors are very difficult in mobilizing enough capital for infrastructure projects and are suffered by the competitions from SOEs, the government should guarantee private investors in accessing to favored credit provided by international donors like World

Bank, ADB, JBIC, ODA, etc. and in receiving more supports form domestic banking system to easily mobilize sufficient long-term funds at a competitive interest rate to finance infrastructure projects under the sufficient government guarantees.

Most of the BOT projects in Vietnam are inadequately prepared because of lacking of budget, so a long-term debt-financing program supported by the government will help investors prepare well for BOT projects based on a qualification criteria.

In tandem with developing financial market, government should also support investors in dealing with some important risks to stimulate their confidence to invest in BOT projects in Vietnam such as taking risk of delaying in land acquisition, guarantee on various permits should be obtained in time, guarantee exchange rate risk, guarantee in availability of hard currency, guarantee converting local currency into foreign currency and transferring it to foreign bank accounts, allowing investors establish an offshore escrow account, guarantee a minimum level of competition from other projects, guarantee a minimum level of revenue, demand, guarantee about expropriation risk, guarantees in supplying raw material for construction of project at a predetermined price, guarantees against changes concerning import/export restrictions, price control and tax increase, introducing good hedging instruments such as swap, options, future and forwards, etc. because these risks are very important to BOT projects and are out of the investors' capacity to handle them. International Development Association-Partial Risk Guarantees (IDA PRG) or Asia Development Bank-Political Risk Guarantee (ADB PRG) can be applied to help investors cover against the risks of a public entity failing to perform its obligations.

Because the delaying in approval from the government agencies, delaying in land acquisition, massive cost escalation, competition from other projects, and low project's revenue are usually happened in BOT projects in Vietnam, the government should support the investors in extending the concession period with an appropriate time; and/or building different levels tariff/toll price, good mechanism for adjusting the tariff/toll price, good mechanism for benefit sharing between the public and private; and/or supporting investors with concession to operate existing facility to produce immediate income for the sponsors and repayments to the lenders and investors.

Because the feasibility studies of BOT projects in Vietnam are usually based on the optimistic and unreliable data on future economic development and demand , the private investors, local organizations, end users should be involved in the planning and preparation step to make use their knowledge and business expertise to improve the qualification of feasibility studies. They should be guaranteed to access in decision-making of project development and be ensured that their voices are listened by establishing workshops, survey, publication information, etc. This will get the consent between stakeholders, reduce the future public objections, potential conflicts, and create the sense of project ownership, project's creditworthiness. In addition, the coordination between agencies and related ministries such as Ministry of Planning and Investment (MPI), Ministry of Finance (MOF), Ministry of Transportation (MOT), Ministry of Industry and Trade (MOIT), Provincial People's Committees (PPCs), etc. in a project should be mandatory and synchronic to enhance the effectiveness of operation in signing BOT contracts,

considering and approving technical design, total project budgets, approving guarantees, etc. such as having representatives in the Tender Specialist Group and Inter-Branch Working.

Clear, transparent and consistent rules and policy will make infrastructure projects attractive to foreign investors. Furthermore, executing good pre-feasibility study and feasibility study, government will make investors feel more confidence that government analyze thoroughly risks and level of uncertainty of BOT projects, identify in advance the margin in equity investment, understand appropriate government guarantees such as advanced capital subsidy, advanced payment, land acquisition assistance, etc. Moreover, government should stipulate the ownership of land to foreign investors when they invest in BOT projects in Vietnam to increase their confidence and reduce the political risks.

Because investors in BOT projects in Vietnam usually deal with the time-consuming procedure, and corruption in submitting and approving from authorized state bodies, “one-door” mechanism can be operated to reduce the time to get approvals by authorizing one ASB in approving the necessary submissions, and granting guarantees, supports. In addition, the regulation about getting approval from Prime Ministry toward government guarantees before contract executed should be removed. The government can grant the guarantees in certain stage of a BOT project.

The tendering in BOT projects should be held in a competitive bidding or competitive negotiation (if cannot apply bidding) by getting consultancies from domestic and international tendering advisors, experts, consultants or getting assistance from The World Bank. To do this, the government should fulfill the shortcomings in regulation of tendering to eliminate the abuse of such shortcomings for direct negotiation by limiting the number of cases for direct negotiation such as only allow for direct negotiation when there only one bidder, or in the urgent need to develop infrastructure prescribed by the regulations of Prime Ministry.

In the long-term

Because most of the BOT projects in Vietnam deal with financing issues initially, government should establish a transparent governmental subsidy mechanism, government supported long-term debt financing program, and prescribed qualification criteria for government financial support to make good preparation, encourage competitive bidding, provide financial support for private investors by cooperating and gaining assistances from international organizations, The World Bank, ADB, etc. The mechanism must have clear rules on how the subsidy will be allocated, including a maximum percentage of the capital costs that may be contributed. For planned BOT projects, government allocate budget to fulfill the government guarantees to enhance government’s commitments and creditworthiness to private investors and end users.

Government should build the basic criteria for selections of BOT projects, transparency and competitive tendering process by establishing a standardized private sector oriented format for authorized stated bodies to reduce the time for the process of developing BOT projects. It is necessary to eliminate unfeasible projects, put more efforts on feasible projects leading to reduce the time and cost for contract negotiation by getting consultancies from experts, advisors, consultants in tendering phase (identifying risks, allocating risks, giving comments,

increasing capacity for operation, etc.), designing codes of conducts and creating training programs.

Because there are many political uncertainties and ineffectiveness in operation BOT projects in Vietnam, the government should increase the transparency, accountability, effectiveness and efficiency of government agencies, authorized state bodies, and officials by removing and streamlining of unnecessary procedures that can create uncertainties, un-transparency, and corruption; by applying “one-door” mechanism in submission and approval; by increasing the government official’s salary to reduce the asymmetries in salaries between the public sector and private sector; by reforming public sectors at state and local level.

It is very important that the government should establish PPP units to assist government in effective management of PPP project. They will play as central roles in assisting implementation of PPP contracts: study, identify projects with potential benefits for both public and private sectors; provide technical assistance to public agencies in conducting feasibility study, procurement and project management; study, revise legal environment for PPP contracts: revise legal framework, develop implementation manuals, provide training, disseminates information on project, to manage knowledge of PPP procurement, to train for local government officials, and to share the knowledge with other countries, etc.

Because there are very little experts in the field of PPP procurement in Vietnam that can handle well the process to execute the PPP projects, especially with the local government agencies, the government can collaborate with international organizations, The World Bank, ADB, etc. to provide trainings and supports to authorized state agency on project preparation, and competitive bidding procedures. This will improve the capacity and knowledge of government officials about PPP procurement. In addition to that, studying the experience from PPP models applied successfully in other countries is important as well.

Lastly, the government can pilot some PPP projects to validate and operate these guided actions and learn lessons from feedbacks, from private sector in order to fulfill the institutional policy and legal framework for future BOT projects and increase the regulatory capacity of Vietnamese BOT Decree by suggestions for improving proposed in this study.

7.4. Recommendations for further study

Based on research limitations and problems revealed in the analysis of this study as well as BOT project practices Vietnam, the following points are recommended for further study.

- As this study just investigates one case study, so it cannot be representative enough for the whole BOT infrastructure projects in Vietnam. Therefore, it is needed to investigate some more case studies of BOT infrastructure projects in various sectors such as road, tunnel, bridge, power, etc. in different regions in Vietnam to cover all types of risks and validate the results of this research.
- There are several countries are successful in applying PPP units to control and manage PPP model in their countries. Thus, Vietnam can apply the lessons from these countries to establish PPP units to improve the practicing of BOT projects in Vietnam. In this regard, how can PPP units

be transplanted from other countries to Vietnam? Which criteria does Vietnam apply to be successful in such transplantation?

- It is also necessary to develop a model to assess the success of BOT projects in Vietnam. Thus, how can a model assessing the success of BOT projects in Vietnam be built? What are the important factors influencing on such model?

- The information management system in BOT project environment in Vietnam is very weak. Thus, it is important to develop a good information management system in order to the future projects can get sufficient and proper information to prepare well for the project. How can an information management system be developed? What are the actors and factors influencing to information management system? How can information management system be managed well?

Reference

- [1]. A K David, P N Fernando. (1995) The BOT Option: Conflicts and Compromises, Energy Policy. Vol. 23. No. 8. pp. 669-675. 1995.
- [2]. Al-Bahar, I. (1988). Risk Management in Construction Projects: A Systematic Analytical Approach for Contractors, Dissertation. The University of California at Berkeley, Department of Civil Engineering, Construction Engineering and Management.
- [3]. Akintola Akintoye and Matthias Beck. (2009) Policy, Finance & Management for Public-Private Partnerships, Wiley-Blackwell.
- [4]. Akintola Akintoye, Matthias Beck and Cliff Hardcastle. (2003) Public-Private Partnerships-Management Risks and Opportunities, Blackwell.
- [5]. Allens Arthur Robinson. 2007. Decree 78/2007/ND-CP. Investment on the Basis of Build-Operate-Transfer (BOT), Build-Transfer-Operate (BTO) and Build-Transfer Contract.
- [6]. Anh Minh. (2008) Changing the Investor for BOT Project: Avoiding-Road Thanh Hoa City, available at: <http://www.vir.com.vn/Client/Dautu/dautu.asp?CatID=87&DocID=16632>
- [7]. Anh Nguyet. (2009) Phu My Bridge have a possibility to be objected, available at: http://tintuc.xalo.vn/00-1430022244/cau_phu_my_co_nguy_co_bi_e.html
- [8]. Antonio Estache and Ginés de Rus. (2000) Privatization and Regulation of Transport Infrastructure-Guideline for Policymakers and Regulators, The World Bank.
- [9]. Bing Li, A. Akintoye, P. J. Edwards and C. Hardcastle. (2004) Critical Success Factors for PPP/PFI Projects in the UK Construction Industry, Construction Management and Economics, 23: 5, 459 — 471.
- [10]. C M Tam. (1999) Build-Operate-Transfer Model for Infrastructure Developments in Asia: Reasons for Successes and Failures, International Journal of Project Management Vol. 17, No. 6, pp. 377-382, 1999.
- [11]. Christian Koch, Martine Buser. (2006) Emerging Metagovernance as an Institutional Framework for Public Private Partnership Networks in Denmark, International Journal of Project management 24 (2006) 548–556.
- [12]. Dale F.Cooper, Stephen Grey, Geoffrey Raymond and Phil Walker. (2005) Managing Risk in Large Projects and Complex Procurement, John Wiley & Sons, Ltd.
- [13]. Darrin Grimsey, Mervyn K.Lewis. (2000) Evaluating the Risks of Public Private Partnerships for Infrastructure Projects, International Journal of Project Management 20 (2002) 107-118.
- [14]. Dirk Daube, Susann Vollrath, Hans Wilhelm Alfen. (2007) A comparison of Project Finance and the Forfeiting Model as Financing forms for PPP projects in Germany, International Journal of Project Management 26 (2008) 376–387.
- [15]. Duc Tai. (2006) Failure of BOT Projects, available at: <http://vietbao.vn/Kinh-te/TPHCM-That-bai-cac-du-an-BOT/65060898/87/>
- [16]. Duc Thang. (2008) A Good Time for BOT Projects, available at: http://www.giaothongvantai.com.vn/Desktop.aspx/News/Goc-nhin/Thoi_cua_cac_du_an_BOT/
- [17]. Duc Thang. (2009) Clear Institutional Policy and Legal Framework for BOT, BT and BTO Projects, available at: http://www.giaothongvantai.com.vn/Desktop.aspx/News/Goc-nhin/Hanh_lang_phap_ly_ro_rang_cho_cac_du_an_BOT_BT_va_BTO/

- [18]. Duc Thang. (2009) Good Point of BOT Projects in Transport Infrastructure, available at: http://www.giaothongvantai.com.vn/Desktop.aspx/News/Goc-nhin/Cau_Phu_My-Diem_nhan_cua_phuong_thuc_BOT_trong_giao_thong/
- [19]. E L Quartey Jnr. (1996) Development Projects through Build-Operate Schemes: Their Role and Place in Developing Countries, *International Journal of Project Management* Vol. 14, No. 1, pp. 47-52, 1996.
- [20]. Ed Farquharson. (2008) Lessons from the UK, Workshop on PPP for Infrastructure Development in Vietnam.
- [21]. European Commission-Directorate General Regional Policy. (2003) Guidelines for Successful Public-Private Partnership, European Commission.
- [22]. Freshfields Bruckhaus Deringer. (2007) Infrastructure Development in Vietnam. A new BOT Decree.
- [23]. G Haley. (1992) Private Finance for Transportation and Infrastructure Projects: A View, *International Journal of Project Management* 0263-7863/92/020063-06.
- [24]. Hans Wilhelm Alfen et al. (2009) Public-Private Partnership in Infrastructure Development, Scientific Series of Chair Construction Economics, Bauhaus-Universitat Weimar.
- [25]. IL and FS. (2008) PPP-An Indian Experience, Workshop on PPP for Infrastructure Development in Vietnam.
- [26]. J. (Joop) F. M. Koppenjan (2005) The Formation of Public-Private Partnerships: Lessons from Nine Transport Infrastructure Projects in The Netherlands, *Public Administration* Vol.83 No. 1, 2005 (135-157).
- [27]. J. (Joop) F.M. Koppenjan (2005), "The Formation of Public-Private Partnerships: Lessons from Nine Transport Infrastructure Projects in The Netherlands", *European Forum* Vol. 83 No. 1, 2005 (135–157).
- [28]. Janelle Plummer. (2002) A Sourcebook for Municipal Capacity Building in Public-Private Partnerships, Earthscan Publication Ltd, London.
- [29]. John D. Finnerty. (2007) Project Financing – Asset-based Financial Engineering, Second Edition, John Wiley & Sons, Inc.
- [30]. Joop F.M. Koppenjan and Bert Enserink.(2009) Public-Private Partnerships in Urban Infrastructures: Reconciling Private Sector Participation and Sustainability, Delft University of Technology.
- [31]. K.T. Yeo, Robert L.K. Tiong. (1999) Positive Management of Differences for Risk Reduction in BOT Projects, *International Journal of Project Management* 18 (2000) 257-265.
- [32]. Kamran M. Khan, The World Bank. (2008) Financing Infrastructure Development in Vietnam, Workshop on PPP for Infrastructure Development in Vietnam.
- [33]. Kamran M.Khan, The World Bank. (2010) Leveraging Private Financing for Infrastructure Development, Melbourne.
- [34]. Kapila and Hendrickson. (2000) Exchange Rate Risk Management in International Construction Ventures. *Journal of Management in Engineering* 17(4): 186-191.
- [35]. Kapila and Hendrickson. (2001). Exchange Rate Risk Management in International Construction Ventures. *Journal of Management in Engineering* 17(4): 186-191.
- [36]. Khattab et al. (2007) Managerial Perceptions of Political Risk in International Projects. *International Journal of Project Management* 25: 734-743.

- [37]. Kien Cuong, (2010) Suggestion of collecting toll fee with motor cycle for using Phu My Bridge, available at: <http://vnexpress.net/GL/Xa-hoi/2010/05/3BA1BB85/>
- [38]. L. Boeing Singh, Satyanarayana N. Kalidindi. (2006) Traffic Revenue Risk Management through Annuity Model of PPP Road Projects in India, *International Journal of Project Management* 24 (2006) 605–613.
- [39]. Li Bing, A. Akintoye, P.J. Edwards, C. Hardcastle. (2004) The Allocation of Risk in PPP/PFI Construction Projects in The UK, *International Journal of Project Management* 23 (2005) 25–35.
- [40]. Lin Qiao, Shou Qing Wang, Robert L.K. Tiong, and Tsang-Sing Chan. (2001) Framework for Critical Success Factors of BOT Projects in China, *The Journal of Project Finance*, Spring 2001.
- [41]. LiYaning Tang, Qiping Shen, Eddie W.L. Cheng. (2009) A Review of Studies on Public–Private Partnership Projects in the Construction Industry, *International Journal of Project Management* (2009).
- [42]. Li-Yin Shen, Andrew Platten, X.P. Deng (2006), “Role of Public Private Partnerships to Manage Risks in Public Sector Projects in Hong Kong”, *International Journal of Project Management* 24 (2006) 587–594.
- [43]. M. Vong. (2006) The Contractors will give up if the credit contract is delay in being effective, available at: <http://vietbao.vn/Xa-hoi/Du-an-cau-Phu-My-TP-HCM-Nha-thau-bo-cuoc-neu-hop-dong-tin-dung-cham-co-hieu-luc/45215686/157/>
- [44]. M.M. Kumaraswamy, X.Q. Zhang. (1999) Governmental Role in BOT-Led Infrastructure Development, *International Journal of Project Management* 19 (2001) 195-205.
- [45]. Martinus P. Abednego, Stephen O. Ogunlana. (2006) Good Project Governance for Proper Risk Allocation in Public–Private Partnerships in Indonesia, *International Journal of Project Management* 24 (2006) 622–634.
- [46]. Minh Nga. (2008) Choosing the Right Investors for BOT Projects, available at: http://www.giaothongvantai.com.vn/Desktop.aspx/News/Xuan-Mau-Ty-2008/Chon_mat_gui_vang_cho_cac_du_an_BOT/
- [47]. Mirjam Bult-Spiering and Geert Dewulf. (2006) *Strategic Issues in Public-Private Partnerships-An International Perspective*, Blackwell.
- [48]. Moira Fischbacher and P.B. Beaumont. (2003) PFI, Public-Private Partnerships and the Neglected Importance of Process: Stakeholders and the Employment Dimension.
- [49]. Nghia, Nguyen Tuan (2006) Case Studies on Risk Allocation in Highway Projects under BOT Scheme in Vietnam, Master Thesis, AIT, Vietnam
- [50]. Ngoc An. (2006) Road-Bridge Infrastructure Projects under BOT Scheme: Less Win, High Failure, available at: <http://vietbao.vn/Xa-hoi/Du-an-BOT-xay-dung-cau-duong-Thang-it-thua-nhieu/40168513/157/>
- [51]. Nguyen Khac Than. (2008) Capabilities of Banking Sector to Overcome Challenges in Financing Infrastructure Development, Workshop on PPP for Infrastructure Development in Vietnam.
- [52]. Nguyen Thanh. (2006) BOT Phu My Bridge Project has a possibility to be bankrupt, available at: <http://www.nld.com.vn/157115P0C1002/du-an-cau-phu-my-co-nguy-co-pha-san-.htm>
- [53]. Nguyen Thi Hong Yen. (2008) Fiscal Risk Management in PPP Projects, Workshop on PPP for Infrastructure Development in Vietnam.

- [54]. Nguyen Tuan Anh. (2008) BOT Contract and Related Issues on Power Purchase Agreement (PPA). Paper Presented at Conference on Policy Options for a Legal Framework for Public Private Partnership in Vietnam, December 9, Ha Noi, Vietnam.
- [55]. Nora M. El-Gohary, Hesham Osman, Tamer E. El-Diraby (2006), "Stakeholder Management for Public Private Partnerships", International Journal of Project Management 24 (2006) 595–604.
- [56]. OECD Checklist for Public Action. (2009) Private Sector Participation in Water Infrastructure, OECD.
- [57]. Patrick X.W. Zou, Shouqing Wang and Dongping Fang. (2008) A Life-Cycle Risk Management Framework for PPP Infrastructure Projects, Journal of Financial Management of Property and Construction VOL. 13 NO. 2 2008, pp. 123-142.
- [58]. Patrick.T.I.Lam. (1999). A Sectoral Review of Risks Associated with Major Infrastructure Projects. International Journal of Project Management 17(2): 77-87.
- [59]. Pham Phan Dung. (2008) Lessons-Learned from Public-Private Partnership Model of South Africa, Workshop on PPP for Infrastructure Development in Vietnam.
- [60]. Quang Hoi VU. (2008) Potential Participation in Infrastructure Development and PPP Framework, Workshop on PPP for Infrastructure Development in Vietnam.
- [61]. Quynh Trang. (2007) Problems in BOT Projects Because the Contractors Like Pointed-Contracts, available at: <http://www.laodong.com.vn/Home/Ach-tac-vi-nha-dau-tu-thich-chi-dinh-thau/20078/53216.laodong>
- [62]. Robert L K Tiong and Jahidul Lum. (1997) Evaluation of Proposals for BOT Projects, International Journal of Project Management Vol. 15, No. 2, pp. 67-72, 1997.
- [63]. Robert L K Tiong, Jahidul Alum. (1997) Financial Commitments for BOT Projects, International Journal of Project Management Vol. 15, No. 2, pp. 73-78, 1997.
- [64]. Robert L. K. Tiong. (1995) Impact of Financial Package versus Technical Solution in a BOT Tender, Journal of Construction Engineering and Management, Vol. 121, No. 3, September 1995.
- [65]. Robert L. K. Tiong. (1996) CSFs in Competitive Tendering and Negotiation Model for BOT Projects, Journal of Construction Engineering and Management Vol. 122, No. 3, September 1996.
- [66]. Robert L.K. Tiong and Jahidul Alum. (1997) Distinctive Winning Elements in BOT Tender, Engineering, Construction and Architectural Management 1997 4 | 2,83-94.
- [67]. Robert L.K. Tiong, Khim-Teck Yeo, and S. C. McCarthy. (1992) Critical Success Factors in Winning BOT Contracts, Journal of Construction Engineering and Management, Vol. 118, No. 2, June 1992.
- [68]. S C McCarthy and R L K Tiong. (1991) Financial and Contractual Aspects of Build-Operate-Transfer Projects, International Journal of Project Management 0263--7863/91/040222-06.
- [69]. S. Q. Wang, L. K. Tiong. (2000) Case Study of Government Initiatives for PRC's BOT Power Plant Project, International Journal of Project Management 18 (2000) 69-78.
- [70]. S. YE & R. K. L. TIONG. (2000) Government Support and Risk-Return Trade-Off in China's BOT Power Projects, Engineering, Construction and Architectural Management 2000 7 | 4, 412-4
- [71]. S.Thomas Ng, Jingzhu Xie, Yau Kai Cheung, Marcus Jefferies. (2007) A Simulation Model for Optimizing the Concession Period of Public-Private Partnerships Schemes, International Journal of Project Management 25 (2007) 791–798.

- [72]. Sachs et al. (2007) Analysis of Political Risks and Opportunities in Public Private Partnerships (PPP) in China and Selected Asia Countries. *Chinese Management Studies* 1(2): 126-148.
- [73]. Shamas-ur-Rehman Toor, Stephen O.Ogunlana. (2007) Critical COMs of Success in Large-Scale Construction Projects: Evidence from Thailand Construction Industry, *International Journal of Project Management* 26 (2008) 420–430.
- [74]. Shen et al., (2002). Alternative Concession Model for Build Operate Transfer Contract Projects. *Journal of Construction Engineering and Management* 128(4): 326-330.
- [75]. Shou Qing Wang, Robert L. K. Tiong, S. K. Ting, and D. Ashley. (2000) Evaluation and Management of Political Risks in China's BOT Projects, *Journal of Construction Engineering and Management*, Vol. 126, No.3, May/June, 2000.
- [76]. T. V. Nghi and N. An (2008) Construction of BOT Phu My Bridge Project: Five ports have the possibility to be closed, available at: <http://tuoitre.vn/Chinh-tri-Xa-hoi/273548/Thi-cong-cau-Phu-My-Nam-cang-bien-co-nguy-co-dong-cua.html>
- [77]. T. Xu, D.A. Bower, and N.J. Smith. (2004) Types of Collaboration between Foreign Contractors and Their Chinese Partners, *International Journal of Project Management* 23 (2005) 45–53.
- [78]. Taz Chaponda. (2008) Lessons from South Africa, Workshop on PPP for Infrastructure Development in Vietnam.
- [79]. The International Bank for Reconstruction and Development. (2009) Attracting Investors to African Public-Private Partnership, The World Bank.
- [80]. The Sai Gon Tiep Thi (2008) The Phu My Bridge has a possibility to be suspended, available at: http://tintuc.timnhanh.com/xa_hoi/20080716/35A7DD14/
- [81]. Thomas, A.V., Kalidindi, Satyanarayana N. and Ganesh, L. S. (2006) Modeling and Assessment of Critical Risks in BOT Road Projects, *Construction Management and Economics*, 24: 4, 407-424.
- [82]. Thuyet, Nguyen Van and Stephen O.Ogunlana. (2007) Risk Management in Oil and Gas Construction Projects in Vietnam, *International Journal of Energy Sector Management*, Vol. 1 No. 2, pp. 175-194.
- [83]. Tiong, Robert L.K. (1990) BOT Projects: Risks and Securities, *Construction Management and Economic*, 8:3, 315 -328.
- [84]. Tiong. (1990). BOT Projects: Risks and Securities. *Construction Management and Economic* 8: 15-328.
- [85]. To Hong Anh. (2009) Vietnam' Experience with PPP, PPP's Lesson in Road Sector in Vietnam, Workshop on PPP projects in Osaka, Japan.
- [86]. Tran Duy and Vy Anh. (2007) Phu My Bridge: the power of "monopoly", available at: <http://www.vietnamnet.vn/xahoi/2007/04/686889/>
- [87]. Tran Duy, Vy Anh. (2007) Phu My Bridge – The Power of "Monopoly", available at: <http://vietbao.vn/Xa-hoi/Cau-Phu-My-Suc-manh-cua-doc-quyen/20686889/157/>
- [88]. Tran Phan. (2007) Phu My Bridge: Ministry of Transportation intervenes deeply on sponsors' choosing of sub-contractors, available at: <http://vietbao.vn/Kinh-te/Du-an-cau-Phu-My-TP-HCM-Bo-GTVT-can-thiep-gua-sau-vao-hoat-dong-cua-doanh-nghiep/45235383/87/>
- [89]. Truong Tan Vien. (2008) Capital Mobilization for Transport Infrastructure in Vietnam, Workshop on PPP for Infrastructure Development in Vietnam.

- [90]. United Nations Economic Commission for Europe. (2008) Guidebook on Promoting Good Governance in Public-Private Partnerships, United Nations.
- [91]. Vassilis KANAKOUDIS, Athanasios PAPOTIS, Angelos SANOPOULOS, Vassilis GKOUTZIOUS. (2007) Crucial Parameters for PPP Projects-Successful Planning and Implementation, International Journal of Project Management.
- [92]. VietNamNet. (2005) Thirsty Capital for Transport Infrastructure Projects, available at: <http://vietbao.vn/Kinh-te/Khat-von-cho-ha-tang-giao-thong/20465125/47/>
- [93]. W.R. ZHANG, S.Q. WANG, R.L.K. TIONG, S.K. TING & D. ASHLEY. (1998) Risk Management of Shanghai's Privately Financed Yan'an Donglu Tunnels, Engineering, Construction and Architectural Management 1998 5 | 4, 399- 409.
- [94]. WANG Wen-xiong, LI Qi-ming, Deng Xiao-peng, LI Jing-hua. (2007) Critical Success Factors of Infrastructure Projects under PPP model in China, International Journal of Project Management 1-4244-1312-5/07.
- [95]. Wei Tong Chen, Tung-Tsan Chen. (2007) Critical Success Factors for Construction Partnering in Taiwan, International Journal of Project Management 25 (2007) 475–484.
- [96]. Wilde Sapte. (1997) Project Finance – The Guide to Financing Build-Operate-Transfer Projects, Euromoney Publications PLC.
- [97]. William Dachs, The World Bank. (2008), PPP models from around the world, Workshop on PPP for Infrastructure Development in Vietnam.
- [98]. World Bank. (2006). Vietnam's Infrastructure Challenges. Infrastructure Strategy: Cross-sectoral issues.
- [99]. World Bank. (2006). Vietnam's Infrastructure Challenges. Power Strategy: Managing Growth and Reform.
- [100]. World Bank. (2006). Vietnam's Infrastructure Challenges. Telecommunications Sector: Current Status and Future Paths.
- [101]. World Bank. (2006). Vietnam's Infrastructure Challenges. Transport Strategy: Transition, Reform and Sustainable Management.
- [102]. World Bank. (2006). Vietnam's Infrastructure Challenges. Water Supply and Sanitation Strategy: Building on a Solid Foundation.
- [103]. Xiao-Hua JIN and Hemanta DOLOI. (2007) Risk Allocation in Public-Private Partnership Project – An Innovative Model with an Intelligent Approach, Faculty of Architecture Building and Planning, The University of Melbourne.
- [104]. Yap Kioe Sheng. (2005) What is good governance?, United Nations Economic and Social Commission for Asia and the Pacific.
- [105]. YIANNIS XENIDIS and DEMOS ANGELIDES. (2005) The Financial Risks in Build-Operate-Transfer Projects, Construction Management and Economics, 23: 4, 431 — 441.
- [106]. Yongjian Ke, ShouQing Wang, Albert P.C. Chan, Patrick T.I. Lamb. (2009) Preferred Risk Allocation in China's Public–Private Partnership (PPP) Projects, International Journal of Project Management 2009.

Appendix:

Appendix 1: Risk concern and risk mitigation measures from investors' and lender's perspective

Type of risks	Descriptions	Possible mitigation measure
Currency risks	<ul style="list-style-type: none"> • Inconvertibility risk: the host country does not have enough foreign exchange reserves • Transfer risk: the host country does not allow or restricts the transfer of foreign exchange out of the host country • Local currency devaluation risk: whenever a lender lends in foreign exchange and relies for repayment on a borrower who generates revenues only in local currency that may depreciate in value, and may result in the borrower's inability to meet its foreign debt 	<ul style="list-style-type: none"> • Assessing the host country's foreign exchange reserve position • Obtaining rights under local law to convert local currency into foreign currency and transfer the converted currency to the lenders for payments of interest, fees and principal. • Establishing an offshore account • Obtaining government supports/guarantees on preferential access of the project to foreign exchange, conversion and transfer • Index the purchase price of the output to inflation or to fluctuations in the exchange rate
Expropriation risk	<ul style="list-style-type: none"> • The situation in which the host government may nationalize arbitrarily a project without compensation. This type of risk is great in high profile projects that are often associated with public ownership. The expropriation can take the form of nationalization through either "wholesale" or "creep" expropriation whereby the government changes laws to gradually control the project 	<ul style="list-style-type: none"> • Internationalizing the risk by co-financing the project with multilateral and bilateral agencies • Establishing an offshore account • Providing safeguards against nationalization of the project and guarantees of reasonable compensation in case of any nationalization • Lenders require the right to accelerate their loans upon any expropriation. • The borrower pledges all of its stock to the lender. • Lenders and shareholders insure their loans and equity investments with political risk insurers
Change in law risk	<ul style="list-style-type: none"> • The host country government may change laws that consequently render a project unprofitable. These include changes and reinterpretation of laws and regulations, changes in the procedures to deal with inflation, currency conversion and transfer, taxation rates, tolls/tariffs, and imports/exports. 	<ul style="list-style-type: none"> • Changes concerning import/export restrictions, price control and tax increase have significant effects on the project's profitable operation. Host government guarantees against these risks should be obtained. • Insuring these risks with international political risk insurers • Shift and share these risks with loan borrowers and output purchasers
Political violence	<ul style="list-style-type: none"> • War, revolution, insurrection, civil strife, terrorism and sabotage can 	<ul style="list-style-type: none"> • Establishing an offshore collateral account

risk	seriously affect the development process of a project, or can even destroy the project's ability to generate revenue streams for debt service	<ul style="list-style-type: none"> • Obtaining the agreement of the host government to provide security to the project • Making political insurance with multilateral or bilateral political risk insurers
Delay in approval risk	<ul style="list-style-type: none"> • The host government authority may not approve the project-related issues in time or even cancel those already approved. Obtaining approvals or permits for a project from various government departments can be extremely time-consuming and may even delay the entire project development process and impair the project's financial viability 	<ul style="list-style-type: none"> • It should be sure that all government approvals necessary for the development of the project shall have been obtained in advance • Host government supports/guarantees on various permits should be obtained
Loan security risk	<p>Most developing countries lack sufficient protection of creditor rights, because of:</p> <ul style="list-style-type: none"> • A primitive and rapidly-changing legal infrastructure • A court system that may have no track record of enforcement of creditor rights due to the short history of underlying laws • Many countries place significant restrictions on the ability of foreign entities to operate or purchase projects upon foreclosure 	<ul style="list-style-type: none"> • Identifying what type of security the local law provides and how the security is enforced • Complying with all local formalities • Determining how foreclosure and insolvency may work, and take appropriated measures
Law enforcement risk	<ul style="list-style-type: none"> • The host country may not be protective of foreign creditor's rights. Local law can make agreements with local entities problematic and enforcement virtually impossible 	<ul style="list-style-type: none"> • Select an international arbitration body rather than on in the host country
Host country entities' reliability risk	<ul style="list-style-type: none"> • Many participants in a project are from the host country, such as contractors, suppliers, operators, guarantors, offtakers and the ultimate customers. The project success depends on the performance of all these entities 	
Corruption risk	<ul style="list-style-type: none"> • The host country's government officials may use political, legal, or regulatory leverage to extract additional costs which none will ever admit and the project developer can never recoup 	

Source: Akintola Akintoye (2003) (adapted)

Appendix 2: Typical risks associated with the process of PPP arrangement

Risk meta-level	Risk factor category group	Major risks	Lifecycle phases of PPP project					
			Sponsor's preparation for the bid	Selection of the bid	Contracts Signing	Implementation	Operation	Transfer
Country-related risks	Political and government policy risks	Long duration of negotiation		x	x			
		Poor public decision-making process		x	x			
		Strong political opposition/hostility				x	x	
		Corruption		x	x	x	x	
		Delay in land acquisition				x		
		Unstable government				x	x	
		Expropriation or nationalization of assets				x	x	
		Other contingencies		x	x	x	x	
	Macroeconomic risks	Poor financial market	x		x	x	x	
		Unfavorable economy in the host country	x		x	x	x	
		Limit in import/export			x	x	x	
		Inflation rate volatility	x	x	x	x	x	
		Interest rate volatility	x	x	x	x	x	
		Constraint in rate of return	x	x	x		x	
	Legal and regulatory risks	Legislation change	x		x	x	x	
		Change in tax regulation			x		x	
		Industrial regulatory change				x	x	
	Social	Lack of tradition of private provision of public services	x	x	x	x	x	
		Level of public opposition to project				x	x	
Concessionaire related risks	Project selections	Lack of guarantees	x	x	x	x	x	
		Financing risk	x	x	x	x		
		Low creditworthiness	x	x	x	x		
		Financial attraction of project to investors	x	x	x			
		Inability of debt service				x	x	x
		Bankruptcy				x	x	x
		Unfavorable economy	x	x	x			
		High construction costs	x	x		x		
		High design costs	x	x		x		
		Underestimation of cost trade-offs	x		x		x	
		Complicated financial structure	x	x	x	x	x	
	Residual risks	Residual risks			x	x	x	

	Design risks	Poor geotechnical conditions	x			x		
		Delay in project approvals and permits	x	x	x	x	x	
		Design deficiency	x			x		
		Unproven engineering techniques	x	x		x	x	
		Late design changes				x		
		Low cooperation in case of new initiatives				x	x	x
	Construction risks	Construction cost overrun				x	x	
		Construction time delay				x	x	
		Material/labor availability				x	x	
		Late design changes				x		
		Poor quality workmanship				x	x	
		Excessive contract variation		x	x	x		
		Insolvency/default of sub-contractors or suppliers				x	x	
		Completion delays				x	x	
		Technological change				x	x	
	Operation risks	Operation cost overrun					x	
		Demand is lower than expected					x	
		Maintenance more frequent and/or costs higher					x	
		Low demand of facilities					x	
		Pricing of the product	x	x	x		x	
		Insufficient performance during operation					x	
		Public acceptance/rejection risks					x	
Market-related risks	Financial risks	Loan security	x	x	x		x	
		Competition	x		x		x	
		Taxation	x		x	x	x	
		Expropriation or nationalization of asset				x	x	
		Inflation rate	x		x	x	x	
		Currency and foreign exchange		x	x		x	
		Unfavorable international economy	x		x	x	x	
Other risks	Force majeure risks	Wars or acts of God				x	x	
	Environmental risks	Pollutions results from project				x	x	
	safety risks	Safety of workers in the construction site				x	x	
	health risks	Health of workers, and local citizens				x	x	
	Relationship	Organization and co-ordination				x	x	x
		Inadequate experience	x	x	x	x	x	x
		Inadequate distribution of responsibilities and risks		x	x	x	x	
		Inadequate distribution of authority in partnership		x	x	x	x	
		Differences in working method between partners				x	x	x

		Lack of commitments from either partner			x	x	x	
	Third party	Third party tort liability				x	x	x
		Staff crises				x	x	

Source: Yiannis Xenidis and Demos Angelides, 2005 (adapted)

Appendix 3: Risk allocations between the public and private sector in PPP projects

Risks should be allocated to the public sector	Risks should be allocated primarily to the private sector but with perceived opportunities for sharing with the public sector	Risks factors should be allocated solely to the private sector, with little or no preference for allocation to the public sector	Risks should be shared by both public and private sector	The risk allocating depends on specific circumstances
<ul style="list-style-type: none"> - Nationalization/expropriation - Poor political decision-making process - Political opposition - Government stability - Site availability and site selection - Native title - Asset acceptance 	<ul style="list-style-type: none"> - Tax regulation change - Late design changes - Residual risk - Inflation - The tradition of private sector provision of public services - Staff crisis - Third party tort liability - Influential economic events - The financial attraction of the project - The level of demand for the project - The different working methods 	<ul style="list-style-type: none"> - Industrial regulation change, industrial disputes - Interest rate volatility, exchange rate fluctuations - Financial market: Bank guarantees and performance bonds - Project finance (high financing cost, availability of finance, asset financing, price escalation, insurance cover) - Design (design deficiency, design parameters, design fit for purpose, design inter-operability, design system integration, design acceptance) - Construction (quality of workmanship, construction cost overrun, availability of labor/material, default or insolvency of subcontractor/suppliers, unproven engineering techniques, construction time delay, quality assurance, site and ground conditions, technology and technical issues, availability of the asset required, accidental damage or loss, human resource availability, facility or infrastructure viability, occupational health and safety, insurance) - Operation (operational revenue below par, low operating productivity, frequency of maintenance, operation cost overrun and higher maintenance cost, repairs and maintenance, , business continuity, residual value, disposal) - Organization and coordination risk - Environmental and weather matters 	<ul style="list-style-type: none"> - Force majeure - Legislation change - Lack of commitment from a partner - Responsibilities and risk distribution - Authority distribution between partnerships - Cultural heritage - Design interface - Security measures - Price escalation - Third-party revenue 	<ul style="list-style-type: none"> - The level of public support, community acceptance - Project approval and permit - Contract variation - Lack of experience

Source: Li Bing et al. (2004) (adapted)