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Breaking the Iceberg of Public-Private Partnership in Vietnam

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Executive Summary

The subject of this study is on Public-Private Partnership (PPP) in Vietnam, which has emerged and recognized recently. Public-Private Partnership (PPP) or Private Participation in Infrastructure (PPI) in Vietnam was recognized by first BOT Decree in 1993 after the Government amended the Law on Foreign Investment to make way for "Build Operate and Transfer" (BOT) projects in 1992. Various revisions were undertaken in 1997, 1998 and 1999. The prevailing legislation governing PPP practices in Vietnam is Decree No. 78/2007/CP enacted by the Government on the 11th of May 2007. This current BOT Decree is a generic law, stipulating the sectors, conditions, procedures and incentives applicable to infrastructure development investment projects through the Build-Operate-Transfer (BOT), Build-Transfer-Operate (BTO) or Build-Transfer (BT) contracts. Therefore, Decree No.78 could be regarded as a key legislation related to PPP in Vietnam.

Since PPP has introduced in Vietnam, there have been many problems in real-life practice. However, the Government and practitioners have still been vague about explaining its success and failure. Therefore, the main goal of this research is to clarify the problems with current BOT projects in Vietnam with insufficient assessments and explanations and find out what actors and factors (the iceberg) impede the good PPP practices in Vietnam, as well as come up with definite solutions to break these obstacles in order to live up good PPP performance in the future.

The first part of this research is to review international literatures in order to get the insights on PPP topic by mastering its concept, various kinds of PPP, PPP project phases and its motives. Then, the theoretical framework of critical success factors (CSFs) of PPP infrastructure projects (called fishbone) is developed. There are 71 subfactors for the successful PPP project in the fishbone, which are classified in 12 main critical factors. Two main factors with various subfactors in each phase play as a cause for the successful effect in this phase and the successful effect in every above phase will live up the fruitful PPP project’s expectation. From the fishbone framework, we will figure out the most impeding factors to hinder good PPP practice in Vietnam. Also, This framework will be verified by a case study, BOT Phu My 2-2 energy project in Vietnam, so that we can show its potential application, observe its variation in order to improve it in the future.

The second part of the study is to analyze the most hindering factors for PPP good practices in Vietnam, namely its financial market and PPP policy, whereby we improve the research of World Bank conducted for Vietnamese Government on these issues. For financial aspect, we investigate various financial resources of Vietnam for infrastructure investments. We found that Vietnam financial market is nascent and cannot be affordable for long-term and huge-capital-consuming PPP projects. As a result, we formulate recommendations for its future development to meet the requirements’ PPP projects. Also, we propose solutions to achieve financial arrangement at operational level. With regard to PPP policy, we assess what is good and what is bad in the
Decree 78, and we claim that Decree 78 is not a good law governing PPP practices in Vietnam. Also, we suggest recommendations to improve many specific bad points in the Decree.

The third part of this research presents state-of-the-art of PPP practices in Vietnam so as to observe how these weaknesses influence on the PPP opportunities and PPP projects in various sectors of Vietnam infrastructure and how actors deal with these obstacles. We have observed that the private involvement in Vietnam lags behind the comparators such as China, Indonesia, and Philippine due to a number of reasons. As looking closure to a number of real-life projects (2 real BOT cases and 10 domestic cases), the whole picture of actors’ behaviors and the conditions building up these behaviors are depicted. We found that the conditions for PPP practices in Vietnam are not favorable, thus actors cannot act in the right ways to which they are suppose to do in respect of institutional failures, nascent financial market, restrictions in specific sectors.

In fourth part of the study, we analyze and explain the success or failure of BOT Phu My 2 phase energy project in Vietnam (PM2.2 or Phu My 2-2) to both verify fishbone framework and withdraw learned lessons for some findings of previous chapters as well as future PPP in Vietnam. Through the assessment on various phases, from exploration to 3-year operation and maintenance phase (1996-2008), based on the propositions of fishbone framework, BOT Phu My 2-2 project was quite successful until recently because it satisfies many CSFs of fishbone. Therefore, we conclude that CSFs fishbone framework is rather fit to apply for evaluating the successful factors of PM2.2 even though there are some adjustments and new factors needed to add. As a result, we add four new factors to update the fishbone for its potential application in the future. In addition, based lessons learned from PM2.2, we improve the finding about financial arrangement at operational level; we correct for the failure cases (2 real BOT cases and 10 domestic cases); and we propose short-term and long-term strategy to facilitate Vietnamese PPP in the future.

Finally, we present many problems posed in the course of conducting this research for PPP in Vietnam and PPP in general. From these arisen issues, we generate six research questions for Vietnamese PPP and four research questions for PPP on the whole, which can be conducted in the future.
Preface and Acknowledgement

This study presents the final work for my graduation thesis of master of Construction Management and Engineering program (CME). This research was conducted at Faculty of Civil Engineering & Geosciences and Faculty of Technology, Policy and Management of Delft University of Technology the Netherlands (TUDelft).

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<th>Description</th>
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<tbody>
<tr>
<td>ADB</td>
<td>Asia Development Bank</td>
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<tr>
<td>ADB PRG</td>
<td>Asia Development Bank Political Risk Guarantee</td>
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<tr>
<td>ASA</td>
<td>Assigned Stated Agency</td>
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<tr>
<td>BCCs</td>
<td>Business Cooperation Contracts</td>
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<tr>
<td>BOT</td>
<td>Build-Operate-Transfer</td>
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<tr>
<td>BT</td>
<td>Build-Transfer</td>
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<tr>
<td>BTO</td>
<td>Build-Operate-Transfer</td>
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<td>CSFs</td>
<td>Critical Success Factors</td>
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<td>EVN</td>
<td>Electricity of Vietnam</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<tr>
<td>GOR</td>
<td>Guarantee of Record</td>
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<tr>
<td>IBWG</td>
<td>Inter-Branch Working Group</td>
</tr>
<tr>
<td>IDA PRG</td>
<td>International Development Assistance Partial Risk Guarantee of World Bank</td>
</tr>
<tr>
<td>JBIC</td>
<td>Japan Bank for International Development</td>
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<tr>
<td>MOF</td>
<td>Ministry of Finance</td>
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<tr>
<td>MOI</td>
<td>Ministry of Industry</td>
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<tr>
<td>MPI</td>
<td>Ministry of Planning and Investment</td>
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<tr>
<td>PM</td>
<td>Prime Minister</td>
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<tr>
<td>PPC</td>
<td>Provincial People Committee</td>
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<tr>
<td>PPI</td>
<td>Private Participation in Infrastructure</td>
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<td>PPP</td>
<td>Public Private Partnership</td>
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<tr>
<td>PRI</td>
<td>Political Risk Insurance</td>
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<td>SOEs</td>
<td>State-Owned Enterprises</td>
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<td>TSG</td>
<td>Tender Specialist Group</td>
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<tr>
<td>VNPT</td>
<td>Vietnam Post and Telecommunication</td>
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1. Chapter 1: Introduction

1.1 Background and purpose of the research

World Bank (2001) ascertains that Vietnam has become transitional economic nowadays with the impressive high GDP growth at the average of 8% from 2003 to 2007. Since Vietnam becomes richer, it has faced challenges in adapting and expanding its infrastructure to serve the needs of rapidly growing urban centers, businesses and entrepreneurs, as well as increasing access to infrastructure for the poorest segments of the nation (World Bank 2008). However, it is seemingly that the government budget cannot be affordable for these huge-capital-consuming infrastructure investments in the upcoming years (World Bank 2001-2006-2008).

Currently, the donors, Official Development Assistance (ODA) resources, meet over 35% of the ultimate burden of the investment program. However, when Vietnam transitions into middle income country (MIC) status, its share ODA is expected to decline as the subsidized ODA offered to Vietnam is reduced over time. Government sources, including budget funding, government bond issues, as well as financing by State-Owned Commercial Banks (SOCBs), come in second behind donors, and contribute up to 27% of infrastructure investments. It is unlikely that government will increase its share in infrastructure financing in the coming years. Private sources of financing, and user charges (incorporating the retained earnings of infrastructure enterprises as well as community financing of facilities such as small-scale rural water systems) account for approximately 21% and 15% of infrastructure investments respectively (World Bank 2008).

Forecasts based on goals set out in infrastructure sector plans supporting the broader developmental objectives of government indicate that future annual infrastructure investment needs amount to 11.4% of GDP, an increase of 2% of GDP over recent levels. Until 2010 Vietnam needs about 7$ billion to inject for infrastructure projects; however, the original sources of funding only meet nearly 4 billion, approximately 57%, which leaving the financial gap for funding infrastructure facilities as expected. However, there is no evidence that the government can enhance its budget for funding these needed infrastructure services as the expectation (World Bank 2006).

![Annual Investment and Financing Diagrams]

**Figure 1. The emerging gap between investment plans and available financing**

Source: World Bank, 2006
Moreover, state-owned enterprises (SOEs) and government service agencies overwhelmingly presents in every sector of infrastructure. These organizations have run their business ineffectively with the poor financial performance, and the strong dependencies of government subsidies and Official Direct Assistance (ODA) funds due to the poor management system and the high corruptions (World Bank 2001).

Overall, given the high and rapidly increasing demand for infrastructure services, expectations of lower levels of ODA in the near future, ineffectiveness of private sector in delivering and managing infrastructure facilities and the government budget deficit, private participation in Infrastructure (PPI) or public-private partnership (PPP) is the “must” for Vietnam to cure these issues. Vietnam can expect the following advantages as increasing the PPP scheme (World Bank 2001-2008):

- Rapidly pushed development of infrastructure services;
- Decreases the government budget for infrastructure to mitigate for other developments of the society;
- Reducing the involvements of public sector in public projects leading to reduction of corruption;
- Increase the effectiveness and efficiency in investments and operations;
- Mobilizing private financing and increasing government revenues;
- Potential to stimulate foreign direct investment (FDI).

Although the Vietnam Government has mastered above potential benefits as embracing PPP scheme, the partnership has not been really successful in the point of view of domestic and foreign investor as well as the Government due to numerous reasons.

In this respect, This research is conducted under a number of missions such as introducing the PPP concept in Vietnam, developing a framework for assessing and explaining the success and failure of the PPP scheme in general and verifying its application by a case study in Vietnam, scrutinizing the actors and factors preventing PPP good practices and giving recommendations for improvements to reach the future good Vietnamese PPP performances. Various sectors of infrastructure, including road, bridge, port, tunnel, thermal power plant, water treatment projects, are covered to support for the analysis. Besides, international experiences in PPP practices are reflected a long the report in order to get the lessons learned and have the lively inside-out and outside-in comparisons.
1.2 Research problems

1.2.1 Public-private partnerships in Vietnam & its residual issues as implemented

The policy of promoting Private Participation in Infrastructure (PPI) is not new in Vietnam. For instance, on December 23, 1992 the Government amended the Law on Foreign Investment to make way for "Build Operate and Transfer" (BOT) projects. A year later, the BOT Regulations were enacted by Government Decree. Yet, there is still little evidence of private participation in the infrastructure sectors in Vietnam. The completed projects have been undertaken on an ad hoc basis, without any clear evidence of a policy designed to promote private participation in infrastructure (PPI). As such, there are still no replicable models for PPI projects in Vietnam which can provide investors the assurances that future transactions can be completed in a transparent and timely manner. Despite the Government's continuing efforts to encourage private investment by amending the BOT Decree (Decree 62 in 1998 and Decree 78 in 2007), a number of obstacles still remain in the way of PPI projects. World Bank (2001) claims that the reasons for this are complex and vary from sector to sector, but some general points are worth noting (World Bank 2001):

- **Restrictions.** Some sectors such as airports, existing ports, railway, and telecommunications are restricted to private ownership and management. There are a number of other restrictions on the ability of non-nationals to invest in the infrastructure sectors. As such, with extremely limited financial and technical capacity in the purely domestic private sector, little or no development has taken place.

- **The general business environment,** while slowly improving, still makes investment in long-term and huge-capital infrastructure projects highly risky for both private sponsors and lenders. For example, tariffs in the water and power sector are currently set at levels below full-cost recovery and there is no transparent, independent system in place for the regulation of this and other issues impacting infrastructure operations. Moreover, excessive bureaucracy is also a commonly cited source of concern. For example, private consortia had to abandon projects to build or rehabilitate port facilities at Vung Tao and in Ben Nghe after years of prolonged negotiations with the government. Daewoo Corporation's negotiation over a highway BOT project has been ongoing for three years.

- **Legal Environment.** The legal framework for PPI has been established through passage of legislation starting with the 1987 Foreign Investment Law, the 1993 Decree to introduce concepts of BOT, and the 1996 Decree to expand BOT schemes. In January 1999 further amendments were introduced to the law Governing BOT contracts, and recently Decree 78 in 2007. Nonetheless, some residual legal restrictions on PPI remain from the investors' perspective. The five main areas of concern are foreign exchange, state guarantees, loan security, lenders step-in rights and dispute resolution.

- **Absence of a Regulatory Regime.** Vietnam currently lacks a well-developed regulatory framework that will enable the country to pursue a path of increased PPI. Existing arrangements cannot ensure that private investors and operators will be forced to abide
by clear "rules of the game", partly because regulators are too closely involved in both policy making and the operation of their respective sectors.

**Predominance towards Negotiated Transaction Rather than Competitive Bidding.** While the Government has established transparent bidding procedures through Decree 88/1999/ND-CP, most projects to date have been negotiated transactions. Strong interest expressed by Phu My 2.2 energy project, the first competitively bid BOT project, confirms the importance of a competitive process.

### 1.2.2 Research questions

In brief, the research consists of the following main questions:

- What do we know about the PPP in Vietnam, and how the concept involved?
- Is there any framework to assess and explain the success/failure for PPP projects in general and Vietnam cases in specific?
- What are the factors and actors to hinder the present PPP good practices in Vietnam? And what is good or bad? And how can we break these obstacles?

The first research question presents when, what, why, and how the PPP concept has emerged in Vietnam. This question will be answered throughout various chapters in the report in which each chapter will mention a certain critical issue.

The second question is very important one of this research, where it develops the framework containing critical generic factors to influence on the success of PPP projects. And then, it is applied to assess and explain for the success/failure of specific PPP case in Vietnam. This framework is developed upfront by literature studies and verified by empirical studies of many real PPP cases in short and one Vietnamese PPP case in deep in the later chapters of the research.

The final question illustrates the environmental level, namely Vietnam infrastructure financing resources and legal and regulatory regime as the ground for PPP projects executed. The endeavors for fulfilling this question are to analyze the current existing system to show its “strengths and weaknesses” in order to get its insights, and then the solutions are searched by policy recommendations to cure the residual issues. In addition, the operational level is seriously taken into account.
1.3 Research methodology

1.3.1 Research goal

The goal or objective of this research is to clarify the problems with current BOT projects in Vietnam with insufficient assessments and explanations and find out what actors and factors (the iceberg) impede the good PPP practices in Vietnam, and come up with definite solutions to break these obstacles to live up the future good performances.

The process to achieve this goal is depicted in the below figure. The ultimate goal is accomplished by the process of fulfillment of five interrelated sub-goals in the four quadrant of the figure; these sub-goals consist of the followings:

- The first sub-goal is the process of understanding of PPP concept by its definition, clarification of various types of PPP, its motives, understanding various phases of PPP projects; throughout this process, the Vietnamese PPP is introduced by the BOT scheme and its residual issues in the process of practice are depicted.

- The second sub-goal is to develop the framework of critical success factors (CSFs) for various phases of PPP projects in order to assess and explain their success/failure and figure out the most important impeding factors for deep analysis in Vietnam case to come up with generic solutions;

- The third sub-goal, which discovered from the second sub-goal, is to present the most important impeding factor to hinder PPP good practice in Vietnam, namely financial market for infrastructure projects financing and the legal and regulatory regime for private involvement in PPP projects in Vietnam;

- The fourth sub-goal is to analyze the strengths and weaknesses of these critically impeding factors to come up with solutions for future potential good practices;

- The final sub-goal is to research many Vietnamese PPP real-life projects in short (empirical studies) and an extensive Vietnam case study in energy sector to assess and explain factors and actors for success and failure of these projects. Also, this is a chance to verify the CSFs framework for its potential applications.
1.3.2 Research strategies

Various steps of the research are briefly described by the followings:

- Literature studies on the related issues;
- Developing the theoretical framework for critical success factors (CSFs) of PPP projects in general;
- Figuring out the most critical factors to hinder good PPP practices in Vietnam so as to deeply analyze and come up with solutions;
Chapter 1: Introduction

- Improving previous researches of international and local authors about PPP in Vietnam;
- Applying the CSFs framework to assess and explain the success and failure of a PPP project in Vietnam.

1.3.3 Research focuses

This thesis is to research at the governmental scope for the related issues. Also, the operational level is taken into account. The various sectors in infrastructure in general containing road, bridge, port, tunnel, thermal power plant, water treatment projects are covered to support the analysis of the issue. Besides, international experiences in PPP practices are reflected along the report in order to get the lessons learned and have the lively inside-out and outside-in comparisons to improve the current practices and achieve the future good performance of PPPs in Vietnam.

1.3.4 Research deliverables

There are some important remarks for product deliverables presented below:
- Each deliverable addresses the issues shortly, but effectively and efficiently;
- Research steps and questions for each chapter and the ways to solve them. These will be done before executing each chapter by chapter analysis containing issues’ background, literatures supported, research question and methodology for adopting, and the outline of each chapter report;
- The products delivered as report, pages, list of contents. In general, the thesis is about 100 pages based on the list of content.

1.3.5 Research planning

The general amount of time for research is based the credit orientation. There are 36 ECTS in this thesis, thus, it is calculated by 36C x 28h/one ECTS = 1008h, which is equal to 6 months (8 hours for a working day and 5 days per week). The time for thesis execution starts from 18/12/2008 to 18/6/2009 for expected ending.

1.3.6 Research limitation

Six months for the research at the governmental scope is really challenged. Moreover, the access to important data in Vietnam is not an easy task due to lacking of internet resources. The data accessed in the future is a big risk with time consuming process.
Chapter 1: Introduction

1.4 Structure of the report

1.4.1 Chapters of the report

After the introduction (chapter 1), the research includes six following chapters:

Chapter 2, framework for critical success factors (CSFs) of PPP projects
The framework is developed upfront in this research according to deductive method by the literature reviews, and then it will be validated by empirical studies in the later chapters. Throughout this chapter, the concept, motivations, forms, project phases, and success criteria of PPP are introduced. The motivations for developing the framework and fishbone CSFs framework for PPP project are presented. Implications for framework application are mentioned. Finally, lessons learned and the next issues needed to address in later chapters will be presented.

Chapter 3, Vietnam infrastructure finance
This chapter examines Vietnam principal sources of infrastructure finance other than the government budget, namely the banking sector, capital markets, infrastructure funds and private investors, to get the insights of their strengths and weakness. It pays considerable attention to infrastructure financing provided by the private sector and proposes refinements to the existing systems used to attract private sector investments. Also, it focuses on the operational level, including public-private efforts to create viable financial package for PPP projects. Finally, the financial risks are defined in risky PPP projects in which involved actors have to be seriously taken into account as joining the game.

Chapter 4, Policy on PPP in Vietnam
Envisaging that Decree 78 (BOT Decree) is the most relevant legislations of PPP; this chapter places a considerable focus on a critical analysis of what is good and what is bad of the BOT Decree. A number of important issues in which a brief review on a number of greater or lesser relevant laws and legislations govern them are addressed. Also, responsibilities, functions, rights and obligations of the relevant stakeholders assigned by the laws and legislations specified in this BOT decree in the phased process of project cycle are analyzed. Furthermore, recommendations for improvements of specific bad points in the Decree are presented to obtain future better practices. Finally, political risks are figured out to show the potential negative effects of weak and imprecise law to PPP projects and opportunities in Vietnam.

Chapter 5, State of the art of PPP practices in Vietnam
This chapter presents state of the art of PPP practices in Vietnam in order to observe how these weaknesses influence on PPP opportunities and PPP projects in various sectors (power, transportation, water, and telecommunication) of Vietnam infrastructure and what actors do to deal with these obstacles.
Chapter 6, Case studied, “Vietnam BOT Phu My 2 phase 2 energy project”
In this chapter, a BOT project in energy sector is evaluated in order to verify the useable of the
CSFs framework. In addition, we can learn from this project to improve the framework, some
findings of previous chapter as well as recommend for facilitating PPP in Vietnam.

Chapter 7, conclusion
This final chapter gives the conclusions of what and how the research are conducted, the short
summary the whole research content, and the implications for further studies.

1.4.2 Report outline
Seven chapters in the report are interlinked in four quadrants of the below figure:

Figure 3. Report’s chapters interlinked
Chapter 2: the Framework for Critical Success Factors (CSFs) of PPPs.

2.1 Introduction

Filling in the financial gap for the vast demand of infrastructure projects as highways, bridges, tunnels, water supply and treatment plants, and power plants to serve for urbanization, industrialization, and globalization (Chen and Doloi 2008), public-private partnership (PPP) is turned out a promising scheme for any country all over the world to adopt. Also, it can be considered as a third option for implementing infrastructure projects plus with traditional public project development and privatization (Koppenjan).

When this PPP scheme has come into being with a number of missions underlying the concept, many scientists, project sponsors, administrators and advocators have questioned whether the scheme is easy to fulfill its expectations. It is difficult to answer this question because the beautiful goals of the governments in PPP-style are to obtain infrastructural facilities with greater efficiency, speed, and without the state taking on the adherent financial responsibility or cheaper, faster and better has proven to be difficult (Koppenjan), as the examples in many developed and developing countries: UK, Australia, the Netherlands, Thailand, China, Vietnam and others. The World Bank noted in a 1995 report, with specific reference to Asia (Paul Handley 1997): “despite much talk about private investment in infrastructure, there is little action in most countries. Neither the governments nor the private sector are satisfied with the progress to date”. This issue is reflected by a number of successful cases in developed and developing world while in many other cases projects never proceed to the physical development stage, this results in a considerable loss of time, money, effort, and often significant diminution of the theoretical advantage of the PPP concept (Paul Handley 1997).

Due to the uncertainties in living up the expectations of the scheme, is there any framework of critical success factors (CSFs) to assess and explain the success and failure of PPP projects? This chapter is conducted to serve for this mission. Moreover, due to the complication of PPP project with many different phases in which have its own characteristic, the framework will be developed basing on project phases. Given the goal set this framework is developed upfront according to deductive method by the literature reviews, and then it will be verified by a case studied in chapter 6. The fishbone CSFs framework comprises 71 subfactors generalized into 12 main critical factors with 2 factors for each of six PPP project phases. The success of previous phase will determine the fate for the success of the next phase, and the success in all phases leads to the successful PPP projects.

For step by step to solve the problem, in this chapter is arranged as followings. The concept, motives, forms, project phases, and success criteria of PPP are introduced in section 2. The motivations for developing the framework and fishbone CSFs framework for PPP project are presented in section 3. Implications for framework application are mentioned in section 4. Finally, lessons learned and the next issues needed to address in later chapters will be presented in section 5.
Chapter 2: the Framework for Critical Success Factors (CSFs) of PPPs.

2.2 Understanding PPP concept: definition, motives, classifications, and PPP-project phases

2.2.1 Definition of PPP
Public-Private Partnership (PPP) can be defined as a form of collaboration in which a long-term contractual agreement is agreed upon between public agency (federal, state, local) and private sector entity in the planning, construction, and/or exploitation and co-financing of infrastructural facilities in the sense of sharing or reallocating risks, costs, benefits, resources and responsibilities. In this PPP scheme the private parties often finances the project, and thus the other contract types as Design, Construct (and Maintenance) are not considered as PPP. In addition, in case of subsidy relationship where the government does not share the risk in private project, the relationship is not regarded as a PPP (Koppenjan 2005).

2.2.2 Motives for PPP
Many countries worldwide (developing and developed ones) run the PPP scheme with different interests, but sometimes these interests meet together with nurturing great ambition to create the best value for money by the formula: cheaper, faster and better (Koppenjan). The following motives address for both perceptions of developing and developed world as following up the partnership:

1. More value for money. The private parties nowadays are considered to be better than public parties in many aspects as technical solutions, management skills, and financial capability, which lead to deliver complex infrastructure projects more efficiency. In addition, unlike traditional contract with fragments in each project phase, PPP is a close process in which private parties can participate in the project from planning, design, execution, operation, to maintenance phase. Optimal design can be achieved by taking into account life cycle project cost with less maintenance cost, resulting in project cost reduction and better quality. Therefore, public crying out in many infrastructure projects with huge cost overruns, time delays can be mitigated by good expertise of private parties. Finally, the linkage effects by cheaper delivery for the same project characteristics or higher quality with the same amount of money can be lived up (Koppenjan).

2. Promoting innovation. Innovation can be achieved in PPP scheme because expertise is the priority, where the government does not heavily intervene in the process as traditional collaboration form. As private parties can participate in the early project phase, they have more spaces to define and redefine project scope and content to create the promising plan, but also design optimizations (Koppenjan).

3. Better decision making. PPP is an open book procurement process; costs, benefits and risks are defined and allocated or reallocated between private and public parties involved before running into the contract. Therefore, strategic behaviors like over estimate of benefits and underestimate of costs to get the project start of project
Chapter 2: the Framework for Critical Success Factors (CSFs) of PPPs.

promoter/developer can be eliminated because private party is responsible for portfolio management and project management (Koppenjan).

4. **Attracting private financing and increasing government revenues.** As far as we concerned public fund is not enough to meet the desires of greenfield and rehabilitating existing huge-capital-consuming infrastructure projects. PPP can be considered an ideal scheme to fill the financial gap of the government by attracting private money investment (Koppenjan). Moreover, privately owned infrastructure enterprises thought out the world, most of which are operating efficiently, have become a significant source of ongoing taxation revenues, in contrast to the large budget-drains represented by public enterprises in many countries (World Bank 2001; Paul Handley 1997).

5. **Sustaining the economic growth.** In many developing countries as in Asia region, the economic growth is very strong especially in export industries, resulting in acceleration in the demand for more infrastructure services and facilities. Therefore, PPP scheme is pushed to meet this demand to sustain for economic growth (Paul Handley 1997).

6. **Potential to stimulate Foreign Direct Investment (FDI).** Greater efficiency in infrastructure sectors can rapidly improve competitiveness of all the manufacturing and service sectors which ultimately leads to further growth in foreign direct investment. (World Bank 2001).

7. **Meeting the social demand and poverty reduction.** As the poor South-East Asia region: Laos, Cambodia, and Vietnam with vast increase of population, increasing infrastructure and public services needs must be financed to maintain the country development and contribute to poverty reduction. PPP is seemed to be attractive scheme for the governments to get these targets (World Bank, 2006).

8. **Changing the culture in using infrastructural facilities.** Many communism countries as Vietnam, Laos, and China and Dutch Polder model system, infrastructure facilities can be considered as social welfare with public financing and subsidies. However, due to the government budget deficit and the pressure of privatization, PPP is introduced to switch to the user-pay principle so that infrastructure facilities can become more self-financing (Paul Handley 1997).

9. **Reducing the involvements of public sector in public projects leading to reduction of corruption.** In public infrastructure projects in the past, we can see the overwhelming presentation of state-owned enterprises (SOEs), especially in Asia region. However, these SOEs are characterized by poor financial performance with the bureaucratic system leading to misusing of public funds. We also heard many corruption scandals in infrastructural projects in Vietnam and China as SOEs put their hand in project execution and management. Therefore, PPP is served as a restriction of the growth of the public bureaucracy and the SOEs (World Bank 2001; Paul Handley 1997).

The first four motives is the nature of PPP-type which both developed and developing countries want to reach, especially, developed ones intensively focus on these targets. In addition to the first group, developing world is being inspired with the rest motives to serve for their macro level
Chapter 2: the Framework for Critical Success Factors (CSFs) of PPPs.

of national development and improvement. Therefore, developing countries thirst for this PPP scheme even more than the rich countries.

2.2.3 PPP forms or classifications

There are many classifications of PPP of international authors now. Koppenjan classifies in a three often used categories of public private partnership in the below figure.

<table>
<thead>
<tr>
<th>Fully Public Sector</th>
<th>Public Private Partnership</th>
<th>Fully Private Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Public Contracting</td>
<td>1. Service Contracts</td>
<td>3. State Owned Enterprises and Joint Ventures</td>
</tr>
<tr>
<td>Design Build Maintain</td>
<td>Operate Maintain Lease</td>
<td>Corporation Private Finance</td>
</tr>
<tr>
<td>Public service provision</td>
<td>2. Build Operate and Invest Concessions</td>
<td>Co-ownership Alliances</td>
</tr>
<tr>
<td>Passive private investment Government Bonds 2a DBFMO Government defines project</td>
<td>2b BOT Private party develops project</td>
<td></td>
</tr>
<tr>
<td>Public sector investment responsibility</td>
<td>private investment responsibility</td>
<td>Private sector investment responsibility</td>
</tr>
<tr>
<td>government role</td>
<td>government role</td>
<td>government role</td>
</tr>
<tr>
<td>Providers</td>
<td>Enabler</td>
<td>Enabler</td>
</tr>
</tbody>
</table>

Table 1. A Spectrum Public Private Partnership Models

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

The three different models of PPP will be depicted by the following interpretations:

1. **Operation, Maintenance and Service Contract.** In this form the public partner will contract out the service for private partner on operation and maintenance with the certain costs agreed beforehand. The private parties will exploit the service in a certain period to get return and profit on the amount paying for the concessions. In leasing contract, the constructed government facilities are leased to private parties with a lump sum so that the government can have money to invest on other services. In these forms of PPP the government budget burden cannot be released because she has to fund for initially capital investments, and innovation cannot be achieved due to heavy intervention of government on private performance. However, this form can enhance the efficiency on service’s operation by lowering subsidies and tariffs even through not much attracting private investments (Koppenjan).

2. **Build Operate and Invest.** For this PPP option the private partner has opportunity to involve in the upfront project phases, thus innovation can be accomplished by design optimizations leading project cost saving. According to UK private finance initiative (PFI) the project is defined by the government, and private party will responsible for Design, Build, Finance (Maintain) and Operate (DBF(M)O), in which it forms a consortium with contractors, financers, operators and others. The initial private financing can be recovered by the payments of the users for provided service. If the user-pays principle cannot be implemented due to the legislation constraints or others, the shadow toll can be addressed. In this respect, the government will pay for private partner a one-off or
annual availability or performance fee, called for “government-pays” system. Although financial risks are in hand of private party, any fluctuations in the operation phases with over returns or losses can be renegotiated by public and private partner to share both benefits and losses. In addition, incentive contract with bonus and penalty is often enforced in this scheme to assure the best performance of private party in every project phase (Koppenjan).

BO(O)T can be considered an alternative type of PPP as the government does not have enough ability in developing workable projects and management skills in managing complex-long-term contracts due to lacking expertise and reliable legal and regulatory regime (Koppenjan; Walker and Smith 1995). In Design-Build-Transfer project, private sponsor is 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 commercially viable. At the end of concession period, the facility will be turned over to the government without any reimbursement. In this scheme the ownership is in hand of the government, but the ownership sometimes remains with the private party during the concession duration as BOOT scheme (Koppenjan).

3. **State Owned Enterprises (SOEs) and Joint Ventures (JVs)**. For SOEs also called public-public partnership, the state wants to realize the project through Special Purpose Vehicle, a private law project company in which funding is provided or guaranteed by public authority. The main motive is that project funding is outside the government budget, but difficult to mobilize now (Koppenjan; Yescombe 2007).

Joint-Venture PPP is jointly-owned project company by public and private partner, which also called for “institutional PPP or alliance model”. This model is being attractive to public authority in many countries nowadays due to its open book procurement which both parties work closely together in every phase of project. Therefore, this erases many risks of complex project which are not defined at the initial phases and innovations can be achieved due to risks, costs, benefits set beforehand (Koppenjan). In addition, JV can reduce the doubt of public party in the windfall earning of private partner in operation phase due to the same degree to access to information between the two parties (Yescombe 2007).

This research is endeavoring to depict various models of this partnership by the empirical studies and cases studied which including service contract, BOT and JVs scheme in Vietnam. Also, BOT type in Asia region and DBF(M)O projects worldwide are introduced to have the out-in look for the scheme in Vietnam.
2.2.4 PPP project phases

As far as we concerned the construction project and PPP project phase in specific are characterized by the overlapping among phases, which mean that this phase can jump back and for over other phases. In general, we can divide PPP project life cycle into planning and realization phase. Planning phase will take care of the structured cooperation, referring to risk-sharing by a binding agreement (a contract or a jointly legal entity) between public and private partners, aimed at the project development of exploration and planning phase. Realization/build/construction phase contains the construction of facility, but it can extend into part of design phase, especially detail design and operation phase (Koppenjan 2005). The above phases are summarized in the figure below.

![Various phases of PPP projects](source: Koppenjan 2005)

In more general sense, we can call for exploration and planning phase by formation phase. The PPP project formation process focuses on interactive negotiation and assessment project by which public and private parties define project content, scope, costs, benefits, risks and responsibilities before going on the formal cooperation agreements. The figure below will depict the formation process via project life cycle (Koppenjan 2005).

![The formation process of public private partnership](source: Koppenjan 2005)

2.2.5 Is it easy for PPP to live up the expectations?

This section will scrutinize whether the nine motives dividing in micro and macro mission of PPP can be easily achieved in every PPP projects.

1) Is value for money (VfM) accomplished?

The idea of value for money is that it is conducted by its comparison with a so called ‘public sector comparator’ (PSC). The comparison can be made at two points in project development phase; it first can be done before the bids are received as a way to determine whether to move forward with expensive procurement processes, or it can be made after the bids are received as a way to determine theoretically whether any of the bids are acceptable (Leigland and Shugart, 2006). In PSC process, all of the costs to public sectors are presented if the project was done in traditional procurement method for the delivery of same output. The value for money can only be
achieved if the PPP scheme provides the service at least equivalent quality offered by traditional way, but at a lower cost (Ball et al., 2007).

It is evident that cost savings can be accomplished in road and prison PFI projects in UK in spite of the precise of the calculating method in question, but it shows some grounds for optimism (Koppenjan (Hall, 1998)). Also, 29 PFI projects investigated by Treasury Task Force indicated the efficient advantages of 17% with respect to public sector comparator. The National Audit Office (NAO) showed that 8 out of 10 PFI projects with the best offer achieved the good value for money. In addition, NAO found that PPP projects deliver the facilities on time and within budget far more than that of public funded infrastructure projects (Koppenjan). There is evident that 48 PPP Australian projects presented the well commercial management. Also, the 2.1 billion AUD Melbourne city link with 34-year BOT concession were successful in risk transfers and achieving value for money (Koppenjan (Hodge, 2005)). In the respect of human service contracting in the US, PPP scheme shows the significant enhancement of contractor performance due to the use of performance based incentive (Koppenjan (Martin, 2005)). Also, the success of PPP motorway A59 in the Netherlands shows the significance of performance based incentives (Koppenjan (Deloitte, 2003)).

On the other hand, an influential report from the Institute for Public Policy Research found that PFI had been successfully applied in road construction and prisons but was less successful in delivering hospitals and schools projects (Koppenjan (IPPR, 2001)). Ball et al. (2007) stated that the value for money cannot be achieve in a number of PFI school projects in UK because it is extremely difficult to quality all of the risks in the next 20-30 years of PFI projects which causes the problems of evaluating the economic benefit of risk transfer and problems in ensuring that risk transfer actually occur, and the higher financial costs about 2.5-4 percent of PFI school projects compared to conventional approach are not taken into account in the comparison of PFI projects with the PSC. In addition, the Skype Bridge in Scotland completed in 1993 and PPP road tunnels built in early nineties in the Netherland proved to be more expensive than public funding (Koppenjan).

The method of calculating value for money, public-private comparator and public sector comparator, has generated a lot of debate recently in industrial countries that the PSC method has serious problems, and that in some extent has become more expensive way of endorsing the choice of private participation (Leigland and Shugart, 2006). A UK Audit Commission report (2003, p. 37) concluded that “the PSC has lost the confidence of many people, and risks being seen more as a hoop to jump through on the way to government funding than a valuable exercise that can help ensure better VFM [value for money].” Leigland and Shugart (2006) list out a number of key criticisms of this method by inaccuracy in cost estimate of 20-25 year project cost; omitted risks due to the difficulties in long-run estimation; no consensus on discount rate among economists, policymakers, or practitioners about what rate should be and whether it is the same for the two projects; manipulation in PSC by the subjective judgment with the small adjustment for risk or in discount rate resulting in underlying calculation of cost and erroneous
interpretation; high costs due to the extremely expensive expenses and time-consuming process for financial modeling required for PSC and PPP references; futile prebid comparison as a second-guessing; postbid evaluation resulting too late due to the impossibility for cancelling the higher bid price than PSC costs in this stage; irrelevant PSC as unavailable public funding. The manipulation was really occurred in Dutch N31 road and High Speed Rail Link project, where the assumptions were chosen for conducting studies in such manner to justify the choice of PPP. With regard of 8 PPP projects in Victoria, Australia the wrong choice of 8.65 percent discount rate came about instead of 5.7, which made the value for money highly sensitive. The correctional facility Massachusetts lease-contract with 7.4 percent turned out to be more expensive deal than traditional public implementation. Also, under the investigation of NAO in 1998 for 4 PFI road projects in UK, the improper discount rate was implemented; as a result, the public construction was seemingly cheaper. The continuing question about the precise of PPC and PSC is that to what extent costs, benefits and risks have been included in the calculating method; 76 major PPP North America projects turned out to be difficult in comprising expensive transaction costs compared to traditional procurement (Koppenjan).

To sum up, the logic of PSC to check whether PPP will deliver better value for money compared to traditional approach is valid. However, VfM is clearly depended on specific circumstances and policy areas, not for all PPP projects as the later above observations (Koppenjan). It is because of the unreasonable calculating method of PSC needed a lot of improvements in the future. In response to these criticisms, in 2004 the UK Treasury initiated reforms in how the PSC method should be used: countering the “optimism bias” of appraisers through empirical evidence from past projects; not making any comparison with the PSC and no questions about whether the PPP approach is appropriate after bids; and looking at a project’s potential distributional effects and track record of similar projects as doing qualitative analysis and comparison. The UK government now tries to make good use of project cost estimate databases and uses standard models to prepare preliminary PSC in-house, relying less on consultants to do costly PSC modeling (Leigland and Shugart, 2006).

What about the developing countries? The finding of Leigland and Shugart (2006) states that the original logic of PSC is still valid and important to government of developing world to think through and justify for their choice of PPP rather than traditional public implementation in delivering infrastructure services. Moreover, PSC forces project sponsor to think through how much it now costs to provide similar services, what risks are associated with a project, and how these should best be managed in an eventual PPP project. However, they warn that the PSC method of industrial countries may not be the best way to do in all developing countries due to the following reasons:

- It is not meaningful to make PSC as lacking fund for infrastructure project in the case of developing world. In this respect, the comparison can also be made between the net economic benefits of PPP schemes and those of the status quo alternative.
The PSC is feasible where the public funding for the project is available. However, using the UK approach is not appropriate for those because using the database for cost estimates and countering optimism bias, shifting more analytical work for in-house staff are not easily done in developing countries.

To some extent, PSC is used as method to reach consensus among involved stakeholders rather than expert judgments to convince stakeholders that the PPP project will offer value for money. However, the government of developing world should fully master the subjectivity of the PSC estimates or “optimism bias” while using the PSC as a starting point for soliciting inputs on project design.

(2) Does PPP generate innovations?

To some extent, it is evident that innovations can be achieved in PPP scheme with regard to physical project assets, governance method, contract forms and financial model compared to traditional procurement (Koppenjan).

In other extents, there is argument that the innovations cannot be stimulated in PFI type because the public partner draws up the clear project specification in advance leading to project scope constraints which not letting many spaces for private partner to optimize the design. Moreover, Leiringer (2006) states that design freedom may be hard to reach even when the public partner has not heavily intervened because the construction industry is constrained by three broad areas of regulatory policy: labor market regulations that govern the construction process; planning and environmental regulations that principally affect the construction; and technical regulations that affect products and processes. Moreover, codes of practice and standards create little more chance to design away from the traditional standards and norms than there would be any other type of project. Therefore, there is little room for design freedom, which hinders the innovations. In the study about whether innovations can be accomplished in school projects in UK, Ball et al., (2006) give out some disappointment that the design did not show any greater degree of innovation in comparison with public designed projects. Especially, the architects of one consortium had never designed a school before and technical improvements were only obtained by the council telling the bidders what to do. In addition, the comparison between 35 PFI schools and 59 traditional schools conducted by the Audit Commission in 2003 showed that there were no significant differences between the two schemes in respect of design quality.

Moreover, due to the design scope limitations of PFI contract with the detailed specification rather than functional requirement, strategic behaviors of involved parties are still existed with regard to excluding all risks by means of detailed contract, which make both public and private partner do not have needed skills for PPP. It is proved by the procurement process of Dutch High Speed Rail Link project was geared toward traditional approach because content-driven expertise dominated and detailed design was used. Also, in this project there were only 2 foreign companies participating procurement process because they found that the legislation and
regulations in the host country were not suit for them and the host government did not warmly welcome for their participation in its market (Koppenjan).

In brief, there is no evidence that innovations can be achieved in every PPP projects as the early of private participation in development phase. While innovations can reach in some project, others are not. Especially, in PFI contract hinder the innovations by optimum design due to the upfront government project development in stead of output specification. Even in the case of having more spaces for private partner to innovate, the design freedom is hard to reach because of the constraints in regulatory policy, practicing codes and standards in construction.

(3) Does PPP scheme offer better decision making?

In PPP projects, the client only pays for contractor as the product delivered; therefore, the contractor try all affords to terminate the project on time and meet functional requirements. Moreover, financial penalties are reinforced in PFI contract to punish the poor project performance, thus, it encourages the government to clearly define performance requirement, penalties, and rewards (Koppenjan (Klijn et al, 2007)).

On the contrary, it is evident that public and private partner participating in PPP scheme with unclear project definitions initially and unrealistic assumptions and calculations. In three Dutch projects, namely High Speed Rail Link, the Betuwelijn, and the Zuiderzeelijn, the privatization did not have a strong influence in planning processes. In contrast, the strategic involvement of private partner in project co-financing was to convince the parliament that the projects were socially profitable, which is the reason why the private parties did not want to gear their decision in rational arguments. For instance Siemens wanted Maglev technique to be implemented in construction of the Zuiderzeelijn even though it is a commercially uneconomic project (Koppenjan).

Moreover, the issues related to transparency, accountability and democratic legitimacy are in controversial in PPP scheme nowadays because they appear to threaten the quality of decision making. Some authors claim that the off-balance sheet accounting of PPP infrastructure projects may cause trickery. There is evident that the private parties lied to the government with the low return on investment instead of truly high project return. For instance, the consortium forecast the Sydney Airlink BOOT project with a profit of 21 to 25% whereas the government can only be informed with 2%. Koppenjan (Hodge, 2005) states that the arrangements in Australian projects are not transparent; the government with political reasons puts the projects in a hurried construction; and it seem to protect private partner, where the private investors' interests are in priority while the public interests are in secondary. Also, there is problematic regarding to transparency and legitimacy in Melbourne City Link BOT project where the involvement of the parliament in the project turned out to be difficult even though the project value for money was achieved (Koppenjan).
Chapter 2: the Framework for Critical Success Factors (CSFs) of PPPs.

In short, the better quality of decision making is not assured to be improved in PPP scheme by the above observations. It is even to be more serious to present the future challenges in the decision making on the subject of transparency, accountability and democratic legitimacy.

(4) Is private investment stimulated by PPP?

PPP scheme has showed the trend of inertia as the experiences in many countries. PFI was initiated in UK from 80s, but it is only onward until in the middle of 90s due to the efforts of Treasury to establish of government unit for promoting PFI. From 1998 many PPP initiatives are forward. However, infrastructure projects conducted in PPP scheme were still limited even though the Ministry of Finance and Transport committed to live up the PPP expectation. It turns out that alliances are more in common as the city revitalization projects and N21, for examples. In Denmark, it turns out that public funded projects are considered to be cheaper and more appropriate; and the Ministry of Finance has an adverse attitude toward PPP (Koppenjan). In addition, PPP scheme was introduced in Vietnam from 1992, but until recently the PPP approach is widespread due to many amendments in policy in 2007 with the efforts of Ministry of Planning and Investment, in spite of many residual issues existed in the law for private participation in infrastructure projects. For example, private consortia had to abandon projects to build or rehabilitate port facilities at Vung Tao and in Ben Nghe after years of prolonged negotiations with the government. Daewoo Corporation's negotiation over a highway BOT project has been ongoing for three years (World Bank 2001). In Taiwan PPP seem to be not interesting with public authorities because public companies perform very well in business and deliver cheaper public projects. Also, the Taiwan privatization process shows the inertia because the nascent capital market cannot absorb the huge capital flow and bureaucracy still exists in public management system (De Jong et al., 2002). In addition, private involvement is less than a half of 76 North American PPP projects in which 5 projects in transportation, drinking water supply, and waste processing were failed because the private partners want be compensated for commercial risks and threaten by the bankruptcy to prevent losses while the government did everything to get the project onward (Koppenjan).

On the other hand, some governments successfully introduce PPP approach in transportation and water management to attract private funding to realize the projects, considered to be delayed or not be realized at all, without public money. There were about 12 road projects and 1 railway implemented by DBFO contracts. Australian government is expected to realize AUD $ 20 billion on PPP projects from 2002 to 2007. Also, 4 toll roads valued at $2.5 billion are realized by BOT scheme in California, America without federal funds. The BOT contracts in Hong Kong have been significant sources of inspiration. The first major BOT project was the Cross Harbor Tunnel (CHT) under Victoria Harbor which links Hong Kong Island with Kowloon. The building of the project started in 1969 and cost 56 million US dollars. The CHT has been successfully operated since. Since then, 4 other tunnels have been realised in this way. All these projects had a concession period of 30 years in which the investors will need to recoup their costs by means of toll charges (Koppenjan).
To sum up, PPP scheme does not totally guarantee private investment. Although there are many infrastructural projects for which private financing has been found, there is also a lot of evidence that government find it difficult to introduce PPP as a new institutional practice. In general, there is the need for specific government units and regulations to actively promote PPP which can be considered as an alternative for traditional public delivered infrastructure projects.

(5) Does PPP reduce corruption issue of delivering infrastructure services in developing countries?

As we concerned, the state-own enterprises (SOEs) overwhelmingly present in every sectors of infrastructure in developing countries. However, they are famous for poor business and financial performances and weak management system through bureaucracy. The government is trying to fight corruption within its rank. Therefore, BOT scheme in Asia is potential to serve for this mission; it will limit the role of the public sector in the initial phases of large scale public utility projects. This in turn will hopefully act as a barrier between project funds and officials, thus, reducing room for corruption (World Bank, 2001; Billy Vu, 2007).

On the other hand, BOT projects might be potential to have the opposite effect of increasing corruption. PPP scheme is the close process of project implementation. Also, PPP can be considered as the transition from public ownership to private ownership which leaves a lot of room for corruption. For example, a cloud of doubt has been hanging over Vietnam’s infrastructure sector for the past few years, since it was discovered that $10 million had been misspent by Project Management 18 Company of Ministry of Transportation in delivering infrastructure services (Billy Vu, 2007). This scandal in turn has caused critics to question how the privatization process is actually being played out. It has in turn raised serious doubts about Vietnam’s commitment to deregulating, liberalizing, and privatizing its economy in the eyes of the international community.

Overall, the beautiful aspiration of government in developing world about BOT scheme, which will vastly diminish corruption in delivering infrastructure facilities, may be not guaranteed. Moreover, it generates more challenges to government to oversee the BOT close project implementation process and the new way of ownership in infrastructure sector.

(6) Is it easy to change the culture of using infrastructure services?

De Ridder (2007) clarify PPP scheme into three cost-value relations. The first relation is between the ‘citizens’ and the government characterized by public services. It is a simple loop in which the direct and indirect taxes define the cost, and in which the public services and tasks produce the value. One not only has to deal with one client, but with a lot of clients: e.g. citizens (with all their pleasures and problems); the second loop represents the relation between the individual clients and the private parties. This shows the common market in action, where products or services are offered against payment; the third loop indicates the relation between the governments as employer (acting with prudence, legislation, safety, justice, security) and the private parties. In this loop the government acts as the ‘party who takes the lead’. Therefore, creating public infrastructure means that certain conditions are generated for others to adhere to,
and by itself this type of infrastructure cannot only be exploited on a commercial basis. As a result, toll/tariff of PPP projects has to be at a level not only for feasibility of commercial exploitation but also for satisfactory from the user point of view, otherwise, NIMBY’s situation in infrastructure projects will occur. For instance, the strong opposition to some privatized projects in LAO PDR and some states in US due to high tariff/toll level which cause excessive financial burden for citizens (Xueqing Zhang, 2005). In addition, in 1992 the “fast track” power projects were awarded in India after BOT program was introduced in power and telecommunication sector by federal government. Nevertheless, the projects were rapidly slowed down by the resistance from state-owned enterprises and state government at the level of which the projects would be awarded and supervised. Also, in 1995 telecommunication workers in several states lodged court challenges to BOT privatization in that sector. In Indonesia, the lack of consensus among involved stakeholders hinder the BOT process in power project because the state power agency Perusahaan Listrik Negara (PLN), the sole buyer and distributor of power generated by private producers, showed the weak financial situation to expand its power generation capacity or extend its weak distribution networks, thus, the new private power projects only exacerbate the problem (Paul Handley, 1997).

Overall, it is not easy to change the using habit in infrastructure services of users because they have the history of government subsidies and financing. Thus, PPP has to wait some time for stakeholders to accept, but we do not know for sure until when. Moreover, PPP scheme generate more challenges for public and private partner to optimize the toll/tariff at an accepted level to live up project commercial viability and make the consumers satisfied to prevent NIMBY’s situations as aforementioned observations.

(7) Does PPP scheme live up the macro expectations, namely sustaining economic growth, stimulating FDI, and meeting social demand and poverty reduction?

Many big institutions working on developing countries such as World Bank and ADB bank have proved that there is a strong connection between physical infrastructure and poverty reduction. Also good infrastructure services will attract foreign investment and keep up with the high economic growth. Therefore, PPP scheme will pick up the process of delivered infrastructure facilities as government budget deficit in developing world.

The study in Vietnam of World Bank (2006) finds that provinces with greater investment in transport and water projects tend to see greater reductions in provincial poverty rates. The establishment of new roads rose the per capital income of a household by 30 percent between 1993 and 1998, and the spatial location of roads increased the household probability of moving out of poverty by 68 percent over the same period of time. In Indonesia, electricity reflecting access to technology contributes directly increased employment and incomes of the poor, as well as to poverty reduction through growth (ADB Bank, 2003). An evaluation of World Bank-assisted rural electrification projects in Asia indicates that in Bangladesh and India rural electrification raises the use of irrigation, thereby significantly reducing poverty incidence (World Bank, 2006).
Greater efficiency in the infrastructure sectors can rapidly improve the competitiveness of all the manufacturing and service sectors, ultimately leading to further growth in foreign direct investment (FDI) and upholding the fast economic growth in developing countries. Experience in reforming economies in Latin America, Eastern Europe and East Asia (e.g. Thailand, the Philippines, Indonesia, and China) confirms the potential of infrastructure privatization or greenfield operations as a way to catalyze large inflows of foreign direct investment and meeting the large requirements for export and import services (World Bank, 2001).

2.2.6 Lessons learned from the observations

The judgment for success and failure of PPP scheme turns out to be extremely difficult. The successes seemingly achieve the effectiveness of micro and macro expectations of PPP as aforementioned. However, it may push more pressure on this type of collaboration to improve the transparency, legitimacy, accountability, optimizing the commercial, social, and political issues in project implementation, and corruption. By conducting the complex project and contract, the uncertainties may lie on the limitations of assessing method to assess and explain the success and failure for this PPP scheme (Koppenjan). Therefore, all of the efforts in the later parts of this chapter will endeavor to develop the framework including a number of factors to justify for the success/failure of PPP projects appropriately and adequately.

2.3 Framework for critical success factors (CSFs) of PPP

2.3.1 Motivations for developing CSFs framework

Due to the complexity of PPP as stated above, the assessment of success and failure of PPP project is not an easy task. Therefore, a number of authors worldwide are inspired in creating the framework for CSFs to assess and explain why it is the case.

Tiong et al., (2002) characterizes 6 CSFs for winning PPP contract, including 1) entrepreneurship, 2) picking the right project, 3) a strong stakeholder teams, 4) an imaginative technical solution, 5) a competitive financial proposal, 6) inclusion of special features in the bid.

Xueqing Zhang (2005) defines five CSFs of PPP project in general with a number of subfactors in each, containing (1) favorable investment environment (11 subfactors), (2) economic viability (5 subfactor), (3) reliable concessionaire consortium with strong technical strength (12 subfactors), (4) sound financial package (10 subfactors), and (5) appropriate risk allocation via reliable contractual arrangement (9 subfactors).

Vickram Cuttaree (2008) presents 9 CSFs from the experiences of World Bank in conducting projects worldwide, including 1) careful planning of ppp project, 2) solid revenue and cost estimate, 3) user willingness to pay and communication plan, 4) extensive feasibility study with use of PPP experts, 5) compliance with contractual agreement, 6) appropriate legal and regulatory framework, 7) strong institutions with appropriate resources, 8) competitive and transparent procurement, 9) mitigation and flexibility in managing macro-risks.
Chapter 2: the Framework for Critical Success Factors (CSFs) of PPPs.

Li et al., (2005) groups 17 CSFs into five principle factors including (1) effective procurement (7 subfactors), (2) project implement ability (5 subfactors), (3) government guarantee (2 subfactors), (4) favorable economic conditions (2), and (5) available financial market (1 subfactor) for PPI projects in UK.

Jefferies et al., (2002) gives 15 CSFs through Stadium Australia case study, consisting of environmental impact, approval process efficiency, technological innovation, developed legal and economic framework, political stability and support, selecting the right project, strategic alliances, trust, community support, feasibility study, transfer technology, financial capability, complimentary skills, and consortium structure.

Xiong et al. analyzes 21 successful factors which grouped into 5 generic CSFs for PPP project in China. These factors are 1) reasonable risk-sharing mechanism, 2) financial system and policies for PPP projects, 3) the improvement of regulation and policy, 4) rational pricing mechanism, 5) effective supervising mechanism.

Tam C M (1999) presents the successful conditions for BOT projects in Asia after empirical studies from various projects in Hong Kong and Thailand. These factors are (1) viable projects, (2) flexible toll fee adjustment, (3) qualified consortium, (4) technical competent, (5) equitable and experienced government authority.

Qiao et al., (2001) create the framework for CFSs of BOT projects in China according to 6 project phases: preliminary qualification evaluation phase, tendering phase, concession award phase, construction phase, operation phase and transfer phase. The authors present independent success factors in each phase following by many dependent factors. These 8 independent important CSFs are summarized by followings 1) appropriate project identification, 2) stable political and economic situation, 3) attractive financial package, 4) acceptable toll/tariff levels, 5) reasonable risk allocation, 6) select suitable subcontractor, 7) management control, and 8) technology transfer.

J.(Joop) F.M. Koppenjan (2005) conducts the extensive research from 9 transport infrastructure project in the Netherlands. He recognizes 6 general factors to enlighten the success/failure cases from the upfront PPP project phase, the formation process in his research population. These factors include 1) project characteristic (project attractiveness), 2) a clear political-administrative commitment to the project, 3) joint image building and mutual trust, 4) convincing and motivating plan, 5) good process management, and 6) good process arrangement.

The literatures presented above are rather enough for the author’s inspirations to establish the framework for CSFs of PPP project in general. Throughout various literatures review, the author recognizes that some researchers try to create CSFs to assess PPP projects in general while others pay attentions to specific CSFs for PPP in their countries such as UK, Australia, the Netherlands, China, Hong Kong, Thailand. These contributions are valuable for further research conducted on this subject for potential good practice of PPP in the future. These CSFs are varied from countries to countries; it is reasonable because the factors for PPP project success in this country cannot be appropriately applied for others due to its potential differences. However, there are a number of critically generic factors agreed among various researchers due to their
Chapter 2: the Framework for Critical Success Factors (CSFs) of PPPs.

un-substituted position for a successful PPP project, which presented in the below table and also play as a rule of thumb for the development of the intended CSFs framework in this chapter. In these papers, many researchers was tentative to develop CSFs throughout various PPP project, it may be because of the difficulties in separating the overlapping project phases or others. There is only one paper of Qiao et al., (2001), who breaks these hesitation by creating the framework for CSFs for PPP project in China throughout project phases in which the success of this phase determines the fate for the next phase. However, there are many shortcomings in this framework in the author’s point of view, especially in the formation phase. Fortunately, these shortfalls are filled by the intensive research of J.(Joop) F.M. Koppenjan (2005) in nine PPP transportation projects in the Netherlands, in which he figures out many generic factors to assess and explain the reasons why some of the projects in this sample can form smoothly under PPP scheme, whereas others cannot reach the expectations in this initial project phase.

These two wonderful researches has oriented as the hard aspect in author’s inspirations for developing the general CSFs framework for various phases of project life cycle in this chapter, while some other techniques in manageable knowledge will contribute as the soft aspect in the author’s orientation for this frame. This framework plays as an extensive role to fill into the shortcomings of previous researches, especially the contributions of Qiao et al., (2001) and J.(Joop) F.M. Koppenjan (2005), and stresses on the importance CSFs for various phases of PPP projects. Also, this CSFs framework not only assesses and explains for successful cases but also for failure ones by reverted justifications.

The intended framework development comprises six phases of PPP projects in which two generic critical factors with many subfactors will determine the success of this phase, and the success of previous phase will influence the progress of the later phase. In the table 1 below, 13 critical factors, which some are for specific project phase while others are in general, are agreed among various literatures to make PPP projects successful. 7 of these refer to specific phases developed by aforementioned researchers, for example, factor 1, 2 and 3 are for initial phase while 9, 11, 12 and 13 are critical factors for later project phases. And, the rest factors in the table are in general. These 7 factors will contain in specific phase of the fishbone CSFs framework whereas the rest ones in this table are contributed as subfactors in specific phase sorted by the author into generic or main factors discovered or generalized in the process of creating the fishbone framework.
## Critical success factors

<table>
<thead>
<tr>
<th>Critical success factors</th>
<th>Source</th>
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<tbody>
<tr>
<td>1) project attractiveness</td>
<td>Tiong et al., (2002)</td>
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<tr>
<td></td>
<td>Jefferies et al., (2002)</td>
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<tr>
<td></td>
<td>Tam C M (1999)</td>
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<tr>
<td></td>
<td>Koppenjan (2005)</td>
</tr>
<tr>
<td>2) joint image building &amp; mutual trust</td>
<td>Jefferies et al., (2002)</td>
</tr>
<tr>
<td></td>
<td>Koppenjan (2005)</td>
</tr>
<tr>
<td>3) good process management &amp; arrangement</td>
<td>Koppenjan (2005)</td>
</tr>
<tr>
<td>4) Stable political &amp; economic situation</td>
<td>Vickram Cuttaree (2008)</td>
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<td></td>
<td>Jefferies et al., (2002)</td>
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<td></td>
<td>Xiong et al.,</td>
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<td></td>
<td>Qiao et al., (2001)</td>
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<tr>
<td>5) Available financial market</td>
<td>Li et al., (2005)</td>
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<tr>
<td></td>
<td>Xiong et al.</td>
</tr>
<tr>
<td></td>
<td>Qiao et al., (2001)</td>
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<tr>
<td>6) Political support &amp; less intervention</td>
<td>Jefferies et al., (2002)</td>
</tr>
<tr>
<td></td>
<td>Tam C M (1999)</td>
</tr>
<tr>
<td>7) Attractive financial package</td>
<td>Xueqing Zhang (2005)</td>
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<tr>
<td></td>
<td>Xiong et al.,</td>
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<tr>
<td></td>
<td>Tam C M (1999)</td>
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<td>Qiao et al., (2001)</td>
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<td></td>
<td>Koppenjan (2005)</td>
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<tr>
<td>8) Acceptable toll/tariff levels &amp; flexible adapted for adjustment</td>
<td>Xiong et al.,</td>
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<td></td>
<td>Tam C M (1999)</td>
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<td></td>
<td>Qiao et al., (2001)</td>
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<tr>
<td>9) Reasonable risk allocation and risk sharing</td>
<td>Xueqing Zhang (2005)</td>
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<td></td>
<td>Vickram Cuttaree (2008)</td>
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<td></td>
<td>Xiong et al.</td>
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<td>Qiao et al., (2001)</td>
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<td></td>
<td>Tam C M (1999)</td>
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<tr>
<td>11) Select suitable subcontractor</td>
<td>Tam C M (1999)</td>
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<td></td>
<td>Qiao et al., (2001)</td>
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<tr>
<td>12) management control</td>
<td>Tam C M (1999)</td>
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<tr>
<td></td>
<td>Qiao et al., (2001)</td>
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<tr>
<td>13) technology transfer</td>
<td>Jefferies et al., (2002)</td>
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<td></td>
<td>Qiao et al., (2001)</td>
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</table>

**Table 2. Summary critical success factors (CSFs) of PPP projects**
2.3.2 Fishbone CSFs framework for PPP projects

As aforementioned the framework is created by hard aspect, various literature reviews, and soft aspect by manageable technique. This technique is called for Ishikawa diagram after their invention or fishbone diagram. The idea is to work back from manifest problem asking why it occurred, and then repeating the question for each of the underlying problems identified. Classifying the results of this process according to types of cause produces the classic skeletal shape (Winch 2003, pp 291-292). The CSFs framework is illustrated by figure.

Figure 6. Fishbone framework of CSFs for PPP projects

The arrow in the middle of figure shows that the successful PPP project will require the successes of six project phases from exploration to transfer phase, and the success of previous phase will determine the fate for the success of the next phase. There are 71 subfactors for infrastructure PPP project success, which are classified in 12 main critical factors. Two main factors with various subfactors in each phase plays as a cause for the successful effect in this phase and the successful effect in every above phase will live up the fruitful PPP project's expectation.
### Framework’s propositions

This section will present the propositions for the framework in which the relationships among twelve main factors with their subfactors related to each project phase are shown. Six propositions linking to six phases of PPP project are generated in the following interpretations:

1) **Exploration phase**

Proposition 1: achieving the joint image building and mutual trust among actors involved and creating systematic forms of process management with good arrangements are the most vital driven factors for successful exploration phase of PPP projects.

As far as we concerned many PPP project has failed in the initial phase of negotiation. Therefore, the successful in this exploration phase plays as a departure for other phases to proceed. Early private involvement in PPP project development is really vital for the fruitful outcome in this phase instead of after formal public decision. It is because private parties have more spaces to cooperate with public actors intensively, which create a joint problem solving and a joint solution. Also, this intensive collaboration leads to sufficient embedded interactive decision making. These effects will build up a joint image with the common understanding among various involved actors and develop a mutual trust, which result in goal interweaving, the creation of support and the occurrence of appropriate selection (Koppenjan 2005; Jefferies et al. 2002).

It is clear that public interests and private considerations often conflict each other. In PPP project private seriously takes into account return on their risky investment whereas public parties pay attention to political purposes. Therefore, systematic process management will bring or bridge these different interests together. However, the joint image building, mutual trust and process management is hard to reach without good process arrangements. There are some evidences that the aforementioned factors can be achieved without process arrangements and the process arrangements occur at a limited level in this initial phase. Yet, in the less favor project circumstances process management is the catalysis for this phase to come into being because this will create the public-private alliance partners and prevent market consultation which separates parties from each other (Koppenjan 2005).

2) **Feasibility study**

Proposition 2: the PPP feasibility phase will go smoothly with the good investment environment in the host country and the efforts of all involved parties for making the project viability.

A feasibility study is preliminary study undertaken to determine whether the project is viable or not. There are some projects which are easy to develop in PPP scheme appropriately, called for “have it in them”, due to their potential attractiveness to investors in financial perspective. Therefore, the question can be asked whether we cannot develop other projects as not having this character. These less propitious projects need for the goodwill of involved parties in their collaboration process. If public and private parties work closely each other in the willingness for adaptation, innovative ideas can be arisen, which mean that financial trade-offs between profitable and non-profitable parts of the project can be arranged and enrichment will be created. This leads to project scope adaptation and management, which make unattractive line infrastructure project to turn into potentially attractive characters of point infrastructure one. Therefore, the difficult question can be answered by the willingness of involved actors to revert
unfavorably developed PPP projects into potential PPP scheme, called for “got it in them” (Koppenjan, 2005). Moreover, in the process of project’s workable definition, the role of project promoter is important; the capacity and experience of promoter in PPP projects can help to solve difficult project issues and create the good ground for parties’ collaboration as abovementioned (Qiao et al., 2001). Finally, we cannot devalue the community and political supports to the project because the project disagreements are erased and it can result in a quicker and more efficient approval process (Jefferies et al. 2002).

Besides the viable project is defined in this feasibility study, the investors and lenders seriously take into account the investment environment in host country where the project is implemented. PPP project is characterized by long-term operation, huge capital investment, and risks; it is therefore sensitive to be effected by political, legal, economic and commercial situations where it is settled. The stable political system with the precise frame law will keep the project’s interest rate at a reasonable level and prevent the risk of changes in law. Moreover, the workable framework for PPP in which is consistent with country’s legal system should be established to facilitate this scheme, and should be upgraded by international outlooks and experiences throughout the course of practices. It should avoid over-regulation with the underlying of corruptions, which can make interests’ private partners frustrated. In addition, economic and financial perspectives are vital aspects of PPP projects. The investors are interesting with PPP project in the host country with favorable and advanced financial markets so that they can mobilize money easily to fund for this PPP huge capital consuming scheme. Also, stable macro-economic situation in the host country with a constant growth yearly will wipe out the risk of downturn in project revenues (Xueqing Zhang 2005; Xiong et al.,).

3) **Contract phase**

*Proposition 3: if the true nature of PPP is accomplished and the reasonable risk sharing and dispute resolution are properly arranged, the PPP contract phase can get the good outcomes.*

The financing of long-term PPP infrastructure projects is based upon non-recourse or limited recourse financial structure in which the debt and equity used to finance the project are paid back by the cashflow generated by the project only, and the assets of the project may or may not have any residual value. As a result, the attractive financial package has a higher degree to effect project viability than technical elements. The attractive financial package contains the following principle features such as low capital, operation and maintenance costs; appropriate schedule for investment, payment and drawdown; stable currencies debt and equity finance; high equity-debt ratio; fixed and low interest rate financing; long-term debt financing that minimizes refinancing risk; ability to deal with fluctuations in interest and exchange rates (Xueqing Zhang 2005; Qiao et al. 2001). In many countries the private investors are tentative with PPP scheme because they are afraid that their investments are not protected. Therefore, government guarantees are really vital to ensure revenue guarantees of concessionaire or committed policies from the government for protected investments in order to reduce concessionaire’s risks and enhance its confidences (Li et al. 2005). Moreover, competitive bidding has to arrange in winning PPP contract in which the tender selection process has to guarantee the transparency to ascertain the fair competition with favor rule of game and avoid the criticism
of sponsor selection or political favoritism. This leads to the innovative design, the whole life cost considerations, with creative technology solutions appropriately chosen for the project (Koppenjan; Walker and Smith 1995), and ensure the suitable consortium with technological and financial strength as well as competent management skills is selected (Tiong et al. 2002; Xueqing Zhang 2005; Qiao et al. 2001).

In the contract phase, contractual arrangement contains contract type, contract-award method and risk allocation. Appropriate risk allocation and risk sharing and clear dispute resolution are one of the most important factors for this phase and the whole PPP life cycle to be successful; risk allocation and risk sharing mean that risks are allocated for parties best able to manage them, which can reduce the individual risk premium and the overall project cost. The clear dispute resolution will help this process achieve the expectations by various legal binding agreements comprising concrete and precise agreement, shareholder agreement, supply agreement, loan agreement, insurance agreement, offtake agreement, and guarantee/support/comfort agreement. Moreover, the strong commitments among parties involved in the process to follow the agreements might save time, efforts, and transaction costs in this phase as well as later phases of project life cycle (Xueqing Zhang 2005; Li et al. 2005; Qiao et al. 2001).

4) Construction phase

Proposition 4: good performances of construction phase can be achieved with the competence contractor and PPP Project Company.

It cannot be denied that the contractor plays the most important role for the successful construction phase. There are number of criteria for selecting a good contractor, but in general a good contractor is the one that is good at technological skills with competent technical staff, modern construction machinery and equipment for complex technological solutions. Also, it has a good financial situation and enterprise credit to prevent the budget deficit in execution phase, which often happens with the unqualified contractor in construction industry. In addition, management skills with multidisciplinary and multinational team as well as good quality control and supervision are the favor condition for the contractor to manage complex and long-term PPP project. Finally, its reputation in construction industry and experiences with similar PPP projects will generate enough reliability and confidence for employer to select (Xiong et al.; Qiao et al., 2001).

Even though the competence contractor plays the central role of successful construction phase, the project company/concessionaire/or franchisee is the led. In PPP scheme the concessionaire has to carry out a number of risks, strong commitments and responsibility than the contractor and any other parties involved. Therefore, selecting the competence franchisee will enrich the project, which can be achieved in a competitive bidding in contract phase. A qualified project company has to have the technical and financial strength as aforementioned to ensure enough resources to deliver project on time and good quality (Tam C M, 1999). Also it has to have good managerial capacities comprising the leading role in entrepreneurship to manage the high risky investment (Tiong et al., 2002), good partnering skill to realign multiple participators in its
company and PPP project, good project organization structure and project team, and the rich experience with PPP project worldwide (Xueqing Zhang, 2005).

5) **Operation and maintenance phase**

Proposition 5: the better cash flow management and management control, the more successful operation and maintenance phase.

In this phase the project company has been running into business by project’s exploitation. Good cash flow management will guarantee for this phase to be successful; cash flow management is the process of monitoring, analyzing, and adjusting of business’ cash flows. The most important aspect of cash flow management is avoiding extended cash shortages, caused by having too great gap between cash inflows and outflows. Therefore, we need to perform a cash flow analysis on a regular basis, and use cash flow forecasting so we can take the steps necessary to head off cash flow problems. Modeling cash flow is one of the good techniques for cash flow management, which incorporate all cost data for the whole project life cycle with all the variables to influence on the financial performance of the project, but the most difficulty thing is that it is not easy to forecast all of these impacts for the long life span PPP project. One of the most important variables is the traffic flow which influence on the revenue of transportation PPP project. Therefore, good and reliable traffic flow forecast will determine the fate of cash flow management to guarantee enough cash inflow in order to correct cash outflow at a profit (Walker and Smith, 1995). Price or toll fee rationality is a push factor for a stable traffic flow of the project. Some countries such as China, Vietnam, the Netherlands and others infrastructure services are social welfare offered by the government for free usages. As PPP has been introduced, it has changed the culture of service uses by users pay, which has to wait some time for public acceptance, especially when the services are exploited by private company which often cost more than public agencies in case of lacking government subsidies. Therefore, reasonable toll price but adequate for return on investment of investors will mitigate public claims and assure the steady traffic volume for sufficient project cash flow (Xueqing Zhang 2005; Qiao et al. 2001). In case of cash shortages with the higher cash outflow than inflow, there must have a proper toll fee adjustment mechanism without the political intervention to fill in this gap (Tam C M, 1999) or the subsidies from the government to maintain the tariff level. This process can only be conducted if the concessionaire trusts the government with transparent bookkeeping of cash inflow and outflow.

Besides good cash flow management, management control is an important factor in this phase. The infrastructure service delivered must have in a good quality for usages with satisfying environmental impact, safety and health standard (Xiong et al.). Frequent maintenance will keep the service to achieve this expectation, and also there is evident that regular maintenance will cost less than rehabilitation. In addition, empowerment is the approach for adopting flatter organization structure in management control, known as western model, which is being applied by many western enterprises due to its quick response to changes, but it require a high capacities of employee staffs for effective implementation (Qiao et al., 2001).
6) Transfer phase

Proposition 6: The smooth transfer process will be achieved with the effective technological transfer and good vision for future orientation.

After exploitation the project in the concession period, the concessionaire has to handover it for the public party without any reimbursement. Also, it has to guarantee that the facility is operating in good condition with the overhaul of public party (Qiao et al., 2001). In addition, technology transfer should emphasize on experience transfer from private to public partner including management techniques, operation method, project production technology which possess and experience by franchisee. It is really necessary for government to offer reward for the concessionaire for successful conducted project by on time handover without or less government subsidies for the whole project life because this will enhance the commitments of the government, build up more trust between public-private partner, and create the incentives for private involvements in other PPP projects.

For assuring the whole life project success, the government should have the future orientation for exploitation and maintenance of the facility. If it is necessary, the government can exploit the project with less toll fee in a short period to correct for government spending on the project before offering free public usages. Moreover, the government can contract out the maintenance package for private company or maintain the project itself if having enough capabilities to keep the facilities in good condition. This can only be carried out as the government commissions the project for a good public management staffs having experiences in this field.

2.3.4 Implications for applying the fishbone CSFs framework

2.3.4.1 General implications for the usages of framework

As abovementioned the inspirations for developing this framework are based on variously previous researches of Asian and European authors. Therefore, these successful factors of PPP project have the characteristics in those regions. A project is a temporary endeavor to create a unique product of service, so it has its own unique success and failure factors, and the successful factors in this project cannot be copied to apply for others. If we stand on the broader context of institutional transplantation, the problem is even much more complex. The good policy practices in this country cannot be xeroxed to use for other countries due to its potential differences even in the same “family of nation” (De Jong et al., 2002). In the intensive research of Koppenjan, 2005 he concludes that the workable solutions in one project in a single country do not work well in other projects. Therefore, we cannot apply the framework blindly for every project in every nation, but it more or less contain a number critical factors for a PPP project success which can be applied generally, and it can serve as the departure for PPP project’s practitioners to seriously take into account in every phase of project life cycle before implementing.
2.3.4.2 Implications for the CSFs framework’s applications under BOT scheme in Vietnam

As many countries in East Asia regions such as China, Hong Kong, Thailand, Singapore, Taiwan, Vietnam has introduced public-private partnership under BOT scheme on November 1993 after many amendments on foreign investment law and regulation. The investors can invest on infrastructure project under BOT model with the agency or entity of Vietnamese government. The BOT project company can be funded with 100% foreign capital or a joint venture structure with local partners (Akintoye et al. 2003). Even though there are a lot of efforts from the government with the helps of international organizations, especially the World Bank group, many problems has still existed to attract private involvement in BOT model. It is evident by many private investors who abandoned a number of BOT projects in the initial phase (exploration and feasibility study). If we look at the fishbone CSFs framework, especially in feasibility study phase, the issues can be explained. Favorable investment environment with the good financial market and mature legal and regulatory for BOT model is the vital factor for this phase success. However, the financial market of Vietnam is till nascent at present which cannot sustain for long-term and huge capital investment of BOT infrastructure projects. Moreover, the policies and regulations for BOT scheme are in trouble, for instance, the complex approval systems by many asymmetric authorities involved with corruptions waste a lot of time and make investors frustrated. Among other things, these two factors are the most impeding ones to hinder the successful BOT practices in Vietnam, which are intensively researched in the next two chapters.

2.4 Conclusions and discussions

Throughout various topics covered in this chapter, the principle issues of PPP concept are mastered. There are many PPP options instead of single one, which should be chosen for different projects under different aims. Also, understanding and clarifying various phases of PPP projects are vital because we can master factors and actors influencing on each project phase so that we can know what actions should be taken to fulfill our targets. Moreover, a lot of motives under PPP model are expected for both developed and developing countries. The developing world is really exciting in this model to achieve their macro targets even more than the nature of PPP. However, to live up these expectations, the conducted PPP project has to be successful, which is not always accomplished and is difficult to assess and explain. Therefore, fishbone of CSFs framework for PPP project is developed in section 3 which serves for these purposes. The warnings for framework application are stated to prevent misunderstanding usages. In the process of development the framework with 71 subfactors generalized in 12 main factors including two for each project phase, the author has recognized that Vietnamese government should try all its efforts in order to improve the financial market and legislation and regulation to exert a pull on private involvement in BOT scheme, whereas it can achieve other factors by the learning curve process on the course of local and international PPP practices day by day. Therefore, these two significant issues will be seriously examined in later chapter 3 and 4. Moreover, the fishbone will be verified in by a case study in chapter 6.
3. Chapter 3: Vietnam Infrastructure Financing

3.1 Introduction

This chapter examines Vietnam principal sources of infrastructure finance other than the government budget, namely the banking sector, capital markets, infrastructure funds and private investors, to get the insights of their strengths and weakness. It pays considerable attention to infrastructure financing provided by the private sector and proposes refinements to the existing systems used to attract private sector investments. It also focuses on the operational level, including public-private efforts to create viable financial package for PPP projects. Finally, the financial risks are defined in risky PPP projects in which involved actors have to be seriously taken into account as joining the game.

Given the scope for this contribution the chapter is organized as followings. First of all, section 2 will investigate various sources of infrastructure funding in Vietnam outside the government budget to get the insight in their operation so that the recommendations for future improvement will be proposed to attract private sector participation in public infrastructure projects.

The later sections will focus on the operating level to examine what involved actors need to do in specific project to live up the expectations in respect of financial issue with the philosophy that if the financial arrangement in operational level is well-defined and satisfied all involved stakeholders, it will have the great contributions to get the project proceed, by which it can mitigate the nascent funding resources of Vietnam.

Section 3 will study the following topics: the corporate structure of PPP project to know all factors and actors involved; the financial structure of PPP project so that we can identify the project financing parties and cashflow in PPP project; and the interests, problem perceptions and goals of the funders in the project.

Section 4 will investigate public-private efforts to create viable financial scheme for PPP projects in which various government guarantees/incentives to meet secured requirements of private partner are analyzed, and attractive financial package, created by private party to prove with the government that it is the best candidate for forming partnership, is depicted.

Section 5 will deal with financial risks, which can help both public and private party to get the insight into risks on financial aspects so that they can have appropriate strategies to deal with and mitigation measures against in order to achieve win-win principle. Finally, chapter summary, lessons learned and next issues addressed will be presented in section 6.
3.2 Vietnam funding sources for infrastructure

This section will examine various private-sector financing sources outside government budget for project finance to get close to its operation in order to know its strengths and weaknesses, and the necessary recommendations for refinements are proposed to attract private involvement in infrastructure projects.

3.2.1 Banking sector

At present Vietnam efforts to transform its banking and financing structure from governmentally central planned economy to market orientation by equitization and liberalization. There are now five big state-owned commercial banks (SOCBs) controlling 57% banking asset, 34 private and joint stock banks (JSBs) absorbing 26% capital, 38 foreign bank branches with 9.4% share, 53 offices of foreign financial institutions, 909 credit cooperatives and a number of formal and informal microfinance institutions. It is estimated in 2007 that the total investment of SOCBs on infrastructure projects was over $3 billion; the majority was for energy sector over $1 billion, transport sector plus municipal infrastructure was another $1 billion, and the rest was for telecommunication, water supply treatment and urban environment facilities which was the lowest investment due to their high risks and uncertain returns (World Bank, 2006-7; BIDV, 2008).

3.2.1.1 Residual features of banking sector in modernization process

As above mention, banking and financing systems are on the way of modernization to become market-oriented. However, there are some below factors which hinder the process due to the influences of traditional operation:

- **History of direct lending:**
  The original system involved SOCBs channeling funds allocated from the state budget to finance infrastructure projects identified by Government; in the early 1990s the original system of government grants to SOCBs for the expressed purpose of fulfilling infrastructure financing needs of the government. This direct lending has improved from 1995 by transferring to non-direct infrastructure lending. In this new system the banks were provided a list of infrastructure projects, vetted by Government, and were allowed to choose the projects which they wanted to finance. In general, as SOCBs are equitized and become JSBs, they are expected that their loan management processes and skills will be enhanced, they will be less inclined to bow to political pressure to make loans directed by state policy, and they can hire technical experts for feasible project evaluation to make loan for potential projects. However, there remained a great deal of directed lending; where lending was not specifically directed, there was policy direction given. Further, lending at this time for infrastructure was generally at a fixed rate with a maturity not to exceed seven years (World Bank, 2007; BIDV, 2008).

- **Limited investment appraisal capacity:**
  Due to the direct lending with the high intervention of government, the banks lack incentives to evaluate whether projects are good or bad as lending, select and monitor projects along commercial principles. Therefore, they now don’t have competent experts to serve for project
selection process. Also, collateral are rarely secure in case of strong government interference. This results in the huge accumulation of “non-performing loans”, which currently account for about 10-15% of total SOCBs loans, or approximately 5-8% GDP (World Bank, 2006-7).

Absence of risk management framework:
Thanks to lacking of proper risk management framework or inadequate contingent planning to guide recourse as project performed poorly, the bank is dealing with inability payoff borrowers within a fixed term resulting in restructured and extended loans. However, the fundamental problem – which continues to be a key bottleneck – is the inability of the lenders to bring delinquent debtors to foreclosure and seize their assets, especially when those debtors are state-owned enterprises (SOEs) and “their” assets actually belong to government (World Bank, 2006-7).

Mismatch between long-term assets and short-term liability:
The commercial banks in Vietnam do not generally mobilize funds beyond a term of one to three years. According to the statistic of state bank of Vietnam (SBV), there is only one third of the deposit hold by the banks having longer than one year duration. Therefore, short-term deposits held by banks and the long-term financing needs for infrastructure projects are not balanced. This has resulted in asset-liability maturity mismatches on banks’ balance sheets when making loans for long-term infrastructure projects. Moreover, the capital capacity of banks is not powerful enough to lend for these costly long-term infrastructure portfolios. The asset-liability mismatch has become worse in recent years as the increase in the tenure of bank loans has continued to exceed the deposit durations. Currently tenures are in the range of 6 to 12 years with power and transport projects being the longest. In addition, the interest rates for lending are no longer required to be set at a fixed rate and are now routinely at floating rates based upon the banks’ cost of funds and the risks associated with the credit. Overall, interest rates are relatively high with a spread of between 3 and 4.5% over the floating annual deposit rate (World Bank, 2007; BIDV, 2008).

![Figure 7. Indicative interest rate spreads and tenures, as of December 2007](source: World Bank, 2007 (BIDV, 2008))
3.2.1.2 Actions recommended for improvement

Many aforementioned constraints have hindered banking sector to become key player in financing infrastructure projects. The following policy recommendations proposed by World Bank should be taken into account to improve its performance to get their future targets:

- **Diminishing the directed lending and strengthening liberal orientation:**
  As the banks becoming more commercialized, they escape from the heavy intervention of the government and become more independent in their decision making. This encourages to increasingly assess the cost and availability of their funds, especially long term funds, potential earning through other types of credits and then decide how much infrastructure lending they can support (World Bank, 2007; BIDV, 2008).

- **Creating incentives for long-term bank deposits:**
  The banks should have policy to facilitate for longer term deposits by increasing interest rate for these permanent ones and other flexible mechanisms, but they have to pay attention to assess-liability balance in order to achieve at a profit between money in and out. This allows them to be power financial resources to become key player in financing infrastructure (World Bank, 2007; BIDV, 2008).

- **Cooperating responsibility with debtors:**
  The banks doing business in new arenas should not transfer all risks to investors through fixed contracts. They should be more relaxed in their policy to foreclosure delinquent debtors; instead, they should investigate the underlying problems to share risks with investors by explicit subsidies where tariffs do not cover costs of service provision for instance. This creates more trust between the banks and investors and strengthens the ability of banks to lend for infrastructure project (World Bank, 2007; Brealy and Myers, 2003; Yescombe, 2007).

- **Initiate finance and shift out through securitization:**
  In many developed and developing countries, the banks are allowed to assess for investing in feasible projects in their point of view, and especially they have the rights to sell all rights and liabilities of their loans’ portfolios to investors, typically as ‘packages’ with different risk profiles (often including some insurance packages) [Kleinknecht]. The banks in Vietnam should apply this policy to find the outlet for their loans and get more money to lend for other potential portfolios. However, they should seriously qualify the capacity of investors; otherwise, they will take more risks as transferring risks (Yescombe, 2007; World Bank, 2007; Brealy and Myers, 2003). Moreover, Government and Ministries should allocate long-term funds and international borrowings to commercial banks in order that they can provide credits for infrastructure investment (BIDV, 2008).
3.2.2 Capital market

The capital market in Vietnam is being imbalanced due to the underdeveloped bond market and overheating equity market with a high speculation. Moreover, the high inflow of foreign funds and negative of interest rate deposit in the bank due to the high inflation over 20% recently cause the high pressure in the capital market. The below report presents constraints of these two submarkets and proposes some suggestions for refinement.

3.2.2.1 Problems related equity market

Vietnam equity market has grown at an alarming pace, with 32 companies at the end of 2005 to 193 in 2006, and market capitalization increasing from 0.6% of GDP in 2004 to 28% in 2006. Despite the fast growth, it is being very small compared to neighboring countries – Philippines with 57%GDP, China 44%, Thailand’s 68%, and Singapore 288%. Vietnam only mobilizes 12% of capital investment from capital market (World Bank, 2007). There are some constraints of equity market in Vietnam:

- **Risk of overheating:**
  The equity index rose 144% in 2006 and another 30% in the first four month in 2007. It shows a very high leverage effect; the average profit/equity ratio of 20 firms absorbing 99% of market capitalization stood at 73 in January 2007, whereas the average P/E ratio in other Southeast Asia market ranged from 10 to 20 (World Bank, 2007).

- **An opaque market with unlisted stock traded along side with the regulated market:**
  Both public companies and non-public companies issue unlisted stock. The Securities Law mandated the registration and continuous disclosure of financial statements for approximately 3,000 public companies with the State Security Committee (SSC) by the end of June 2007. However, only 738 public companies registered with the SSC as of September 2007. Despite the mandate, the unlisted stock market continues its intense activity and is currently estimated to be four times as large as the regulated market in terms of trading volume (World Bank, 2007).

- **The use of securitization:**
  Vietnam is currently weak at security market where it is one form of sharing risk in debt financing of infrastructure is the use of securitization (World Bank, 2007). Securitization is the process of taking an illiquid asset, or group of assets, and through financial engineering, transforming them into a security (Brealy and Myers, 2003; Yescombe, 2007).

3.2.2.2 Issues with bond market

Bonds are useful channels to fund infrastructure development since they can provide long-term financing. Currently, bond markets, particularly non-government bonds, are underdeveloped and pose a serious impediment to the development of Vietnam’s capital markets. Government bonds dominate, with the outstanding balance of government bonds to GDP at 10% compared to 1.1% each for that of publicly offered corporate and municipal bonds. The principal purchasers of bonds have been SOCBs and insurance companies. Both types of institutions are directed to invest in bonds by the GoV that seeks to ensure full subscription. In general, the bond market
Chapter 3: Vietnam Infrastructure Financing

continues to be plagued by the impediments identified above because of the small scale of offers, irregular issuance of government bonds, and a lack of quality in non-government bonds on the supply side. Deficiencies in market infrastructure, including a lack of market makers for government bonds and of a credible credit rating system, as well as a fragmented and erratic payment and settlement system, add to the weaknesses.

3.2.2.3 Policy recommendations for capital market

Several actions are needed to ensure a strong and sustainable development path for Vietnam’s capital market, allowing it to support the country’s economic development needs. World Bank (2007) suggests the following steps that may be considered to address the issues in both equity and bond markets stated above:

- **Improve information disclosure by:**
  - Strengthening the enforcement of the Securities Law that mandates the registration and continuous disclosure of financial statements;
  - Improving information disclosure concerning the ability of public authorities to meet debt obligations.

- **Improve market operating infrastructure by:**
  - Helping investors transition to better compliance with the Securities Law;
  - Increasing transparency in availability and transmission of market information;
  - Establishing systematic settlement and credit-rating system;
  - Strengthening regulation of licensed brokers’ intermediation of unlisted stocks, with a view to minimize and phase out unlisted stocks.

- **Develop the local bond market by:**
  - Issuing government bonds with a range of terms, to provide benchmarks for non-government financial instruments;
  - Improving debt issuance and management by Treasury, increase secondary activity and liquidity of the government bonds through enhancements to the legal framework.

3.2.3 Infrastructure funds

Infrastructure funds are state or private financial institution operating as a fully legal entity with an independent accounting system, being self cost – covering and at its own risks, being responsible for developing and taking back capital. Infrastructure funds offer encouraging prospects as vehicles to inject private finance and international capital into Vietnam’s economy, including infrastructure development. They have played various contributions in financial arrangement for BOT/BT projects in Vietnam and their role are varied depended on specific project. They act as the lead arrangers or lead mangers who will ultimately underwrite the project debt and place it in the market (Yescombe, 2007) and act as lenders, direct investors, loan syndication with banks (HIFU, 2007).

Together with the high growth rate of Vietnam’s economy and rapid development of the securities markets, the financial system of Vietnam has seen a boom in investment funds and
fund management companies (FMCs). There are currently 70 funds and FMCs operating in Vietnam in finance, real estate, infrastructure and IT. In the period 2006-2007 alone, about 20 investment funds were established and the State Security Committee granted operation licenses to 17 FMCs, giving a total of 30 FMCs licensed up to date. Despite the rapid growth of investment funds, only a small portion of the investments has flowed to infrastructure development projects. An informal survey of private fund managers in Vietnam indicated that other sectors (e.g., corporate investments, real estate and financial markets, and increasingly consumer products) are perceived as more financially attracted than infrastructure (World Bank, 2007).

3.2.3.1 Currently existing issues

Several factors hinder the participation of these funds in Vietnam BOT projects:

- **Complicated project implementation procedures:**
  Investments in infrastructure facilities have involved too many authorities from central to local level. For example on a toll road the ministry of transportation (MOT) may be responsible for investment management and transportation development planning; while the ministry of finance (MOF) provides regulations on revenue management, ministry of planning and investment (MPI) offers project license and Province People’s Committees are involved in making master plans and with land clearance and resettlement. These complicated administrative procedures result in a prolonged period before projects can commence. Paperwork at every level of administration lowers the appetite for investing in infrastructure.

- **Lack of effective and transparent government policy and regulations:**
  According to several fund managers, investors find the regulatory regime and processes surrounding Decree 78 (for BOT/BT/BTO Vietnam projects) relatively uncertain and unclear. This increases the perception of risk assumed by an investor.

- **Exchange rate risk and nascent legal system:**
  The restrictive and still nascent legal arrangements for investment by FMCs, limitations in currency conversion (requirements for 30% of foreign currency earnings to be exchanged as well as a narrow daily trade band of 1%), and exchange rate risks work together with onerous bureaucracy to particularly discourage foreign investors.

3.2.3.2 Policy recommendations for refinements

There are some steps that the government can take to improve the environment for the funds due to its important position for mobilizing equity in short to medium fund for projects:

- **Streamline project implementation procedures:**
  The inter-ministry working groups envisaged in Decree 78 must be strengthened and coordination between ministries improved. The inter-ministry working groups should assist the assigned state agency (ASA) with the coordination of the activities of all approving authorities and in the preparation of any necessary agreements between private parties and public sector authorities.
Implement improved project preparation procedures and involve investors earlier in a competitive bidding process:

Investment Funds are not well placed to prepare projects and would probably respond better in an environment where projects are prepared better by the ASAs before bidding commences (World Bank, 2007). However, the Public Authority wants a fully-committed bid on which there will be no further negotiation; it may require the financing to be committed at the time of the bid. This means that the involved financial organizations in the project have to complete their due-diligence process, put together a detailed financing package, obtain credit approvals, and perhaps even have agreed loan documentation with the bidders, for the bidder demonstrate that the financing can be provided and thus the project can begin without delay. Therefore, the early involvement of financial organization and investment funds in specific is vital for the bidder to be successful and enrich the project financial arrangement (Yescombe, 2007).

Provide clear rules for guarantees and other forms of government support to projects:

In a developed country, a significant amount of equity can be raised for BOT projects from investors in the domestic market, either by means of floating the project company on the stock market, or through the raising of private-investor funds. In developing countries, it is difficult to raise a substantial amount of equity in the capital market for new projects. Therefore, debt instruments play a far more significant role. One of the most difficult issues faced by project sponsors in raising debt for projects in developing countries is the lenders’ requirement of host government supports. Although the projects are in the private sector, the host government cannot withdraw or adopt a passive role by offering guarantees, or direct or indirect supports to create a clear understanding of a project’s bankable project by all potential investors at the bidding stage (Tiong, 1990).

3.2.4 Private investors

3.2.4.1 Problems for private participation in infrastructure

There has been limited private participation in Vietnam’s infrastructure development, with investments in Vietnam lagging behind those in comparator countries in East Asia. In general, infrastructure projects with private participation in Vietnam have been characterized by the following:

Dominance of SOEs in projects seeking private investments:

There is an overwhelming presence of SOEs in current infrastructure projects, and the appropriate role of SOEs is yet to be defined and institutionalized in practice. For instance, in the power generation sector, major projects were chiefly funded by electricity of Vietnam (EVN) as public projects, or recently by other SOEs, including Petrovietnam, Vinacomin, and state-owned construction companies. Weak governance structures in SOEs are a matter of concern as they may provide weak commercial incentives that are required in a PPP-type project. Additionally, construction SOEs are often over-leveraged and have limited funding capacity, which makes it difficult for them raise financing from SOCBs. The lack of clarity vis-à-vis the role of SOEs in PPP
projects is not only “crowding out” private participation and but also increasing the overall risk to the GoV in its PPP program (World Bank, 2001-7; Dobson and Palfreman, 2002).

Small numbers of foreign investors:
There is a noticeable absence of private foreign investors in most of projects implemented to date. The significant exceptions are the Phu My power projects, and the Phu My bridge and the Thu Duc water project (although in this case the foreign investor exited, following which local investors took over the operation of the project). Given the difficulties in accessing domestic capital, and the absence of private investors in infrastructure PPP projects reduces the foreign investment potential (World Bank, 2007).

Absence of competitive bidding:
Private infrastructure projects have been undertaken largely in the absence of competitive bidding considerations. Very few such projects financed to date have involved competitive selection of private sector investors. This can result in poor outcomes for the authorized state agency (ASA) and the inadequate allocation of risk. There is also the need to clarify and make transparent the institutional arrangements for providing government financial support to well-prepared projects.

3.2.4.2 Recommendations for enhancing private financing

Some below suggestions could help for tackling this problem:

Define the involvement of SOEs in PPP projects:
In order to use state subsidy to “crowd in” private finance, the government (GoV) should only provide funding to projects with limited SOEs participation. It should also allow participation of SOEs where private sector capacity has not developed but phase this out over time and allow all bidders the same access to SOEs (World Bank, 2001-7; Dobson and Palfreman, 2002). Moreover, intensively perusing privatization process by effectiveness and efficiency will diminish the amount of SOEs overtime, and the private sector will be dominated in the economic in long run, which will enrich the process.

To attract private investors:
The GoV should establish a standardized, private sector-oriented general format for project preparation by ASA, and ensure competitive and transparent bidding by linking the use of approved procedures for project preparation and bidding to the provision of subsidy support. This should result in the improved certainty that is attractive to credible foreign investors (World Bank, 2001-7).

To institutionalize competitive bidding:
The GoV should require competitive bidding for the projects to be eligible for all qualified investors. All such projects can use the least subsidy as a selection criterion in order to minimize government support and assess the qualification of all participators (World Bank, 2001-7). However, Vietnamese government is being tentative to apply competitive bidding to open for all potential domestic and foreign bidders involved even through it knows clearly that the qualified bidders will be chosen, and value for money for project can be achieved because it wants to
protect a nascent construction industry with less power construction companies, which are competent in expertise and financial strength. Therefore, the foreign bidders often win the bid with their innovative technical solutions and the powerfully financial ability. However, Vietnam is now joining international game by being the member of international organizations as WTO, AFTA, and so on. Every policy has to be consistent with international rule of game; otherwise, it will be lag behind the process and considered to be unprofessional in other partners’ eyes with the conservative policies. This issue has generated the needs for appropriate “process design for competitive bidding” in the sense that it both protects the nascent Vietnam construction industry and open for potential foreign bidders to involve.

**3.2.5 Summary the key issues**

From the investigation of principle sources of Vietnam infrastructure finance, we can conclude that the financial market is still nascent and cannot afford for huge-capital-consuming PPP infrastructure projects due to the following reasons. Firstly, there are not many freedoms for the state-owned commercial banks (SOCBs) to decide investment portfolio due to bowing to political pressure to make directed loans for projects assigned by the state. This makes these banks lack expertise in project appraisal and risk management for their big loans, leading to seriously big “non-performing loans” existed in bank balance sheet. Also, the difficulties in mobilizing long-term deposits add to another serious issue by asset-liability mismatch. Secondly, the equity or stock market has just opened recently in 2005, but it does not show the sustainable growth with the feature of overheating, unlisted stock without management traded in the market, and the weak security market. Moreover, the bond market has underdeveloped by small scale offers, irregular issuance of government bonds, and a lack of quality in non-government bonds on the supply side, lack of market makers for government bonds and a credible credit rating system, as well as a fragmented and erratic payment and settlement system. These make the project promoters difficult in mobilizing funds for projects. Thirdly, the infrastructure funds emerged recently can be considered catalysis for financing infrastructure projects, but they are tentative to pump their money in these high risky investments due to many remaining problems in the policy for private involvement by complex project implementation procedures, lacking of transparency, and many restriction in foreign exchange rate. Finally, the private and institutional investors are still hesitant to invest in BOT projects because of dominance of state-owned enterprises (SOEs) in infrastructure projects and the absence of competitive bidding.

Many policy recommendations are proposed in order to help the Vietnamese financial market become market-orientation, but it may take a very long for this to go on track. This generates the necessities for discovering the operating level of PPP project on financial issues. The philosophy of this is that if the financial arrangement at operational level is well-defined and satisfied all involved stakeholders, it will have the great contributions to get the project proceed, by which it can mitigate the nascent funding resources of Vietnam. This issue will be intensely investigated in the later sections of this chapter.
3.3 Private finance in funder’s perspective

This section studies the private finance in infrastructure project on the perspective of project funders with the following contents. Firstly, the structure of PPP project is presented to know all involved factors and actors. Secondly, the financial structure of PPP project will be explicit so that we can identify the project financing parties and cashflow in PPP project. Thirdly, the funders’ interests, problem perceptions and goals in the project will be interpreted.

3.3.1 Corporate structure of PPP project

PPP projects have a characteristic corporate structure that is different from the methods normally used to procure infrastructure assets (Tiong, 1991). This structure is outlined below figure, and some comparisons with the traditional procurement form will be depicted in the followings.

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**Figure 8. PPP corporate structure**

Source: Tiong, 1991

From the above figure, the PPP project in general includes at least the following parties (Tiong, 1991; Yescombe, 2007):

- The client is often a government agency;
- Project company/concession company/concessionaire/franchisee, owned by private-sector investors;
- Contractor often agrees to deliver a complete and full-equipped facility with the turnkey or Design-Build (DB) contract to the required specification, at a fixed price and schedule;
- Suppliers often sign in a fuel-supply contract under which coal, natural gas and others provided for the project with special guarantees or supports.
- Offtakers usually agrees to join the offtake or purchase agreement between the government agency and Project Company under which the government agency agrees to purchase the output of the infrastructure (water, health services, electricity, etc) at the agreed price and volume.
Lenders (banks, infrastructure funds) and investors finance for the project’s capital costs (capex) through project-finance debt and shareholder equity; 

Operator (operation contract) exploit the project at a surplus after operating costs (opex), i.e. mainly payments on the operating and maintenance contracts, debt service, and payment of distributions to the investors.

Moreover, in international PPP projects, the special-purpose concession company, called for special-purpose vehicle (SPV), is established so that it will be incorporated to be compliant with the laws of the host country. The client (government agency) awards the concession agreement to the project company in order to develop, design, construct, finance, manage, operate and maintain the facility in the agreed period and transfer it to the government in a good condition without any charge after concession period. Therefore, as the formation of the concession, the public partner requires the concessionaire obtain enough funds for the construction works to be done without any delay; the supply and offtake agreement may also be enforced to reduce nervousness of the project company and facilitate the placing of the financing. The concession company may choose to operate and maintain the facility itself or contract out this package as an operation contract (Tiong, 1991).

As abovementioned actors involved in PPP project, a party not yet known is project sponsor who is the individual, firm or consortium that act as a mandator to prepare the bid to the client and for the concessionaire. Usually, this party is the contractor who is seeking to generate new construction business, as construction firm Trafalgar House in UK Dartford Crossing project. The role of this actor will vary throughout different PPP project phases (Tiong, 1991):

As a consultant: conducting the feasibility study, conceptual design, financial arrangements in feasibility study or preinvestment phase;

As a project sponsor: negotiating with public partner all involved procedures for concession agreement, and playing as a project promoter to mobilize the project’s capital costs (capex) through project-finance debt and shareholder equity in contract or preconstruction phase;

As a contractor: constructing the facility in construction phase;

As an equity holder: investing equity to project company and getting the dividends as concessionaire operates the project at a profit after opex.

Compared to traditional contract, the concessionaire in PPPs undertakes a wider range of functions as aforementioned from project development, financial arrangements to operation the project. Also, the project company acts as an employer of construction contract which is often the government position in traditional procurement. In the DB contract of PPP scheme, contractor carries out the detail design and some conceptual design, plus with the construction and commissions in contrast with the only limited detail design and construction tasks of the traditional form (Tiong, 1991).
### 3.3.2 Financial structure in PPP project

As abovementioned the concessionaire carries out a number of roles in PPP project with several involved stakeholders, who seek for different rate of return on their investment (ROI). Normally, the equity investors require a higher ROI being about 15-20% compared to 8-10% return on debt due to their junior priority with risks. However, these expected returns can be achieved in the project operation phase after deductions of opex, in the meantime, the concession company is responsible for full financing the upfront development process. The below figure interprets the financial plan of concessionaire through various project phases. There are several stakeholders, who contribute to financial scheme of concessionaire by injecting capital in various phases of project life. Simultaneously, project capital outflows to stakeholders appear in different phases of project life cycle (Xenidis and Angelides, 2005).

* In some BOT projects

**Figure 9. Capital inflows and outflow during the lifecycle of BOT projects**

Source: Xenidis and Angelides, 2005

These capital inflows are mobilized in many forms as guarantees, loans, equities, etc, and capital outflows are distributed from the project revenues to stakeholders in different types such as compensations, debt services, dividends, insurance premiums, etc. Raising project funds are carried out through own funds of the concessionaire and loans from large financial institutions, banks and bond-investors. The financial structure is arranged in a complex process with many agreements as stakeholder, loan and insurance agreements and contracts such as insurance, operation, supply and offtake contracts. Also, these financial arrangements are in hand of concessionaire, which are formed and signed with two objectives (figure 10):
To prove with the government that the project ensure the basic cashflows which are vital for project viability which has enough money to develop, implement and operate the project.

To ensure the profitability of the investment for all involved stakeholders to enhance their confidence in risky investment.

![Diagram of Financial flows of BOT projects](https://via.placeholder.com/150)

**Figure 10. Financial flows of BOT projects**
Sources: Xenidis and Angelides, 2005 (UNIDO, 1996)

Figure 11 shows a typical project cashflow for an infrastructure project. The different functions to be performed, such as appraisal, design and construction, are shown as discrete activities, although, in practice, there will be considerable overlaps between them. The cashflow curve is based on total outlay and revenue whether the client’s or the concessionaire’s. The timescales for the most common contractual arrangements are shown with that of a typical BOT project. Clearly, the commitment required of the concessionaire is significant. In comparison with the other traditional contracts as showed in figure 11, the initial cash commitment required of the client is much less for a BOT arrangement than for any of the others shown. This is because potential concessionaire is often responsible for the feasibility study and conceptual design stages, which are functions that are normally undertaken exclusively by the client (Tiong, 1991).

![Diagram of Comparison of project cashflow from various procurements](https://via.placeholder.com/150)

**Figure 11. Comparison of project cashflow from various procurements**
Source: Tiong, 1991
3.3.3 Key involved stakeholders and their interests in PPP projects

Funders in projects contain lenders such as banks, insurance companies, and pension funds who offer project debt (by loans and buying project bonds) with returning on interest payment and investors who invest on equity with certain rate of return on equity investment by dividend for example. Equity providers contain two categories: those with direct interests in the project such as contractors, operators, the host government, and recently multilateral agencies; and those who are just only solely equity investors as public shareholders and institutional investors. The key investor is the one who are responsible for bidding, developing, and managing the project, known as the sponsor. The project promotor is wholly responsible for raising all the required finance both debt and equity to implement the project. In PPP scheme the position of project sponsor and promoter is often in the side of contractor as stated above. (Tiong, 1995; Walker and Smith, 1995)

As far as we concerned each PPP project has its unique mix of debt and equity with the lenders’ and government perception of viability generally being different from that of investors and promoter. In PPP project, equity, if not demanded, is often expected of the promoter by the government and lenders due to two reasons. First, it will reduce the burden on debt services leading to decrease the risk of repayment and show the commitment of promoter in project economic viability, also, acts as a balancing instrument in the early years of construction. Second, as placing equity at risk, the government thinks that it is an incentive for promoter to finish the project on time within budget. In the viewpoint’s lenders who have no knowledge of design and construction, equity investment shows the commitment of the promoter to the project. Also, in the situation of financial losses, the promoter will not get of the project immediately, instead, spend time and effort to overcome the crisis. However, in the promoter perception, it expects to finance the project with equity as less as possible because equity is an expensive capital due to the higher costs of equity compared to that of debt, i.e. the required return of equity is higher than that of debt. This leads to higher project return, which brings about higher toll fees or higher power rates or some unavoidable government subsidies (Tiong, 1995).

Also in PPP scheme, promoter and equity investors bear many risks of capital. They expect to get the return on dividends from the profits with the successful project, but no return at all if project losses occur because the serving of debt for the lenders has the priority over the dividend payment, the dividend can only be achieved after debt payments are fulfilled. In respect of default, equity investors are in last priority of repayments. They accept the second prior position as shareholder’s subordinator debt instead of share capital due to many reasons such as getting benefit from tax deduction because tax provisions do not treat share-provided subordinated loans as equity for tax purposes rather than as debt; eliminating ‘dividend trap’ problem; 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 years of project. On the contrary, the lenders require their priority or seniority in payment and other securities due to a number of reasons. Lenders to project company cannot expect to take security over the facility which is the object of
the PPP contract—clearly the idea of lenders foreclosing on physical assets as a public-school and selling it would be unacceptable, or selling off a road, bridge, or tunnel is impossible. Even if they could theoretically be sold, the specialized nature of most PPP assets means that they have little open-market value. Therefore, the PPP lenders can only rely on the cashflow of a successful continuing project company for their repayment; and they need a number of securities such as control over project cashflow, security over project company’s contracts, financial assets, and shares, and step-in-right ability under direct agreements so that they can involve at the early stage as the project goes wrong; take over and run the project as necessary; assure that unsecured creditors do not gain any prior rights over project assets; guarantee that project assets are not disposed of without their agreement; and encourage cooperation by the project company if the project is in trouble. However, the public partner is often hesitant to sign such direct agreements on the grounds that 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).

It is for the developer or sponsoring group to package the financial formula. The group and their financial advisers know that their standalone project has a large hole of early development and construction debt. Early injection of equity reduces this debt without incurring interest payments but comes with the trade-off that investors will push for high tolls to maximize their dividends. This pressure may be seen by the lenders as adding risk to the viability of the revenue stream predictions. A balance, unique to the particular project, has therefore to be attained. Typically as the proportion of equity is much smaller than debt, the lenders will require imposing guarantees against cost overruns and construction completion date. To get the project financed, a balance between equity and debt is set, which is explained in function of the project and financial/political climate in each country. International banks generally want the host countries 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. But even then, if the rate of return is deemed unreasonable, money will not be invested (Walker and Smith, 1995).

The above interpretations express different, sometimes conflict interests, problem perceptions and goals of the key involved stakeholders in respect of financial and economic aspects of PPP project. The public partner has to master funders’ needs to meet their expectations which are the priority to get the project financed. The below section will deal with the issue that to which extent the government should do to define a good financial package of PPP project to attract private involvements.
3.4 Public-private’s efforts in creating a viably financial package for PPP scheme

As investigating in section 3.1-3.3, PPP is a complex deal with various involved actors having different interests and complicated financial arrangement. Therefore, the active role of the government by offering guarantees and incentives can articulate these diverse interests and reduce the nervousness of involved stakeholders as participating in PPP projects. Moreover, the ability to create attractive financial package will help private partner win concession contract because in government perception, it is the best candidate to form partnership. These two issues will be addressed in following sections.

3.4.1 Government’s efforts in living up financial model

The below table shows the government guarantees and incentives of different PPP project in developed and developing countries. It can be seen that guarantees/incentives are applied differently for different project types and by different governments (Zhang et al., 1998). The below investigation will address what these guarantees/incentives are about, why the governments should do so, and to which extent these instruments are applied.

<table>
<thead>
<tr>
<th>Government guarantees/incentives</th>
<th>Sydney Harbour Tunnel</th>
<th>UK Dartford Bridge</th>
<th>UK/Preference Channel Tunnel</th>
<th>Shajiao B Power Plant, China</th>
<th>Malaysia North-South Highway</th>
<th>Bangkok Expressway</th>
<th>V/D2nd Tunnel, China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support loans</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Min operating income</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Concession for operating an existing facility</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Commercial freedom</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Foreign exchange guarantee</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Interest rate guarantee</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Rate of return guarantee</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>No second facility guarantee</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>


3.4.1.1 Government’s guarantees

- **Offtake agreement**

PPP projects can be subdivided into two major groups. Roads, bridges, and tunnels with many tolled customers can be considered as the first one whilst the second group contains power, sewage or water treatment plants with one major customer (the government utility) who in turn charges the user fees. The latter generally has less risky revenue streams and enjoys construction and maintenance costs which are relatively simple to quantify. On the other side, there are many uncertainties on revenues as forecasted of the first group in that they are built for long-term needs and may not reach full user throughputs for decades, and this will generally be reflected in their longer concession periods. The lenders’ requirements are that the first group has to have a security cashflow and the second one can generate sufficient revenues to repay their loans by the sale of product. Therefore, the government supports by offtake agreement is vital to increase the confidence of lenders. In Malaysia’s North-South Highway project, the government agreed to provide a loan facility if the traffic volume fell below an assured minimum level in the first 17 years of concession period (Walker and Smith, 1995). In addition, in
manufacturing project, the host government can support by guaranteeing the minimum demand volume or minimum operating income. For instance, in the $512 million BOT power-plant project at Shijiao, China, the minimum purchase guaranteed is 3697.2 million kWh (60% of its installed capacity) agreed between Shenzhen Energy Corporation (SEC) and Hopewell Power China Limited (HPCL); under the power purchase agreement between the project company and the Guangxi Power Industry Bureau (GPIB), the guaranteed minimum purchase from Chinese BOT Laibin B project is 3500 million kWh (55.5% of its installed capacity) (Tiong, 2000).

Feedstock or supply agreement
There are many risks in raw materials such as gas, oil being unavailable or unacceptable price in construction and operation phase as initial intention. This issue can be mitigated against by feedstock or supply agreement, whereby the government guarantees with project company that the necessary raw materials for the project are delivered at a fixed price to facilitate the smooth construction and operation process (Tiong, 1990-1). For instance, in two BOT power plant Chinese project, the fuel supply is one of the key factors influencing the project cashflow. With the Joint Venture Agreement of coal supply, SEC was obliged to deliver for Project Company a fixed coal price (adjusted according to quality) to Shajiao B project. Moreover, in Laibin B project, Guangxi Construction and Fuel Company agreed to deliver and supply the fuel at mutual agreed price (Tiong, 2000).

Foreign exchange guarantees
Exchange risk results from fluctuations in currency exchange rates or conversion restrictions beyond the control of an individual firm. International banks often make loan for PPP projects in developing countries in hard currency and they expect to get return in hard currency. However, the revenues of projects in these nations are not in hard currency at all. Therefore, government guarantees of foreign-exchange convertibility and availability, transferability will enhance the confidence of lenders and investors in the manner that project sponsor can remit freely all project revenues by remittance guarantees (Kapila and Hendrickson, 2001). For examples, in $1800 million Malaysian North-South Expressway BOT project, the government agreed to offer the project company a loan facility in respect of the depreciation of ringgit in exceed of 15% against the rates at the time of the drawdown of funds meant that the concessionaire was unable to pay its debts (Tiong, 1991). Moreover, In Shajiao B, the risk of conversion and remittance of local currency were transferred to Shenzhen Energy Corporation (SEC) that was responsible for converting the local currency into foreign exchange and remitting it to promoter's offshore account. The obligation was backed the provincial government (Tiong, 2000).

In-place escrow account
The project funders often seek the government’s cooperation to assure that their money can be repaid via escrow account, a hierarchy of credit service arrangements to ensure that the senior debt are first in line. The role of those who manage escrow account is to ensure the flow of capital and revenues to the parties during concession period as directed by the formulated agreement of seniority. The account is often established offshore as foreign lenders or investor involve (Walker and Smith, 1995; Tiong, 1990-1).
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**Retention of title**

A “retention of title” clause is a clause that allows the banks to retain ownership over the project until such time as debt repayments are met, thus providing the banks with a form of security against the project company’s default or insolvency. However, in PPP projects, if the project company is default, the project assets are reverted to the government, the concession is cancelled. This results in the invalid security for lenders as above mention. Therefore, the government should guarantee for the lenders that they still have the rights to intervene the project regardless any default of Project Company (Tiong, 1991).

**Uninsurable risk**

The project funders seriously concerned about force majeure risk, which is neither insurable nor insurable at a reasonable price. Force majeure can result in completion delay, operation halt or project termination, which cause a big negative impact on project cashflow. The banks and export credit agencies are often hesitant to bear this risk and they try to look for the support from other parties, especially government. Also, the promoter requires government to extend the concession period or make compensation for certain events of force majeure. In Shajiao B, SEC is obliged to make a contingency plan by a subordinated loan up to $500 million in case of insufficient revenue resulting from events of force majeure. In the event of operation delay from force majeure, Guangxi Provincial Government (GPG) has to provide funds for paying project debt. For Laibin B, the lenders will be repaid their loans and equity investors will be compensated for their investment in the event of project termination caused by force majeure. Also, if an insurable force majeure event occurs, Guangxi Power Industry Bureau (GPIB) will pay the equivalent of debt service plus 50% of insurance and maintenance cost less any insurance proceeds received by the project company (Tiong, 2000).

**Favorable return on investment and equity (ROI and ROE), and optimum project debt/equity ratio**

In addition other measurements of private decision on project viability such as NPV (NPV>0), payback period (as short as possible), IRR (higher than opportunity cost of capital), the project promoter and government has to define the rate of return of cashflow generated by the project being often high enough to convince or attract the funders. Usually, the ROI and ROE of the project is ten points higher than the prime borrowing rate, which is deemed for a feasible PPP project. In addition, there is sometimes for a guarantee for ROE to reduce nervousness of investors, for instance, in Western Harbour tunnel project in Hong Kong the concession allowed for investor equity returns to be within a predetermined range throughout franchise period. For the first three years of operation this range is set at 15 to 16.5 %. Thereafter, the range is 15 to 18.5%. Moreover, it is for the project developer or promoter to establish the optimum debt/equity mix for the particular BOT project being considered to prevent the unnecessary high project equity which the project company is unaffordable, and to avoid so project leveraged in case of high debt over equity or 100% debt. The World Bank has equity investments which are typically 10 to 30% of total project cost, with the debt balance 90-70% being raised form commercial sources backed in developing countries by export credits together with bilateral and multilateral lenders (Walker and Smith, 1995).
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**Appropriate tariff design**

Allowed tariff adjustment can be considered the indirect support of the government to private partner to compensate for various risks in concession period, where the project revenue can be threatened by demand risk, exchange rate risk, fuel cost risk and inflation risk. Therefore, tariff imposed on project pricing is put on the center of the negotiating table in concession award between public and private party due to its significant impacts on financial viability of PPP projects. For instance, the levelized tariff is a flat rate payment over concession period which is used in Shajiao B BOT power project of China in which the government agreed to Project Company a guaranteed minimum purchase at a fixed tariff $0.0527/kWh. Also, declining block tariff is applied for 30-year operation period of Paiton BOT power project of Indonesia: $536.11/kW per year for first 6 years; $522.97/kW per year for next 6 years; and $271.56/kW per year for the remaining 18 years.

**3.4.1.2 Government’s incentive**

**Development property right**

As the construction phase relies on drawdown payments from the committed lenders, granting early development ownership rights helps to minimize the extent and duration of the debt. The financial rationale of the BO(O)T vehicle is improved by lease returns throughout the concession period, especially if early rentals and pre-sales payments can be achieved. The Hanoi-Hai Phong road project in Vietnam was adopted this facilitation. Similarly Hopewell Holdings have secured 8000 hectares of land for a 170 pound million motorway project in China which they can utilize for warehouse and retail space at the intersection locations along the highway (Walker and Smith, 1995).

**Concession to operate existing facility**

It is sometimes for PPP scheme that the government allows the concessionaire to operate the existing tolled facilities to generate income repay for lenders and investors. In the Malaysian project, the project sponsors were rewarded the concession to operate 309km of existing expressways which generated a toll income of around $2M/month. This incentive was also offered to sponsors in the Sydney Harbour bridge project and UK Dartford Crossing project, both of which were funded on BOT basic (Tiong, 1991).

**Tax benefits and preferred interest rate**

Korean government has also provided tax incentive to promote PPP projects, such as exemption from acquisition and registration taxes on real estate for BOT projects, 0% VAT on construction services, and tax reduction for infrastructure bond (World Bank, 2007). Both Chinese BOT energy project Shajiao B and Laibin B enjoyed preferential tax policies; Shajiao B enjoyed the preferential policies of Shenzhen Special Economic Zone while Laibin B got the preferred policies as a fully foreign owned company even though they are not as good as those in 1980s. In addition, the government can attract private finance in PPP projects by offering the preferred interest rate so that the project company can reduce the burden of interest payment and increase the rate of return, for example, Shajiao B obtained RMB250 million loan at preferential
interest rate less than 7.5% annually from the government. This financial supports further improved the project rate of return (Tiong, 2000).

**Early completion bonus**

The early completion, construction and operation, in PPP projects benefits for both public and private partner. If the project is completed ahead schedule, the demand for public sector can be achieved earlier, whereas private return on investment will be increased because project revenues can be generated earlier. In contrast, both parties will get losses as project delay. Delay in construction lead to huge losses for private partner while public welfare will be prolonged due to the extending concession period. Therefore, the bonus rewarded for private partner’s early project completion is really necessary because this incentive will stimulate the private’s effort to terminate the project as soon as possible, and the delay can be erased. In Shajiao B project, the government offers the bonus for the foreign partner of the joint-venture for early completion; this is a big incentive for construction contractor to finish the project ahead the schedule, which results in substantial benefits for the government; the electricity generated from the power plan of this early completion enables factories in Guangdong province to produce goods about $500 million economic value which would otherwise have been lost due to factory closures through power shortages (Tiong, 2000).

### 3.4.1.3 Lessons learned from mixed experiences

The above investigation covers on 8 government guarantees and 4 incentives, but not exhausted, which often presented in PPP projects. Also, many empirical studies of good-practiced PPP cases in both developed and developing countries are illustrated alongside to validate the theory. The remaining issue is that the government should value which kind of guarantees/incentives to apply for specific PPP scheme so that the government can analyze the cost/benefit of each level of support, and propose alternatives to limit the exposure of the government while still maintaining the benefits to the private investor. There are many literatures which present this issue by using financial theory as real option and game theory to optimize the government guarantees/incentives for specific PPP project, but this issue is not intended to address in this section due to not being the scope of the research.

Moreover, it can be seen that the foreign investors will require more government supports to PPP project in high risky investment environment, especially in developing countries to reduce their nervousness. Therefore, the government should play an active role to live up the projects by these measures. According to To Nam Toan (2008), the country risk and macro-market financial risks have been considered as the most critical risks by foreign investors as doing BOT projects in Vietnam, while they are not hesitant to bear the micro-specific project risks due to their expertise and financial strengths. Therefore, the Vietnamese government should take this issue into account and give special guarantee/incentive instruments stated above to attract foreign investors in order to live up a number of large-capital-consuming infrastructure projects being in the list of call for investment, since the domestic investors cannot afford to participate due to the weakness of expertise and financial situation.
3.4.2 Private party’s endeavor in creating viable financial package of PPP deal

The above section presents a number of government’s efforts by direct and indirect supports and incentives in order to make PPP financial model worked and to be consistent with the interests of private partner. However, it is not enough for PPP project with complex financial arrangements to proceed by way of just only the endeavor of the government; the private party has to prove that its financial solution is creative enough and suitable for specific involved project to convince public partner that it is the best candidate to form a partnership.

Tiong (1995) proves that attractive proposed financial package help private party win the concessions in a number of PPP projects such as Australia F4 toll road, Hong Kong Eastern Harbor Crossing, Bangkok Second Stage Expressway in Thailand and Dartford and Skye Bridge in UK. This attractive financial package includes the following conditions:

- Low financial costs. The financial transaction costs containing financial charges and interest rate should be low, which means that the promoters can loan with the preferred interest rates or soft loans from the banks;
- Trustworthiness. The financial planning and analysis for the project should be conducted by reputable financial advisors or bankers, which are in harmony with technical scope and assumptions;
- Minimum financial risks to government. The project’s financial solution should be with less or no government funding or guarantees and supports in case of stating in the request for proposal (RFP);
- Minimal burden on debt-servicing capacity of project revenue. This implies the maximizing fixed-rate financing and minimizing refinancing risks.


3.4.3 Conclusion remark

As discovering the operational level with many reflected international experiences regarding financial aspects, we can learn that PPP can be arranged in Vietnam with efforts of both public and private party although its financial market is nascent. Active government role by providing adequate guarantees and incentives and good private financial solution for specific projects can make the partnership come into being. What Vietnamese government should do is that it should predetermine which kinds of projects are suitable for foreign investors and others for domestic ones. To and Ozawa (2008) state that the government should allocate big projects with large capital for foreign investors to utilize their expertise and financial strengths, whereas small-capital projects are allocated for domestic investors so that it can be easier for them to implement and mobilize project funds from small Vietnam financial market.
3.5 Financial risks

Up to now we have experienced the government efforts to create the viably financial package by offering guarantees/incentives and the private partner proves with the government that he/she is the best candidate to form the partnership by presenting the attractive financial package with the help of innovative technical solutions to some extent. The residual issues worth to be concerned is financial risks which can occur to each party. Therefore, this section will scrutinize the meaning of financial risk; review of financial risk in infrastructure project through various sectors briefly; identify the most critical financial risks in PPP projects; and illustrate critical financial risks of PPP projects in Vietnam. This can help both public and private party to get the insight into financial risks which can emerge in risky PPP scheme so that they can have appropriate strategies to deal with and mitigation measures against in order to achieve win-win principle.

3.5.1 Financial risk’s definition

The term “financial risks” are varied among literatures. There are some ideas that the financial risks context only presents opportunity cost of capital or interest rate, inflation and currency exchange rates, whereas the unexpected construction and operation costs overrun are not counted. On the other hand, some authors agree that equity-raising instruments in developing countries can be considered financial risks because the stock and bond market are lacking or nascent in these countries, which make it difficult for mobilizing big fund for infrastructure project. This section will follow the definition that “financial risks are considered as the risks that have a negative impact on the cash flows of the financial plan in a way that endangers project’s viability or limits profitability” (Xenidis and Anglides, 2005).

3.5.2 Financial risks from various sectors of infrastructure projects

The below table will depict shortly the financial risks spreading out various sectors of PPP infrastructure projects.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Sector-specific risk</th>
</tr>
</thead>
</table>
| Power                         | Fluctuating demand of power generated  
|                               | Problem in bill collection  
|                               | Lowered tariff due to competition  
|                               | Fluctuation of cost & availability of fuel/coal  
|                               | Prolong downtime during operation or late completion |
| Transport (road, tunnel and bridge) | Inadequate traffic volume by wrong or deviation from forecast  
|                               | Competing route (particularly from free and underpriced ones)  
|                               | Restrictions on toll level and increase  
|                               | Cost overrun due to changes of size and scope  
|                               | Long land acquisition period |
| Transport (rail)               | Controlled fare levels  
|                               | Competition with road transport  
|                               | Long land acquisition period |
| Transport (airport and port)   | Competition from other airport  
|                               | Regional and international trade prosperity |
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<table>
<thead>
<tr>
<th>Risk name</th>
<th>Description</th>
<th>Impacts</th>
<th>Dealing strategies</th>
<th>Mitigation measures</th>
</tr>
</thead>
</table>
| Errors in forecasting the demand (F1) | Inaccurate forecast due to unreliable data of improper method | - Misleading potential developers and discourage them for bid;  
- Future demand being inconsistent with forecast  
- Threading project viability and profitability | - risk minimization | - conducting detail market investigation such as questionnaire surveys, performance of experiments, correlation of economic parameters, and experience |
| Fall of demand (F2) | The drop of demand in using service due to inadequate service quality, recession induced demand reduction, inadequate linkage, changes in government policy, unwillingness to pay | - Decreasing in project revenue  
- Not meeting debt services  
- Bankruptcy | - risk allocation | - Sign an agreement on 'Taken or Pay', which regulates that the government will pay for a minimum quantity to the project company no matter how much output has been produced; or government guarantees if the supply is less than prediction and other supports |
| Competition risk (F3) | The current project is competed by projects in the same sector, e.g. the alternative road routes, other water plants/ power plants/ ports or airport, of close proximity | - The supply surplus due to lower demand  
- Fall of income  
- Jeopardizing the project success | - risk minimization  
- risk allocation | - An agreement that when there is another competitor in the same projects, the local government will continue honouring the 'minimal purchase agreement' and providing proper allowances.  
- One additional clause in the agreement should be added to protect competition, which requires the government to construct the project only under really necessary conditions. |
| Fluctuation of loan interest rate (F4) | Using non-protected loan in mobilizing various funding sources for the project such as short- or long-term loans, with fixed | - Discourage potential lenders from funding the project  
- Being forced to take extra security measures by lender leading to overburden of finance | - risk minimization  
- risk dispersal | - Adopting combined loan in multi-currencies, establishing reasonable loan structure and cooperating with banks to decrease the risk  
- Adopting fixed interest rate, creditors and debtors undertake |
or floating interest rate, with simple or compound interest
the total costs
- Difficulties of the concessionaire in serving the debt of loans
- Lender will require stricter supervision measures, higher interest rates, faster debt amortization, restrictions in dividends and stricter requirements for balanced liquidity
- risk transfer
the risk together, which can reduce the risk of project corporation
- Adopting method of interest rate swap: some investors or insuring companies unrelated to the BOT project guarantee to pay the increase in interest of the project, in exchange for a fee or premium

Currency risks (F5)
Risks related to the exchange rate or the ability to exchange local currency to foreign currency or transfer it to foreign bank accounts.
- The downfall of foreign exchange rate between the local currency of project income and foreign currency, or the freedom of convertibility and transferability result in loss of profit
- risk transfer
- risk allocation
- risk dispersal
- During construction, according to the constructive contract, the contractor should undertake the entire ascent of the constructive cost brought about by the fluctuation of foreign exchange rates
- During operation, the risk will be undertaken by government, project corporation and creditors together according to the concession agreement and purchase agreement

Inflation (F6)
The increase of price such as material, wages, supplies, operational costs which affect the project from construction to transfer phase
- Increase of production costs
- Lower the demand of the end users
- causing negative impacts to incomes and deviation to income forecast
- Unanticipated loss of profit on the issues of currency convertibility
- risk allocation
- risk retention
- Inflation risk may be allocated to the off-taker or the government by means of certain price-escalator mechanisms included in the off-take agreement or the concession contract, as the case may be, such as periodic adjustments of the output purchase price or tariff based upon a certain inflation index.
- Some BOT project corporations regard the inflation rate in the host countries as acceptable and most undertake the risk themselves
initial forecast. Therefore, the project company has to entreat the government to buy this project, which is the most feasible solution to prevent losses and bankruptcy in the future (Bao Nhu 2005).

- **Competition risk (F3)**
  This risk is most severe in Vietnam bridge and road sector because there are many toll roads and bridge across regions over the nation and the government often hesitate to offer guarantee for minimum revenues for projects in this sector due to lack of budget. For example, VND335 billion BOT provincial road 741 of Binh Duong city (about 100km away from Ho Chi Minh city) has suffered from the competitions of other routes because there are more than 10 other routes in which the traffic participants can go through to reach the destinations even though it spends them a bit more time.

- **Currency risk (F5)**
  This is the most concerned risk for foreign investors to carry out BOT projects in Vietnam and it takes a lot of time for investors to reach the get the agreement with the government for guarantees. For instance, in Phu My 2-2 energy project, Mekong Energy Company Ltd. (MECO) led by EDF international only finance the project after the Vietnamese government accept to guarantee for currency convertibility and transfer. Also, the The Malaysian firm Binh An Water Corporation Limited (BAWC) is only willing to finance Binh An water treatment plant as the government agree to guarantee for foreign exchange risk. However, the investors may meet the risk of delay in currency transfer due to the weak and low reliability of Vietnam banking system, which leads to not meeting deadline for debt obligation. Moreover, the unstable appreciation and depreciation of VND against hard currencies result in potential foreign exchange risk to investors even though entering “forward purchase contract” with foreign exchange dealers.

- **Inflation risk (F6)**
  In the extensive research of World Bank (2008) conducted for Vietnamese government on the matters of infrastructure project financing, the World Bank group highlights high inflation in Vietnam which may thread the financial viability of projects. The inflation rate on May 2008 was 25.2% on an annual basis, up from 21.4% in April and 14.1% in January. Construction material costs increased by 24% in the year from May 2007 and the inter-bank lending rate increased steadily as high as 18%–20% as bank’s liquidity levels dropped in the same month. At the same time that cost increases on construction projects required additional funding, the cost of that funding increased and it became much scarcer. It is worth considering the impact of these factors from the perspective of project finance applied to an infrastructure project. If a PPP project without good risk allocation and mitigation measures had been signed in May 2007, the 25% inflation and surge in interest rates of the current crisis would have incurred significant deficits to the investors, lenders or government.
3.6 Conclusion

It can be seen in the detailed investigation of various financial resources of Vietnam that the financial market is nascent and cannot be affordable for large-capital and long-term PPP projects because of the weak banking system; small and unsustainable equity or stock market; small and unprofessional bond market; the unwillingness to invest in infrastructure projects of investment funds; and the dominance of state-owned enterprises (SOEs) in infrastructure projects and the absence of competitive bidding which hinder private investors to involve. Many policy recommendations are proposed for banking sectors, capital market, infrastructure fund, private investors with the desire to help them to go on the track of market-orientation.

However, it takes a very long time for the whole system to go on track, while the needs for infrastructure projects are urgent to serve for the country’s development. Thus, the efforts of both public and private partner about financial arrangement in the specific PPP project play a great contribution to get project proceed. Various government’s guarantees/incentives are presented with the reflections of many international PPP good practices which are the valuable resources for the Vietnamese government to take into account so that it can value each guarantee/incentive so as to determine what kind of support is worth to apply for specific BOT project in order to achieve value for money, while satisfy the interests of private partner and enhance its confidences. On the other hand, the private partner has to create attractive financial package for specific project with the assistance of innovative technical solutions in certain extent to prove with the government that she/he is the best candidate for forming the partnership. Finally, clear understanding of the financial risks will facilitate the endeavors of public-private partner in the process of financial arrangement. The Vietnamese government has to recognize that BOT projects in its homeland can be considered as risky investments for foreign investors who are capable to involve in large-capital-consuming infrastructure projects, which the domestic investors cannot be afford. As a result, government supports are vital to enhance the confidence of these investors in order to finance for long-list projects calling for investment.

While the financial market and financial arrangement are the driving forces for PPP project proceeding, the policy for facilitating the private involvement in infrastructure project is also the core issue needed to be addressed because it will stipulate the rights, responsibilities and obligations of parties involved in the process. Also, the private partner will be really tentative in PPP projects where the host country does not have the clear, precise, and transparent policy. Therefore, this issue will be investigated in the next chapter of this research.

4.1 Introduction

There is no single PPP legislation in the world. One group of countries has passed PPP generic law across economic sectors as Korea, South Africa, Iceland, and Eastern Europe. A second group passes a specific law for each project as Hong Kong. Another approach is to adopt sector-specific PPP law. The final approach is followed in Malaysia, which has passed no general or specific PPP law, in stead, limited scope sector laws have been passed (World Bank 2008).

In Vietnam, up to now there is no a single law for PPP or a set of sector-specific PPP laws. However, there are some specific legislation governing some types of PPP such as legislations on BOT, BT and BTO. Those legislations have been revised extensively since the promulgation of the first BOT Decree in 1993. Various revisions were undertaken in 1997, 1998 and 1999. The prevailing legislation is Decree No. 78/2007/CP issued by the Government on the 11th of May 2007. This current BOT Decree is a generic law, stipulating the sectors, conditions, procedures and incentives applicable to infrastructure development investment projects through the Build-Operate-Transfer (BOT), Build-Transfer-Operate (BTO) or Build-Transfer (BT) contracts. Thus, Decree No.78 could be regarded as a key legislation related to PPP in Vietnam.

Envisaging that Decree 78 (BOT Decree) is the most relevant legislations of PPP; this chapter places a considerable focus on a critical analysis of the BOT Decree, its strengths and weakness, to come up with recommendations for future improvements. A number of important issues in which a brief review on a number of greater or lesser relevant laws and legislations govern them are addressed. Also, responsibilities, functions, rights and obligations of the relevant stakeholders assigned by the laws and legislations specified in this BOT decree in the phased process of project cycle are analyzed. Furthermore, recommendations for improvements are presented to obtain future better practices. Finally, political risks are presented to show the potential negative effects of weak and imprecise law to PPP projects and opportunities in Vietnam.

With the presented scope of this chapter’s contribution, it is organized as the followings. Section 2 will schematize the implement process of the Decree and present the “criteria for assessing what is good and bad” of the Decree. Section 3 will scrutinize “what is good and what is bad” of principles issues such as scope of PPP and encouraged sectors, conditions for private involvement, conflict resolution, administrative coordination and certainty of revenue, whereby other critical relevant law are mentioned along side. Continuously, section 4 will investigate procedure for conducting Decree 78 though various phases of project lifecycle, whereby what is good and what is bad are assessed. Section 5 will give out the final general judgments of the Decree 78 based the criterions set in section 2 and proofs investigated in section 3 and 4. Section 6 will describe the negative impacts of political risks to PPP projects in general and Vietnam PPP projects in specific. Eventually, chapter summary, lessons learned, recommendations and other issues needed to address will be presented in section 7.
4.2 Criteria for evaluation of Decree 78

This section will come up with the schematization of the process including various steps to conduct PPP project in Vietnam under the Decree 78. The later sections will assess what is good and what is bad in the law so that we can present the recommendation for improvements. However, before starting to evaluate or judge the law, we need to know what are good and bad practices of private participation in infrastructure or PPP. These can be considered as criterions or patterns to serve for assessment process.

4.2.1 Schematization Decree 78

Decree 78 sets out a process for the identification, preparation, bidding, negotiation and implementation of PPP projects. The diagram below sets out a simplified schematic of this process.

Figure 12. Schematization process of conducting PPP projects in Vietnam under Decree 78

Source: World Bank 2008

World Bank (2008) states that there are a lot positive improvements of Decree 78 compared to the former versions such as Decree 68 and 77 but there are some weaknesses such as not specifying general issues by vague, lack of coordination of regulators, dilemma in many provisions and so on, which needed to be strengthened. However, it does not give out the criteria to assess for what is good and what is bad in the law, which sometimes leave many confuses and uncertainties for Vietnam law makers to improve the Decree in the future.
4.2.2 Criteria for evaluation

Filling into the above gap, this section will present the criterions for assessing good and bad governance practices regarding the way in which private participation in infrastructure is organized and regulated. Koppenjan and Enserink (2009) state that these practices refer to the attempts of government 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 the behaviors of public and private partners by stipulations in the policy to govern the PPP. They also give out a wide range of good and bad practice pattern of a number of issues, which can be considered as the criteria for evaluation of Decree 78 in this chapter.

<table>
<thead>
<tr>
<th>Key issues</th>
<th>Good Practices</th>
<th>Bad practices</th>
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<tbody>
<tr>
<td>Creating the prospects for return on investment</td>
<td>Developing project that create positive cash flow, which pay attention to affordability &amp; efficient allocation of scare resources</td>
<td>Little attention to affordability problems and efficient use of resources resulting in unequal access to public services and inefficient use of scare resources</td>
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<tr>
<td></td>
<td>Using private know-how to identify projects with cash flow potential</td>
<td>Not use private business expertise in project identification and preparation</td>
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<td></td>
<td>Early private involvement</td>
<td>No early private involvement</td>
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<td></td>
<td>Involvement stakeholders and users</td>
<td>No stakeholders and users involvement</td>
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<tr>
<td>Managing project scope and externalities</td>
<td>Cross subsidizing of profitable and unprofitable project parts</td>
<td>Missing opportunities for reconciling business opportunities by lacking scope management</td>
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<td></td>
<td>Internalizing positive externalities and package deals</td>
<td>No attention to preventing cherry picking</td>
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<tr>
<td>Managing risks perceived by private parties</td>
<td>Preventing transfer of commercial risks to government</td>
<td>Private parties shift risks and costs to government, taxpayers and users</td>
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<td>Guarding a minimal level of competition</td>
<td>Creation of private monopolies</td>
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<td>Reducing political uncertainty</td>
<td>Regulator at arm length of politics by public-public coordination</td>
<td>Lack of measures to coordinate government activities</td>
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<td></td>
<td>Clear and coordinated institutional framework</td>
<td>Absence of stable and coordinated policies, legal and institutional framework</td>
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<tr>
<td>Form of contract</td>
<td>Adequate forms of PPP fit for specific project with technology, strategy and institutional setting in specific sector</td>
<td>Some forms applied for all projects</td>
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<tr>
<td>Getting incentive right</td>
<td>Price regulation, service quality standards and coverage target</td>
<td>Adoption of monopoly leading to market failures</td>
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<td></td>
<td>Provisions for modifying tariffs, service levels, technologies and renegotiation during long-term operation</td>
<td>Rigid contract: practice of unanticipated ex post renegotiation and hold-up</td>
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<tr>
<td>Contract design</td>
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<tr>
<td>Affordability problem</td>
<td>Income measures and credit facilities</td>
<td>Setting the ceiling for tariffs which do not pay attention to market price and project cost recovery</td>
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<td>Differentiation of tariffs, services and management solutions</td>
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<tr>
<td>Process of contract design</td>
<td>Competitive bidding or negotiation</td>
<td>One single bid or negotiated contract</td>
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<td></td>
<td>Early private involvement</td>
<td>No early private involvement</td>
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<tr>
<td></td>
<td>Involvement stakeholders and users</td>
<td>Lack of mechanism to articulate interest</td>
</tr>
<tr>
<td>Preventing regulatory capture</td>
<td>Build regulatory capacity; get the right mix of expertise</td>
<td>Lack of regulatory capacity by improper mix of skills and expertise in regulator’s office</td>
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<td></td>
<td>Provide resources, guidelines, training program and knowledge exchange</td>
<td>Lack of in-house expertise and knowledge and expertise exchange</td>
</tr>
<tr>
<td>Preventing regulatory rent seeking</td>
<td>Enhance transparency and accountability mechanism</td>
<td>Regulator and staff purse their own personal goals due to warm relationship with private partners</td>
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Table 6. Criteria for assessing good and bad practices of policy governed PPP

Source: Adapted from Koppenjan and Enserink 2009
4.3 Principle issues

As the foreign or domestic private investors want to participate in PPP projects in the host countries in general and Vietnam in specific, many questions are arisen such as what forms of PPP are existed in the law and which sectors they are allowed to involve; what conditions, including financial, bidding, legal condition, are required for their involvement; how they can deal with complex web of institutional organization in Vietnam; what they can do as conflicts occur; how they can get investment money back. Therefore, the endeavor of this section is to depict these important issues presented in the Decree in order to answer the questions existing in investors’ mind before joining risky PPP game in Vietnam, whereby what is good and what is bad of these related provisions in the Decree will be analyzed and criticized.

4.3.1 Scope of PPPs and encouraged sectors

Before involving in PPP projects in Vietnam, the investors will ask how many forms of PPP they are allowed to invest and which sectors they can participate in. These questions will be answered in the following sections:

**Scope of PPP**

Decree 78 only categorizes three types of PPP: BOT (build-operate-transfer), BTO (build-transfer-operate), and BT (build-transfer). The ‘project’ defined in the decree is a collection of proposals relating to the expenditure of capital in order to invest in construction and operation of a new infrastructure facility or in renovation, expansion, modernization, operation or management of existing facilities. This suggests that other types of PPPs as ROT, RTO or RT projects, where the “R” stands for “rehabilitate” could be undertaken under the Decree. Investors may invest in other "similar" contract forms subject to the approval of the Prime Minister (World Bank 2008).

Other contract forms such as Build-Operate-Own (BOO); Build-Operate-Sell (BOS); Build-Lease-Transfer (BLT) are not mentioned in the Decree. However, the Prime Minister (PM) has the discretion on different methods of infrastructural investment by private sector. Yet, the absence of detailed regulations leads to the uncertainty regarding the requirement of PM’s approval which may hinder investors from implementing projects at the right time (Freshfields Bruckhaus Deringer 2007).

**Encouraged sectors**

Under BOT Decree, the Government reconfirms its policy favouring infrastructure construction, including (i) land roads, bridges, tunnels and related utilities; (ii) railways and tramways; (iii) airport, seaports, river ports and ferry-landings; (iv) water plants and power transmission; and (vi) other infrastructure sectors as decided by the Prime Minister.

The Ministry of Planning and Investment (MPI), together with other relevant ministries and provincial people’s committees, will issue an annual list of projects calling for investment in the form of BOT Contracts. This list, however, is not intended to be exhaustive because the PM has the discretion to decide on other infrastructure sectors or projects. It would appear that distribution infrastructure (e.g. water, gas or electricity distribution – all of which require large amounts of capital) and telecoms cannot be built by way of BOT projects unless the Prime Minister makes a special decision (Freshfields Bruckhaus Deringer 2007).
4.3.2 Conditions for private involvement

Continuously, the investors will ask what conditions they have to satisfy before involvement. Therefore, this section will come up with the financial, bidding and legal conditions required by the government before private party involves in PPP projects in Vietnam.

Financial condition of private partner in BOT/BTO/BT Projects

Decree 78 clearly states that the project enterprise must arrange funding sources itself according to the schedule contained in the project agreement (Article 4). The specific equity ratios are prescribed:

- For projects with total investment capital below VND 75 billion (nearly $4 million), the investor’s equity must not be lower than 30% of the total investment capital;
- For projects with total investment capital between VND 75 billion and below VND 1,500 billion (approximately $85 million), the investor’s equity must not be lower than 20% of the total investment capital;
- For projects with total investment capital above VND 1,500 billion, the investor’s equity must not be lower than 10% of the total investment capital.

As Decree No.78 is silent on the sources of debts or borrowings as a part of mobilized investment capital of BOT/BTO/BT projects, it could be here implied that there is no limitation imposed on the source of such debts or borrowings which could be raised partially or wholly from the state sector (e.g. state owned commercial banks or state development bank). In addition, it should not imply limitation on any payment or subsidy by the state to the investor or project enterprise. Moreover, Decree 78 governs and is applicable only to infrastructure investment projects where the private sector or non-state sector must attain a majority of investors’ equity. Article 5 limits the capital contributed by state-owned enterprises, which cannot contribute any more than 49% of the equity of the Investors. Such limitation is indeed prerequisite provision, creating a real PPP, and eliminating SOEs to block all good projects (World Bank 2008; Tony Foster 2005).

The project company is allowed to issue shares to the public if the conditions stipulated in Section 1 of Article 12 of the Law on Securities and Securities Markets are met (e.g. joint stock company having the charter capital of VND 10 billion and above; having profit in the previous year and no accumulated loss etc.). It is noted that newly established private enterprises shall not meet the conditions for issuance of shares and bonds to the public. The Law is however giving a possibility for the government to decide on securities issuance to the public for newly established enterprises in the areas of infrastructure and high technology.

Bidding condition or condition for selecting Private Party

Article 10 in the Decree stipulates that domestic or foreign private party is selected by the process of competitive bidding. However, it does not specify when ASAs may restrict tenders to domestic bidders and when international tender must be called. Also Decree 78 allows a direct appointment of investors for negotiation if (Freshfields Bruckhaus Deringer 2007):

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1 According to the Law on State Enterprises of 2003 and the Law on Enterprise of 2005, state-owned enterprises are defined as an enterprise where 51% or over of the charter capital is owned by the state.

2 It is noted that before the issuance of Decree 78, BOT, BTO and BT projects were governed by the previous Decree 77/CP dated 18 June 1997 according to which SOEs could contribute up to 100% of the charter capital.
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- Only one investor satisfies the pre-qualification requirements;
- The project is needed to satisfy an urgent need for infrastructure facilities or to ensure continuity in the use of products or services;
- An investor proposes its own project and does its own pre-feasibility study (unless two investors propose a similar project, in which case a competitive tender is required); or
- Other special cases are involved, as determined by the Prime Minister.

As the Law on Tendering of 2005, which just governs the tendering for procurement of goods and services providers, is not applicable to bidding for selecting bidders under Decree 78, the MPI is now making a draft circular, guiding the implementation of such Decree 78.

World Bank (2008) states that the preference for competitive bidding procedures is in line with international best practice. However, this article 10 leaves many room for negotiated contract coming into being as the conditions for direct appointment of investors stated above. Therefore, practitioners have abused these shortcomings to justify negotiated contracts in many BOT projects in Vietnam. For instance, in highway BOT Ha Noi-Hai Phong project, the justifications for negotiated contract are that this road is the urgent need for increasing mobility between Ha Noi capital and Hai Phong city and it is so costly and time-consuming for organizing competitive tendering to select investor (TEDDI 2006). Moreover, BOT energy Phu My 2-2 is the only one project with competitive tendering in Vietnam up to now, but the World Bank give the financial support for this process and international consultant is hired to arrange the bidding because the government does not have enough financial ability and needed expertise to conduct itself.

In short, the lack of resources, expertise and space for abusing shortfalls in law have turned good practice of competitive bidding in to bad practice of single bid concession.

Legal condition

- Project Agreement and Project Company

The private party has to sign Project Agreement to be legal as participating in PPP projects. A Project Agreement (i.e. BOT, BTO, BT) is a contract executed between investors and an Authorized State Agency (ASA) to implement an infrastructure project, where the former could as defined in Section 6 of Article 2 of Decree 78 be: (i) private enterprises established under the Law on Enterprise (e.g. limited liability companies; joint stock companies); (ii) household and individuals; (iii) co-operative, union of co-operative establish under Law of Co-operative; (iv) foreign invested enterprises; (v) foreign individuals and organizations; (vi) Overseas Vietnamese; (vii) state owned enterprises established before the effectiveness of the Law on Enterprise. After signing the Project Agreement, private investors could set up a new company for the purpose of implementing the BOT project. This company can be organized in any form under the Enterprise Law which is a joint stock or limited liability company at investors’ own discretion. Being in the form of joint stock company, a project company can issue shares and/or bonds to mobilize capital for implementation of a BOT project in accordance with provisions of Enterprise Law and Securities Law.

The good point of Article 15 is that it further lists the issues to be addressed in the contract and allows contracting parties sufficient freedom and flexibility to agree on contents of the contract that are best suited to the need of the projects. Furthermore, parties are also permitted to agree
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the extent to which foreign laws will apply to a project, provided that these are consistent with the basic principles of Vietnamese Laws (Article 16). Finally, The BOT Decree gives private investors sufficient freedom to agree on any change to the shareholding in the project company and on the conditions for assignment of the rights and obligations of the investors to the project enterprises, and assignment of the same to a third party (e.g. lenders or other interested investors) during or upon early termination of the project agreement provided that such issues are addressed in the project agreement and agreed by the ASA.

- **In case of default**
According to the BOT Decree (Section 3 of Article 15), the lenders are given the right to take over in whole or in part the rights and obligations of the project enterprise in the implementation of the project if the project enterprise or investors fail to perform their obligations under the BOT contract and/or loan agreement. It requires that such rights are specifically provided for in the financing documents and are subject to approval of the ASA. In other word, lenders shall have step-in rights to take over the project facility upon default under the BOT contract or the loan agreement. The step-in right is very important to lenders as for non-recourse project finance, lenders rely on the anticipated cash flows of the BOT project, but not on the assets of the investors. It is therefore of interest of lenders to let the project continue operating and generating revenues even if default occurs. Lenders may prefer not to foreclose on the project assets, and instead step in to replace the management of the project company with new ones that is capable of operating the project efficiently and profitably.

4.3.3 How to solve conflicts
As far as we concerned, there are many changes compared to initial intention in long-term concession contract. Therefore, the investors seriously concern about how they can solve conflict as disagreement occur, and how they can deal with changes in related laws influenced on routine operation of project. These issues will be addressed as followings:

- **Dispute resolution**
Decree 78 regulates dispute resolution depending on the source of the investment capital. Where projects are funded by domestic investment, any arisen disputes shall be first resolved through negotiation and conciliation. In the case of failure to resolve such dispute by themselves, the parties may refer the dispute to a Vietnamese arbitration organization or a court of Vietnam for resolution in accordance with Vietnamese law. Where foreign invested capital is involved, the option of using foreign arbitration also exists or such other method of dispute resolutions may be agreed in the project agreement.

It is a good improvement of Decree 78 in comparison with the previous Decree, where the investors complain about unclear provision for resolution in case of conflicts among parties.

- **Changes in law related to project**
According to the Law on Investment of 2005, where newly promulgated laws provide more favorable incentives than those previously enjoyed by investors, they shall immediately applicable to investors or project company from the effective date; and where newly enacted laws provide less favorable incentives and fewer rights, the investors have rights to apply one or several of the
following measures: (i) continue to enjoy previous incentives; (ii) offset damages against taxable income; (iii) adjust the business objectives of the project; and (iv) receive compensation in necessary cases. With respect to the measure for compensation stipulated above, the Investment Registrar shall recommend the Prime Minister to issue a “decision guaranteeing” to protect the investor as a consequence of the change in law or policy adversely affecting such investor’s interests.

These measurements are flexible enough for investors in dealing with the changes in law affected to current PPP projects. However, the investors have to recognize the potential risks as requesting for approval to adapt with these changes due to the complex web of institutional organization in Vietnam. They usually have to spend a lot of time and money to ask for endorsement of many offices from central to local government. This may add to additional layer of cost for the project and reduce profit.

4.3.4 Administrative Coordination: a tool for dealing with Vietnam complex web of institutional organization

When the investors want to negotiate for PPP deal in Vietnam, they have to deal with many burdensome authorities. This can prolong the negotiation process because it is difficult to get the agreement of among different authorities. Therefore, they will question whether there is any one-step agency assisting for this process. We will find it out in this section.

Vietnamese PPP projects typically involve extensive coordination between various related agencies throughout the project cycle. For instance, in project preparation stage, roads projects initiated by PPC would require input from the ministry of transportation (MOT), ministry of natural resources and environment (MONRE), amongst others. After project negotiations, it is often necessary to facilitate licenses and approval from various agencies. Finally, during project implementation, there is need for project oversight and coordination between agencies. One of the most welcome improvements in the New BOT Decree is that it provides for the establishment of an inter-branch working group (IBWG), formed by an ASA initiating the project and funded by the state budget, to support the negotiation of BOT Contracts. IBWG can be considered a one-step agency for all negotiations and approvals. Thus, investors may no longer need to negotiate with numerous cumbersome authorities to reach an agreement or, if they do, there should at least be a central coordinator to resolve conflicts between different authorities and SOEs (Freshfields Bruckhaus Deringer 2007). However, it is noted that Decree 78 does not make the establishment of IBWGs mandatory. It is up to authorized state agencies (ASAs) to decide at their own discretion on the establishment and operation duration of IBWG. There is likely a possibility that ASAs may experience difficulties in securing funds for such IBWGs to function efficiently and effectively. Therefore, the good intention of establishment of IBWG expected by practitioners has turned into bad practices with the lack of financial resources and uncertainty for its compulsory establishment in every project.
4.3.5 Certainty of revenue

The last question they will ask is that how they can get their investment money back. This important question can be answered in this section by coming up with the incentives, guarantees and supports offered by government to investors in order to reduce their nervousness as participating in PPP projects in Vietnam.

Taxation incentives

Decree 78 (Article 35) provides some tax incentives where the project enterprise is entitled to the same Corporate Income Tax (CIT) preference applicable to the special preferential investment projects defined by Decree 108/2006/ND-CP dated 22 September 2006 providing a detailed regulation for implementation of the Law on Investment. These benefits available to the project enterprise are:

- Preferential CIT rates of 10%, 15% and 20% calculated on earned profit for periods of fifteen, twelve and ten years are available depending on the scope of activities and location of the investment. The preferential rate may be extended for the whole duration of the project in special cases;
- CIT is exempted for (a maximum) 4 years after the first profit-making year followed by reduction of 50% in CIT for a further (maximum) 9 years.
- Losses can be carried forward for 5 years.

The Project enterprise is also exempted from import duty regarding the goods and materials imported for the implementation of the BOT project as well as for expansion of the project's scale and replacement or renovation of the technology. In addition, objects of industrial property currently within the period of protection, technical know-how, technological processes and technical services for implementation of a project shall be free of taxes relating to technology transfer and income from royalties. The same tax incentives are also applied to other projects being carried out by the investor to recoup capital invested in a BT project, taking into account the time for recovery of BT project capital and the possibility of profiting from the other project.

Government guarantees and supports

The government guarantees and support for BOT project according to the Decree 78 from Article 37 to 40 are presented as followings (Freshfields Bruckhaus Deringer 2007):

- The Government will ensure that the project enterprise will be given the right to use land free of land rent for the whole duration of the project. Project companies shall be permitted to use land, roads and other support facilities to implement projects in accordance with law (Article 41, Decree 78). The project enterprise must coordinate with the ASA and the responsible Provincial People Committee (PPC) to establish a “council” for site clearance (Article 23 of Decree 78).
- Project companies may open and operate offshore accounts, subject to the approval of the State Bank of Vietnam. The New BOT Decree provides no special rights to such accounts that are not otherwise provided under the Investment Law.

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3 The standard rate is 28%.
The Government may guarantee the conversion of Vietnamese Dong (VND) into foreign currency in respect of projects in the power, traffic 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 materials to, and purchase of products and services from, the project company.

Project companies may grant a mortgage over equipment, plant, factory, contractual rights, other assets and land use rights in favour of lenders in accordance with the prevailing regulations. This still does not allow foreign lenders to directly take mortgages over the land use rights. The Decree requires that any mortgage or pledge of property by a project company must be approved by the Assigned state body (ASB), a requirement that does not exist for a normal company.

Residual issues related government guarantees

Under current legal framework, there are two main types of guarantee: government guarantee given by ministry of finance (MOF) with respect to foreign loans and bank guarantee given by credit institutions operating in Vietnam. On one hand, the government will guarantee at the maximum rate of 80 per cent of the total investment capital of each project, including insurance fees and loan interest. On the other hand, the banks will offer guarantee for borrowing, contract performance, payment and so on.

It is seen that Decree 78 is unclear that the assigned authorities and in what circumstances, grant the guarantee to BOT project. It is noted that except the guarantee for foreign loans governed by Decree 134, the PM may authorize other competent agencies (e.g. MPI) to act as the assigned guarantee provider. Moreover, According to Article 14 of Decree 78, the Investor's request for government guarantee shall be submitted to the PM for approval prior to negotiation. In this case, the MOF shall be responsible for evaluating such request pursuant to Decree 134 and act as guarantee provider. In this respect, it is wiser for MOF to have a representative in the Inter-branch Working Group, which is responsible for assisting the ASB to negotiate the project agreement with the investor, including the provisions on the commitment for supports and guarantee of the government. Yet, it is missing in the Decree 78 (World Bank 2008). Moreover, the budget allocation for these fiscal obligations such as capital grant, service payments or subsidies paid to private party has not been well-developed by the MOF. Finally, the BOT Decree is silent on necessary provisions of the state subsidy for long-terms BOT projects which could hardly be feasible without financial supports and partial subsidy from the state.

In short, many government supports and guarantees can make investors less nervous as participating in PPP projects in Vietnam. It can be considered as a good improvement in the Decree 78 compared to the formers. However, it becomes bad with a vague allocation of authority responsible for these issues, unclear stage for implementation and lack of fiscal management, which leave many uncertainties for investors in achieving these incentives, guarantees and supports. Moreover, the lack of managing scope and externalities by cross-subsidizing unprofitable parts of projects may result in missing opportunities for reconciling...
business opportunities (Koppenjan and Enserink 2009) because the project with “not having PPP in it” cannot be implemented without these subsidies to “get PPP in it” (koppenjan).

Addressing tariff and prices issues

The Decree 78 stipulates the mechanism of setting tariffs and prices are Ordinance No. 38/2001/PL-UBTVQH, dated 28 August 2001, Decree No. 57/2002/ND-CP, dated 3 June 2002, and Decree No. 57/2002/ND-CP governed by MOF for all kind of infrastructure projects. Decree 78 specifies that any changes of prices and tariffs not covered in the project agreement are subject to the approval of authorized state agency (ASA). World Bank (2008) states that it is not good because it is better for the independent regulator to approve these changes such as MOF. Another bad point of Decree 78 is that it does not clarify on how fee exemptions and discounts are to be handled. Of particular importance is that it does not prescribe how tariff are to be adjusted (World Bank 2008).

It can be seen that getting the agreement in prices and tariffs are the most difficult and time-consuming negotiation between public and private partner as experiences by BOT projects in Vietnam because the government always set the ceiling for tariffs and prices which are often under cost-recovery because of the affordability of low income citizens. However, the government has not had the good mitigation measure to solve the affordability problems such as income measures and credit facilities, differentiation of tariffs, services and management solutions (koppenjan and Eserink 2009).

4.3.6 Summary the key issues

In general, the five important questions posed by investors before participating in PPP projects in Vietnam have scrutinized and answered by the related provisions in Decree 78. Moreover, these important issues are divided in 11 subissues in which good and bad points are highlighted and criticized. It can be seen in table 6 that 6 out of 11 issues are defected, which leaves many uncertainties for practitioners as applying the Decree 78 in practices. Therefore, these shortcomings are needed to be improved in the future in order to reach good practices. The recommendation for improvements is summarized in Appendix 1.
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### Issues

<table>
<thead>
<tr>
<th>Issues</th>
<th>Subissues</th>
<th>Good</th>
<th>Bad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope of PPP and encouraged sectors</td>
<td>• Scope of PPP</td>
<td>- Investors can participate in almost all sectors of infrastructure</td>
<td>- Other forms as BOO, BOS, BLT are not introduced</td>
</tr>
<tr>
<td></td>
<td>• Sectors</td>
<td></td>
<td>- Uncertainty regarding the requirement of PM’s approval for other forms</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Telecoms and large project capital as water, gas or electricity cannot be built without PM’s approval.</td>
</tr>
<tr>
<td>Conditions for private involvement</td>
<td>• Financial condition</td>
<td>- Clear stipulation for debt/equity ratio for specific investment amount</td>
<td>- Letting many spaces for negotiated contract</td>
</tr>
<tr>
<td></td>
<td>• Bidding condition</td>
<td>- Competitive bidding is introduced</td>
<td>- Lack of financial resources and expertise to arrange competitive tender</td>
</tr>
<tr>
<td></td>
<td>• Legal condition</td>
<td>- clear procedure, sufficient freedom and flexible for contract execution</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Sufficient freedom for investors in case of change shareholders</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Clear stipulation for the rights of lenders to step in case of project company default</td>
<td></td>
</tr>
<tr>
<td>Conflict resolution</td>
<td>• Dispute resolution</td>
<td>- Clear mechanism for resolution</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Changes in laws</td>
<td>- Flexible and enough compensations</td>
<td></td>
</tr>
<tr>
<td>Administrative coordination</td>
<td>• IBWG</td>
<td>- One-stop agency is being established</td>
<td>- Not compulsory establishment and lack of finance for operating</td>
</tr>
<tr>
<td>Certainty of revenue</td>
<td>• Tax incentive</td>
<td>- various incentive for tax cut</td>
<td>- Vague allocation of authority responsible for these issues</td>
</tr>
<tr>
<td></td>
<td>• Guarantees and supports</td>
<td></td>
<td>- Unclear stage for implementation</td>
</tr>
<tr>
<td></td>
<td>• Tariffs and prices</td>
<td></td>
<td>- Lack of fiscal management</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Lack of managing scope and externalities</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Unclear on how fee exemption and discounts are handled</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Not good strategies for dealing with affordability</td>
</tr>
</tbody>
</table>

Table.7. Summary of principle issues in Decree 78
4.4 Procedure for carrying out Decree 78 through various phases of PPP lifecycle

The next question addressed by the investors is that how they can conduct the Decree through various phases of PPP lifecycle. Therefore, the procedure for implement the law in which the functions, responsibilities, rights and obligations of private and public party is depicted in this section. Also, the evaluation of what is good and bad is conducted alongside.

Figure 13. Various phases of PPP according to Decree 78/ ND-CP of 2007,
Source from World Bank 2008

4.4.1 Project identification and preparation

Following Decree 78, authorized state agencies (ASAs) responsible for project identification and preparation illustrated in the below figure contain the ministries such as ministry of planning and investment (MPI), ministry of transport (MOT), ministry of industry and trade (MOIT); ministerial level agencies as Vietnam road administration (VRA), department of transport (DOT) and department of planning and investment (DPI), government agencies and provincial people’s committees (PPCs). It can be noted that the PPCs often assign provincial transportation department, construction department and institution project management to carry out the tasks. ASAs shall work out and prepare a project list calling for investment within their locality or branch under the form of BOT, BTO, and BT, which is sent to the MPI and related ministries and PPCs to seek for their comments before approving the list by themselves. As MPI is assigned to be involved in giving comments on all lists of projects submitted by ASAs, and it must render their comments within 30 days (Point 4 of Article 7). Then, these lists of project will be officially created.

Potential private investors may access to information of annual list of projects calling for investment capital in the forms of BOT/BTO/BT on websites of respective ASAs or newspapers and may contact directly with the designated bodies for details.

Figure 14. ASAs for Vietnamese BOT/ BTO/ BT project identification and preparation
Source: World Bank 2008
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Once a project list is approved, an ASA is required to appoint either local or foreign consultants to develop a Project Proposal, assessing its feasibility and developing tender invitations (Article 9). The process of project identification and project preparation is shortly illustrated in the below figure.

**Figure 15. The whole project identification and assessment process,**

Source: World Bank 2008

There are a number of shortfalls which can be identified from the process of project development stated above. First, private party can not involve this early phase, thus its expertise and business knowledge can not be exploited. As a result, private partner is not willing to invest with the project list created only by public partner. Second, local organization, stakeholders and users are not allowed to participate in this phase. Therefore, the sense of project ownership cannot be achieved (Koppenjan and Enserink 2009). Third, there might be some doubts about the MPI’s ability to undertake this task effectively with the large number of ASAs at the provincial level (i.e. 64 provinces and central cities). This may create the danger that: (i) their comment will be delayed or (b) comments will not be considered thoroughly. Finally, the Decree is silent on the need of compulsory cooperation between ASAs and related line ministries during the project preparation stage. Potentially, this is a serious gap. During project preparation, many project characteristics, including financial implications, are not known in detail. Potential costs to government, including contingent liabilities from guarantees, may only become apparent much later. These require consideration by other ministries such as MOF. At present, Decree 78 leaves full decision making responsibility with individual ASAs. The only exception is guarantees which require separate approval by the Prime Minister (World Bank 2008).

### 4.4.2 Project bidding

The first draft Circular of Decree 78 stipulates the establishment of a Tender Specialists Group (TSG) which is responsible for preparing tender invitation dossier, organizing bidding, evaluating and rating the tender dossiers in accordance with the approved selection criteria and requirement in the tender invitation dossier. According to this draft Circular, the members of inter branch work group (IBWG) could also participate in such TSG, depending on the objective, nature and scale of the project, and subject to the own discretion of the ASA.
Investors shall have the right to participate in a tender (domestic and/or international) organized by ASA or its authorized body (i.e. TSG) to select the most qualified bidder for implementation of the BOT projects in such list. Each investor may submit one bid as a single entity or a joint venture with other bidders. Moreover, Under the BOT Decree, private investors could also be appointed to directly negotiate the project agreement with ASAs without tendering as the conditions in section 2.3 are met. Finally, The BOT Decree allows investors to negotiate a wide range of ancillary contracts (as stated in section 3.3) and other contracts at the same time as they are negotiating the BOT contract. Indeed, the BOT Decree requires the ASA to ‘steer’ the negotiation of ancillary contracts so that such contracts are consistent with the BOT contract.

There are 2 bad points in the law for this bidding process. First of all, the Decree does not oblige MPI and MOF having the representatives in the IBWG and TSG. This can cause the decisions of IBWG and TSG to be inconsistent with MPI and MOF in the respect of investment license and ancillary contracts as well as government guarantees, which may result in delay in approvals and renegotiation. Prior to the project implementation, the MPI is required to issue investment licenses to project enterprise. If the MPI is involved during the procurement stage, the issuing of an investment license can probably be speeded up and become a formality rather than another potential stumbling block. It may also be useful to have standing MOF representation on the IBWG and TSG. This could assist in obtaining clearances from MOF and the Prime Minister’s approval for matters such as government guarantees when required. Secondly, the Decree 78 and 1st draft Circular provide neither regulations nor guidance when and how international or domestic bidding are determined.

The whole bidding process with the responsibilities of the related agencies under Decree 78 and 1st draft guiding Circular as well as the above suggestions could be illustrated in the figure.

4.4.3 Contract execution

After selected in the bidding process, private partner has to sign project agreement with ASA. According to Decree 78 (Section 1 of Article 14), the role of negotiation and execution of project agreement is vested to an ASA, who can seek for assistance from an IBWG to be established at ASAs’ own discretion. As for projects where there is a need of having the government's guarantee, ASAs are required to submit their proposals to the Government for approval before negotiating the project agreement.
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It is seen that Decree 78 is quite flexible in terms of contracting parties to a project agreement which is executed in two options: (1) After being established, the project enterprise can sign the project agreement having been signed previously by the investor and ASA, where they together with the investors form and become a party to the project agreement, or (2) the project enterprise shall take over the rights and obligations of investors in the project agreement having been previously signed by the investor and ASA, by entering into other tripartite agreement (i.e. Project enterprise, the investors and ASA). Such written tripartite agreement will form an integral part of the Project Agreement. For the first option, the investors act as the project enterprise. In this case, the establishment of project enterprise is no longer applicable. In contract, the second option is in favor of investors who want the rights and obligations are imposed directly on the project enterprise and limit their own obligations to certain agreed areas. Thus, the 2nd option would better protect the interests and benefits of the investors.

Moreover, The BOT Decree allows investors to negotiate a wide range of ancillary contracts and other contracts in this process. Decree 78 requires the ASA to activate the negotiation of ancillary contracts (i.e. land lease, construction, installation of machinery and equipment, consultancy services, inspection, purchase of raw materials, sale of products, services, and provision of technical services, loans, mortgage or pledge of property) with the related bodies so as to match and be consistent with the project agreement.

The shortcoming in this process is that Decree 78 does not seem to clearly allocate ASA the responsibility to facilitate the negotiation of ancillary contracts. This seems to be an area where project negotiations could get bogged down. In this sense, MOF is the most appropriate party responsible for this task under the institutional arrangement in Vietnam.

4.4.4 Approval and registration for project enterprise

Pursuant to Decree 78, after signing the project agreement, the investors could set up a project enterprise by submission of the application to the MPI for evaluation and issuance of investment certificate. With respect to projects funded by domestic investment capital, the investor shall carry out business registration to establish a project enterprise or amend its business registration certificate (in the case the investors do not set up a new project enterprise). Documents, order and procedures for business registration or for amendment of business registration shall be subject to the provisions of the Law on Enterprises. With respect to projects funded by foreign investment capital, the foreign investor shall carry out business registration to establish a project enterprise. The investment certificate issued to the project enterprise is also regarded as the business registration certificate.

As seen from the 1st draft Circular guiding the implementation of Decree 78, the MPI shall submit a proposal on amendment of Decree 78 in the direction, to give more powers to the local authority (i.e. decentralization). According to this draft, the PPCs shall be empowered to evaluate and issue investment certificates to "local" investment projects where the PPCs or their authorized bodies are the ASA being a signatory to the project agreement. The MPI shall be responsible to evaluating and issuing investment certificate to such investment projects where:
(i) ASA are ministries, ministerial level agencies, government agencies or their authorised bodies; and (ii) it is implemented in the areas of “numerous”\(^5\) different provinces/cites.

### 4.4.5 Project implementation

Once the project agreement has been signed and the project enterprise has been established, project implementation commences. Decree 78 distinguishes the four stages for project implementation: (1) site preparation and clearance; (2) technical design and performance of construction; (3) construction supervision and commissioning; (4) management and exploitation of the built facilities.

The involvement of ASAs and other stakeholders in the site preparation and clearance stage could be well illustrated in the layout below:

![Diagram showing involved stakeholders in site clearance stage]

**Figure 17. Involved stakeholders in site clearance stage**


Decree 78 requires “special cases” to be decided by the Prime Minister. As Decree 78 gives no details which cases are regarded as special ones. It presumably will refer to such situations where the project enterprise runs into roadblocks due to differences of opinion between state agencies. Also Decree 78 does not introduce any additional measures to secure an investor's access to land in spite of the fact that delays in securing land use right remains the most prominent stumbling block to project implementation in Vietnam because Investors complaint that acquiring rights and accessing to land are time-consuming and complicated negotiations in past Vietnam BOT projects. Also, policies on land clearance compensations are varied from time to time and from area to area (rural, town, city) leading to difficulties in compensation negotiations and increasing of compensation costs and effecting to the project efficiency (World Bank 2008).

The ASAs shall be responsible for ensuring the consistence between the approved preliminary design and the technical design prepared and submitted by the project enterprise. It is a doubt that the project enterprise is able to prepare the technical design by them (as vaguely stipulated in Article 24 of Decree 78), it is high possibility that such technical design will be in most cases made by designing consultants hired by the project enterprise. Such clarification may be needed to put in the Circular guiding Decree 78, which is however not seen in the 1\(^{st}\) draft.

---

\(^5\) It is quite vague how many provinces
The tasks of construction supervisions, commissioning as well as management and exploitation of project works are clearly vested to either the hired consultants and/or project enterprise, none of state agencies, and maybe ASAs. It is noted that the private party will supervise itself in construction phase. The public partner will be assured that it will get the quality facility as the specification after finishing project.

In short, there are a number of defects for conducted provisions of the Decree in this phase. First, in site preparation and clearance phase, the Decree does not clearly specify which the special cases decided by the Prime Minister are and it does not offer the additional measures when the investors cannot acquire lands necessary for project execution. Second, it does not clearly interpret that the project company is allowed to commission the consultants to do the design or the contractors to do the design and build the project for it. Eventually, the Decree does not stipulate that the private partner supervise itself in the construction phase.

4.4.6 Project termination

Decree 78 contains extensive provisions on the termination of project contracts. It also addresses procedures and conditions for the transfer of facilities (Chapter VI). Decree 78 clarifies that at the conclusion of a BOT agreement, the project facility must be transferred to the State without compensation and free of debt. A detailed legal procedure is spelt out in Article 31, which provides for the facility handover to be prepared one year in advance. It also requires the facility to be inspected so that any repairs that might be required can be identified. It further stipulates that the State shall only take over the facility if it has been maintained and repaired as agreed in the project agreement (e.g. BOT agreement).

It is worthy to note that not only the project enterprise but also the investors shall have obligations to ensure a proper transfer of the facilities to the ASA (Article 31 and Article 32). This provision seemed to be contrary to the case where the project company takes over all the right and obligations of the investor in the project agreement as stipulated in Point b, Section 2 of Article 15) and analyzed in section 3.3 above.

4.4.7 Summary the key issues

Up to now, the final question of investors are answered alongside in this section about the procedure to conduct Decree 78 throughout various phases of PPP project lifecycle in Vietnam, in which the responsibilities, functions, rights and obligations of both private and public partners are presented. Moreover, good points of the provisions stipulated in the Decree are applauded while bad points are criticized. It can be seen in the below table that only project approval phase has a clear guidance for practice, whereas the rest five phases give out a lot of shortcomings such as no early private involvement, not representation for public interest, not decentralization, not systemizing and cooperation among ASAs, unclear criteria for selecting investors, not specifying general issues by vague language and potential conflict with other provision. These defects should need to be strengthened in the future to reach good practices, and the recommendation for improvements is stated in the appendix 1.
### Chapter 4: Policy on Public-Private Partnership in Vietnam

<table>
<thead>
<tr>
<th>Issues</th>
<th>Subissues</th>
<th>Good</th>
<th>Bad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project identification &amp; preparation</td>
<td>• Project identification</td>
<td>- No early private involvement</td>
<td>- Lack of mechanism for involvement of stakeholders and users</td>
</tr>
<tr>
<td></td>
<td>• Project preparation</td>
<td>- Not decentralized the comments of project for PPCs</td>
<td>- lack of cooperation between ASAs and related line ministries during the project preparation stage</td>
</tr>
<tr>
<td>Project bidding</td>
<td></td>
<td>- Vague composition of IBWG and TSG due to not having people of MPI &amp; MOF</td>
<td>- Unclear criteria for selecting foreign or domestic investor for specific project</td>
</tr>
<tr>
<td>Contract execution</td>
<td>- Flexible by offering 2 options for contracting parties to project agreement</td>
<td>- Not clearly allocate ASA responsible for negotiating ancillary contracts</td>
<td></td>
</tr>
<tr>
<td>Project approval</td>
<td>- Clear provisions, procedures and conditions for approval and license project company</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project implementation</td>
<td>• Site preparation</td>
<td>- Not specify “special cases” decided by Prime Minister</td>
<td>- No further solutions as investor cannot access to land on time for next phase</td>
</tr>
<tr>
<td></td>
<td>• Design phase</td>
<td>- Not specify that the project company is allowed other parties to do the task for it</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Construction phase</td>
<td>- Being tentative for private party to supervise itself in this phase</td>
<td></td>
</tr>
<tr>
<td>Project termination</td>
<td>- Rather clear procedure for transfer facility</td>
<td>- Potential conflict with provision in contract execution phase</td>
<td></td>
</tr>
</tbody>
</table>

Table 8. Summary the key issues of procedure for conducting Decree 78 on phases orientated
4.5 Time for rethinking Decree 78

Section 2 presents the criteria to assess what is good and bad for the Decree. Also, the evaluation process of specific provisions in the Decree 78 is summarized in table 6 and 7 of section 3 and 4. This section will come up with the general assessment of Vietnamese generic PPP law based on the above criterions. Also, the final judgments for good and bad are relied on the proofs investigated by the evaluation of specific provision in table 6 and 7. As can be seen in table 4, Decree 78 has failed to create the good governance practices for private participation in Vietnam infrastructure because it cannot satisfy all criterions such as not creating the willingness for private investment, poor contract design and not preventing regulatory failure.

<table>
<thead>
<tr>
<th>Key issues</th>
<th>Assessment of Decree 78</th>
<th>Good (✓) or Bad (✗)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating the prospects for return on investment</td>
<td>• Under Decree 78, the process of project identification and preparation is only conducted by ASAs. Thus, private party is not involved in the early phase and its business expertise is not utilized. This makes the project list developed by public unattractive to private investors in financial and economic perspective. Also, this public developed project list doesn't represent the public interest because stakeholders and users are not involved.</td>
<td></td>
</tr>
<tr>
<td>Managing project scope and externalities</td>
<td>• As stated in section 3.5, Decree 78 lacks subsidies for projects which don't have PPP in it to get PPP in it resulting in missing opportunities for reconciling business opportunities. Also, there is not any provision to manage public &amp; private collaboration in order to internalize positive externalities. Thus, cherry picking may occur in practice</td>
<td></td>
</tr>
<tr>
<td>Managing risks perceived by private parties</td>
<td>• Section 3.5 gives out many government supports, guarantees and incentives, but Decree 78 doesn't give further stipulations to valuate these incentives for specific kind of project. Therefore, private monopoly can occur if so many incentives are implemented. Moreover, Decree 78 should have provisions to prevent “private risk free” as participating in PPP project in Vietnam</td>
<td></td>
</tr>
<tr>
<td>Reducing political uncertainty</td>
<td>• The cooperation between ASAs and related line ministries during the project preparation stage is lacked. Also, in the bidding phase, composition of IBWG and TSG is vague due to not having people of MPI &amp; MOF and it is unclear to allocate ASA responsible for negotiating ancillary contracts for contract execution phase. Finally, the law governed price and tariff and procurement law have not been updated to be consistent with Decree 78. These will create many uncertainties for private participation in Vietnam PPP projects</td>
<td></td>
</tr>
<tr>
<td>Form of contract</td>
<td>• Decree 78 only offer 3 kinds PPP which are BOT, BT and BTO applied for all infrastructure projects, while other forms as BOO, BOS, BLT are not introduced. This cannot create a large scale of private involvement and doesn't fit for all sectors</td>
<td></td>
</tr>
<tr>
<td>Getting incentive right</td>
<td>• Decree 78 stipulates that any changes in prices and tariff are approved by ASA, but when, how and tariff adjustment are not prescribed. Also, the conditions for fee exemption and discounts are not handled</td>
<td></td>
</tr>
<tr>
<td>Affordability problem</td>
<td>• The government always set the ceiling for tariffs and prices which are often under project cost-recovery. It however has not had the good mitigation measure to solve the affordability problems such as income measures and credit facilities, differentiation of tariffs, services and management solutions</td>
<td></td>
</tr>
<tr>
<td>Process of contract design</td>
<td>• Although competitive bidding is introduced in the Decree, the government doesn't have financial resources and expertise to arrange this process. Also, the Decree leaves many spaces for negotiated occur and practitioners have abused this as experienced in practice</td>
<td></td>
</tr>
<tr>
<td>Preventing regulatory failure</td>
<td>• World Bank (2008) states that only regulator at ministry level has enough expertise for regulating Vietnam PPP practices while know-how of ASA at provincial level is not guaranteed. However, Vietnam has not had PPP center for knowledge sharing and necessary training program for PPP staffs of local government level</td>
<td></td>
</tr>
<tr>
<td>Preventing regulatory rent seeking</td>
<td>• World Bank (2001) ascertains that existing arrangements cannot ensure that private investors and operators will be forced to abide by clear “rules of the game”, partly because regulators are too closely involved in both policy making and the operation of their respective sectors. We can experience this event in Vietnam transport sector where state-owned enterprises have won almost PPP projects.</td>
<td></td>
</tr>
</tbody>
</table>

Table 9. General assessment Decree 78
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4.6 Political risks on PPP projects

As emerging in literatures and practical PPP practices recently, the defects and weaknesses in legal and regulatory framework will cause political risks which result in potential negative impacts on PPP projects and country’s PPP opportunities. This issue will be addressed in this section.

4.6.1 Political risks’ definition and sectors reflection

According to Wang et al. 2000, political risk describes the risk of government actions occurring at the central, provincial and local levels of government that may endanger a project. These actions are from political or policy changes and the multitude of involved organizations as well as lack of coordination of their policies during concession periods that jeopardize cost recovery (kopenjan and Enserink 2009).

In addition to section 3.5.2, the below table will depict shortly the political risks spreading out various sectors of PPP infrastructure projects.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Sector-specific risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>All sectors</td>
<td>Change in law and regulation, breach of contract, expropriation, restrictions in</td>
</tr>
<tr>
<td></td>
<td>currency convertibility and transfer, restrictions in export and import</td>
</tr>
<tr>
<td>Power</td>
<td>Restriction on imported equipment and raw material</td>
</tr>
<tr>
<td></td>
<td>Government’s restrictions on profitability and tariff levels</td>
</tr>
<tr>
<td>Transport (road, tunnel</td>
<td>Government’s restrictions on exchange rate and convertibility</td>
</tr>
<tr>
<td>and bridge, rail and</td>
<td>Restrictions to harbor navigation and air traffic light path for bridge</td>
</tr>
<tr>
<td>airport and port)</td>
<td>Uncoordinated attempt in various districts</td>
</tr>
<tr>
<td></td>
<td>Political stability in spending and pattern</td>
</tr>
<tr>
<td></td>
<td>Change in tariff regulations and quotas</td>
</tr>
<tr>
<td>Process plant</td>
<td>Controlled tariffs</td>
</tr>
<tr>
<td></td>
<td>Fast changing environmental regulations for waste treatment</td>
</tr>
<tr>
<td>Telecommunication</td>
<td>Bureaucracy in licensing</td>
</tr>
</tbody>
</table>

Table.10. List of political risks associated with PPP infrastructure project

Source: adapted from Wang et al. 2000

4.6.2 Critical political risks in PPP projects

Continuing to previous section, this section will intend to dig in detail the critical political risks which have often emerged in PPP projects. As defined above, not good institutional arrangement, imprecise law and wrong actions from agencies conducted laws may generate political risks which jeopardize the project. Specifically, primary political risks include currency inconvertibility and transfer restriction, expropriation, breach of contract, delay in approval, change in law, corruption are often occurred PPP projects. These risks’ definition, impacts, and mitigating measures are depicted in the below risk register table.
## Chapter 4: Policy on Public-Private Partnership in Vietnam

<table>
<thead>
<tr>
<th>Risk name</th>
<th>Description</th>
<th>Impacts</th>
<th>Dealing strategies</th>
<th>Mitigation measures</th>
</tr>
</thead>
</table>
| Currency inconvertibility and transfer restriction (P1) | Restrictions taken by government to prevent conversion of local currency to some form of foreign exchange (exchange control) and/or prevent the transforming of ‘hard’ currency out of the host country (transfer risk). It also includes the failure of a host government to act within a reasonable period of time on an application for such transfer. | - The downfall of foreign exchange rate between the local currency of project income and foreign currency, or the freedom of convertibility and transferability result in loss of profit.  
- The project company is not able to meet debt obligation on time. | - Risk dispersion  
- Risk transfer | - Project company achieve government guarantee through central bank to allow project company the freedom of currency convertibility and transferability  
- Financial hedging: the project company can enter into a “forward purchase contract” with foreign exchange dealers to buy the hard currency on the days of paying debt obligation. By doing so, the project company can hedge itself against the any risk for expected appreciation of the hard currency |
| Expropriation (P2) | Expropriation risk occurs when the government expropriates the project without giving reasonable compensation to the project developer and investor, etc. The expropriation can take the form of nationalization of a facility wholesale (rare) or “creeping” expropriation whereby the government changes regulations, taxes, or tariffs after a project is completed to gradually take over the facility and its operating profits (common). | - Project company loses its right of operation and profit without compensation  
- The credit worthiness of the government is worsen in the eye of investors | - Risk minimization  
- Risk transfer | - Establish JV with local partners, especially central government agencies or state-own enterprises  
- Establish JV with local partners, especially central government agencies or state-own enterprises, e.g., export credit agency. |
| Breach of contract (P3) | A government may terminate contracts without compensation for existing investment for reasons related to contract performance. | - Government supports or guarantees maybe cancelled  
- The return on investment is endangered  
- Project operation agreements maybe changed | - Risk transfer | - Establish JV with local partners, especially central government agencies or state-own enterprises  
- Maintain good relationship with the government  
- Establish JV with local partners, especially central government agencies or state-own enterprises  
- Establish JV with local partners, especially central government agencies or state-own enterprises, e.g., export credit agency. |
| Delay in approval (P4) | The central or local government authority does not approve the project related issues on time or even cancels the already approved ones. | - Obtaining approvals for a project from a complex web of government agencies and departments, from municipal to provincial to central government levels in Vietnam, can be an extremely time consuming process, delaying entire projects and hurting their financial viability. | - Risk minimization  
- Risk dispersal | - Establish JV with local partners, especially central government agencies or state-own enterprises  
- Maintain good relationship with the government  
- Ask government to establish one-stop agency for all approvals  
- Obtain government guarantees to adjust tariff or extend concession period |
| Change in law (P5) | Change in law risk includes changes in government policies with respect to laws and regulations, methods to address inflation, currency conversion, rates and methods of taxation, and the method by which electricity tariffs are set and approved after the signature date of concession agreement | - The initial agreements will be changed. This leads to changes in operation, management and others. These changes may influence negatively on project revenues | - Risk minimization  
- Risk dispersal  
- Risk transfer | - Maintain good relationship with the government authorities, especially officers at state or provincial levels  
- Obtain government guarantees such as adjust tariff, extend concession period to mitigate these changes  
- Insurance for political risks (e.g., MIGA) |
Corruption (P6) Corruption is based on using political, legal, or regulatory leverage to extract additional costs for which no one will ever admit and the project developer can never recoup. It occurs when the government's officials and representatives solicit or receive an unlawful consideration or commission or exert or utilize any unlawful influence in connection with awarding and agreement to the project developer.

- This presents the risk of either spending too much money on corrupt officials or spending money in the wrong places or at the wrong times
- Adding to project cost and reducing profits
- - risk minimization
- - risk dispersal
- Maintain good relationship with the government authorities, especially officers at state or provincial levels
- Establish JV with local partners, especially central government agencies or state-owned enterprises
- Enter into contract to prevent corruption

Table 11. Risk register for critical political risks

4.6.3 Critical political in Vietnam PPP projects
This section will furnish the political risks which have the high probability to occur in PPP project in Vietnam. It can be seen in the table 6 that P1, P4, P5 and P6 can be considered the most serious risks in Vietnam:

**Delay in project approval (P4)**
The delay in approval has happened in almost projects because getting the approval from the complex web of departments and agencies from central to local government is costly and time-consuming process. For example, on a toll road the ministry of transportation (MOT) is responsible for investment management and transportation development planning; while the ministry of finance (MOF) provides regulations on revenue management and other project financial issues; ministry of planning and investment (MPI) offers project license and Province People’s Committees are involved in making master plans and with land clearance and resettlement. These complicated administrative procedures result in a prolonged period before projects can commence. Paperwork at every level of administration lowers the appetite for investing in infrastructure. Moreover, investors are expected to get asymmetric information as coming to each ministry. Asking the government to establish a one-stop agency for all approvals is the most effective measure to mitigate this risk. The establishment of IBWG in Decree 78 more or less gives a spotlight as this suggested measurement, whereby investors may no longer need to negotiate with numerous cumbersome authorities to reach an agreement or, if they do, there should at least be a central coordinator to resolve conflicts between different authorities and SOEs (Freshfields Bruckhaus Deringer 2007). However, it is up to ASAs to decide at their own discretion on the establishment and operation duration of IBWG. There is likely a possibility that ASAs may experience difficulties in securing funds for such IBWGs to function efficiently and effectively. The reason behind of not establishing one-stop agency by inline ministries is that each ministry wants to get intervention to projects in order to retain their power, and the officers expect to get corruption money from potential investors, which contribute largely to their annual income.
Change in law (P5)
The fast change in laws is also a serious risk for investors as participating in PPP projects in Vietnam. Vietnam now is a transition economy to reach modernization. Many out of date laws such as law on enterprise, investment law, security law, environmental law have to be amended or changed quickly to be consistent with international laws. Furthermore, the law governing PPP infrastructure projects in Vietnam has altered very fast from Decree 62, 77 to 78 in 1993, 1997, and 2007 respectively, and a lot circular drafts enacted along side to reconcile its shortfalls. As far as we concerned, many project companies running BOT projects before 2007 had to follow Decree 77, but they are now suffering from new Decree 78 passed in 2007 by adjusting their operation strategies, management systems and organizations. In addition, the new government strategies in energy, transportation, and telecommunication have led to changes in sector laws which have endangered current running BOT projects by the costs for adapting with changes and project revenue threat. Although every new amended or enacted law has a provision to treat the own laws applied for current projects and even the government will give financial compensations for projects which have had negative impacts by these changes, it is not easy for investors to get these compensations by the complex and opaque Vietnamese institutional organization system, and it sometimes adds to extra layer project cost to investors.

Currency inconvertibility and transfer restriction (P1)
Although in Decree 78, the investors are allowed to obtain government guarantee through central bank for the freedom of currency convert into hard currency as US dollar or Euro, the investors may meet the risk of delay in currency transfer due to the weak and low reliability of Vietnam banking system, which leads to not meeting deadline for debt obligation. Moreover, the unstable appreciation and depreciation of VND against hard currencies result in potential foreign exchange risk to investors even though entering “forward purchase contract” with foreign exchange dealers.

Corruption (P6)
Vietnam infrastructure is famous for corruption scandal. The potentials for corruption are more favorable as PPP scheme is introduced due to its close process of project development and implementation. World Bank (2006) states that opportunities for corruption arise at most stages of the Vietnam infrastructure project cycle. Corruption in the project preparation phase typically involves the choice of project location, choice of design, relocation and resettlement plans, and land acquisition. For instance, in 1997 tens of thousands of peasants in Thai Binh province demonstrated against State abuse of land use rights, official corruption, unfair taxation, and compulsory labor contributions. Also, corruption has occurred in project implementation phase by changing order schemes (bids are set artificially low to secure the contract, and subsequently adjusted by change orders) and the use of inadequate and/or inferior materials. For example, in 2003 questions were raised about the award of procurement contracts by Vietnam Post and Telecom (VNPT) group, with media allegations that 90% of the contracts handed out between 1998 and 2003 were to favored suppliers, and contravened laws on tendering. Also, in April 2006 newspapers reported instances of misdirection of funds in transport projects managed by Project Management Unit 18 (PMU 18). Many roads and bridges constructed by the unit are reported to...
have quickly degraded due to inadequate materials used in initial construction. One bridge alone is reported to have required VND 31 billion (US$ 2 million) to repair within one year of its completion.

4.7 Conclusion and Recommendation

The new Decree 78 dated 11 May 2007 on the investment in the form of BOT/BTO/BT contracts show the endeavors of Vietnamese government in order to push private participation in infrastructure projects. In general, there are some positive improvements compared to Decree 62, Decree 77 and early BOT Decree on 1993. However, through the detailed analysis, the new Decree has failed to address adequately many issues rendered the ill-equipped law to create a momentum for domestic and foreign private participation in sizeable infrastructure projects up to now. While the BOT framework is now marginally more developed, it stills contains many gaps, uncertainties and potential conflicts to cause an expected boom in BOT investment. Also, we can state that the Decree 78 is not a good generic law governed PPP practices in Vietnam because it does not satisfy the criterions such as creating the willingness for private party to invest in PPP projects, good contract design and preventing regulation failure.

As experienced in international PPP practices and literatures, the weakness in law, institutional arrangements, and wrong conducting laws of agencies result in political risks. The critical political risks which has most occurred in PPP projects are identified. Also, the political risks such as delay in approval, change in law, limitation in foreign convertibility and transfer which have the high probability to occur and their potential negative impacts to PPP infrastructure projects in Vietnam are depicted.

Eventually, this chapter does not forget to give recommendations for future improvements to cure the defects identified in section 3 and 4, which are summarized in table 2 and 3. These recommendations are the necessary actions for Vietnamese law makers to improve Decree 78 in the future to reach good PPP practices (see appendix 1).

Even though there are many constraints and shortcomings in the laws governing PPP practices, there are a number PPP projects which have been implemented across regions in Vietnam up to now. Therefore, the next chapter will address the state of the art of PPP practice in Vietnam, whereby we have chances to observe how these weaknesses influence on PPP projects and opportunities in Vietnam and how actors behave in order to survive in this unfavorable environment.
5. Chapter 5: State of the Art of PPP practices in Vietnam

5.1 Introduction

Chapter 3 presents the whole picture of various financial sources outside the government budget, which contribute for infrastructure investments. However, the weaknesses of banking system, capital market, the tentativeness of private investors and investment funds in infrastructure projects have hindered the private participation in Vietnam infrastructure or PPP. Also the later parts of this chapter propose the solutions to ease these difficulties and live up PPP projects by appropriate government’s supports and guarantees, innovative technical and financial solutions of private partner, and a fair risk allocation. In addition, chapter 4 comes up with the deep analysis on what is good and what is bad of Decree 78 which is the generic law governing PPP in Vietnam. It is considerable that Decree 78 is not a good generic law governed PPP practices in Vietnam because it does not satisfy the criterions such as creating the willingness for private party to invest in PPP projects, good contract design and preventing regulation failure. Therefore, these issues generate the central questions for this chapter: how do these weaknesses influence on the PPP opportunities and PPP projects in various sectors of infrastructure in Vietnam? And how do actors cope with these obstacles?

In order to address these questions, the chapter will present the statistical information to illustrate Vietnam private participation in infrastructure compared to some selected neighbor nations. Also the challenges and constraints of specific sector as power, water and sanitation, transportation and telecommunication faced in practices will be depicted. Finally, the specific difficult problems faced by private and public party in particular PPP projects on an ad hoc sector basis and their actions in dealing these obscurities will be mentioned.

With the scope of this contribution, this chapter is arranged as followings. Section 2 will offer the overall context of private participation in infrastructure in Vietnam, including the amount of private investment in infrastructure projects, the private involvement in each sector, private sector participation in infrastructure by Gross National Income (GNI) per capita and considering investments on a per capita basis, compared to selected Asia economic partnership Agreement (EPA) countries. Section 3 will come up with the current PPP activities in Vietnam in power, water and sanitation, transportation, and telecommunication sector, whereby the governance issues (total and remarkable projects in each sector, the authorities or institutional arrangements) and the specific constraints or problems behind private involvement, and the short proposed recommendation for improvement will be lively illustrated. Section 4 will look closer to particular challenges faced by practitioners in current PPP projects in Vietnam and observe how actors react with these difficulties to cope with specific situation of Vietnamese real life PPP projects. Finally, chapter summary, lessons learned and the next addressed issues will be presented in section 5.
5.2 Overall context of private participation in Vietnam infrastructure

As stated in chapter 3, the future annual infrastructure investments would need to be around 11% of GDP, an increase of 2% over recent levels. This financing target is based on meeting Government targets on access to electricity, water, and telecommunication, and the transport investments proposed by line Ministries. Given the infrastructure financing gap, private finance will become increasingly important. However, private investments in Vietnam lag behind those in comparator countries in East Asia. Figure 18 shows the number of infrastructure projects with private participation, as well as the amount of private investment in infrastructure in Vietnam. Of the 1080 infrastructure projects with private participation that reached financial closure in East Asia over 1990-2006, only 17 were located in Vietnam, compared to 83 in the Philippines, 80 in Indonesia and 672 in China. Similarly, Vietnam accounted for only about US$ 4 billion of a total of US$ 250 billion private investments in the region, compared to US$ 38 billion in the Philippines, US$ 37 billion in Indonesia, and US$ 90 billion in China over the same time period. Additionally, the average size of an infrastructure project, as measured by the average dollar investment per project over 1990-2006 in Vietnam is about US$ 200 million, which is far lower than that in the Philippines (US$ 534 million), and Indonesia (US$ 568 million) (World Bank 2008).

![Figure 18. Private Participation in Infrastructure in selected EPA countries, 1990-2006](image)

Source: World Bank 2008 (PPI database)
The relatively low levels of private sector participation in Vietnam as evidenced in numbers of projects as well as dollar investments are reflected across all infrastructure sectors as shown in Figure 19.

Moreover, Vietnam continues to have relatively low private sector participation in infrastructure even after normalizing by Gross National Income (GNI) per capita and considering investments on a per capita basis (Figure 20). The ratio of total private investment in infrastructure to GNI per capita in Vietnam is 0.6, much lower than in China (6.4), Indonesia (2.3) and the Philippines (2.0). As well, when considered in per capita terms, private investments in infrastructure over 1990-2006 are lower in Vietnam at US$ 3 compared with US$ 22.3 in the Philippines, US$ 10.8 in Indonesia and US$ 4.3 in China. Excluding the year 2002 when Vietnam as a one-off spike in private investments, the average per capita private investment in infrastructure falls from US$ 3 to US$ 1.7.

Figure 20. Total Private Investment in Infrastructure (1990-2006) in selected EAP countries
Source: World Bank 2008 (PPI database)
Finally, the table below contains additional information on specific privately financed infrastructure projects over 1990-2007 (World Bank 2008). World Bank only approved 17 projects in the figure as PPP because they achieved the full-fledged PPP-model in which the project sponsors are the true private investors, not state-owned enterprises.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Project name</th>
<th>Location</th>
<th>Type of PPI</th>
<th>Subsector</th>
<th>Investment years</th>
<th>Contract period</th>
<th>Termination year</th>
<th>Investment commitments in physical assets*</th>
<th>Total investment commitments*</th>
<th>% ownership</th>
<th>Sponsor name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>Bourbon Sugar Mill Power Plant</td>
<td>Tay Ninh</td>
<td>BOO</td>
<td>Electricity</td>
<td>1996-1996</td>
<td></td>
<td>2016</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>Bourbon, France</td>
</tr>
<tr>
<td>Energy</td>
<td>Hiep Phuoc Power Company</td>
<td>Tan Thuan</td>
<td>ROT</td>
<td>Electricity/Roads</td>
<td>1996-1996</td>
<td>50</td>
<td>2046</td>
<td>205</td>
<td>205</td>
<td>Central Trading and Development Corp</td>
<td></td>
</tr>
<tr>
<td>Energy</td>
<td>Namco Hau Phong Industrial Zone Power Plant</td>
<td>HaiPhong</td>
<td>BOO</td>
<td>Electricity</td>
<td>1999-1999</td>
<td></td>
<td>2019</td>
<td>100</td>
<td>100</td>
<td>Normat, Japan</td>
<td></td>
</tr>
<tr>
<td>Energy</td>
<td>Hung NghiVN Express power plant</td>
<td>Dong Nai province</td>
<td>BOO</td>
<td>Electricity</td>
<td>2001-2001</td>
<td></td>
<td>2021</td>
<td>87</td>
<td>87</td>
<td>Formosa Plastics Group, China</td>
<td></td>
</tr>
<tr>
<td>Energy</td>
<td>Nan Con Son Gas Pipeline</td>
<td>Thoai Thanh, Binh Dinh city, Vung Tau province</td>
<td>BOO</td>
<td>Natural Gas</td>
<td>2002-2002</td>
<td></td>
<td>2022</td>
<td>1,300</td>
<td>1,300</td>
<td>United Kingdom, Canada, France</td>
<td></td>
</tr>
<tr>
<td>Energy</td>
<td>Phu My 2.2</td>
<td>Binh Dinh city, Vung Tau province</td>
<td>BOT</td>
<td>Electricity</td>
<td>2002-2002</td>
<td>20</td>
<td>2022</td>
<td>488</td>
<td>488</td>
<td>Electric de France/ South Korea Corporation, France</td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>Ho Chi Minh City Airport Cargo Services</td>
<td>Ho Chi Minh City</td>
<td>BOT</td>
<td>Airports</td>
<td>1996-1996</td>
<td></td>
<td>1996</td>
<td>15</td>
<td>15</td>
<td>Singapore Airport Terminal Service, SCPA</td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>Tan Thuan Dong container port</td>
<td>Ho Chi Minh City</td>
<td>BOT</td>
<td>Seaports</td>
<td>1997-2003</td>
<td></td>
<td>1997</td>
<td>30</td>
<td>30</td>
<td>Neptune Orient Lines, P.N.A</td>
<td></td>
</tr>
<tr>
<td>Water and sewerage</td>
<td>Thu Duc Water Project</td>
<td>Ho Chi Minh City</td>
<td>BOT</td>
<td>Treatment plant</td>
<td>2001-2003</td>
<td>25</td>
<td>2003</td>
<td>154</td>
<td>154</td>
<td>SUEZ, France</td>
<td></td>
</tr>
</tbody>
</table>

Note: All projects are greenfield projects, except a and b are Concession projects.
c. project concluded
sp. project cancelled
* in US$ millions

Table 5.2. Privately Financed Infrastructure Projects over 1990-2007
5.3 Current PPP activities in Vietnam

According to the report of ministry of planning and investment (MPI), Vietnam has had about 60 of BOT and joint venture projects in the areas of infrastructure development (Bao Nhu 2005). For example, 10 projects in power sector (since 1996), 2 projects in telecommunication, 2 projects in water and sewerage (1998 and 2000) and 31 projects in road sector. Some projects are quite successful (e.g. Phu My power plan, Yen Lenh Bridge, Co May Bridge, Deo Ngang Tunnel, An Suong Anh La National Highway 1A, Nguyen Van Linh Road (in HCMC), while some others failed such as Ong Thin Bridge, Phu My Bridge, Binh Trieu II Road and Bridge, HCMC Inter-provincial Road 15 (World Bank 2008). Specifically, the targets, nature, governance, and problems of private participation in infrastructure in specific sector will be depicted as followings:

5.3.1 Private participation in power sector

The capacity of Vietnam’s electricity system needs to double in just five years to meet demand growth projected at 16% per year during 2006-2010. In 2004 it was estimated that generation capacity would need to expand from 11,000 MW in 2004 to 24000 MW by 2010. Based on latest demand projections in the Sixth Power Master Plan, investments in the power sector between 2006-2025 amount to VND 1,262,980 billion (US$ 79.930 billion). Annual power sector requirements during this period are expected to cost approximately US$ 4 billion (World Bank 2006).

There is a critical shortfall of resources to meet the growing demand for electricity stemming from rapid growth and urbanization in Vietnam. The main non-state budget financing sources for the power sector include (i) Electricity of Vietnam (EVN)’s contribution, from its own resources and different types of borrowing; (ii) and independent investment (local and international private sector and State-Owned Enterprises (SOEs)). However, despite maintaining profitability since its inception in 1995 and retaining a sound financial position, EVN’s resource mobilization whether from its retained earning or from heavy borrowing through ODA, export credit facilities and commercial sources, will fall critically short of investment requirements. The estimated EVN’s contribution to investment requirements of The Sixth Power Master Plan project over 2006-2025 will be VND 665,389 billion (US$ 42 billion), amounting to a little over half of total requirements. The resulting investment gap will need to be met by foreign or domestic private firms and other developers. The Sixth Power Master Plan approved by the Prime Minister has already identified projects to be developed by BOTs or Independent Power Producers (IPPs)6 (with the number of projects and MWs specified in the master plan document) (World Bank 2006).

In practice, a number of power generation transactions in the past have been negotiated with SOEs, by and large in the absence of competitive bidding considerations. For instance, in the power generation sector, major projects were chiefly funded by EVN as public projects, or recently by other SOEs, including Petrovietnam, Vinacomin, and state-owned construction

6 The power sector in Vietnam makes the following distinction between BOTs and IPPs. Generation BOTs are invested projects under the BOT Decree 78, with a BOT Agreement with MOIT and a long term Power Purchase Agreements (PPAs) with EVN (or eventually other procurement power companies in the market), such as Phu My 2.2, while Independent Power Producers (IPPs) are generation projects not owned by EVN and do not qualify as a BOT (i.e., not built under the BOT Decree). In principle, guarantees are only available to foreign investors.
companies. In addition, there are concerns with respect to EVN maintaining a dominant share of power generation, through full ownership, as well as shares in equitization and Joint Ventures (JVs), and similarly of strong involvement in power generation by principal fuel suppliers Vinacomin and PetroVietnam. By effectively requiring interested investors in generation to enter a JV with EVN, Vinacomin or PetroVietnam, the current arrangements are trying to create the development of a competitive power market (World Bank 2008).

Overall, the energy sector in Vietnam has received the most private sector participation among the infrastructure sectors. Of the seventeen infrastructure projects (US$ 4 billion) undertaken with private sector participation over the period 1990-2007 showed in table 12, 10 were in the energy sector (US$ 2.7 billion), including 9 in electricity (US$ 1.4 billion) and 1 in the natural gas sector (US$ 1.3 billion).

The main electricity projects with private participation in recent years have been the Phu My 2-2 and the Phu My 3 BOTs. the government has used competitive bidding to provide benchmarks against which to measure non-competitive bids. This "indirect competition" for unsolicited proposals achieved good prices in Phu My 3, even if not competitively bid. However, the explicit use of competitive bidding for awarding power purchase agreements will create greater transparency in the procurement process as well as potential work towards providing power at lower costs than negotiated deals. The success of Phu My 2.2 provides a notable precedent in competitive bidding in Vietnam (See Box 1). Moreover, The IFC through its advisory mandate on the Nghi Son 2 BOT project have worked with the government, in particular the Ministry of Industry and Trade (MOIT) and the Ministry of Finance (MOF), in determining a rational process for determining the availability, form and quantum of government guarantees for the BOT tender scheduled for 2008 to mitigate for political risk with the current absence of parts of legal and regulatory frameworks that are not conducive to the operations of foreign investors (World Bank 2008).

The key factor which led to the achievement of financing for these large-scale power projects, while a number of smaller foreign projects failed to achieve financial closure, was the explicit government guarantees covering significant risks, including political risk such as currency convertibility and performance risk of Vietnamese contractual counter-parties, which are typically beyond the control of private sector financiers. Such government guarantees and supports for the projects in turn enabled multilateral banks and bilateral agencies to provide their respective financing support as political risk guarantees and loans, thus assisted the mobilization of debt with longer tenor and lower interest rate costs, making the projects bankable and competitive (World Bank 2008).

There is a “long list” of private investors wanting to establish new wholly foreign-owned thermal power plants in Vietnam. However, some of these interested firms do not have established track records in developing major power projects; others do not appear to be associated with proposed sites identified by the Master Plan. The challenge for the GoV will be to select viable projects from all preliminary signs of interest and accelerate the implementation of new generation projects.
General speaking, although the sole public offtaker Electricity of Vietnam (EVN) maintains the dominant powers, the energy sector has been the most successful one in respect of private participation by 10 out of 17 pure PPP projects in Vietnam approved by World Bank. This sector is attractive to foreign private investors because the Government has been explicit to guarantee for significant project risks, especially political risks, which have increased the confidences of involved private partner. However, the future challenge for energy sector is that the Government has to redefine the projects in its master plans to be consistent with private interests in order to convince them as participating in these projects. This is the urgent need in order to accelerate private involvement so as to fill in the funding gaps to achieve the future target.

The Phu My 2.2 power project is a 715-MW gas-fired combined-cycle power facility to be constructed as BOT basis at the Phu My Power Generation Center (PMPGC) site in the Phu My Industrial Complex in Ba Ria - Vung Tau (BR-VT) Province, 70 km southeast of Ho Chi Minh City. The project is built, owned, and operated by Mekong Energy Company Ltd. (MEO), a project company established by the winning sponsor consortium of EDF International (EDFI, 56.25 percent), Sumitomo Corporation (28.125 percent), and Tokyo Electric Power Company International (TEPCI, 15.625 percent).

It is implemented under a 20-year BOT Contract with the Ministry of Industry (MOI), and sells power exclusively to state-owned Electricity of Vietnam (EVN) under a 20-year Power Purchase Agreement (PPA). It is fueled by domestic gas sourced from the Nam Con Son Basin gas fields jointly owned by private developers and Petro Vietnam [PV], and supplied by state-owned Vietnam Oil and Gas Corporation or PV under a 20-year Agreement for the Sale of Natural Gas (GSA). The Government guarantees the contractual performance of each Vietnamese contractual party to MECO, including payment obligations, under the BOT Contract, PPA, GSA, and associated Vietnamese project agreements, as well as the availability, convertibility, and transferability of foreign exchange.

The Phu My 2.2 power project was the first private infrastructure BOT project in Vietnam where the project sponsors were selected under an international competitive bidding. The World Bank (through IDA) helped the government finance the first phase of the Phu My 2 power project as a public project, and assisted the development of the second phase as a BOT project through financing the government’s preparation of bidding documents and offering an IDA partial risk guarantee (PRG) as an option to all the bidders. The offering of the PRG enhanced the competition at the bidding and the government received attractive tariff proposals from international investor consortia. Also, this project can be considered as the most successful one in any aspect and as the model for BOT projects of Vietnamese energy sector.

Box 1: Phu My 2.2 BOT power project

Source: adapted from World Bank 2006-2008
5.3.2 Private participation in the water sector

Significant investments are required to build greenfield water supply systems, and improve and expand existing networks. Achieving the Government set coverage targets of 85% for urban water and sanitation, and 75% for rural water and sanitation would require investment of VND 57,547 billion (US$ 3.62 billion) over 2005-2010. This would call for doubling investments in the water and sanitation sector from 0.6% of GDP to 1.2% of GDP by 2010 annually (World Bank 2006).

There are two major challenges in Vietnam water sector. First of all, the funding source has depended on official development assistance (ODA) overwhelmingly. Nearly 85% of the US$ 1 billion invested over the past 10 years has come from ODA, which is unlikely to expand significantly in coming years. Therefore, private participation is critical for filling in this funding gap. Secondly, tariffs and affordability are another major concern. At present, tariffs charged by water companies do not cover costs, partly due to affordability considerations. Many households in district towns may not be able to pay the true cost of service. At the same time, although the population in major urban centers on average can afford to pay cost-recovering tariffs, the Provincial People’s Committees (PPCs) are not willing to increase these from current levels. Therefore, the government can adopt the following strategies to treat this issue such as (1) income measures in which subsidies or credit provisions may be used for lower-income groups; (2) differentiation of tariff where rising block rate with adjusted schedule on the basis of the socioeconomic characteristics of household is applied; and (3) differentiated management solution in which the local providers or communities involved through subcontracting, franchising, and mini concessions may offer an attractive solution to the “problem of small bills” (Koppenjan and Enserink 2009).

The preference in water projects has been toward directly negotiated BOT contracts in a JV with an SOE, whose equity contribution is in the form of land. Only one foreign BOT water treatment facility has been built so far; another was transferred from foreign hands to a Vietnamese consortium. In 1994, the first water supply BOT was awarded by the provincial committee of Ho Chi Minh City (HCMC) to the Malaysian firm Binh An Water Corporation. Under the agreement, the Binh An water treatment plant was supplying water to the HCMC WSC at the rate of 100,000 m3/day for a flat take-or-pay charge of US$0.3/m3 under (data of 2001). The second phase was licensed in 1999 but never started. In August 2004, the HCMC WSC took over the second phase after the City has agreed to compensate the Malaysian investor with $4 million (see box 2). Another BOT project for the construction of the Thu Duc No.2 water treatment plant with a capacity of 300,000 m3/day was licensed to Lyonnaise Vietnam Water Company (LVWC) in 1997 and operated in 2003. However, LVWC withdrew in February 2003, following which, a local Vietnamese consortium led by HCMC Infrastructure Investment Joint Stock Company won the tender in August 2004 (See Box 3). It is instructive to note that neither BOT investor was selected competitively, and that in Thu Duc’s case the original tariffs proposed by the investor
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LVWC was much higher than those charged by the current Vietnamese operator (World Bank 2008).

In the absence of more BOT projects, there have been an increasing number of projects that use contracting mechanisms similar to those found in full PPP, for example the performance based contracting for water loss control and so-called Design-Build-Lease, where a private party is required to design, build and operate water systems on long term contacts but is not required to provide the financing. Haiphong City has such example where ODA grant funding is used to cover the capital costs of a 1,400 m3/day water works at a cost of VND 17 billion on a 10 year contract. A special purpose operations company was formed to carry out the operations (World Bank 2008; Nguyen Thi Binh Minh 2005).

In general, there are only 2 BOT projects in water sector up to now. The reason for unattractiveness of private participation in this sector is that the tariff is often set lower than the project cost-recovery due to the affordability of households. Due to not pushing PPP-scheme in recent years, the sector is turning to other types of development such as Design-Build-Lease, in which the private partner does not finance the project. This scheme cannot solve the Government budget deficit to meet the future target. Therefore, the Government should adopt appropriate strategies to deal with the tariff and affordable problem such as income measures, differentiation of tariff and differentiated management solution to attract private involvement in this sector.

The Malaysian firm Binh An Water Corporation Limited (BAWC), a 100% foreign owned consortium, has a 20 year BOT contract with HCMC Water Supply Company (WSC). The contract calls for BAWC to supply 100,000 m3/day of treated water on take-or-pay basis. Most of the water treated at the BAWC plant will be allocated to Bien Hoa Industrial Zone, where industrial customers can afford higher rates. In addition, BAWC will meet about 10% of HCMC's predicted demand. The BOT contract was negotiated, not competitively bid, with the People's Committee of HCMC in August 1994. A license was issued in March 1995. Construction started in December 1997 and was planned to be in operation by April 1999. Although the construction has nearly completed, project has been halted due to difficulty of reaching financial closure. Some key characteristics of this BOT are:

- The project contract was negotiated with a single investment group. The BOT concept was used for the first time in the water sector in Vietnam and the government's inexperience led it to negotiate a deal with a single supplier rather than employ a competitive bidding process. As a result, the government gets the unfavorable tariff from Malaysian investor.
- There was a one-year delay in the start of construction due to difficult land use negotiations. Land was donated “free” by HCMC, but the site location was in a different province (Song Be) which would receive none of the services, and reap none of the benefits of the BOT. Various fees had to be paid for resettlement and land compensation before it was approved.
- The State Bank of Vietnam would not offer a guarantee to BAWC for the bulk sale contract with WSC. The only guarantee came from the HCMC People's Committee, based on an unaudited annual budget of US$286 million. It is widely assumed that the National Government will step in if the People's Committee can not meet its obligation.
- Market risk and foreign exchange risk associated with this contract is almost entirely born by the government through a dollar denominated take-or-pay agreement and a guarantee from People's Committee.

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The BOT concession for the Thu Duc No.2 water treatment plant with a capacity of 300,000 m3/day was licensed to Lyonnaise Vietnam Water Company (LVWC) in 1997 and operated in 2003. The HCMC Water Supply Company was to purchase 300,000 cubic meters of treated water per day from LVWC at a price of an average US$23m year. The total project cost was about US$150m, slightly increased from the original estimate of US$140m. The debt portion was US$100m based on a 70:30 debt-to-equity ratio, with tenor of 14 and ½ years, inclusive of the construction period of 2 and ½ years. The Asian Development Bank provided a direct US$35m loan. Additionally, ADB, together with Coface and OND confirmed to provide coverage for US$65m that was underwritten by three banks – ANZ Investment Bank and Fortis Bank provided 40% each (US$26m) and Credit Lyonnais took the remaining 20% (US$13m). The project had a concession period of 25 years after construction. At the end of the operational term, the plant was to be transferred to the Government of Vietnam in accordance with a contract signed by the HCMC People’s Committee and the investors concerned.

The project had a comprehensive provision for risk mitigation that included not only the standard political risk cover (wars and riots, expropriation and transfer risks) but also outstanding debt in case the Government of Vietnam failed to pay termination compensation. In other words, the structure of the risk coverage was such that the lenders would be insured irrespective of whether the termination was caused by the Vietnamese or by the BOT company. This comprehensive coverage notwithstanding, the level of residual risks to be absorbed by the commercial banks and the long tenors of up to 15 years had not been tested in the Vietnamese market prior to this transaction.

By February 2003, Suez Lyonnais de Eaux and Tractebel had terminated their plan to do the project. One reason cited by LVWC was that some of the conditions precedent (CPs) enabling the BOT concession to come into effect had not been fulfilled by the Government during the seven years of project development. After the transfer of the assets, the Central Government allowed the city to carry out the project under the build-operate-own contract and invite tenders, and this time, only from Vietnamese companies, to build the facility. In August 2004, a local Vietnamese consortium led by HCMC Infrastructure Investment Joint Stock Company won the tender.

Box 3: Thu Duc water treatment plant, source from World Bank 2008.

5.3.3 Private participation in the transportation sector

There have been large, albeit uneven, increases in expenditures on transport over the last few years. On average, expenditures on transport increased by 21% per annum between 1994 and 2002. The increase in transport expenditures is also evident in their rising share in total government expenditures from 7.8% in 1994 to 17.6% in 2002. Growth in transport spending during this period was characterized by tremendous fluctuation by falling to a low of 6% in 2000 and rising to a high of 50% in the following year. Transport expenditure is expected to count for 3.5-4.0% of GDP. The expected expenditures for this sector will be increased in coming years due to the fast growing of Vietnam economy (World Bank 2006).

Around 30% of the Ministry of Transport (MOT)’s projects between 2001 and 2005 were financed by government bonds. Local development investment funds (LDIFs) are also using bond financing to provide transport projects in some provinces. Deducting the ODA share from the State Budget, the state financed about 20% out of its own resources. Loans from SOCBs funded an additional 3% while BOT accounted for 5% of the total. Going forward, the private sector is expected to play an expanded role in financing highways, ports and airports.

Despite the Government emphasizing the mobilization of the private sector for road financing for a number of years, no foreign investment and little domestic funds have flowed to the sector.
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There is little involvement of foreign contractors other than some ODA funded contracts. The national transport development strategy targets 40-50% of investment through various forms of PPP and accepts the principle of user charging through toll fees. There is however no comprehensive PPP strategy to give effect to these policies, and the process used in developing PPP has had deficiencies such as time overruns stemming from inadequate project preparation, poor project selection, non-competitive or un-transparent bidding procedures, massive cost escalation, competition between SOEs and private companies, poorly considered risk allocation and limited institutional capacity to manage PPP on the part of government. A move towards the use of improved project selection methodologies, preparation, bidding and operation of PPP projects along lines of international best practice will lead to financing and efficiency benefits (World Bank 2006).

The MOT has entered into a few domestic PPP projects; however, owing to preferential treatment as well as various forms of Government financial support, these projects may not be regarded as full-fledged BOT transactions. Of the 15 operating projects in the road sector, 10 have been developed by SOE investors; none have foreign investors. 3 projects have failed with investors paying out. An additional 19 projects are currently being implemented, 11 of which have SOE investors, and 2 are to be financed substantially by ODA. State funding is likely to be used in many projects for land clearance and acquisition, or as capital contribution (World Bank 2008).

The port sector of Vietnam has probably seen the most involvement of the private sector in transport sector. There continues to be tremendous speculation about the construction of transshipment facilities by private developers to serve a land bridge into Laos and Thailand through central Vietnam, but the projects are yet to come to financial closure. Meanwhile, private facilities have been built and are operational in Baria Serese and at the VICT terminal in Ho Chi Minh City and small private terminals are now being incrementally as part of the industrial zone at Dinh Vu (see box 4). In the mid-1990s, the Southern Airport Authority solicited qualification statements for a US$200 million Build-Transfer, turn-key expansion terminal for Tan Son Nhat Airport (Ho Chi Minh City), but that bidding process was eventually suspended. However, the project had been lived up in 1996 by the 15-year-BOT concession contract with the Singapore Airport Terminal Service (World Bank 2001).

In short, there are 3 port-BOT projects while there are not any pure PPP projects in other sectors of transportation. It is because the state-owned enterprises (SOEs) subsidized by Ministry of Transportation (MOT) and others present overwhelmingly in this sector with poor performances, especially for road and bridge projects. This has hindered the private investors’ involvement because they cannot compete with the dominant powers of SOEs. Moreover, World Bank considers PPP projects with SOE investors to be domestic PPP since these look like public-developed projects rather than full-fledged PPP. As a result, to stimulate private involvement in this sector, the Government should stipulate which kinds of projects are only allowed private investors to participate in while others are for SOEs so as to create a clear boundary between them.
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5.3.4 Private participation in the telecommunication sector

Vietnam has shown explosive growth in its mobile and internet markets in the last three years. Annual investments in the telecom sector, estimated at US$ 720 million, would need to be more than twice Vietnam Post and Telecommunications (VNPT) investment budget of US$ 313 million for 2003 to meet the telecom targets set by the Government. In the telecommunications sector, in October 2005 the Ministry of Post and Telecommunications adopted a target of 32-42 total telephone lines per 100 population by 2010. To achieve 35 lines per 100 population would require about VND 57,000 billion (US$ 3.6 billion). Spread over the period 2006-2010, this would amount to about VND 11,400 billion (US$ 720 million), or approximately 1.4% of GDP annually (World Bank 2006).
In terms of private participation until recently, the only avenue for private and foreign involvement 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 (World Bank 2008). BCCs are essentially Build-Transfer (BT) schemes and have been designed as a mechanism to circumvent the government’s restriction on foreign participation in telecom operations. The BCCs are let without a bidding process, although the bidding within the contracts is by competitive tender. Instead they are arranged through 'business relationships' that have been developed over time. Interestingly, all of the BCC investors to date are state-controlled government telcos, apart from Cable & Wireless. The table below lists the main BCCs in Vietnam (World Bank 2001).

Going forward, it is likely that VNPT will have to mobilize alternative sources of financing telecom investments. VNPT’s main sources of profits, i.e., highly priced leased lines and international calling, will fall as competition increases, as a result of which self-financing of investments will be reduced. Possible new sources of finance could include bonds or issuance of shares. Current business cooperation contracts (BCCs) with foreign telecommunications companies generate hundreds of millions of dollar investment, but the restrictions on this type of investment (such as the absence of management rights for the foreign investor) means that billions of dollar private investment through BCCs are unlikely. A move to true joint ventures, desirably with the possibility of majority private ownership, management control rights, and equity returns, would be likely to generate higher levels of investment.

<table>
<thead>
<tr>
<th>International Partners</th>
<th>Project Names</th>
<th>Value (US$ million)</th>
<th>Date of License</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Telstra</td>
<td>International telecommunications</td>
<td>237.15</td>
<td>20 Oct 1990</td>
<td>Operational</td>
</tr>
<tr>
<td>2. Voice International (Australia)</td>
<td>PCC paging</td>
<td>0.725</td>
<td>21 Dec 1989</td>
<td>Completed the contracted phase</td>
</tr>
<tr>
<td>3. Sapura (Malaysia)</td>
<td>Prepaid phone cards</td>
<td>3.571</td>
<td>6 Oct 1993</td>
<td>Operational</td>
</tr>
<tr>
<td>4. Comvik (Sweden)</td>
<td>Mobile phone services</td>
<td>127.8</td>
<td>19 May 1995</td>
<td>Operational</td>
</tr>
<tr>
<td>5. Korea Telecom (Korea)</td>
<td>Telephone services (Hai Dong, Hai Phong, Hung Yen, Quang Ninh)</td>
<td>40</td>
<td>27 Apr 1996</td>
<td>Operational</td>
</tr>
<tr>
<td>6. Worldsor Holdings</td>
<td>Telephone directory</td>
<td>0.82</td>
<td>17 Jun 1995</td>
<td>Operational</td>
</tr>
<tr>
<td>7. NTT</td>
<td>Telephone services for northern part of Hanoi</td>
<td>194.4</td>
<td>12 Nov 1997</td>
<td>Operational</td>
</tr>
<tr>
<td>8. FRC (France)</td>
<td>Telephone services for eastern part of HCM</td>
<td>467</td>
<td>12 Nov 1997</td>
<td>Operational</td>
</tr>
<tr>
<td>9. Cable &amp; Wireless (UK)</td>
<td>Telephone services for the southwestern part of Hanoi</td>
<td>207.06</td>
<td>8 Aug 1998</td>
<td>Being reviewed for termination in advance of the project term.</td>
</tr>
</tbody>
</table>

Table.13. Business Cooperation Contracts with VNPT (BCCs),
Source: World Bank 2001

In general, telecommunication sector is less attractive for private involvement compared to others because the Government has heavily restricted the ownership, management control rights, and equity share of private investors. The private participation in this sector is only under BCC or BT form which contributes as a way to escape from Government restriction. However, the public funding for the target can only affordable for a half amount. Therefore, the improvement toward joint ventures and the possibility of private ownership, management control and equity share can be considered the most feasible solutions to create the incentives for private involvement in this sector.
5.3.5 Conclusion remark

This section will come up with the similarities and differences of problems faced by private participation in above 4 sectors:

**Similarities**

The first resemblance is that the public funding cannot be affordable to meet the future target. In all sectors, the Government can only meet about a half amount for needs of infrastructure investments. The second similarity is that the state-owned enterprises (SOEs) have kept dominant powers across sectors. This hinders the process of private involvement in Vietnam infrastructure projects because public has crowded out private sector by its powerful position. Also, the overwhelming present of SOEs makes the full-fledged PPP model difficult to achieve as the example of domestic PPP in transport sector and BBCs or BT scheme in telecommunication sector. Finally, except for Phu My 2-2 project in energy sector, the competitive bidding is lacking in all BOT projects across sectors until recently.

**Differences**

Energy sector attracts the most private participation compared to others by 10 out of 17 BOT projects, in which the Government is explicit to offer guarantees for these projects. Telecommunication is also attractive to foreign investors. However, due to many restrictions of the Government as private ownership, management control and equity share, the private investors still do not have many spaces to participate in this sector. The private party can only join in BBCs or BT contract in which it finances, designs and builds the projects and then transfers to the Government. The most poor performance sector is transportation. The private sector cannot compete with public due to its dominant power. Also, many domestic PPP projects in road and bridge sector have failed with huge cost overrun and delay. In water sector, tariff and affordability are the most concerned issue because the tariff has often set below the project cost recovery, which results in unattractiveness to private investors in economic and financial perspective. Due not pushing up PPP scheme, the sector is inclined to turn into Design-Build-Lease form, in which private party is required to design, build and operate water systems on long term contacts but is not required to provide the financing.

There are also some differences in the strategies for each sector to push private involvement. Government should redefine its master plans to be consistent with private interests to get private involvement in energy sector, whereas Telecom sector should move to true joint ventures, allow private ownership, management control right, and equity contribution, to generate higher levels of private investments. Moreover, the Government should define which projects are only allowed for private investors whereas others are for SOEs to prevent their overwhelming presents so that private party has more incentive to participate in transport sector, while the water sector should adopt good strategies such as income measures, differentiation of tariff and differentiated management solution to cope with tariff and affordable problem.
5.4 Particular challenges faced by Vietnamese BOT projects

This section will specifically analyze the difficulties faced by practitioners in real-life Vietnamese BOT projects across sectors. Also, it is intended to depict the behaviors of involved actors in the process in order to cope with difficulties in practices.

5.4.1 Problems faced by practitioners

Problems in financial accessibility for small-scale BOT projects

As stated in section 3.1, the key factor which led to the achievement of financing for the large-scale projects such as BOT electricity Phu My 2-2 and Phu My 3 was the explicit government guarantees covering significant risks, including political risk such as currency convertibility and performance risk of Vietnamese contractual counter-parties, while these guarantees do not occur in small-scale projects which make the investors difficulty in getting financial closures from banks and financial institutions.

For instance, in BOT An Binh water treatment plant, the private investors had to bear almost risks containing construction, operation, transportation (pipe), regulation, and exchange rate risks while public partner only bore output risk by take-and-pay agreement. The construction of this project was on the completion day, but it had to be halted because the investors could not reach financial closure. Moreover, there were not any government guarantees for the set of 3 port projects including Baria Serese port, VICT terminal, and Dinh Vu island industrial zone as depicted in box 4. World Bank (2008) ascertains that this issue is overwhelming in BOT transport projects. One of the HCM city’s major infrastructure projects is the construction of Phu My Bridge, which is being done in the build-operate-transfer (BOT) form. At one stage, the VND2-trillion went belly up due to lack of funds. A few earlier BOT projects encountered similar problems because money was in short supply. For example, Cienco 5 had to surrender the Binh Trieu 2 bridge and road project after finishing the bridge (stage one) because of the state-owned engineering corporation’s precarious financial situation. The difficulty for investors in mobilizing funds in BOT transport project is that Vietnamese bankers now have not been willing to lend money for road and bridge projects because the loan repayments only trickle back to them. Mostly, they have to wait until the project owner starts collecting tolls from motorists. This trouble in mobilizing funds from the banks of BOT project companies also make many highway projects, which were intended to develop according to BOT scheme, change to other kinds of investment form. For example, the initial BOT planning of highway HCM-Long Thanh-Dau Giay and 70km highway Ha Noi-Thai Nguyen had to shift to public development project by lending money from Asia Development Bank (ADB) and Japan Bank for International Cooperation (JBIC) respectively because the government did not believe that the project companies are able to get project funds on time (Bao Nhu 2005).
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Massive cost escalation, “project bankruptcy”

As nurturing BOT scheme, the Vietnamese government has expected to find the outlet for financial deficits in infrastructure projects, and also achieve marginal income for government budget after projects get breakeven point. However, huge cost escalation as implementation results in bankruptcy of many current BOT projects. The first reason for project cost escalation is the project scope changed in construction phase. In Binh Trieu 2 bridge and road project, the initial investment is estimated only VND 341 billion with 11-year concession period. However, as the project is in the phase of construction, the HCM’s provincial committees (PC) forces project company to widen the road from 32m to 53m which makes the total project cost increases up to VND 1,600 billion (plus with cost for compensation of land clearance). This leads to the extension of concession period up to 25 years, and the project company has to face difficulty in guarantee for lending money form banks. Therefore, after finishing the bridge (stage one) on August 2003, Cienco has to halt the project and it is unlikely for the project moving again up to now (Ngoc An 2006; Duc Tai 2006). Similarly, this situation occurs in BOT enter-provincial highway 15 phase 2. The project cost increase from VND178 billion up to VND3000 billion after many times for investment adjustment due to project scope changed. This makes the revenue from toll collections which cannot afford to debt repayments, interest and labor costs (Duc Tai 2006). Furthermore, BOT Phu My project company proposes increase of the total project investment cost to up to VND 2,540 billion compared to initial estimated 370 billion. These are a number of justifications for this increase. Technical changes in construction phase compared to initial preliminary design add to additional project cost layers, including the increase of force-resistance capacity of the bridge to prevent tsunami and earthquake, additional water system, and complex method for consolidating toll station base due to fragile soil (Tran Duy 2006).

The second reason for project cost escalation results from dodging compensation for land clearance and resettlement. After Cienco 5 leaves the project due to cost escalation as finishing the bridge (stage one), Ho Chi Minh City Infrastructure Investment Joint Stock Company (CII) has bought the rights to collect tolls on Binh Trieu 2 and is waiting for the city’s approval to tackle stage two of the project, which mainly involves building approach roads. The company estimates the roads will cost VND659 billion to build, whereas the compensation for the affected households will be VND2.8 trillion, roughly four times as construction cost. Nguyen Mai Bao Tram, the company’s investment director, says the compensation is so huge that it would be better to leave the compensation for phase two to the city. His company could just build the road (World Bank 2008). Moreover, in BOT Rach Mieu Bridge connecting Tien Giang and Ben Tre province in the southern of Vietnam, the initial investment cost is VND599 billion which has to be adjusted up to 697 billion and now is 988 billion due to the huge cost for compensation (Ngoc An 2006). Likewise, the BOT Binh Duong provincial motorway 741, about 100 km away from HCM city, has been in standstill as more than 100 affected households still do not get compensation money yet because the project company cannot meet the high required compensation cost of these households (Yen Nhu 2004). Finally, the huge compensation cost is one of the reasons for BOT Phu My Bridge to be bankrupt now.
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The domination of SOEs, “Full-fledged PPP model in danger”
In Vietnam, almost road projects called for BOT have been done by subsidized companies of ministry of transportation such as Civil Engineering Construction Corporation N0.4, 5 (Cienco 4,5), or Vietnam Expressway Corporation (VEC). According to enterprise law of Vietnam, the private corporation is the company in which private partner owns more the 50% share, while these subsidized companies are only called for state-owned enterprises (SOEs) because the government still holds more than 50% share even though they are privatized. According to experts of DHV, the Netherland, Vietnamese BOT road and bridge projects invested by Cienco or VEC cannot be called for pure PPP because these investors are SOEs, while the investors involved in PPP have to be a hundred-percent private. Additionally, there are only US$153 million invested in Vietnam transport sector to be named PPP. However, most of projects are belonged to port and airport terminal but not to road and bridge projects. There are a lot of examples to illustrate this issue. VEC is the investor in BOT expressway Cau Gie in Ninh Binh province; VEC mobilizes project funding valued at VND400 billion by issuing bonds guaranteed by government with fixed 9% interest rate in 15-year maturity. A number of other BOT projects such as expressway Ha Noi-Hai Phong, Rach Mieu, Yen Lenh, Ong Thin, Binh Trieu Bridge and other roads going through various provinces and cities across the nation cannot be considered PPP. The VND360 billion Yen Lenh bridge on national highway 38 is invested by BOT scheme, but the investors are the two big subsidized corporation of MOT (Cienco 4 and Thang Long Construction Company). Also, Cienco 5 is the investor of BOT Ong Thin bridge and Binh Trieu bridge and road projects in HCM city (Duc Thang 2008), and BOT Vinh-Sidetrack route in Vinh province is amounted at VND 377 billions, of which 30% contributed by the Cienco4, 70% by commercial loans from BIDV, Vietcombank, Incombank, Post-Finance Company (among them, BIDV is coordinator) (Pham Quang Vinh 2007). Even in VND19,610 billion largest investment cost of BOT expressway Ha Noi-Hai Phong, the consortium, led by Vietnam infrastructure development and financial investment (VIDFI) with VND5000 billion operational capital, contains 4 large SOEs, including Vietnam Development Bank 51%, Vietnam Commercial Bank 32%, BITEXCO and Ha Long production and development company, each with 9% (Duc Thang 2008). As the consequences of overwhelming present of SOEs in these projects, the pure or full-fledged PPP in Vietnamese road and bridge sector have not been guaranteed. Also, this hinders the involvement of domestic or foreign investors in this area because they cannot compete over SOEs, which have dominated powers and close relationship with authorities at ministry level, even though their expertise and financial situation are much better.

The preference of negotiated contract
The power projects are being stalemated because the foreign investors prefer negotiated contract over competitive bidding. According to director Ta Van Huong of oil energy institution of ministry of industry and trade (MOIT), if foreign investors want to participate in BOT, BO, and IPP energy projects, they are obliged to win competitive tendering to be consistent with BOT Decree 78 and procurement law. However, there are little foreign investors to be willing in competitive bidding in BOT projects. For examples, many foreign investors such
as AES (America), CSG (China), Ensham (Australia), and Sumitomo (Japan) desire to invest in BOT energy projects, but they still wait due to not being favour in competitive tendering and being preferable in negotiated bidding. Also, after being very successful in BOT Phu My 2-2 and Phu My 3 energy projects, the investors EDP (France) and BP (UK) really want to invest in other projects in this sector, but they are looking forward negotiated contract instead of participating in time-consuming process of competitive tendering (Quynh Trang 2007). The reason behind this is that the tariff in Vietnam power sector is set too low and often under project cost recovery, thus the negotiated contract can help them achieve a higher price. The current electricity sale price of EVN for households is about 4.45 cent/kWh while investors want to set the price much higher in BOT projects to recoup the investment as soon as possible. Up to now, foreign investors reach the agreement with EVN (offtaker) with 4.09 and 4.04 cent/kWh in only Phu My 2-2 and Phu My 3 respectively after 6-year negotiation (Quynh Trang 2007). Another underlying reason is that foreign investors’ strategic behavior is being existed because in their perception, the negotiated contract in BOT energy project will come into being when the government is unlikely to find other financial resources to cure its budget deficit in power sector’s development target. As stated in section 3.1, the long-term target of Vietnam energy sector development from 2006-2025 require US$ 79,930 billion with US$ 4 billion annually to enhance generation capacity from 11,000 MW in 2004 to 24000 MW by 2010, and much higher later phase. However, the financial capacity of electricity of Vietnam (EVN) is only a half of this amount. Moreover, with the deadlock of carrying out the energy BOT projects recently and the increase of energy consumption from the fast economic growth, the foreign investors with financial strength participating in these projects are considered as the outlet for budget deficit problem. Thus, it is not necessary for these foreign investors to be hurry to involve in competitive electricity tariff.

Dominated power of SOEs has resulted in negotiated contract in almost BOT road and bridge projects. In Vietnam road sector, the domestic and foreign investors are very tentative to involve in highway or motorway BOT projects due to the present of SOEs in every corner. As abovementioned, most of road projects have done by Cienco, VEC. As these companies involve in BOT road projects, the negotiated contract will occur in any way. For instance, in BOT Ha Noi-Hai Phong, the negotiated contracts occur in choosing investor, subcontractor and consultant. The justification of this is that the competitive bidding is time-consuming process and costly, whereas the project is the national core project to meet urgent need of society (TEDDI 2006). It is also notable that the consultant conducting feasibility study and suggesting for negotiated contract is TEDDI which is also a SOE belonging to MOT. It is even weird in the case of BOT Phu My bridge. The Phu My project company already select the good subcontractor Hai Phong water transport security company (HPWTSC) for technical solutions and management of water transport for the bridge’s realization with the lowest price VND48.4 billion. However, the MOT forces the project company to choose navigation security company 2 (NSC2) for this package although NSC2 suggests VND56.4 billion for this work package (17% higher than HPWTSC). If the project company cannot arrange both companies to involve in this package, it would get US$1.5 million penalty from HPWTSC (Tran Duy and Vy Anh 2007).
The strategic winning BOT projects, “project success threaten and investors’ creditworthiness in doubt”

Many SOEs have carried out BOT road projects in Vietnam without any money or 100% debt. Their funding resources are depended on bank loans, provincial funds and government funds. Some SOEs such as Cienco have carried out 3-4 BOT projects at the same time with the almost project funds from bank loans (Bao Nhu 2005). The reason behind this issue is that these SOEs take money from these projects out to compensate for other projects of their subsidized enterprises in order to pay huge debts for the banks, suppliers and labors.

In VND599 billion BOT Rach Mieu bridge connecting Tien Giang and Ben Tre province in the southern of Vietnam, the consortium Cienco 5 and Cienco 6 did not have financial ability to carry out this project. The project was constructed on May 2002 and planned to finish on the third half of 2005. On May 2003, after more than one year of execution, the government decided to get Cienco 1 to involve in the consortium to inject 51% capital compared to total investment cost. The new consortium slowly realized the project up to July 2006 because the investors meet difficulties in mobilizing money for project, which made the MOT replace the day for project completion up to December 2007. This 2-year delay increased the project cost form VND 599 billion to 696.9 billion. In addition, the phenomenon is even worse in 258m BOT Ong Thin bridge on national highway 50 going through Binh Chanh district, HCM city. The HCM transportation department only allowed investor to collect the toll under 65% benchmark of ministry of finance (MOF), and especially the toll was exempted for motorbikes, cars and bus to compensate for payments of other nearby toll routes of traffic participators. The Cienco 5 estimated the project company will get loss of VND3 billion for the first operation year and it will be higher in the later year. However, it still did the project to have money in order to find the financial outlet for its other projects being stalemated. The project’s toll collection has started from September 2001 to 2013 as intended. Yet, the revenue from toll was not able to correct for other expenditures such as interests, debt repayments, and labor costs. The Cienco 5 had to entreat MOT to buy the project with VND 31.2 billion so as to rescue its bankrupt situation (Ngoc An 2006).

The tool to support for this strategic goal used by these SOEs is overestimated project revenue and underestimated project cost. Many BOT projects such as Binh Duong provincial motorway 741, Rach Mieu, Yen Lenh, Ong Thin, Binh Trieu Bridge depicted above are expected to get the return on investment between 14-20% from the forecast of investors. Yet, it only serves as an instrument of the investors to convince the banks to inject money into the projects and government approvals because it rarely happens in reality. Although every party has known the issue clearly, the projects can proceed with under-table negotiated game. In VND200 billion BOT Yen Lenh bridge, the revenue from the toll collection in the first 6 months are not enough to compensate for loan’s interests, operation and maintenance costs. Although the traffic flows through the bridge is rather stable, it is unlikely to increase in the future as initial forecast. With the weak financial situation, the project company is not able to wait up to the date when profit is arisen, thus it suggests the government to buy the project in order to save future losses (Bao Nhu 2005). Moreover, the toll revenue of VND335 billion BOT provincial motorway 741 in Binh Duong city, about 100 km away from HCM is being threaten because it is not the main route.
of national highway. Also, there are more than 5 other toll stations of other routes competed with it (Yen Nhu 2004). In addition, the huge cost adjustments in the realization phase compared to development and design phase of many BOT projects make the project cost estimate to be in doubt. For instance, the VND599 billion estimated cost has to be adjusted up to 697 billion and 988 billion at the end in Rach Mieu bridge. The Phu My bridge is approved with VND1,800 billion as the design but the project company unexpectedly suggest the government to increase up to 2,540 billion as realizing the project. Also, the final project cost of Binh Trieu 2 bridge and road project is VND1, 600 billion compared to 341 billion as initial estimate.

*The investors' strategic behaviors are reducing their creditworthiness because the bankers and financial institutions have been not trust them anymore and the government is thinking about alternative solutions instead of BOT.* The government loses its belief with the continuous failures of SOEs in BOT road and bridge projects. Nguyen Thanh Nam, director of transportation management institution 9 of MOT, contains that the government needs to change its strategy in developing road and bridge projects by other procurement types such as operation contract, whereby the government funds for project development and realization, after that it contracts out the operation for operators to collect toll. The money getting this operation contract will be allocated for investing in other projects. For instance, the HCM provincial committee funds for construction the motorway Hung Vuong-Dien Bien Phu, and then it sells the toll collection right for HCM Infrastructure Investment Company. Moreover, there is one foreign investor who wants to build the Dong Nai-HCM road and bridge project. This investor suggests that it will contract the operation out for domestic operators. These above strategies are possible solutions to compensate for poor performance of SOEs in Vietnam road and bridge BOT projects, said by Mr. Nam (Ngoc An 2006).

The Vietnamese bankers consider that lending for transportation projects is the minor priority in their credit strategy because it is safer and more profitable to put money in other sectors. Recently, the transportation companies are not the priority in lending from Vietnam commercial banks because they are famous for inability to repay debt or not meeting debt obligation in due day. Moreover, the banks now set the interest rate based on project basis depending on their complication and risks, instead of, standard interest rate about 8-10% as seen before. Therefore, many contractors listed in the bad debt have to accept a much higher interest rate than normal as doing transportation projects. It is even worse in the case of VND443, 567 billion BOT Thanh Hoa on national highway 1A. The Thanh Hoa BOT project company already gets the guarantee from Vietnam Investment and Development Bank (BIDV) with the amount of VND249 billion (70% project cost) in the contract phase. However, the project company cannot get loan from BIDV in the construction phase because the BIDV headquarter contains that it is not necessary to trust these BOT projects. This situation also takes place with 234 Project Company, which is excluded in the operation contract for toll collection on national highway 5, because the client thinks that this operator cannot mobilize enough money for this package even though the project company gets the guarantee from some banks previously (Anh Minh 2005).
Chapter 5: State of the Art of PPP practices in Vietnam

Tariffs, affordability and restriction on asset ownerships

Tariffs, affordability and ownerships’ government restriction are the most considerable issue putting on the negotiation table of BOT projects in Vietnam. The foreign investor is still not willing to investment in Vietnamese BOT project because the tariffs are set too low to recoup their investment. In Vietnam water sector, the government often subsidize for operators to deliver water to households because the citizens cannot afford with the price set by these deliverers even though some city households can afford with this price. It is notable in the case of BOT Binh An and Thu Duc water treatment plants that when investors LVWC and Lyonnaise leave the projects due to reasons presented in box 2 and 3, the domestic investors take over the project with the water price being much lower than original tariffs US$3 cent/m³ proposed by these foreign investors with the subsidies of government. In energy sector, there are now only BOT Phu My 2-2 and Phu My 3 projects in which the government get the satisfactory tariff with US$4.09 and 4.04 cent/kWh compared to about 4.5cent of EVN. However, the Government has to offer political risk guarantee for investor and the negotiation about tariff between Government and investors last for 6 years. Furthermore, the strict tariff results in some BOT projects in transport sector to be bankrupt. For instance, Cienco has to sell BOT Ong Thin bridge for MOT because it cannot sustain the losses after a short time of toll collection. It is because the HCM PC only allows Cienco to collect under 65% tariff stipulated by MOF, and it is exempted for bus, car and motorbike. This low tariff can be considered an impeding factor for the success of PPP deal. In addition, the lack of clarity in owner ship lowers the appetite of foreign investors in Vietnam BOT projects. As stated in section 5.3.4, foreign investors only participate in telecom projects with business cooperation contracts (BCCs), the same as Build-Transfer (BT), in which they have no equity share and no management rights and ownerships. All of BBC contracts in table 13 show the joint venture of foreign investors and VNPT but these are not real join-venture model because the private’s management rights and ownerships are absent. It happens similarly in water sector; in BOT Binh An and Thu Duc water treatment plants, the foreign investors are not allowed to own the projects because Vietnamese water and sanitation sector is not an entrepreneurial activity.

5.4.2 Conclusion remark

In short, it can be seen that the conditions for PPP practices are not favorable by of institutional failures, nascent financial market, restrictions in specific sectors. Thus, actors act in a wrong way to cope with these difficulties. By analyzing the sample of 10 domestic BOT projects in transport sector and 2 pure BOT water projects, we recognized 6 problems faced by practitioners, which are generalized by the following 4 issues. First, it is difficult for small-scale projects to reach financial closure due to lacking of Government guarantees. Second, tariff, affordability and ownership problems cause many difficulties for private partner in BOT projects across sectors. Third, competitive tendering is lacking because the investors do not like the keen competition and the SOEs present overwhelmingly. Also, this overwhelming present of SOEs makes the pure PPP-model difficult to achieve. Finally, strategic winning BOT projects with inadequate preparation, poor selection result in project failures with huge cost escalation and delay.
5.5 Conclusion

With the fast growth of GDP about 6-8% continuously from 2003 up to now and the rapid urbanization, the future annual Vietnam infrastructure investments would need to be around 11% of GDP, including about 4-4.5% for power, 3.5-4% for transportation, 1.2% for water and sanitation and 1.4% for telecommunication sector (World Bank 2008). The Vietnamese government expects that the private participation in infrastructure projects can be considered as the most feasible solution for its budget deficit. However, the private involvement lags behind compared to China, Indonesia, and Philippine because of the following reasons. Firstly, the tariffs are set lower than cost-recovery of investors due to the affordability of citizen. Secondly, the restrictions in ownership, equity contribution, and management rights lower the appetite of private partner. Thirdly, the inadequate government supports and guarantees, especially for small projects, make the investors nervous as participating in projects across sectors. Finally, the overwhelming present of SOEs lower the process of private participation.

We also come up with different strategies for each sector to push private involvement. Government should redefine its master plans to be consistent with private interests to accelerate private involvement in energy sector, whereas Telecom sector should move toward true joint ventures and allow private ownership, management control right, and equity contribution, to generate higher levels of private investments. Moreover, the Government should define which projects are only allowed for private investors to participate in, whereas others are for SOEs. In doing so, it can prevent overwhelming present of SOEs and create incentives for private partner to participate in transport sector, while the water sector should adopt good strategies such as income measures, differentiation of tariff and differentiated management solution to cope with tariff and affordable problem.

As looking closure by analyzing the sample of 10 domestic BOT projects in transport sector and 2 pure BOT water projects, the whole picture of actors’ behaviors and the conditions building up these behaviors are depicted. It can be seen that the conditions for PPP practices are not favorable, thus actors cannot act in the right ways to which they are suppose to do in respect of institutional failures, nascent financial market, restrictions in specific sectors. We recognize 6 problems faced practitioners in BOT practices. Firstly, the Government rarely offers supports and guarantees for small-scale BOT projects because it reserves funding to assist for national large-scale ones. This results in difficulties for investors to get financial closures from the banks or other financial institutions, which leads to many projects being deadlock or changes into other development strategies instead of BOT. Moreover, the Vietnamese bankers have not trusted the investors in water, road and bridge projects because they contain that these investors are not creditworthy. Secondly, in Vietnam transport sector, SOEs try to win BOT projects strategically by doing 3-4 projects at the same time without considering that the project is profitable or not. They do so in order to have money to compensate for other projects and huge debts from the bankers, suppliers and labors. Thirdly, the negotiated contract is dominated in most of BOT projects in Vietnam. The foreign investors are waiting for the government standstill in mobilizing
funds for infrastructure projects so that they are directly appointed in projects, instead of, participate in keen competition of competitive tendering as the examples of BOT project in water and energy sector. Also, the key investors in BOT transport projects in Vietnam are almost state-own enterprises subsidized by Ministry of Transportation. The negotiated contracts are often applied as their dominated powers over private investors. Fourthly, dominant power of public sector results in the phenomenon of “public crowding out private”. It is the most worsen in the case of BOT road and bridge projects, where SOEs present in every project. Therefore, the full-fledged PPP model cannot be achieved in this sector, which only called for domestic BOT scheme. Fifthly, the underestimated cost and overestimated revenue without considering risks such as scope changes and unexpected huge compensation costs for land clearance and resettlement result in massive cost escalation in most BOT projects, especially road and bridge ones. Also, this strategic estimation is used as the instrument for investor in order to persuade bankers to inject money into the project and get approval from the government with the opaque relationship. Finally, the negotiation for tariff is the most time-consuming process in Vietnamese BOT projects due to the affordability of households. The Government often sets the ceiling tariff which is often lower project cost recovery. Moreover, the lack of ownership lowers the appetite of investors in water and telecom projects.

By the pessimistic picture of project sample analyzed above, it is the appropriate time for the Government to evaluate the effectiveness of BOT projects across sectors so that it can have a better vision of Vietnamese partnership and determine which direction to go. Taking away from the sadness, there are some BOT projects in power sector such as Phu My 2-2, which can be considered as the model for success of BOT projects in Vietnam. Therefore, the next chapter will analyze and explain what factors and actors lead to the success of BOT Phu My 2-2 project.

6.1 Introduction

World Bank (2002) states that the limited-recourse debt financing for infrastructure projects in general and PPP in specific has been extremely difficult in Vietnam, due to developing but untested legal and regulatory framework, limited experience of government agencies in dealing with complex contractual arrangement, perceived lack of creditworthiness of the country and foreign exchange convertibility/transferability risks because of nascent financial market, etc. This has resulted in long delays in reaching consensus decisions. This statement is quite logical in comparison with the findings found from chapter 3 to chapter 5.

Therefore, the question needed to be answered is: is there any successful PPP project in Vietnam? If yes, what critical factors and actors make this project successful? What do we learn from this project to add or improve for findings found from previous chapters and Vietnamese PPP in general? These issues will be investigated in this chapter by researching the Build-Operate-Transfer (BOT) Phu My 2 phase 2 Energy Project.

In order to solve these questions, this chapter is organized as the followings. Section 2 will introduce the project information related to BOT Phu My 2 phase 2 (Phu My 2-2 or PM 2.2). It includes the following issues: (i) the project background and description; (ii) technical scope to know the operation of the power plant; (iii) key contractual arrangement to identify key contractual agreement between Project Company and other parties, whereby key involved players in the project are illustrated; (iv) and project financial structure to name financing parties. Continuously, section 3 will come up with the evaluation of BOT Phu My 2-2 project through various phases to assess whether it is successful or not. The tool for this evaluation is the propositions of fishbone framework developed in chapter 2. In addition, section 4 will draw the lessons learned from this project to add or improve for the fishbone framework, previous findings and PPP in Vietnam. Finally, conclusion, recommendation and next addressed issues will be presented in section 5.
6.2 Project information

6.2.1 Project background and description

As an important basis for developing the industry sector and infrastructure, and ultimately increasing the quality of life of the people in Vietnam, the Vietnamese Government has set the expansion of power generation as a high priority. Vietnam’s power sector has achieved a fairly high growth rate thus far. The total installed capacity of the power generation system increased from 4,013 megawatts (MW) at the end of 1993 to 5,765 MW at the end of 1999. The average growth rate during this period was 15.5 percent per annum. Based on the Master Plan for Power Development No. 5, the development policy for Vietnamese power for the period 1996-2010 contains the following key points regarding thermal power energy development: (i) the use of national natural gas reserves as an important basis for power generation; (ii) natural gas, as a clean and economical fuel, to be utilized as the primary fuel source for the latest combined cycle technology; and (iii) combined cycle power plants to be located predominantly in the vicinity of the gas pipelines in the southern of Vietnam, such as the Phu My and Ba Ria sites (Asia Development Bank 2002; World bank 2002).

Based on this policy, the Phu My Power Generation Center (PMPGC) has been approved by the Government for the installation of 5 combined cycle power projects to increase the power generation capacity and fulfill the future power demands of Vietnam. PMPGC will have a total generation capacity of 3,815 MW. Phu My 1 and Phu My 2.1 have a capacity of 1,090 MW and 860 MW, respectively, and are currently operating at 700 MW and 550 MW capacity. Aside from the proposed Project, Phu My 3 and Phu My 4 are planned to have a final capacity of 720 MW and 430 MW, respectively. All five will use combined cycle technology with natural gas as the main fuel (Asia Development Bank 2002).

On 28 October 1997, the Ministry of Industry (MOI) issued a request for a proposal for the right to develop the Phu My 2.2 Power Project at the PMPGC site under a Build-Operate-Transfer (BOT) investment structure. The Project was awarded to a consortium comprising Electricite du France (EDF) International, Sumitomo Corporation of Japan, and Tokyo Electric Power Corporation of Japan (TEPCO) in January 1999. The $US480 million BOT Phu My 2.2 Project is a 715 MW combined cycle power plant. The design operating life of the plant is 30 years. The concession term of the Project will be 20 years from the commercial operation date, after which the plant will be overhauled and transferred at no cost to MOI. Upon receipt of its investment license on September 18, 2001, the consortium established the Mekong Energy Company Ltd. (MECO) as a limited liability company.
in Viet Nam. MECO will subsequently implement the Phu My 2.2 Project on behalf of the shareholders. The Sponsors expect and are obliged under the BOT Contract to reach financial closure within 12 months after the issuance of investment license, that is, by September 2002; PM2.2 is constructed in 2 years from September 2002 to September 2004. The commissioning of the Facility or Commercial Operations Date (COD) is scheduled by September 2004 (Asia Development Bank 2002; World Bank 2002). The Phu My 2.2 Power Project with a power generation capacity of 715 MW will be installed at the Phu My Power Generation Center (PMPGC). The implementation of PMPGC is programmed to include five individual power generation projects to be implemented to match the projected electricity demand as aforementioned. The Vietnamese Government has given high priority to the Project, since it is a core component in the economic and social development of Ho Chi Minh City and surrounding provinces. PMPGC is located near the town of Phu My in the district of Tan Thanh in Ba Ria–Vung Tau Province, approximately 75 kilometer (km) southeast of Ho Chi Minh City. The site is approximately 40 km from the port of Vung Tau, in the industrial corridor between Ho Chi Minh City and Vung Tau, and is linked by a major highway (National Road 51) running from Vung Tau port to the proximity of the site. PMPGC is about 2 km from National Road 51 and 2 km from the banks of the Thi Vai River. The vicinity map of the project site showing the important landmarks and settlements is shown in Figure 21 (Asia Development Bank 2002).
6.2.2 Technical scope

PMPGC covers a total area of approximately 128 hectares (ha), in which only 8 ha will be utilized by the Phu My 2.2 Power Project. Site preparation for the installation of the plant will be restricted to this area. Other areas within PMPGC may have connection to the Phu My 2.2 Project but are not considered to be a part of this project (i.e., cooling water supply/discharge systems and main transmission line). To attain economies of scale, all the common infrastructure systems such as roads, cooling water supply intake and outlet structures, canals, gas pipeline, gas metering stations, and power transmission have been developed to serve for PM2.2. The Phu My 2.2 power plant will consist mainly of two gas turbine generator units, two heat recovery steam generators, and one steam turbine generator set (2-2-1). The main design and operational data of this plant are summarized in Table 12. The functional mechanism can be seen in Appendix 2.

### Table 12. Main Design and Operational Data of Phu My 2.2 Power Plant (ADB 2002)

<table>
<thead>
<tr>
<th>Item</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant location</td>
<td>Phu My Industrial Zone</td>
</tr>
<tr>
<td>Completion schedule</td>
<td></td>
</tr>
<tr>
<td>- Commercial operation</td>
<td>September 2004</td>
</tr>
<tr>
<td>- Construction period</td>
<td>24 months</td>
</tr>
<tr>
<td>Annual operational life</td>
<td>7,884 hr/annum</td>
</tr>
<tr>
<td>Annual average plant load factor</td>
<td>0.75</td>
</tr>
<tr>
<td>Annual equivalent full load operation</td>
<td>6,570 hr/annum</td>
</tr>
<tr>
<td>Plant thermal efficiency</td>
<td>54.79%</td>
</tr>
<tr>
<td>Net heat</td>
<td></td>
</tr>
<tr>
<td>Net power generation capacity</td>
<td>6,580 KJ/kWh</td>
</tr>
<tr>
<td>Annual net power generation</td>
<td>715 MW</td>
</tr>
<tr>
<td>Plant concept</td>
<td></td>
</tr>
<tr>
<td>- Technology</td>
<td>combined cycle system</td>
</tr>
<tr>
<td>- No. of gas turbines</td>
<td>2</td>
</tr>
<tr>
<td>- No. of steam turbines</td>
<td>1</td>
</tr>
<tr>
<td>- No. of heat recovery systems</td>
<td>2</td>
</tr>
<tr>
<td>- No. of stacks (main and bypass)</td>
<td>4</td>
</tr>
<tr>
<td>Type of fuel</td>
<td></td>
</tr>
<tr>
<td>- Main fuel</td>
<td>natural gas from Nam Con Son</td>
</tr>
<tr>
<td>- Emergency fuel</td>
<td>distillate oil (max. 5 days per year)</td>
</tr>
<tr>
<td>Cooling water</td>
<td></td>
</tr>
<tr>
<td>- Demand</td>
<td>17 m³/s</td>
</tr>
<tr>
<td>- Maximum temperature rise</td>
<td>75°C</td>
</tr>
<tr>
<td>- Intake</td>
<td>Sao River</td>
</tr>
<tr>
<td>- outtake</td>
<td>TH Vai River</td>
</tr>
<tr>
<td>Emissions</td>
<td></td>
</tr>
<tr>
<td>NO₂</td>
<td></td>
</tr>
<tr>
<td>- Natural gas</td>
<td>52 mg/Nm³</td>
</tr>
<tr>
<td>- Distillate oil (max. 5 days/year)</td>
<td>119 mg/Nm³</td>
</tr>
<tr>
<td>SO₂ (distillate oil; max. 5 days/year)</td>
<td>376 mg/Nm³</td>
</tr>
<tr>
<td>CO (gas / oil)</td>
<td>20/30 mg/Nm³</td>
</tr>
<tr>
<td>Noise level</td>
<td></td>
</tr>
<tr>
<td>- Phu My Complex boundary</td>
<td>70 dB(A)</td>
</tr>
<tr>
<td>- Equipment (1 m distance)</td>
<td>90 dB(A)</td>
</tr>
</tbody>
</table>

Generally, World Bank (2002) and Asia Development Bank (2002) ascertain that the technology selected for the PM2.2 project, gas-fired combined-cycle technology, is the most technically and environmentally appropriate state-of-the-art power generation system. The technology is appropriate and consistent with the least cost expansion of the generation system for the southern part of Vietnam, utilized the existence of indigenous natural gas resources offshore. If the gas-fired power plants using domestic gas are not developed, the country would have either to import fuel oil and diesel for meeting the projected electricity demand in the region at a considerable higher cost and foreign exchange outflow or transport coal from the Northern part of the country at a higher cost since additional infrastructure would need to be created (World Bank 2002). Also, the design and construction of the plant will consider and meet both Vietnamese and World Bank environmental standards. The Project will use natural gas as fuel (distillate oil for a maximum of 5 days/year), which is considered an environmentally clean fuel for power generation. Considering the importance of this power project for Vietnam, the environmental impacts of the plant are in an acceptable range (ADB 2002).
6.2.3 Key contractual arrangement and involved stakeholders

This section will come up with key contractual agreements of project sponsor or Mekong Energy Project Company (MECO) with other parties, whereby the key involved actors in BOT Phu My 2-2 are illustrated. The MECO project company contains Electricite du France (EDF) International (equity: 56.25%), Sumitomo Corporation (28.125%), and Tokyo Electric Power Corporation, Inc (TEPCI) (15.625%), both from Japan.

Figure 22. Contractual structure of Phu My 2-2 (World Bank 2003)

6.2.3.1 Contractual arrangements with public sector

- **Investment License (IL)** issued by the Ministry of Planning and Investment (MPI) sets out the terms of the license and provides for the establishment of MECO.
- **BOT Contract** between MECO and the Ministry of Industry (MOI) defines the rights and obligations of the parties. Under the contract, MOI grants MECO the exclusive right to construct, own and operate the power station on the site. MECO will transfer the ownership of the plant to MOI with free of charge at the end of the term of 20 years from commercial operation of the project.
- **Power Purchase Agreement (PPA)** between MECO and EVN provides for the sale of electricity by MECO to EVN for 20 years on the basis of a two-part tariff payable in Vietnam Dong (local currency). The Capacity Charge consists of a Fixed Capacity Charge (FCC) and a Fixed O&M Charge; the Energy Charge covers a Fuel Charge (FC) payable to Petro Vietnam (PV) and a Variable O&M Charge. FCC, FC and portions of O&M Charges are indexed to the US dollar; and FC and O&M Charges are escalated to take account of inflation.
- **Agreement for the Sale of Natural Gas (GSA)** between MECO and Petro Vietnam (PV) provides for the supply by PV of all of the gas requirements for the project and MECO's
obligations to purchase a minimum quantity of gas from PV for 20 years (take-or-pay agreement). The project is expected to consume about 0.85bcm of gas per year. Gas prices are paid in local currency but indexed to the US dollar and escalated at a fixed rate of 2% per annum.

- **Water Supply Agreement (WSA)** between MECO and BR-VT provincial Water Supply Company (WSC) defines the supply of potable and process mark-up water for the power station by the WSC.

- **Land Lease Agreement (LLA)** between MECO and the Urban Development Construction Company (UDEC) of BR-VT province sets out the land to be leased, rent free, and provides for the Certificate of Right to Use Land issued to MECO.

- **Government Guarantees** between MECO and MPI. MPI on behalf of the government guarantees the performance of responsibilities and obligations of each Vietnamese contractual party to MECO, including payment obligations, under the BOT Contract, PPA, GSA, WSA and LLA. It also guarantees the availability, convertibility and transferability of foreign exchange; permits off-shore accounts for project financing.

### 6.2.3.2 Contractual arrangements with private public sector

- **EPC Contract** between MECO and EDF-CNET, an engineering department of EDF. It provides for a fixed price, date certain turnkey completion for the entire power plant.

- **Technical Services Agreement** for Operations and Maintenance between MECO and EDF and TEPCO, under which EDF and TEPCO will provide technical services to assist MECO in operations and maintenance.

- **Long Term Services Agreement** between MECO and GE International, the major equipment supplier. It provides for technical support until the first major overhaul in year six.

- **Insurance.** MECO will purchase commercial insurances as customary private power projects during construction and operation.

Overall, World Bank (2002) states that the contractual structure of the transaction and the allocation of commercial, technical, and risks among the parties of PM 2.2 are consistent with industry standards for limited recourse projects due to the following reasons. MECO is special purpose vehicle, which have legal status and accounting and financial terms separately from their parent company. Moreover, Government explicitly offers all possible to share risks with private party. Finally, MECO commissions the EPC, TSA and LTSA contract to international recognized and experienced companies to guarantee good project performance and on-time manner, which would benefit to both private and public partner.
6.2.4 Financial structure of Phu My 2 phase 2 (Phu My 2-2 or PM 2.2)

6.2.4.1 Financial arrangement

The total financing requirement for the project is estimated at US$480 million, including stand-by financing of US$80 million, which is financed with debt of US$340 million (base debt of US$300 million; stand-by debt of US$40 million) and sponsor equity of US$140 million (base equity of US$100 million; stand-by equity of US$40 million). The debt equity ratio would be **75:25** for the base project costs; and the contingent financing would be disbursed on the basis of **50:50** ratio (World Bank 2002).

The US$340 million debt facility consists of two commercial bank tranches: (i) the US$240 direct loan including $150 from Japan Bank for International Cooperation, JBIC (through its export credit agency), $40 million from Proparco of France, and $50 million from ADB; (ii) the US$100 million from commercial bank loans. In this $100 million package, The World Bank and the Asian Development Bank (ADB) cover political risks for the commercial loans financed by a consortium of banks led by ANZ of Australia, Société Générale of France and Sumitomo Mitsui Banking Corporation of Japan. It is expected that the commercial loan facilities would be syndicated on a pro-rata basis as a single financing package. For more details in this single package, the World Bank through its International Development Assistance (IDA) agency covers partial risk guarantee (PRG) for US$75 million, whereas ADB acts as the “guarantor of record” for US$25 million on behalf of private political risk insurance (PRI) (EDF 2006).

**Figure 23. Financial structure of PM2.2 (ADB 2007)**

6.2.4.2 Remarkable features of debt facility arrangement of PM2.2

**Complementary roles**

In all areas of infrastructure financing, risk mitigation instruments\(^7\) offered by multilateral\(^8\), bilateral\(^9\), and private institutions can be complementary and, in fact, have been used together in many limited-recourse project finance transactions (Matsukawa and Habeck 2007).

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\(^{7}\) The risk mitigation instruments in this context are guarantee and insurance products with a medium to long contract term and that are typically used in infrastructure projects to catalyze commercial debt and equity financing, from offshore or domestic sources.

\(^{8}\) Multilateral institutions: World Bank, Asia development Bank, European Bank for Reconstruction and Development.

\(^{9}\) Bilateral institutions: bilateral development agencies and export credit agencies.
World Bank and ADB have “Coguarantee Program, CP” to share risk with private insurers in order to encourage them to participate in risks underwritten under the name of the multilateral. In that way, private insurers can benefit from the multilaterals’ preferred creditor status or relationships with governments. For instance, World Bank’s risk-sharing program is called Cooperative Underwriting Program (CUP), and the ADB acts as the guarantors of record (GOR) for loans (ADB 2000; Matsukawa and Habeck 2007).

In addition, many multilateral banks, through their private sector departments or organizations, offer an “A/B” loan structure, where the multilateral lends a portion of the total amount required (the “A” loan) and syndicates the remainder of the loan to commercial lenders (the “B” loan). The multilateral acts as the lender of record for the full loan and the private sector lenders receive the benefit of being under the umbrella of the multilateral\(^\text{10}\) (ADB 2000; Matsukawa and Habeck 2007).

The following sections are intended to depict this complementary roles in PM 2.2, whereby the “IDA PRG of World Bank” and “ADB GOR + Private PRI” are explicit.

**Asia Development Bank guarantor of record and private political risk insurance (ADB GOR + Private PRI)**

As aforementioned, US$100 million debt of PM 2.2 was mobilized from commercial bank loans, in which US$25 million was guaranteed under the Asia Development Bank (ADB)’s partial risk guarantee (PRG). This was the first PRG in which ADB acted as “guarantor of record” on behalf of private political risk insurance (PRI) providers, which enabled private insurers to take risks they were otherwise not willing to take. The PRG was provided without the host government counterguarantee. ADB PRG can be considered as “Coguarantee Program” between ADB and private political risk insurer, under which $25 million is mobilized of extended political risk insurance for the benefit of guaranteed lenders who would make loans to the Mekong Energy Company Limited (MECO) for the Phu My 2.2 Power Project (PM2.2) (Matsukawa and Habeck 2007).

The US$25 million ADB PRG has the tenor or maturity of 15 years and covers the following political risks for commercial lenders: (i) confiscation, expropriation and nationalization; (ii) currency inconvertibility and nontransferability; and (iii) political violence and breach of contract (ADB 2008; World Bank 2002-3).

In general, ADB PRG plays a great contribution for financing parties to achieve “win-win principle”. ADB’s “coguarantee program, CP” can share risk with private insurers and encourage

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\(^{10}\) B loan participants benefit from the multilaterals’ preferred creditor status and thereby the A/B loan structure implicitly mitigates currency transfer risk for lenders.
them to participate in risks underwritten under the name of the multilateral. In that way, private insurers can benefit from ADBs’ preferred creditor status or relationships with Vietnamese governments. Also, ADB acts as the lender of record for the US$25 million loan and the private sector lenders receive the benefit of being under the umbrella of ADB. Finally, ADB PRG The guarantor-of-record structure helps ADB to mobilize long-term debt from commercial lenders while also reduce ADB’s risk exposure compared with a direct PRG. By acting as guarantor-of-record, ADB will maximize the amount of guarantee coverage and hence increase development impact for ADB’s limited financial resources (ADB 2008).

**International Development Assistance Partial Risk Guarantee of World Bank (IDA PRG)**

The IDA PRG guarantees commercial lenders against default in scheduled debt service payments of both principal and interest, resulting from the government’s failure to meet its payment obligations (both periodic payments and termination amounts) under the BOT Contract or Government Guarantee. The guarantee is non-acceleratable, which means that if the project is terminated as a result of a government default, IDA would be called on to make payments only according to the original debt service schedule. However, The IDA Guarantee excludes coverage of government obligations arising in connection with MECO event of default (World Bank 2002-3; Matsukawa and Habeck 2007).

The US$75 million IDA PRG has the maturity of 16 years and covers the political risks under the following key categories: (i) failure by the Government to fulfill its payment obligations under its guarantee in relation to the purchase of power by EVN, the supply of fuel by PV, and payment obligations of other public entities.; (ii) inconvertibility of Dong into US dollars, or restriction on transferability of funds for payment of debt services, etc.; (iii) political force majeure events adversely affecting the Project including changes in law; and (iv) expropriation (World Bank 2002-3).

The **Guarantee Agreement** with the lenders defines the scope of IDA’s risk coverage and the trigger mechanics of the guarantee. Under the Agreement, lenders will be entitled to make a demand for that portion of any scheduled principal and/or interest payment which has fallen due and has not been paid by MECO as a result of the failure of the Government to pay certain amounts due under the BOT Contract or the Government Guarantee for events covered under the Guarantee. These could be with respect to both periodic payments and termination payments in the event that the project is terminated. The IDA Guarantee may be called only after any debt service reserve accounts have been exhausted. In the case of a dispute, the IDA Guarantee would be callable only if the Government is obligated to pay and has failed to do so as provided under the dispute resolution provision in the relevant agreement (World Bank 2002).
IDA entered into the **Project Agreement** with MECO, under which the company covenants that it complies with World Bank environmental guidelines and other applicable requirements. IDA charges a guarantee fee of 75bp per annum on the outstanding principal amount of the guaranteed loan, payable by MECO (World Bank 2003). Moreover, in the event that the proposed Project is terminated as a result of a Government default, IDA could be called on to make payments according to the original debt service schedule as provided for in the IDA **Guaranteed Loan Agreement** (World Bank 2002).

In parallel, IDA and Vietnam Government concluded the **Indemnity Agreement**, under which the state counter guarantees IDA for any payments made under the Guarantee Agreement. IDA would reserve its rights to demand immediate reimbursement from the Government. Consequently, there would be a clear financial disincentive for the Government to cause a call on the IDA Guarantee, particularly since any Government default would also cross-default other Bank loans or IDA credits to Vietnam, as well as other project loans, and could result in the termination of the Project and enforcement of security (World Bank 2002).

In conclusion, World Bank (2002-3) ascertains that US$75 million IDA PRG (15.6% project cost) helps MECO Project Company to maximize the amount of export credits and bilateral support for the project with the co-financing of $400 million in the long-term debt substantially beyond prevailing market terms for the country. The IDA guarantee with the Government counter-guarantee (Indemnity Agreement) will provide comfort to other lenders and guarantors and help catalyze the largest limited-recourse project-finance-commercial-debt package to date for Vietnam. Finally, IDA PRGs are particularly suited to help governments transition from public to private finance through political risk mitigation and effective risk sharing with project sponsors and lenders.

**On the whole**, World Bank (2002-3) and ADB (2005) ascertain that the PM2.2 financial package has been widely acknowledged in Asian financial scene. By guaranteeing the contractual obligations of the Government for the Project, the “ADB GOR + Private PRI” and especially “IDA PRG” of World Bank would mitigate sovereign and political risks for commercial lenders and thereby facilitate the mobilization of long-term debt capital necessary to implement the Project. Unlike sovereign borrowing where the Government takes on all the risks, the IDA Guarantee would allow for allocation of non-commercial risks to the Government while commercial risks are born by the sponsors. As IDA has a long term relationship with the country, its participation through the Guarantee would also provide comfort to other financing agencies, thereby assure the successful financial closure of the proposed Project and encourage private participation in the power and other infrastructure sectors where it has been very difficult to mobilize private financing. The transaction was awarded "Project Finance Deal of the Year" by Finance Asia and AsiaMoney and "Asian Power Deal of the Year" by Project Finance.
6.2.5 Project performance

6.2.5.1 Project rationale and objectives

Asia Development Bank (2008) ascertains that PM2.2 achieved the original development impact objectives articulated in the report and recommendation of the President (RRP) by:

(i) Providing additional base load capacity to ease Viet Nam’s power supply shortfall in a least-cost manner. $480 million of 715MW PM2.2 has added to 3,815 of PM power generation center and finished at lower cost than estimate.

(ii) Transferring the best available technology and best practices in power plant operations. The sponsors have transferred advanced technology and know-how to local staff, especially in the areas of plant operation and health and safety procedures, by means of on-the-job and classroom training, technical training at General Electric’s headquarters in Atlanta, and financial training at Electricité de France’s headquarters in Paris.

(iii) Expanding consumer access to power with reasonable tariff and helping the Government attain its goal of electrifying 85% of households by 2007. The tariff of output is US cent 4.14kW/h which is lower than retail tariff of EVN 5.15kW/h. Also, due to the high capacity as completed, Vietnam achieved an electrification rate of 90% by 2007.

(iv) Supporting the commercialization of indigenous natural gas to replace imported fuel oil and provide environmentally clean energy. PM2.2 serves as a key component of the gas for power production chain by being a downstream user of indigenous gas discovered in the Nam Con Son basin. Also, the project has met Government standard, ADB environment policy 2002, and World Bank emission standard.

(v) Bringing private sector investment into the power sector and freeing up limited Government funds for use in areas that require public expenditure. The success of PM2.2 has created the motives of private investment in Vietnam energy sector. The Government therefore can deploy more funds to meet poverty alleviation and other social needs.

(vi) Serving as a model for other project finance transactions in Viet Nam. Other power plants such as PM3.3, Omon, and Nghi Son are replicating PM2.2 to conduct BOT model.

6.2.5.2 Performance variations

The main variations from the original intentions are (i) a delay in the commercial operations date by 5 months from September 2004 to February 2005 because of damage to the steam turbine and delays in completion of the 500-kilovolt transmission line, (ii) a lower project cost than projected in the RRP, and (iii) a higher dependable capacity than the conservative RRP estimate. An issue also arose with regard to nonpayment of gas take-or-pay invoices by Electricity of Viet Nam because of a dispute about a definition in the power purchase agreement relating to the pass through of gas take-or-pay payments before the rescheduled commercial operations date. The matter was resolved in June 2005 after the Ministry of Industries stepped in and the company settled its obligations to PM2.2.
6.3 Evaluation BOT Phu My 2 phase 2 energy project (PM2.2)

This section will explain the critical success factors throughout various phases of PM 2.2. We use the propositions of fishbone framework developed in chapter 2 as a tool for evaluation process. However, we can only evaluate this project from exploration phase to first 3 years of operation and maintenance phase (from 1996 to 2008) because it is still on operation process.

6.3.1 Exploration phase

Proposition 1: achieving the join image building and mutual trust among actors involved (by early private involvement, intensive cooperation, joint problem solving and interactive decision-making) and creating systematic forms of process management with good arrangements (to mediate public-private interest) are the most vital driven factors for successful exploration phase of PPP projects.

This proposition is only suit for some form of PPP such as DBF(O), joint venture (JV) and alliance, where private party is allowed to involve early to develop the project. However, in BOT scheme of Vietnam under the Decrees, the BOT projects are identified and prepared by public party. And then, they are sorted in the solicited list of projects called for investment in which private party can choose which project it wants to invest. Therefore, private party cannot be involved in the early phase of project development in this case. In another respect, the private can propose the projects to the government after it does the pre-feasibility itself. In this situation the private party can involve early in project development phase. However, these unsolicited projects are really rare in Vietnam up to now because the government does not show the strong commitment to private proposed projects (World Bank 2008).

BOT Phu My 2 phase 2 is formed in the first respect, where the government identifies and prepares this project and calls for private investment in BOT scheme. Moreover, 750MW PM 2.2 is one of the set of 3,815 MW five combined cycle power projects (PM 1, PM 2.1, PM 2.2, PM3 and PM 4) located in Phu My Power Generation Center (PMPGC) approved by government, which is consistent with Master Plan for Power Development No. 5, the key development policy for the future needs of Vietnamese power in the period of 1996-2010. Therefore, the government shows the intensive interests and strong commitments for PM 2.2 formation due to its high importance to meet future demand of Vietnam electricity (World Bank 2002; ADB 2002).

Although the government was very dedicated to the project, it still lacked financial resources and experiences to organize complex contractual and financial arrangement as well as competitive tendering of BOT deal. Fortunately, in 1996, World Bank promised to assist the development of PM 2.2. World Bank would finance the technical assistance support to the Government for arranging competitive tendering and contract negotiation, which increased the confidence of government in pushing BOT scheme for PM 2.2 (PPIAF 2006).

Generally speaking, the intensive interests and strong commitments of government as well as the catalysis of prestigious, experienced, and influenced World Bank are driven factors for successful exploration phase of BOT PM 2.2. These can compensate for the lack of resources and experiences government’s and late private involvement in solicited Vietnamese BOT projects.
6.3.2 Feasibility study

Proposition 2: the PPP feasibility phase will go smoothly with the good investment environment in the host country (available financial market and good frame-law and institutional arrangement) and the efforts of all involved parties for making the project viability (to get PPP in unfavorable developed PPP projects).

World Bank (2002) ascertains that PPP scheme is extremely difficult to implement in Vietnam due to the following reasons. Firstly, the financial market has been nascent which cannot be affordable to long-term and huge-consuming capital investment of PPP projects (findings from chapter 3). Secondly, the current BOT framework is not a good generic law governing PPP practices in Vietnam (findings from chapter 4). In chapter 5, we have a chance to observe many problems faced by practitioners in the sample of 12 BOT projects (10 domestic and 2 real BOT projects), where actors act wrongly to survive in the unfavorable Vietnamese PPP environment. Therefore, the question is: what driving forces make the feasibility study phase of PM2.2 successful in this unfavorable investment environment? This will be answered in later investigation.

World Bank (2002) and ADB (2002) state that PM2.2 is really viable because it has “PPP in it”. PM2.2 supported the commercialization of indigenous natural gas, which replaces imported fuel oil, thereby saving foreign exchange. As a committed offtaker, PM2.2 was one of the major downstream gas utilization projects crucial for the success of upstream the Nam Con Son Gas project. Thus the Government showed a high political support to this project (World Bank 2002; ADB 2002). Also, all the common infrastructure systems such as roads, cooling water supply intake and outlet structures, canals, gas pipeline, gas metering stations, and power transmission have been developed to support for PM2.2. Therefore, this project obtains the economic of scale (ADB 2002). Moreover, it is the point infrastructure project because all the electrical output will be sold exclusively to the sole offtaker, Electricity of Vietnam (EVN), with the predetermined tariffs. Therefore, project revenue is rather certain. This makes investors attractive to involve in PM2.2.

In addition, Vietnamese Government is explicit to offer possible guarantees such as availability, convertibility and transferability of foreign exchange, tax incentives, etc if the foreign investors involve (World Bank 2002). However, the Government knew that its creditworthiness was being poor in the eyes of foreign investors as experienced in BOT Thu Duc No.2 water treatment plant, where the French investor terminated the project because the Government didn’t fulfill some of the conditions precedent enabling the BOT concession to come in to affect (World Bank 2008). On another side, the Vietnamese government felt insecure with some foreign investors who did not have enough financial ability to fulfill the whole project as the example of BOT Binh An water treatment plant, where the Malaysian investor had to halt the project in nearly completed status due to being difficulty to reach financial closure (World Bank 2001). Therefore, in 1997 the Government called for involvement of International Development Assistance Partial Risk Guarantee (IDA PRG) of World Bank to create an extra layer of guarantee. IDA PRG plus with Government guarantee has formed “coguarantee”, which could enhance the confidence of foreign investor as involving in PM2.2. Also, the government has
believed that, the investor would get the financial closure on time to implement the PM2.2 on schedule with the support of IDA PRG (World Bank 2002).

In short, “being PPP in it” and IDA PRG are the driven forces for the success of PM2.2’s feasibility phase. PM2.2 has “PPP in it” because it created financial attraction to investor due its revenue certainty, economic of scale, political support. In addition, IDA PRG could reduce the nervousness of investor as involving in PM2.2. Also, IDA PRG could cure the low creditworthiness of Vietnamese Government and unfavorable investment environment and help investor get financial closure for PM2.2 on time.

6.3.3 Contract phase

Proposition 3: if the true nature of PPP is accomplished (by competitive bidding, Government guarantees, innovative design, and attractive financial package) and the reasonable risk sharing and dispute resolution are properly arranged (by good contractual arrangement), the PPP contract phase can get the good outcomes.

BOT Phu My 2 phase 2 energy project has achieved the true nature of PPP because it has satisfied the following reasons. Firstly, the competitive tendering was arranged in PM2.2. In October 1997, on behalf of Government, Ministry of Industry (MOI) issued the Request for Proposals (RFP) to ten pre-qualified bidders. After the approval of the IDA PRG program by IDA’s Board of Executive Directors in November 1997, the Government in March 1998 requested IDA to provide an IDA PRG for the Project. Subsequently, an IDA PRG of up to US$75 million in support of commercial debt financing was offered as an option to all the bidders in the bidding process. Six strong bid proposals were submitted and opened in April 1998, where the IDA PRG was sought by five of the six bidders. Based on the evaluation criteria in the RFP, the first three bidders were ranked (led by EDF, AES and Tractabel respectively). Finally, the suitable EDFI-led sponsor consortium was selected in this first international competitive bidding in Vietnam. The project sponsor, including Electricité du France (EDF) International (EDFI)11 (equity: 56.25%), Sumitomo Corporation (28.125%)12, and Tokyo Electric Power Corporation, Inc (TEPCI)13 (15.625%), was the good consortium because all members has had a good credit rating, technical competences, rich experiences in power sector and active business in developing countries and Vietnam as well. Secondly, the consortium proposed the appropriate technical solution for BOT PM2.2 project. According to World Bank (2002) and Asia Development Bank (2002), the technology proposed for the PM2.2 project, gas-fired combined-cycle technology, is the most technically and environmentally appropriate state-of-the-art power generation system. The technology is appropriate and consistent with the least cost expansion of

11 EDFI is a wholly-owned subsidiary of EDF, which has credit rating of Aaa by Moody's and AA+ by S&P. EDF is one of the largest electricity utility in the world. EDFI has been active in investing in power projects and companies outside France including developing countries.

12 Sumitomo Corporation is one of the leading global trading companies, with credit rating of Baal by Moody's. It served as EPC contractor for a coal-fired power project in Vietnam and combined cycle power projects in other Asian developing countries. Sumitomo in Vietnam has turnover of about US$1 billion annually, corresponding to approximately 25% share of total Vietnam-Japan trade.

13 TEPCI is a wholly-owned offshore investment subsidiary of TEPCO, which is the largest private power company in the world and has credit rating of Aa2 by Moody's and AA- by S&P. It is the largest and most efficient combined cycle gas-fired power operator in the world with 16-year experience of operation. It has started investing in overseas power projects and has equity stake in IPP in the U.S. and Taiwan.

Source: World Bank 2002
the generation system for the southern part of Vietnam, utilized the existence of indigenous natural gas resources offshore of Nam Con Son basin. Also, this solution has met Vietnam, ADB and World Bank environmental standards.

Thirdly, all intended government guarantees in the feasibility phase were implemented in this contract phase. Also, IDA of World Bank agreed to offer PRG for political risks (IDA PRG) in order to create an extra layer of security for PM2.2. This “coguarantee” has created the strong connection among practitioners, Project Company MECO-Government-lenders, and has enhanced the confidences of involved parties. Fourthly, the consortium proposed the attractive financial package to the government due to the positive effect of “coguarantee”. PM2.2’s financial package was attractive to the government due to the following reasons. It is a low cost financial package because US$340 million debt was lent with soft loan (preferred interest rate and long-term) with the interest rate of 1.65-2% and maturity of 11-16 years. Therefore, the burden on debt-servicing capacity of project revenue would be minimal (World Bank 2002). Moreover, World Bank (2002) ascertain that financial package of PM2.2 offered low risks to the Government because unlike sovereign borrowing where the Government takes on all the risks, this package would allow for allocation of non-commercial risks to the Government while commercial risks are born by the sponsors. Finally, this transaction was awarded “Project Finance Deal of the Year” by Finance Asia and AsiaMoney and "Asian Power Deal of the Year" by Project Finance, which has proven its attractiveness and trustworthiness (ADB 2002, World Bank 2002). Fifthly, the consortium offered the government the acceptable tariff level. The proposed Project was the first internationally competitively bid power project in the country. As a consequence of this competitive process, the Project had a very competitive tariff of US cents 4.14/kWh on a levelized basis, which is consistent with benchmark of offtaker Electricity of Vietnam (EVN) for generation and well below the average retail tariff of EVN14 (World Bank 2002).

BOT PM2.2 has achieved a fair risk allocation and dispute resolution by professional contractual arrangement. World Bank (2002) ascertains that PM2.2 has attained a fair risk allocation, where risks have distributed for party best able to manage them (see for detail in Appendix 3). The Government has borne the risks of Vietnamese-counter parties for their performance of fuel and water supply; currency devaluation, and political risks such as currency convertibility, availability and transferability; change in law, expropriation and force majeure, whereas project sponsor MECO and commercial lenders has borne commercial risks in pre-construction, construction and operation phase. Moreover, the remarkable point in this project is that World Bank through IDA has offered PRG for the same political risks borne by the Government. If the Government could not meet the obligations to the sponsor and lenders as political risks would occur, IDA PRG would be called to fulfill these obligations. This extra layer of guarantee for political risks has enhanced confidences and commitments of private partner as involving in PM2.2.

14 Currently, the average sale price of EVN for household is about US cents 5.1/kWh (World Bank 2002).
In addition, World Bank (2002) states that the major contracts as PPA, GSA, WSA and LLA have clearly stipulated rights and obligations between MECO and Vietnamese-counter parties. Also, IDA PRG of World Bank would offer a high security for the private parties and reduce dispute as conflicts would occur. Moreover, both public and private partner has favored for resolution of dispute by negotiation before going to the local or international court to prevent “win-lose” situation. And this was implemented in reality (World Bank 2002). For example, a problem was encountered with nonpayment of invoices by EVN during January and February 2005 because of a dispute about a definition in the power purchase agreement relating to the pass through of gas take-or-pay payments before the rescheduled commercial operations date. This dispute resulted in nonpayment to the gas supplier, the Vietnam Oil and Gas Corporation. The matter was resolved in June 2005 after the Ministry of Industry (MOI) stepped in, and offtaker Electricity of Vietnam (EVN) settled its obligations to PM2.2 (Asia Development Bank 2008).

Finally, we cannot devaluate the helps of external forces led by World Bank to assist this contract phase to be successful. World Bank as well as PHRD\textsuperscript{15} and PPIAF\textsuperscript{16} grant funds financed the technical assistance support to the Government for: (i) the formulation of bidding documents including draft project contracts, the evaluation of bid proposals; (ii) and the negotiation of the project contracts. As a result, the competitive tendering was arranged successfully, in which all negotiations were successfully completed and all the relevant contracts for execution of the project were also signed (PPIAF 2006).

Generally, \textbf{competitive bidding, “coguarantee”, professional contractual arrangement and World Bank aids are the critical factors for the success of BOT PM2.2’s contract phase}. Competitive tendering helps the public party choose good consortium with financial, technical strengths and experiences, which create favorable technical solution for the project. Moreover, “coguarantee” program between Government guarantee and IDA PRG of World Bank create a high security for private partner (sponsor and lenders) and can alleviate the uncreditworthiness of Vietnamese Government. Thus, consortium proposes attractive financial package and reasonable tariff satisfied affordability of household. Besides, professional contractual arrangement with fair risk allocation and dispute resolution enables the clear rule of game for involved parties. Finally, financial and expertise aid of external forces led by World Bank guarantee for the competitive tendering and contract negotiation to become successful because this compensate the lack of financial resources and experiences of Government in arranging complex BOT deal.

\textsuperscript{15}The Japan Policy and Human Resources Development (PHRD) Fund was established in 1990 as a partnership between the Government of Japan (GOJ) and the World Bank. Over the past 15 years the Fund has supported a wide range of poverty alleviation and capacity building activities. Available at: \url{http://www.worldbank.org/rmc/phrd/phrdbr1.htm}.

\textsuperscript{16}Public -Private Infrastructure Advisory Facility (PPIAF) was launched in 1999 as a joint initiative of the governments of Japan and the United Kingdom, working closely with the World Bank. PPIAF is governed by a Program Council made up of these donors and is managed by the World Bank through a Program Management Unit. Through policy, legal, and regulatory support, PPIAF helps governments explore arrangements for improving the delivery of services. Available at: \url{http://www.ppiaf.org/content/view/35/62/}.
6.3.4 Construction phase

Proposition 4: good performances of construction phase can be achieved with the competent contractor (technical, financial strengths, multidisciplinary staffs, good management skills) and good Project Company (partnering skills, financial and technical strengths, and good management skills).

MECO, the executing agency for the proposed Project, was established in September 2001, as a limited liability company under the Vietnam laws. MECO’s shareholders are EDF International, Sumitomo Corporation and TEPCO International. MECO is currently headed by a General Manager who is responsible for all aspects of MECO’s operations. MECO would be able to draw upon the full scope of EDF and TEPCO’s utility generation expertise and support available from their corporate offices. While French EDF is the largest utility in the world, Japanese TEPCO has the most extensive experience of operation of combustion turbines and combined cycle plants including the equipment to be installed at the Phu My 2-2 power plant. During construction and operation, MECO will be staffed by experienced personnel from the shareholders including a Technical Manager from EDF, Deputy Technical Manager from TEPCO and an Administration Manager from Sumitomo Corporation. In short, MECO has established a contractual and managerial structure with adequate technical and managerial capacity to construct and operate the plant (World Bank 2002).

MECO’s primary responsibility during construction would be to coordinate with Vietnam counterparties, carry out obligations under the Project Agreements and oversee the EPC Contract with EDF-CNET, an engineering department of EDF and the EPC contractor for the Project. The EPC Contract is a fixed price and date-certain contract, and guarantees equipment performance. EDF-CNET has sub-contracted the power island equipment (combustion turbines, heat recovery system and associated auxiliary plant and equipment) to General Electric of France, one of the most experienced suppliers of such equipment. EDF-CNET is experienced and capable of handling the contract. MECO has also retained TEPCO as the Owner's Engineer for technical oversight of project implementation (World Bank 2002; ADB 2002). Moreover, the lenders have appointed an internationally experienced engineering firm, PB Power of New Zealand, as an Independent Engineer, which will be responsible for reviewing and monitoring the construction and management of the Project on their behalf (World Bank 2002).

Outcomes of PM2.2 are that (i) The completed project cost was $414 lower than the budgeted cost of $480 because of savings generated from unutilized contingencies and savings in project implementation and management costs; (ii) The dependable capacity was higher than the conservative government estimate, resulting in higher capacity charge revenue than in the original projections; (iii) the commercial operation date (COD) was delayed in 5 months due to the damage of steam turbine and delays in completion of the 500 kV transmission line of EVN as well as and delays in the availability of gas. But, this delay was traded off since the Government rescheduled the concession period by not counting the delay (ADB 2002).
Chapter 6: Case Studied, “Vietnam BOT Phu My 2 Phase 2 Energy Project”

In short, BOT PM2.2’s construction phase was successful because of the following justifications. Firstly, the EPC or turnkey construction was carried out by qualified and experienced contractor. The construction work was realized by EDF-CNET, which the engineering department of the EDF of France (one of the largest electricity utility in the world). EDF-CNET is experienced in energy field and capable of handling the contract. Secondly, the realization of the project was carefully overseen by technically competent and experienced personnel from Project Company MECO and lenders. Project Company MECO would have an organization staffed in multidisciplinary team (a Technical Manager from EDF, Deputy Technical Manager from TEPCO and an Administration Manager from Sumitomo Corporation) with technically qualified and experienced personnel as well as managerial capacity to oversee the construction. Also, TEPCO of Japan (the most extensive experience of operation of combustion turbines and combined cycle plants in the world) was appointed as engineer for technical oversight of project implement on behalf of owner. Moreover, an internationally experienced engineering firm, PB Power of New Zealand, as an Independent Engineer, was appointed to review and monitor the construction and management of the Project on their behalf lenders. Thirdly, the construction and oversight works were conducted by the shareholders of project sponsor MECO. Therefore, MECO could save time and money for tendering these works leading to project cost saving. Fourthly, trade-off rule was another factor for the success of this phase. When the commission was delayed in 5 months due to multi causes of the delays, the Ministry of Industry on behalf of Government approved a modified required commercial operation date on 4 February 2005 (original intention on September 2004) without allocating responsibility of the delays for MECO and kept the original 20-year concession period (ABD 2008) because the project finished with more value added and under planned budget.

6.3.5 Operation and maintenance phase

Proposition 5: the better cash flow management and management control, the more successful operation and maintenance phase.

BOT PM2.2 project has had a good cash flow management due the followings. The extended annual report of Asia Development Bank (ADB) conducted in 2008 states that PM 2.2 has been operating satisfactorily since its commercial operations date of 4 February 2005. Except for the first year of operation, for the last three years financial performance at the operating and net profit level has exceeded the target, allowing the company to service its debts and distribute dividends. This is because the tariff has forecasted and adjusted appropriately and met the affordability of households17 (see Appendix 4 for project tariff breakdown). Moreover, ADB (2008) ascertains that the bookkeeping of PM2.2 has been transparent. ADB closely monitors project implementation through MECO’s submission of various reports, including semi-annual operating reports; quarterly and annual financial accounts; and annual reviews that comprise both field and desk reviews. MECO has complied with all reporting requirements in a

17 All tariff fluctuations from year 1 to year 20 are lower than the retail sale price (about US cents 5.1/kWh) for household of offtaker Electricity of Vietnam (EVN).
timely manner. In addition, MECO has complied with its financial covenants, maintaining both its historic and projected debt-service coverage ratio above the covenanted level.

**BOT Phu My 2-2 (PM2.2)** has achieved a good management control because of the following reasons. Firstly, ADB (2008) claims that PM2.2 has offered a good service quality and is one of the most efficient electricity generation plants in the World. It has achieved the efficiency due to its good and long-term maintenance strategy. A technical services agreement, renewable yearly, is provided by Electricité de France (EDF) and the Tokyo Electric Power Company (TEPCO). A long-term service agreement, which covers service, technical support, and spares, is being maintained with General Electric International. These agreements were originally for 6 years, but were amended and expanded in 2006 to cover 20 years or the entire duration of the BOT contract. These service providers are the most well-known and experienced ones in energy sector of the world (ADB 2008; World Bank 2002). Secondly, ADB (2008) rated satisfactorily for the environmental, social, health and safety performance. With the exception of industrial noise, the Project has met applicable Government standards, ADB Environment Policy (2002), and World Bank emission standards. In addition, PM2.2 has obtained International Organization for Standardization 14001 certification for environmental management standards and Occupational Health and Safety Assessment Series 18001 certification for its occupational health and safety management system. Moreover, PM2.2 contributed to establishing the Environment Management Group within the Phu My Power Generation Center and to sharing of knowledge about environmental management within the group. Thirdly, the sponsors have transferred advanced technology and know-how to local staff, especially in the areas of plant operation and health and safety procedure in order to achieve “empowerment” in the future. The transfer is conducted by means of on-the-job and classroom training, technical training at General Electric’s headquarters in Atlanta, and financial training at Electricité de France’s headquarters in Paris. Up to now, PM2.2 has successfully trained local staff to take over all management positions, except for five remaining expatriate ones (ADB 2008).

In general, successful operation and maintenance phase from commercial operation date (4 February 2005) up to now was achieved by good cash flow management and management control of Project Company MECO. These 2 generic factors are derived from 6 following subfactors. The proper tariff design and adjustment mechanism with considering the affordability of households have resulted in good business outcomes until recently. Also, meeting the requirements of audit and debt obligations on time has shown its transparency and good financial management. Moreover, PM2.2 has delivered good quality of service for consumers. This is accomplished by efficient operation with the contribution of regular maintenances, which has contracted with qualified and experienced service providers in long-term duration. In addition, it has satisfied the environmental, health and safety standard of the Government and multilateral organizations as World Bank and ADB. Finally, the empowerment is worth to concern in PM2.2 by the transfer of latest technology and experience from sponsors to local staffs.
6.3.6 Limitations

We want to state some reflections on limitations of our study on PM2.2. Through the assessment on various phases, from exploration to 3-year operation and maintenance phase (1996-2008), based on the propositions of fishbone framework, BOT Phu My 2-2 project was quite successful until recently due to the continuous success from exploration to first 3 years operation and maintenance phase. However, the concession is still up to 2025 from now. Therefore, we have to wait until that time to ensure that PM2.2 is successful in any phase and dimension. In addition, we want to know more about how the competitive tendering process was arranged, which criteria are set and why others bidders were rejected. Also, World Bank (2002) states that there was a long time taken from selection of the consortium to the execution of the Project Agreements and issuance of the investment license; we want to get the insights in this issue. However, we cannot get these documentations because these are the business confidential as stated by World Bank and Government agencies. These limitations more or less influence on our evaluation for PM2.2 negatively.

6.4 Lessons learned from BOT Phu My 2 phase 2 energy project

This section will come up with experiences stimulated from PM2.2 so that we can have chances to rethink fishbone framework, previous chapters and PPP in Vietnam in general.

6.4.1 Lessons learned for fishbone framework

By applying the fishbone framework to evaluate BOT PM2.2, we can learn that the success of PM2.2 in some phases doesn’t satisfy all factors in the framework. For instance, the private party cannot involve in the early exploration phase in PM2.2. Therefore, we don’t use almost critical success factors (CSFs) of fishbone to explain for PM2.2 in this phase, instead, strong interests and commitments to the project (in the fishbone) and the promise for financial and expertise assistance of World Bank for later phases (new factor) are the 2 driven factors for this phase to be successful. In addition, it cannot be denied that PM2.2 is feasible in the eyes of investors because it has "PPP in it" (in the fishbone). However, the unfavorable investment environment with a nascent financial market and not good BOT framework make investors insecure. Therefore, the explicitly planned Government guarantees and requested IDA PRG from World Bank would create the 2 layers of guarantee (new factor) which are the successful factors of feasibility study phase.

In tendering phase, the PM2.2 satisfied all factors in the fishbone. What are more, the "coguarantee", the planned Government guarantees and IDA PRG, was implemented and the World Bank as well as PHRD and PPIAF grant funds financed the technical assistance support to the Government for arranging competitive bidding and negotiating all relevant contracts with public and private parties. These are 2 new significant factors for the success of PM2.2’s tendering phase.

For the construction phase, we also use all factors in the fishbone for evaluating this phase. However, we need to adjust and add some new things. The EPC contractor is EDF which is one of the shareholders of Project Company MECO. Also, EDF is supervised by TEPCO which is also
the shareholder of MECO. Therefore, we can consider that they are only “one party”, instead, separated as stated in the fishbone. We also need to add some new successful factors for this phase. First, the lenders also appoint their independent supervisor to review and monitor the construction and management of the project in order to prevent commercial risks (cost overruns and project delays). Second, the trade-off rule is applied for PM2.2, where the Government doesn't allocate responsibility of the 5-month delays for MECO and keep the original 20-year concession period because the project finished with more value added and under allocated budget.

In operation and maintenance phase, PM2.2 is satisfied all CSFs of fishbone. However, the interesting point worth to be concerned is “empowerment”. The Project Company MECO wants to empower for local staffs to take over all management positions in the future. Thus, MECO has carried out the transfer of advanced technology and experiences to local staffs in this phase by means of on-the-job and classroom training, technical training and financial training at headquarters of sponsors. This transfer can save operation costs for MECO by utilizing cheap local employees and facilitate the smooth transfer process at the end of concession period. This successful factor is missing in fishbone model.

In general, CSFs fishbone framework is rather fit to apply for evaluating the successful factors of PM2.2 even though there are some adjustments and new factors needed to add. This is quite logical because we cannot create a unified framework appropriate for all cases in all countries as stated in the section 2.3.4 of chapter 2. Also, we recommend that fishbone framework of CFSs for PPP should be used to evaluate more cases to observe its variations and add other new factors in order to improve it.

6.4.2 Lessons learned for some findings of previous chapters

In chapter 3, we find that the financial market in Vietnam is nascent and cannot be affordable for long-term and huge-capital-consuming PPP project. In chapter 4, we state that the BOT legal framework cannot govern good PPP practices in Vietnam. Also, we suggest that public efforts by Government guarantees/incentives and private endeavors by proposing attractive financial package can cure these weaknesses and make the PPP projects in Vietnam proceed. The question is: whether these efforts are enough to overcome the unfavorable Vietnamese PPP environment? Also, we figure out a lot of failed Vietnam PPP cases in chapter 5 due to the negative impacts of these weaknesses. However, PM2.2 is a successful case through above evaluation. Thus, the question is: what can we learn from PM2.2 to correct for these failed cases? These will be answered in following justifications.

PM2.2 is an international PPP project in which there are a number of involved international players from France, Japan, Australia, World Bank and Asia Development Bank (ADB). World Bank (2002) claims that the foreign investors mainly concern political risks, whereas they will bear commercial risks in PM2.2. They has experienced that the Vietnamese BOT framework is not good; the regulatory regime and institutional arrangement is unfavorable to them. These can lead to high political risks in long-term concession contract. Therefore, the explicit Government
guarantees (GG) for Vietnamese-counter parties and political risks enhance their confidences. However, the strong commitments of Government to PM2.2 by GG are not enough due to its low creditworthiness. Thus, the investors and commercial lenders require another catalysis to ensure that the Government fulfills its obligations with these guarantees as risks occur. The active role of IDA PRG of World Bank in PM2.2 has met the expectations of private partner because it has created the strong connection among “sponsor MECO-Government-lenders”. IDA PRG can be considered as an extra layer of guarantee, where it would be called for to execute the Government tasks unless the Government cannot meet its obligations of GG. Also, IDA PRG helps the Government and MECO assure that the loans for project debts from commercial lenders will flow to PM2.2 on time. In addition, IDA PRG would guarantee for lenders that MECO would pay debt obligations (interests and principle) on schedule. Finally, IDA PRG offers high security for project sponsor MECO. Thus, it proposes an attractive financial package and reasonable tariff for the Government in competitive tendering as stated above.

In short, we can conclude that the Government effort by GG is not enough to make investors, especially foreign investors secure in involving in Vietnam PPP projects with high political risk environment and low Government’s creditworthiness. GG should be combined with IDA PRG to create “coguarantee”, two layers of guarantee, in order to enhance confidences and commitments of involved parties. Also, since the investors are protected with high security, they will offer attractive financial package to the Government.

Moreover, World Bank (2003) states that the high success of PM2.2 shows the significant deal in difficult market, which the other cases can learn from it. Thus, the failure of sample cases in chapter 5 (2 real BOT and 10 domestic BOT cases) can learn from PM2.2 to correct their mistakes. In 2 real BOT cases, including Binh An and Thu Duc water treatment plant, the investors had to halt the project in nearly completed status because they met difficulties in reaching financial closure and Government did not fulfill some conditions precedent in concession contract respectively. Therefore, if IDA PRG were used in these projects, it could cure these issues because IDA PRG would be a legal bidding agreement for lenders to fulfill its tasks on time and Government to execute its obligations. In addition, there are many lessons learned from PM2.2 to correct for 10 domestic cases. First, to achieve the full-fledge PPP model, the investor has to be 100% private instead of state-owned enterprises because we consider the projects in which SOEs are the investors are public-developed ones. Second, IDA PRG helps investor to mobilize project funds not only in international financial market but also in local financial market. Thus, the domestic investors should try to get IDA PRG involved so that they could mobilize soft loans for the projects with low interests and long maturities. As a result, they can set the lower tariffs for the projects satisfied the Government and users. Third, the Government should arrange competitive tendering instead of directly appointed investors if it would get good investors and competitive tariffs. Moreover, it should offer possible guarantees/incentives for these projects instead of provide for big projects only. However, the Government has to value these guarantees to prevent private risk-free as involving in PPP projects.
6.4.3 Lessons learned for PPP in Vietnam

With the success of BOT PM2.2, the Vietnamese Government can learn many lessons to push PPP scheme in the future. In short-run, the Government has to recognize that PPP is difficult to implement in Vietnam due to its small and unprofessional financial market, not good BOT framework and low Government creditworthiness. Therefore, the involvement of IDA PRG of World Bank or PRG of Asia Development Bank is vital for Vietnamese PPP projects to catalyze commercial debt and equity financing in medium to long term concessions from offshore or domestic sources (Matsukawa and Habeck 2007). This can mitigate for the above weaknesses (World Bank 2002). In addition, the Government should play a central role by offering all possible guarantees/incentives for solicited list of BOT projects called for investment every year but it has to be sure that it allocates a certain budget to meet the obligations for these guarantees. Otherwise, Government creditworthiness will be worse. However, the Government has to optimize these guarantees for specific project so as to prevent private monopoly. In long-run, when the domestic financial market becomes stronger and more market-oriented; the BOT framework is improved; the Government gains more experiences from arranging complex PPP deals and its creditworthiness is enhanced, the future PPP projects will need less Government guarantees/incentives and not need IDA PRG or ADB PRG, which reduces a layer of project cost backing to Government and users as well.

6.5 Conclusions

We can learn many lessons from the success of this BOT Phu My 2 phase 2 energy project. Firstly, we can add 4 new CFSs for the fishbone such as planned Government guarantees in feasibility study phase, IDA PRG in contract phase, trade-off rule in construction phase, new insight about empowerment in operation phase (see Appendix 5 for the update version of fishbone). Secondly, we improve for some findings of previous chapters. The extra layer of security such as IDA PRG of World Band or PRG of ADB will facilitate the public-private efforts in respect of financial arrangement at operational level to compensate for weak financial market and BOT frame law (findings found in chapter 3 and 4). Moreover, we can correct for the failure cases depicted in chapter 5 by learning from professional financial and contractual arrangement of PM2.2. However, we have to experience the potential different conditions of PM2.2 compared to these projects. Finally, we can withdraw useful lessons from PM2.2 to facilitate Vietnamese PPP in the future. In short run, IDA PRG or ADB PRG should be applied to catalyze private financing in difficult Vietnamese PPP environment. Moreover, the government should allocate budget to fulfill its obligation for GG for planned BOT projects to enhance its commitments and creditworthiness. In long run, when Vietnam could create favorable PPP environment by strong financial market, good BOT law, high Government creditworthiness and experience, the future PPP projects would need less GG and not need IDA PRG or ADB PRG.

Up to now, the research is nearly fulfilled. What we need to do next is to summary the remarkable points of the whole process of the research and to make the connection among chapters as well as present future research tasks. These tasks will be done in the later final chapter.
Chapter 7: Conclusion and Future Work

This chapter will come up with the review of the whole process of the conducted research, whereby the connection among chapters is made. Moreover, the directions for future PPP research in Vietnam and PPP in general are interpreted.

7.1 Conclusion

In chapter 1, the background and problem statement of this research are defined. We found that Vietnamese Government has desired to push PPP scheme in order to fill in the financial gaps for infrastructure development to serve for other needs such as industrial development and social welfare. Also, it wants to lessen the overwhelming present of state-owned enterprises in every corner of infrastructure sectors with poor performances and stimulate private sector to involve in infrastructure projects. However, there have been many tensions in practice since applying PPP scheme because of some important reasons such as the small and unprofessional financial market and not good policy governed PPP practice. These may cause many risks as financial and political risks for investors since involved in PPP projects, and threaten projects to be successful. From the defined problems, three research questions have been posed:

- What do we know about the PPP in Vietnam, and how the concept involved?
- Is there any framework to assess and explain the success/failure for PPP projects in general and Vietnam cases in specific?
- What are the factors and actors to hinder the present PPP good practices in Vietnam? And what is good and what is bad? And how can we do to break these obstacles?

The effort of answering the research questions has been formulated in the research goal. The main goal is to clarify the problems with current BOT projects in Vietnam with insufficient assessments and explanations and find out what actors and factors (the iceberg) impede the good PPP practices in Vietnam, as well as come up with definite solutions to break these obstacles in order to live up the future good performances. The ultimate goal is accomplished by the process of fulfillment of five sub-goals:

- The first sub-goal is the process of understanding of PPP concept by its definition, clarification of various types of PPP, its motives, understanding various phases of PPP projects; throughout this process, the Vietnamese PPP is introduced by the BOT scheme and its residual issues in the process of practice are depicted.
- The second sub-goal is to develop the framework of critical success factors (CSFs) for various phases of PPP projects in order to assess and explain their success/failure and figure out the most important impeding factors for deep analysis in Vietnam case to come up with generic solutions;
- The third sub-goal, which discovered from the second sub-goal, is to present the most important impeding factor to hinder PPP good practice in Vietnam, namely financial market for infrastructure projects financing and the policy governed PPP practice in Vietnam;
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- The fourth sub-goal is to analyze what is good and bad of these critically impeding factors to come up with solutions for future potential good practices;
- The final sub-goal is to present state-of-the-art of PPP practice in Vietnam and an extensive Vietnam case study in energy sector to assess and explain factors and actors for success and failure of this project. Also, this is a chance to verify the CSFs framework for its potential applications, withdraw learned lessons.

In chapter 2, the 1\textsuperscript{st} and 2\textsuperscript{nd} sub-goals have been achieved. From this chapter, the principle issues of PPP concept are mastered. There are many PPP options such as service contract, BOT, DBFM(O), joint venture and alliance instead of single one, which should be chosen for different projects under different aims. Also, understanding and clarifying various phases of PPP projects are vital because we can master factors and actors influencing on each project phase so that we can know what actions should be taken to fulfill our targets. Moreover, a lot of motives under PPP model are expected for both developed and developing countries. The developing world is really exciting in this model to achieve their macro targets such as reducing corruption in infrastructure, stimulating foreign direct investment even more than the nature of PPP such as value for money, innovation, better decision making. However, to live up these expectations, the conducted PPP project has to be successful, which is not always accomplished and is difficult to assess and explain. Therefore, fishbone framework of critical success factors (CSFs) for PPP projects is developed to serve for these purposes. There are 71 subfactors for the successful PPP project in the fishbone, which are classified in 12 main critical factors. Two main factors with various subfactors in each phase plays as a cause for the successful effect in this phase and the successful effect in every above phase will live up the fruitful PPP project’s expectation.

The 3\textsuperscript{rd} and 4\textsuperscript{th} sub-goals are accomplished in chapter 3 and 4. From the fishbone framework, we have recognized that the financial market and policy governed PPP practices are the most impediment factors which have hindered good PPP implementation in Vietnam.

Therefore, in chapter 3, we conduct a detailed investigation of various financial resources of Vietnam for infrastructure investments. We found that the financial market is nascent and cannot be affordable for large-capital and long-term PPP projects because of the weak banking system; small and unsustainable equity or stock market; small and unprofessional bond market; the unwillingness to invest in infrastructure projects of investment funds and private investors due to the dominance of state-owned enterprises (SOEs) in infrastructure projects and the absence of competitive bidding. As a result, we propose many policy recommendations for banking sectors, capital market, infrastructure fund, private investors with the desire to help them to go on the track of market-orientation. However, we think that it takes a very long time for the whole system to go on track, while the needs for infrastructure projects are urgent to serve for the country’s development. Thus, the efforts of both public and private partner about financial arrangement in specific PPP project play a great contribution to get project proceed. Various
government’s guarantees/incentives are presented with the reflections of many international PPP good practices which are the valuable resources for the Vietnamese government to take into account so that it can value each guarantee/incentive so as to determine what kind of support is worth to apply for specific BOT project in order to achieve value for money, while satisfy the interests of private partner and enhance its confidences. On the other hand, the private partner has to create attractive financial package for specific project with the assistance of innovative technical solutions in certain extent to prove with the government that she/he is the best candidate for forming the partnership. Finally, the clearly understanding financial risks will help the endeavors of public-private partner in the process of financial arrangement become successful. The Vietnamese government has to recognize that BOT projects in its homeland can be considered as risky investments for foreign investors who are capable to involve in large-capital-consuming infrastructure projects, which the domestic investors cannot be afford. As a result, the special supports from government are vital to enhance the confidence of these investors in order to finance for long-list projects calling for investment annually.

In addition, in chapter 4, we analyze what is good and what is bad of the new Decree 78 dated 11 May 2007 governed investment in the form of BOT/BTO/BT in Vietnam. We found that there are some positive improvements compared to Decree 62, Decree 77 and early BOT Decree on 1993. However, through the detailed analysis, the new Decree has failed to address adequately many issues rendered the ill-equipped law to create a momentum for domestic and foreign private participation in sizeable infrastructure projects up to now. While the BOT framework is now marginally more developed, it stills contains many gaps, uncertainties and potential conflicts to cause an expected boom in BOT investment. Also, we claim that the Decree 78 is not a good generic law governed PPP practices in Vietnam because it does not satisfy the criterions such as creating the willingness for private party to invest in PPP projects, good contract design and preventing regulation failure. Also, we come up with recommendations to improve specific bad points in the Decree in the future. Finally, we recognized that the weakness in law, institutional arrangements, and wrong conducting laws of agencies may result in political risks. The critical political risks which has most occurred in PPP projects are identified. Also, the political risks such as delay in approval, change in law, limitation in foreign convertibility and transfer which have the high probability to occur and their potential negative impacts to PPP infrastructure projects in Vietnam are illustrated.

**The final sub-goal is fulfilled in chapter 5 and chapter 6.** Although there are many constraints for PPP practices in Vietnam by nascent financial market and not good PPP policy, there are a number PPP projects which has implemented across regions up to now.

Therefore, in chapter 5, we present state-of-the-art of Vietnamese PPP practices to observe how these weaknesses influence on the PPP opportunities and PPP projects in various sectors of Vietnam infrastructure and what actors do to deal with these obstacles.
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We found that the private involvement lags behind compared to China, Indonesia, and Philippine because of the following reasons. Firstly, the tariffs are set lower than cost-recovery of investors due to the affordability of citizen. Secondly, the restrictions in ownership, equity contribution, and management rights lower the appetite of private partner. Thirdly, the inadequate government supports and guarantees, especially for small projects, make the investors nervous as participating in projects across sectors. Finally, the overwhelming present of SOEs lower the process of private participation.

We also come up with different strategies for each sector to push private involvement. Government should redefine its master plans to be consistent with private interests in economic and financial perspective in order to accelerate private involvement in energy sector, whereas Telecom sector should move toward true joint ventures and allow private ownership, management control right, and equity contribution, to generate higher levels of private investments. Moreover, the Government should define which projects are only allowed for private investors to participate in, whereas others are for SOEs. In doing so, it can prevent overwhelming present of SOEs and create incentives for private partner to participate in transport sector, while the water sector should adopt good strategies such as income measures, differentiation of tariff and differentiated management solution to cope with tariff and affordable problem.

As looking closure by analyzing the sample of 10 domestic BOT projects in transport sector and 2 pure BOT water projects, the whole picture of actors’ behaviors and the conditions building up these behaviors are depicted. It can be seen that the conditions for PPP practices are not favorable, thus actors cannot act in the right ways to which they are suppose to do in respect of institutional failures, nascent financial market, restrictions in specific sectors. We recognize 6 problems faced practitioners in BOT practices. Firstly, the Government rarely offers supports and guarantees for small-scale BOT projects because it reserves funding to assist for national large-scale ones. This results in difficulties for investors to get financial closures from the banks or other financial institutions, which leads to many projects being deadlock or changes into other development strategies instead of BOT. Moreover, the Vietnamese bankers have not trusted the investors in water, road and bridge projects because they contain that these investors are not creditworthy. Secondly, in Vietnam transport sector, SOEs try to win BOT projects strategically by doing 3-4 projects at the same time without considering that the project is profitable or not. They do so in order to have money to compensate for other projects and huge debts from the bankers, suppliers and labors. Thirdly, the negotiated contract is dominated in most of BOT projects in Vietnam. The foreign investors are waiting for the government standstill in mobilizing funds for infrastructure projects so that they are directly appointed in projects, instead of, participate in keen competition of competitive tendering as the examples of BOT project in water and energy sector. Also, the key investors in BOT transport projects in Vietnam are almost state-own enterprises subsidized by Ministry of Transportation. The negotiated contracts are often applied as their dominated powers over private investors. Fourthly, dominant power of public sector results in the phenomenon of “public crowding out private”. It is extremely bad in the case
of BOT road and bridge projects, where SOEs present in every project. Therefore, the full-fledged PPP model cannot be achieved in this sector, which only called for domestic BOT scheme. 

**Fifthly**, the underestimated cost and overestimated revenue without considering risks such as scope changes and unexpected huge compensation costs for land clearance and resettlement result in massive cost escalation in most BOT projects, especially road and bridge ones. Also, this strategic estimation is used as the instrument for investor in order to persuade bankers to inject money into the project and get approval from the government with the opaque relationship.

**Finally**, the negotiation for tariff is the most time-consuming process in Vietnamese BOT projects due to the affordability of households. The Government often sets the ceiling tariff which is often lower project cost recovery. Moreover, the lack of ownership lowers the appetite of investors in water and telecom projects.

Taking away the sadness, there are some BOT projects in power sector such as Phu My 2 phase 2 (PM2.2 or Phu My 2-2), which can be considered as the model for success of BOT projects in Vietnam. Therefore, the chapter 6 will analyze and explain what critical factors and actors make BOT Phu My 2-2 project successful. We use the propositions of fishbone framework to evaluate the success of this project. Through the assessment on various phases, from exploration to 3-year operation and maintenance phase, based on the propositions of fishbone framework, BOT Phu My 2-2 project was quite successful until recently because it satisfies many CSFs of fishbone such as the intensive interests and strong commitments of government (exploration phase), “having PPP in it”, (feasibility study phase), competitive bidding, explicit Government guarantees, professional contractual arrangement (contract phase), good consortium and contractor, proper tariff design and adjustment mechanism, transparent bookkeeping and good financial management, good quality of service, regular maintenances, satisfied the environmental, health and safety standard, and empowerment (operation phase).

From PM2.2 project, we recognize 4 new successful factors such as planned Government guarantees in feasibility phase, International Development Assistance Partial Risk Guarantee (IDA PRG) in contract phase, trade-off rule applied for construction phase, and empowerment by advanced technical and know-how transfer from Project Company to local staff in operation and maintenance phase. These factors will be added to improve for the future application of the fishbone (see Appendix 5 for the update version of fishbone).

**Also, we can improve some findings found in previous chapters by lessons learned from PM2.2.** Chapter 3 has found that public effort by Government guarantee (GG) and private endeavor by offering attractive financial package can compensate for nascent financial market and weak BOT law frame, and live up PPP in Vietnam. However, this is not enough as what we found in PM2.2. By the Vietnam unfavorable PPP investment environment with high risks, especially political risks, the private parties (sponsor, investors, and commercial lenders) require an extra layer of security such as IDA PRG of World Band or PRG of ADB. The guarantee/insurance of these multilateral organizations will facilitate the above endeavors.
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because the Government will fulfill its obligations in GG and private partner with high security will create innovative financial solution benefiting for the Government. **Moreover, we can learn from PM2.2 to correct for the failure cases depicted in chapter 5.** If IDA PRG of World Bank or ADB PRG was used in the **2 real BOT cases**, the investors could get financial closure for BOT Binh An water treatment plant and the Government would fulfill its obligations in concession contract in BOT Thu Duc, as a result, the investors would not get rid of the projects in near completed status. Also, we can learn from PM2.2 model to correct for problems of other 10 BOT domestic cases by achieving full-fledged BOT scheme with 100% involved private investor; arranging competitive tendering and imposing GG so that the Government can choose good consortium and favorable tariff; and applying IDA PRG or ADB PRG so that the private partner can mobilize soft loans with long maturity and low interest. **Finally, we can withdraw useful lessons from PM2.2 to facilitate Vietnamese PPP in the future.** **In short run,** IDA PRG or ADB PRG should be applied to catalyze private financing in difficult Vietnamese PPP environment. Moreover, the government should allocate budget to fulfill its obligation of GG for planned BOT projects to enhance its commitments and creditworthiness. **In long run,** when Vietnam could create favorable PPP investment by strong financial market, good BOT law, high Government creditworthiness and experience, the future PPP projects would need less GG and not need IDA PRG or ADB PRG, which releases a extra layer of project cost.

### 7.2 Implications for further research

**Future research for PPP in Vietnam**

- From this study, we have identified some problems needed to be solved for future PPP in Vietnam:
  - The Government should conduct the vast research to evaluate the effectiveness of 17 real PPP cases approved by World Bank and other domestic cases so that it can have a better vision to what have happened in Vietnam partnership and recognize what has been the potential gaps, what factors make these projects successful or failed, what difficulties practitioners has met in practices and their actions against. In doing so, the Government can master the operational level in order to improve the strategic level to facilitate PPP practice;
  - In the endeavors to improve PPP policy or Decree 78, the Government should suggest World Bank to improve its research conducted in 2008 by setting the criteria of a good PPP law. If World Bank proposes criterions learned from good practices elsewhere, the Vietnamese law makers should study whether these would fit with Vietnam condition based on experiences from above real-life cases;
  - Regarding financial aspect, this research contributes to improve the previous study of World Bank 2008 for Vietnamese Government by investigating financial arrangement in operational level. We found that good financial arrangement Government guarantees and proposed attractive financial package of private partner can get PPP project proceed, where this can cure the nascent Vietnam financial market at present. Also, we improve this finding after lessons learned from BOT Phu My 2-2 case study that Government
guarantees are not enough to enhance the confidence of investors as involving PPP projects in Vietnam due to its low creditworthiness. Therefore, IDA PRG of World Bank or ADB PRG is vital because it creates an extra layer of guarantee, which assures the Government to fulfill its obligations as promises. From these findings, we ask whether IDA PRG or ADB PRG will be willing to offer for all kinds of PPP projects in Vietnam or just projects with low risks, and which conditions the investors have to meet in order to get their involvement, how domestic and foreign investors can get their participation in Vietnamese PPP projects;

- The problem has been posed from the above Government guarantees (GG). The issue is that what kind of GG is suit and how many are enough for specific project to be consistent with technical, financial and legal condition in order to prevent "private risk-free" in PPP projects. Also, the social aspect of GG should be considered because GG will be backed to tax payers, which can result in public outcry. Therefore, we should optimize GG with the consideration of technical, financial, legal and social aspects to apply appropriately for specific PPP project. On the other hand, the Government should allocate its budget for GG to fulfill its obligation. Therefore, the Government should study to establish the "guarantee fund", which have legal status and is managed by 3rd party so that the private party can assure that it will get these guarantees as risks occur;

- In transportation sector, we have recognized that the investors in bridge and road projects are state-owned enterprises. Therefore, these are considered public developed projects rather than BOT scheme as named by Vietnamese Government. However, it is very difficult to prevent these companies to involve in this sector because they are subsidized companies of Ministry of Transportation or Ministry of Construction with dominated power over private enterprises. As a result, the Government should determine in advance which projects are allowed only for private investors and others for state-owned enterprises to involve according to the list of projects called for investment annually;

- Finally, we have found that the knowledge and information exchange about PPP in Vietnam is very limited. As a result, the practitioners and researchers have met difficulties in accessing information related PPP in Vietnam, whereas the Government do not have the outlook to adopt good international PPP practices in order to improve Vietnamese PPP scheme.

From the above problems, we address some following questions for future possible PPP research in Vietnam:

- How do Vietnam PPP projects in the sample perform? What actors and factors make these projects successful or failed? What problems the practitioners have faced in these projects and their actions against? What do we learn from this sector to other sectors?
- What are the criteria for a good PPP law? Is it possible to transplant good PPP laws in other countries to improve PPP law in Vietnam? And how to do?
- What factors and actors build up good financial arrangement for specific PPP project to be consistent with its limited resources? How many risk mitigation instruments are
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existed in multilateral organization as World Bank or ADB to catalyze private investment in infrastructure projects and how they function? What are the advantages and disadvantage of each instrument and how much is optimal with the total budget of specific project? What the Government and investors can do to get their involvement in Vietnamese PPP projects?

- How to optimize the GG to be consistent with technical, financial, legal and social condition of specific PPP project? How to establish the “Guarantee Fund” to support for GG efficiently and effectively?
- What can the Government do to get rid of the dominated power of state-owned enterprises in bridge and road projects to facilitate private involvement in this sector in order to achieve full-fledged PPP scheme?
- How to establish PPP center in Vietnam in effective manner so as to create the knowledge and information center exchange among Government-researcher-practitioner?

Future research for PPP in general

Also we found many residual problems of PPP practices in general in the process of conducting this research:

- Value for Money (VfM). As far as we concerned, PPP scheme has introduced with the expectation that it will deliver infrastructure service with the better value for money than traditional form. VfM evaluation is conducted by public sector comparator (PSC), which depends largely on risk transfer. However, the precision of risk transfer process is in doubt because we can not value all of project risks in long-term concession period about 20-50 years. Therefore, we ask whether the VfM justification is just the manipulation of public party because it wants to implement the project in PPP scheme to compensate for its budget deficit;

- Maintenance. We can experience the important contribution of maintenance for the life-cycle cost of infrastructure project. The project with good maintenance strategy can prolong its life span resulting in economical benefits to the whole life of project. In PPP scheme, the maintenance contract is often integrated with design and build contract, and private party is often responsible for this task. This party designs and builds the project, thus it knows how to maintain it in an economical and effective way, leading to save project cost;

- User satisfaction. As PPP scheme has been introduced, the users have to pay for their usage of infrastructure service rather than free use as in public developed projects. Therefore, we will ask how users react with PPP scheme and whether PPP deliver good service to satisfy the cost of users;

- Handover and acceptance. Up to now, there is little research about transfer phase of PPP projects. When private hands over the facilities to the public partner, it has to meet the requirements set in the specification. However, for long-time concession about 20-50 years, we ask whether the functionality of the project still fits with the current usage. If not, the public partner would require private party to adapt or change the functionality to
meet with new requirements. In this respect, many problems would arise such as new layer of costs, conflicts, etc.

From the aforementioned issues, we pose some questions for future researches of PPP in general:

- How can we valuate the effectiveness of risk transfer process in the development phase of PPP projects? How can we develop an appropriate risk management framework to serve for this purpose?
- What are the relations between PPP and maintenance? How it contributes to life-cycle cost of project? Is it good to integrate maintenance with other contracts in PPP scheme? What are the tensions?
- How public reacts with PPP scheme as introduced? Are they satisfied with services delivered under PPP scheme compared to other contract forms?
- Is it good or bad to design a “flexible concession contract and vice versa”? How parties react with changes in the transfer phase of PPP projects? What are the problems of changes? And who is responsible for changes?

In conclusion, the research is fulfilled up to now. The central research questions are answered. The research goal is achieved. The Vietnam PPP picture is lively depicted. The success and failure of Vietnamese PPP projects are explicit with adequate evaluations and explanations. The iceberg of PPP in Vietnam is recognized and broken. The success of this research is contributed by extremely good and reliable data from World Bank and Asia Development Bank. Also, the qualified international literatures, especially the publications of Koppenjan, play as the main orientation for the author to fulfill the research successfully.
Reference

Chapter 1:


Chapter 2:

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Leigland And Shugart. 2006. Is the Public Sector Comparators Right for Developing Countries? Public-Private Infrastructure Advisory Facility (PPIAF).


Xiong et al., Critical Success Factors of Infrastructure Projects under PPP Model in China.


Chapter 3:


Chapter 4:

Decree 78/2007/ND-CP. Investment on the Basis of Build-Operate-Transfer (BOT), Build-Transfer-Operate (BTO) and Build-Transfer Contract (Vietnamese Version).
Reference


Chapter 5:


Pham Quang Vinh. 2007. Some Opinion on BOT Project of Vinh-Sidetrack Route.

Chapter 6:


# Appendix

### Appendix 1: Recommendations for improvements of Decree 78 (adapted from World Bank 2008; Koppenjan and Enserink 2009).

**Dr. Jules Verlaan**

<table>
<thead>
<tr>
<th>Issues</th>
<th>Subissues</th>
<th>Bad</th>
</tr>
</thead>
</table>
| **Scope of PPP and encouraged sectors** | • Scope of PPP | - Other forms as BOO, BOS, BLT are not introduced  
- Uncertainty regarding the requirement of PM’s approval for other forms  
- Telecoms and large project capital as water, gas or electricity cannot be built without PM’s approval. |
| | • Sectors | |
| **Conditions for private involvement** | • Bidding condition | - Letting many spaces for negotiated contract  
- Lack of financial resources and expertise to arrange competitive tender |
| | | - Competitive tendering should be obliged for every PPP projects  
- Limit at a certain amount of projects in the list calling for investment every year in which the government has to sure that it has enough money to subsidized for competitive bidding process  
- Enhance training program, creating PPP center for knowledge exchange, stimulating knowledge transfer as hiring international consultant to conduct tendering |
| **Administrative coordination** | • Inter branch work group (IBWG) | - Not compulsory establishment and lack of finance for operating |
| | | - establish IBWG compulsorily in every PPP project and allocate enough money for its operation |
| **Certainty of revenue** | • Guarantees and supports | - Vague allocation of authority responsible for these issues  
- Unclear stage for implementation  
- Lack of fiscal management |
| | | - ASAs (the MPI and MOF have the representatives) will be responsible for this process  
- Essential guarantees should be identified in feasibility stage where consultant is also required to make an affordability assessment to identify the need for any government guarantee.  
- The government should allocate budget for these subsidies in PPP projects every year and have the monitoring and evaluating system to |
| Tariffs and prices | - Lack of managing scope and externalities  
|                    | - Unclear on how fee exemption and discounts are handled  
|                    | - Not having mechanism for adjusting price and tariff  
|                    | - Not good strategies for dealing with affordability  
|                    | supervise this process  
|                    | - The government should have a cross-subsidizing for unprofitable parts of projects and internalizing positive externalities and package deal  
|                    | - Clearly state fee exemption and discount in specific cases  
|                    | - There should be a mechanism for change for example a consumer index based formula; Such change should be approved by a third state regulator (e.g. MOF)  
|                    | - Good strategies to deal with affordability: income measures and credit facilities; differentiation of tariffs, services and management solutions  
|                    | - Valuing the guarantees, supports and incentives for each project to prevent "private risk free" and monopoly  

| Project identification & preparation | - No early private involvement  
| Project identification | - Lack of mechanism for involvement of stakeholders and users  
|                         | - Not decentralized the comments of project for PPCs  
| Project preparation | - lack of cooperation between ASAs and related line ministries during the project preparation stage  
|                         | - Involve private party to participate in this phase in order to use its business expertise to identify feasible projects regarding to financial and economic perspective  
|                         | - Articulate different interest by early involve stakeholders to create the sense of ownership  
|                         | - Empower the PPCs to comment on projects implementing in their area  
|                         | - The line ministries should have not only the right to comment on, but also the right of no-objections to project lists proposed by provincial ASAs so as to have better macro-management  
|                         | - The line ministries (e.g. MPI or MOT or MOF as the case might be) should be involved in commenting on those project proposals.  
|                         | - The government should have a cross-subsidizing for unprofitable parts of projects and internalizing positive externalities and package deal  
|                         | - Clearly state fee exemption and discount in specific cases  
|                         | - There should be a mechanism for change for example a consumer index based formula; Such change should be approved by a third state regulator (e.g. MOF)  
|                         | - Good strategies to deal with affordability: income measures and credit facilities; differentiation of tariffs, services and management solutions  
|                         | - Valuing the guarantees, supports and incentives for each project to prevent "private risk free" and monopoly  

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| **Project bidding** | - Vague composition of IBWG and TSG due to not having people of MPI & MOF  
- Unclear criteria for selecting foreign or domestic investor for specific project  
- MOF, MOT and MPI should have the representatives in IBWG and TSG to assist for bidding process  
- Creating clear criterions for selecting investors for specific projects |  |
| **Contract execution** | - Not clearly allocate ASA responsible for negotiating ancillary contracts  
- A compulsory obligation to facilitate the execution of all ancillary contracts should be exposed to ASAs in which MPI and MOF have the representatives |  |
| **Project implementation** | - Not specify “special cases” decided by Prime Minister  
- No further solutions as investor cannot access to land on time for next phase  
- ASAs empower to decide in any cases  
- Any ASA initiating a PPP project must: (i) Identify all occupied and unoccupied land which will be required for project implementation; (ii) Review legal, institutional and financial impediments to clearing occupied land; (iii) Assess resettlement options; (iv) Estimate resettlement & land clearance costs. Those information could be provided in the project proposal made by the consultants. |  |
| **Site preparation** |  |  |
| **Design phase** | - Not specify that the project company is allowed other parties to do the task for it  
- Clear state that the project company can commission third party to conduct the design |  |
| **Construction phase** | - Being tentative for private party to supervise itself in this phase  
- Empower private partner supervise itself in construction phase and the government is assured that it get the quality facility as the specification |  |
| **Project termination** | - Potential conflict with provision in contract execution phase because investors and project enterprise seem to have joint obligations during the operation as well as upon termination of project agreement.  
- The Investor should not have obligations having been transferred to the project company. It is noted that pursuant to the law on enterprise, investors should have only limited liability to contribute to the charter capital of the project enterprise. |  |
Appendix 2: Operation mechanism of Phu My 2-2 (ADB 2002)

The power plant will use the natural gas from the Nam Con Son field with gross calorific value of 37-47 megajoules (MJ) per standard cubic meter (Nm³). It has a very low sulfur content of less than 36 parts per million by volume. During start-up and in emergencies when natural gas is not available, petroleum distillate will be used. Two storage tanks for petroleum distillate will be built within the plant site. The petroleum distillate has a calorific value of 44.8-46.1 MJ/kilogram and a sulfur content of 0.7 percent. It is expected that petroleum distillate will be used for fewer than five days a year.

The power plant will require 30-50 cubic meters (m³)/hour (h) of fresh water for potable use of the personnel, for demineralized water for the boilers, and for other utilities under normal operating conditions when it uses natural gas for fuel. During emergencies, when distillate oil is used, the freshwater requirement will increase to 160 m³/h. The Water Supply Utility Company for Ba Ria will supply the fresh water to PMPGC. The Project will not utilize groundwater. For cooling purposes the Project will utilize saline water from the Sao River at 17 m³/second(s). The water intake from the Sao River is located at the northeast corner of the project site. The cooling water intake has a capacity of 90 m³/s to serve the whole complex. The main channel of the intake water structure has been built, and the distribution channels are under construction as part of the whole PMPGC development.

The warm water will be discharged at the eastern boundary into the Thi Vai River. The Sao River is a small tributary of the Thi Vai River. The net upstream freshwater flow into the Sao River will be 5 m³/s during the rainy season and 3 m³/s during the dry season. However, in the vicinity of the power plant complex the water exchange is more than 90 m³/s, primarily from tidal impacts. In the Thi Vai River, the water exchange has been measured at 10,000 m³/s at the start of the ebb.

How does a gas combined cycle power station operate?

A gas combined cycle power station works with a combustion turbine and a steam turbine, each connected to a separate generator. The combustion turbine uses a fuel (natural gas) which is burned in the combustion chamber. The exhaust gases are used to rotate a turbine which, coupled to its generator, produces electricity. As the exhaust gases leave the combustion turbine, they are recovered in a Boiler and used to produce steam. The steam is sent to the steam turbine which, also coupled to its generator, produces electricity. The combined cycle method improves the energy efficiency of a power station. Indeed, combined cycle power stations can achieve an efficiency of 55% while single cycle power stations do not exceed 45%.
Appendix 3: Allocation of Project Risks of PM2.2 (World Bank 2002)

<table>
<thead>
<tr>
<th>Phases</th>
<th>Risks</th>
<th>MECO</th>
<th>Lenders</th>
<th>Government Guarantees</th>
<th>IDA PRG</th>
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<tr>
<td>Pre-construction</td>
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<td></td>
<td>Debt en equity financing</td>
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<td></td>
<td></td>
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<tr>
<td>Construction</td>
<td>Cost overruns</td>
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<td>Construction delays</td>
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<tr>
<td></td>
<td>Output quality specification</td>
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<td></td>
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<td></td>
<td>Tariff payments</td>
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<td></td>
<td>Supply of fuel and water</td>
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<td>Concession Term</td>
<td>Currency devaluation</td>
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<td>Currency availability/convertibility/transferability</td>
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<td>Vietnam political risk majeure * including change in law</td>
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<td>Foreign political risk majeure * ** affecting MECO</td>
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<td></td>
<td>Natural Force majeure affecting Vietnamese public sector entities</td>
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<tr>
<td></td>
<td>Expropriation</td>
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</tr>
</tbody>
</table>

* Political force majeure events include: acts of war, blockade, embargo, strikes, and changes in law, etc.

** Natural force majeure events include: fire, earthquake, landslide, flood, etc. IDA PRG covers only non insurable natural force majeure risks

Appendix 4: BOT PM2.2 Project Tariff Breakdown (World Bank 2002)

<table>
<thead>
<tr>
<th>Project Operation Year</th>
<th>Fuel, US$cents/kWh</th>
<th>All in Tariff, US$cents/kWh</th>
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<tbody>
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<td>1</td>
<td>2.25</td>
<td>4.26</td>
</tr>
<tr>
<td>2</td>
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<td>20</td>
<td>3.19</td>
<td>4.08</td>
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</tbody>
</table>
Appendix 5: Update version of fishbone framework for CSFs of PPP projects

*Note: new CSFs added include:

Feasibility study: Planned Government guarantee;
Contract phase: IDA PRG or ADB PRG* and Government guarantee* are combined in “coguarantee”;
Construction phase: trade-off rule;
Operation and maintenance: advanced technology and know-how transfer** and empowerment**: empowerment can be achieved since advanced technology and management experience are transferred for local staffs by Project Company’s foreign experts.