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Developing Value Assessment Framework for Public Private Partnership Infrastructure Project

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Abstract. Since 1991 Public Private Partnership (PPP) has been a very fashionable concept in infrastructure discourse in Indonesia. It is strongly believed by many that PPP will accelerate infrastructure provision, ease fiscal constraint and spur economic growth. Having hit twice by financial crisis in 1998 and 2008, infrastructure investment has not recovered to pre-crisis levels, though the nominal has been increasing up to 3.2% GDP. The recent Master Plan for the Acceleration and Expansion of Indonesia's Economic Development (MP3EI) and the upcoming Five Year Development Plan (RPJMN 2015-2019) provide huge infrastructure pipelines, and they are heavily relying on private participation to fill the funding gap.

Until now bilateral and multilateral supports for the PPP continues to flow, however, the process moves very slowly and when PPP project lists were brought to the market, transaction is hardly occurred. There exist a missing link between the huge demands also the huge availability of capital market. The slow progress is due to some fundamental reasons, predominantly bad project planning and preparation, more specifically on proper risk-return arrangement between the public and the private entities.

The purpose of this paper is to find out how PPP feasibility or value assessment be best conducted during its preparatory stage. Some existing value assessment methods will be reviewed, an appropriate procedure for PPP value assessment framework will be proposed and finally some research areas on institutional and regulatory aspect to improve the current PPP procedure will be outlined.

It is recommended that value assessment for both social and economic infrastructure must include qualitative, quantitative and market comparison. Not only it will ensure all aspects of value for money are considered, but also doability of the project. Moreover, PSC-PPP comparison, due to complexity in risk allocation and estimation, is not applicable for economic infrastructure. Affordability should be part of the assessment process, as value should be realized within the limit of financial capability. To be able to conduct a proper value assessment during the PPP preparatory stage, the administration needs to establish a dedicated PPP center of excellence out of the routine tasks of line ministries, whereby PPP projects cycles are properly managed starting from the planning, preparation to market and closing.

Keywords: *project preparation, procedure, public private partnership, public sector comparator, risk assessment, value for money.*

1 Introduction

1.1 Background

Based on various motives, governments all over the world are looking increasingly to PPP to bridge their infrastructure gaps. The use of PPPs raises very complex issues and choices, the process is political and solutions are often case-by-case and project specific. Having established financial institutions to readily support and provide guarantee for PPP projects, the Government of Indonesia is now at a stage of streamlining the legal and regulatory framework, such as the issuance of land provision law and viability gap funding procedure.

The government is underestimating the needs for PPP best practice and procedure. The most visible tip of the iceberg is the fiscal gap or budget deficit, so in the minds of many policy-makers alternative source of funds, either a substitute or complementary to public funding are urgently sought immediately. The sections beneath are unseen, but very massive, including: the objective of PPP is yet not clear, the problem of low institutional capacity and inexperienced staff dealing with PPP, the practice of good governance is weak, widespread corruption, unfair competition climate, construction industry and qualified private operators are very limited, etc. all of which have been rarely touched to be resolved.

Depending on the maturity level of PPP market, many countries have adopted the rationale on the basis of value for money (VfM) in the PPP assessment, which consists of a combination of cost savings, efficiency gains and risk reduction relative to traditional procurement. However current practice in Indonesia, although stated in the objective, incorporating VfM in the assessment framework is not clear. Even in toll road projects, which amongst the oldest concession type, how much the efficiency gains achieved is vague. Thus, the rationale behind why a PPP option is needed is still problematic. Not all projects can be categorized as PPPs, unless it shows better VfM than that of traditional delivery. A common perception and clear understanding regarding what PPP is all about is yet to be nurtured. If efficiency gains or VfM cannot be demonstrated, and when user pay is the only revenue to recover the investment, then higher price and periodical tariff adjustment are the only options to guarantee sustainable operation.

In ASEAN countries the maturity of PPP development and its framework vary amongst member countries. For an updated PPP profile and comparative table in five ASEAN countries (Indonesia, Malaysia, Philippines, Thailand, Vietnam), readers are referred ERIA [1]. Irrespective of the rationales being highlighted for partnership between public and private sectors, certainly each country provides a unique solution to speed up infrastructure development necessary for economic

growth. This may apply for highway or toll roads, port, utilities and also communication sectors. Malaysia and Singapore in particular are expanding PPP application to social infrastructure such as government administrative complex or facilities, education, and health sectors as well as waste management, while Indonesia PPPs until now only cover economic infrastructures: such as transportations particularly toll roads, clean water, power and telecommunications.

To facilitate value assessment procedure a review on PPP assessment method is necessary, not only due to the broadening scope of partnership program beyond economic infrastructure but also new development in the financial and capital markets and wider institutional involvement, all of which will affect risk allocation structure and to a large extent raises the issue of fiscal sustainability and of affordability. It is from this perspective of changing operating environment that this research exercise is initiated.

In order for PPP projects to be successful and to achieve best value for money, a thorough preparatory work is crucial. This will guarantee a good quality of project preparation is made available prior to procurement process. Given the development and a variety of PPP procedures worldwide, a crucial question to be posed in this research is how PPP preparatory stage are best performed and what significantly affects the value for money achieved in any PPP project. This research will briefly report the technical and operational problems faced when adopting PPP assessment methods, both for social and economic infrastructure. Recent progress on PPP policy environment in Indonesia will be outlined. During the value assessment, various issues, which are crucial to assessment parameters, will also be outlined. Finally suitable assessment methods are recommended and further research needs are highlighted as well as suggestions on improving institutional and regulatory aspect will be highlighted.

1.2 The Rationale

In practice most governments adopt PPP principles as a matter of ideological persuasion; utilizing private sector expertise to lever greater efficiency and change management, then boost economic growth. As PPP involves a wide range of difficult choices, real policy options should be carefully assessed and the reasons supporting the decisions should be sound, clear and robust. In fact a correct and smart assessment framework will determine the state of preparedness of the authority in implementing the partnership program.

Studies have shown that apart from key drivers, such as legal framework and understanding of partnership business model, a technical tool of systematic assessment methodology with well-defined objective in every

step of the process is critical prior to project execution. A successful PPP program is depending on the quality of information served at the project preparation stage. For projects to be implemented via PPP, the assessment methodology goes beyond needs analysis and economic viability of the projects. Most importantly, PPP being a public procurement option has to prove that it is capable of optimizing value for money (VfM).

In Indonesia while VfM is often cited as one of the justifications for selecting PPP approach, however it is not sufficiently clear how this concept is incorporated in the assessment framework. In particular, projects are mostly decided on the basis of initial development cost and not what it would have cost the authority or the community over the entire duration of the contract – whole life cycle cost assessment.

PPP still has the essential delivery structure, with innovation being taken forward during project delivery and financing, also when the additional PPP cost is more than offset by the savings achieved through risk transfer and innovation. Although countries are at different stages of PPP maturity, it is still possible for them to have one standard or common assessment method. If there is any reason to account for the gap in PPP development, it can be accommodated through different timing of adoption by individual country later. This approach is more suitable than having several assessment methods as it provides opportunity for countries to plan program of work to strengthen their institutional capability with the ultimate goal of improving their assessment method and hence optimizing value from PPP projects.

There is also a need to share assessment method with the private sector. In fact, employing similar assessment method will allow negotiation process in executing partnerships to be more focused to key parameters rather than on basic methodology and general assumptions. It is also from this perspective that this research is initiated whereby it forms the basis for common methodological framework and understanding for both parties to share.

1.3 The Scope

Across the world, PPP carries different meaning and scope to different countries or agencies. In South Africa, PPP includes the use of public assets by the private sector for its own commercial pursuits. Within ASEAN, Singapore looks at PPP as an avenue for best sourcing public procurement and PPP covers joint venture between public and private sectors. Similarly in Malaysia, PPP coverage is also wide, covering ventures using public assets by the private sector, management and operating contracts, out-sourcing of services and even joint ventures between public sector and State Owned Enterprises (SOEs). The World Bank is also using a broad definition of PPP, whereby it covers

management and operating contracts, lease/affermage, concessions and joint ventures as well as partial divestiture of public assets.

In this study, while it is possible to define or limit the scope of PPP coverage by key characteristics of our choice, the boundary we are setting can be vague and often too judgmental. For instance, if PPP is defined as a relationship involving risk sharing between parties, one still has to decide the sharing proportion threshold. We can certainly incorporate other features, such as contract duration or whole-life approach, to properly define PPP, but we still cannot avoid from having to make difficult judgment. Hence, to make our task more manageable, it may be appropriate to limit the coverage on PPP models that are generally used in public infrastructure projects.

Another aspect, which needs to be clarified, is the scope of public infrastructure. By its most general meaning, infrastructure is defined as the basic facilities, services and installations needed for the functioning of a community or society. Infrastructure can be categorized as economic and social infrastructure, Grimsey & Lewis [2]. The former covers those that provide key intermediate services to business and industry and its principal function is to enhance productivity and innovation initiatives. Examples of economic infrastructure are highways and bridges; ports and airports; utilities; and communications. As for the latter, it is seen as providing basic services to households. Its main role is to improve the quality of life and welfare in the community. Among notable examples of social infrastructure are hospitals; education and training institutions; social welfare facilities; waste management; prison and correctional facilities. Within each of these categories, it can be further sub-divided into soft and hard infrastructures. While in theory, projects can be grouped into economic and social infrastructure; the distinction between the two is not exactly precise. Quite a number of projects are borderline cases. The case in point, for example, is the government administrative complex.

We would like to emphasize here that the study is not meant to come up with detailed standard operating procedures to assess PPP projects. Hence, we aim at coming up with templates for PPP project preparation in a generalized form. In other words, the outcome of this study will give readers sufficient basic information to understand the approach to PPP value assessment method. Furthermore, one can utilize them for developing operational toolkit for specific country in focus. For example, with respect to risk evaluation or government support, we will not go into the technical aspects of how estimation or valuation is done. Similarly, we will not be producing detailed financial models for every type of infrastructure projects.

2 Literature Review

2.1 Critical Review on Indonesia PPP: A Retrospective

The policy environment of infrastructure business throughout the world is now increasingly exposed to the economic elements of competition, private ownership and or operation and maintenance tendering. By doing so government is aiming at improving the efficiency of public sector delivery and reduce amount of state subsidies. To appreciate the current debate on the issue and in order to safeguard the interests of public at large, the elements and the differing structures of infrastructure market should first be addressed so that PPP option can be fruitful.

In Indonesia it has been more than two decades PPP has been a very fashionable concept in infrastructure discourse. It is strongly believed by many that PPP will accelerate infrastructure provision, ease fiscal constraint and spur economic growth. Having hit twice by financial crisis in 1998 and 2008, the infrastructure investment has not recovered to pre-crisis levels, though the nominal has been increasing up to 3.2% GDP¹. The recent 2025 Master Plan for the Acceleration and Expansion of Indonesia's Economic Development (MP3EI) and the upcoming Five Year Development Plan (RPJMN-III 2015-2019) are still heavily relies on PPP funding. From a recent RPJMN-III round table discussion it is estimated that government budget can only cover around 30% of US\$ 489 billions total funding needs, the amount of which more than double the previous RPJMN-II 2009-2014. Another 30% estimated is expected to be covered by the state-owned enterprises (SOEs) funds. Therefore at least 40% funding gap expected to be contained by PPP sources and or any other creative financing scheme. Of course, these will pose new challenges to all of infrastructure players in the country, given the past achievement on PPPs closing is very limited.

Starting from the Washington Consensus that advocates deregulation, trade liberalization and privatization, in 1991 the World Bank began offering loan TAP4I (Technical Assistance Project for Public & Private Provision of Infrastructure) to the Government of Indonesia, continues PPITA (Private Provision of Infrastructure Technical Assistance), CIDA, and recently IRSDP (Infrastructure Reform Sector Development Project) through the ADB loan. Total financing of hundreds of millions of dollars has been absorbed; the result is yet to be seen. Until now bilateral and multilateral supports for the PPP continues to flow, however, the process moves very slowly and when PPP project lists were brought to the market, transactions hardly occurred. The slow progress is due to some fundamental reasons, predominantly bad project planning and preparation.

¹ Rate of 4 to 5% GDP is regarded as moderate. In comparison to India and China, infrastructure financing is on the range of 7 to 9 % GDP.

The prolonged global financial crisis and the recent worsening liquidity in the Eurozone and in the US suggest that for the continuation of infrastructure development, governments in emerging economies should rely more on public spending or partial backing by bilateral or multilateral loans. If PPP funding is still sought, it should rely more on local resources, such as local banking syndicates, pension funds and bonds, any other creative financing scheme.

Although the recent infrastructure laws intended to end public monopolies and open the infrastructure market to private entities, only certain market such as telecommunication grew rather rapidly, then power, waters and toll roads seems to develop very slowly, while other sectors such as ports, airports and railways are even slower. Often it was found that qualified bidders are lacking and competition is simply not in place. Basically, the market is not really contestable also innovation and efficiency are rare. These factual economic trends then pose a very fundamental question: whether PPP can still demonstrate value for money compared to the public sector, after all? The use of PPPs raises very complex issues and choices, while solutions are often case by case and project specific, as stated in Lubis [3].

Having twice revised Presidential Decree No. 67/2005 on PPPs (Presidential Decrees No. 13/2010 and No. 56/2011, respectively), regulating competitive tender as mandated by this presidential decree remains political and draws controversy. Placing contestability first and foremost often delays and jeopardizes project delivery. Frequently, a number of PPP pre-qualification and tenders were repeated, because private parties' responses underwhelmed, or rather the information given in the "info memo" was unclear due to poor project preparation. None of "ready-to-offer" projects approach successful transaction or closing, if so otherwise further implementations always hampered, due to land acquisition, or licensing disputes between authority and subnational (local) government. Finally because of delay, the cost to realize the project continues to swell.

If a project is regarded as top priority or strategic in terms of economic benefits but is not financially viable, nevertheless procurements continued, and government subsidizes part of the investment through viability gap funding (VGF). Or at one extreme, infrastructure are funded in fully by public funding e.g. through soft loans, then later tendered to private entities under operation and maintenance contract.

Unsolicited proposal from private sector may also be submitted to the government to build a certain facility so long it is fully funded by private financing. The facility must not be listed in the PPP book or any other master plan. In this case private sector will bear all the burdens of development costs and risks.

With regards institutional issue, the memorandums of understanding (MoU) between the Finance Ministry, the National Development Planning Board (Bappenas), and the Investment Coordinating Board (BKPM) on facility coordination and PPP acceleration in infrastructure were issued two years ago to speed up the preparation and execution of PPP projects. The MoU positions the BKPM as a “front office”, sharing information about ready-to-offer projects through an attractive marketing program, which in the short term focuses on showcase projects. Nevertheless, the taste of the pudding is in the eating, this inter-agency coordination is easily set than done.

The role and involvement of SOEs in PPP tenders varies across sectors. In electricity, for example, PT PLN played a role as government contracting agency (GCA) in the recent Central Java power plant tender. Other SOEs, such as the Toll-Road Corporation (PT Jasa Marga), Railway Corporation (PT Kereta Api) and Seaport Corporation (PT Pelindo), are positioned purely as service provider i.e. operational functions.

Formerly the roles of government Ministries or Directorate Generals are responsible for all kind of regulatory functions. But according to the new infrastructure laws, the Toll Road Regulatory Body (BPJT) and Port Authority, for examples, though not acting as independent regulatory bodies, they act as an economic regulator and contracting agency or landlord in their respective sectors. However, in rail sector neither economic regulator nor asset manager is mentioned in the railway law. In the absence of independent regulatory agency, two essential regulatory tasks – price control for (natural) monopoly and safeguarding competitive climate – cannot be imposed fairly to service providers. Urgently, for PPPs to be effective, ownership of state-owned assets need to be settled and recorded accordingly either on the GCA’s balance sheet or asset manager’s or SOEs’.

Sometimes, when a project is dropped from the list of PPP tender, justifications are often weak and inherently political. A direct appointment through Presidential Decree to SOEs or private entities, such as in case of Port Kalibaru and of Sunda Strait Infrastructure Development, were viewed as against the market-oriented policies as mandated in the infrastructure laws. To date, the position of public institutions as regulatory (Safety, Health, Environment) and reposition of landlord or GCA as (independent) economic regulators are yet to be settled. Likewise, SOEs function solely as service providers as mandated by infrastructure laws need to be resolved. In case a vertical restructuring of the business is to be pursued, such as in rail sector, asset ownership and management issues all need to be settled as well.

All in all, it is suffice to say that embark on the PPP scheme demand a totally different set of mind. In traditional public funding, administration

is buying the services from private entities, while in PPPs arrangement administrations are to sell the economic opportunities of public sector provision and operations to private entities. In any case, public institutions should stand and stay in the front line to champion the transactions and make sure better VfM are gained. Therefore, in the absence of PPP championship and policy direction from the top level, to maintain PPP governance is simply impossible. Minimizing total life-cycle cost incorporating risks requires skill and interdependent choices; a private firm is usually better than a government in innovation and making these choices. Otherwise, public finance with separate construction and operation contracts may be as good as, or better than, PPP finance.

In a sense, this will require administrations that are capable of acting as good marketing officers and equipped with entrepreneurial skill, which is hardly found in the normal bureaucracy. That is why in some countries where PPPs already reach its maturity a dedicated unit PPP center or unit, which is separated from routine lines ministries, is established. The existing PPP center is attached to Central Planning Agency (Bappenas) and is now under developing. To be strong and productive, a pool of permanent experts and supporting consultants should back up the unit. The center and its experts should also be accessible to subnational governments. PPP center will screen and produce projects list and appoints subsequence preparations. Ideally, only a very demanding and affordable PPP projects are listed and passed to market, tender and seek financial closing, that is to say PPP center should have a better targeted and prioritized PPP projects.

A few words on scope of PPP infrastructure and financing are worth noting. Until now social infrastructure such as hospital and medical care equipment, schools or campus and the facilities, and government offices all have not been included in the PPP scope. These types of infrastructures, particularly health services and medical equipment are urgently needed by the mass population below the middle income class, and are suitably financed through availability payments with or without user charges. Finally, as cycle of PPP projects from planning to operation, and to end of life may last beyond administrative and presidential office terms, in a longer run Indonesia would need a PPP Law.

2.2 Review on Value Assessment Method

We undertook a brief survey on project assessment approach in some countries² with different PPP maturity levels. For these countries,

² The survey covers the United Kingdom, Australia (State of Victoria), France, Germany, South Africa, South Korea, India, Singapore, Malaysia and Indonesia.

projects are subjected to both qualitative and qualitative assessments³. In the state of Victoria, Australia, the assessment framework has one additional component, which is public interest test. The test covers eight assessment areas, namely effectiveness; accountability and transparency; impact on individuals and communities; equity; consumer rights; public access; security and privacy.

For all the countries covered in our survey, the objective of the assessment is to secure value for money (VfM). Interpretation of this objective can clearly be seen in the focus of qualitative assessment and the approach they take in evaluating the project quantitatively. In particular, for the qualitative assessment, attentions are given to the suitability of projects for PPP implementation; innovation in the design, business model and project structure; suitability and reliability of the private promoter as well as service quality. Between countries there is no consensus view on how VfM for PPP should be determined – it varies between systems relying on market competition (including the so-called Swiss challenge model) and the highly structured Public Sector Comparator (PSC) model adopted by the UK and Australia.

Despite small sample size of our survey, we managed to identify four distinctive approaches to quantitative assessment. In decreasing order of complexity, they are outlined below.

2.3 Full Social Cost Benefit Analysis (SCBA)

This approach involves estimation of the equivalent money value of the benefits and costs to the community or society to establish whether it is worthwhile to assign project to private operator. As the intention is to evaluate the impact on community and society, or assessing the project from socio-economic perspective the method involves the use of shadow price for cost and benefit items. This is to recognize the imperfection of the prevailing market price in providing economic value to the project. In addition to this, externalities have to be factored in and all the transfer items have to be excluded when evaluating the options.

This method was use in the evaluation of Germany's PPP program. However, because of the complexity, the evaluation is now done using risk-adjusted public sector comparator (PSC).

2.4 PPP-PSC Comparison Incorporating Risks

Under this approach the net present cost of project implemented through conventional public procurement approach (also known as PSC) is

³ Usually qualitative assessment is conducted as part of pre-feasibility study (pre-FS) in order to gain quick feasibility indicators, while quantitative assessments as part of full feasibility study.

compared against its PPP alternative. As shown in Figure 1 the cost for PSC represents whole-life cost of the project, the value of risks which are to be transferred to private sector as well as those which will be retained. In other words, PSC is a risk-adjusted whole-life cost of the project. Taking into account the principle of time value for money, PSC is expressed in present value term. The cost of the project using PPP approach is represented by the present value of service payment submitted by bidders and risks retained by the public sector. This method is used by the State of Victoria, Australia.

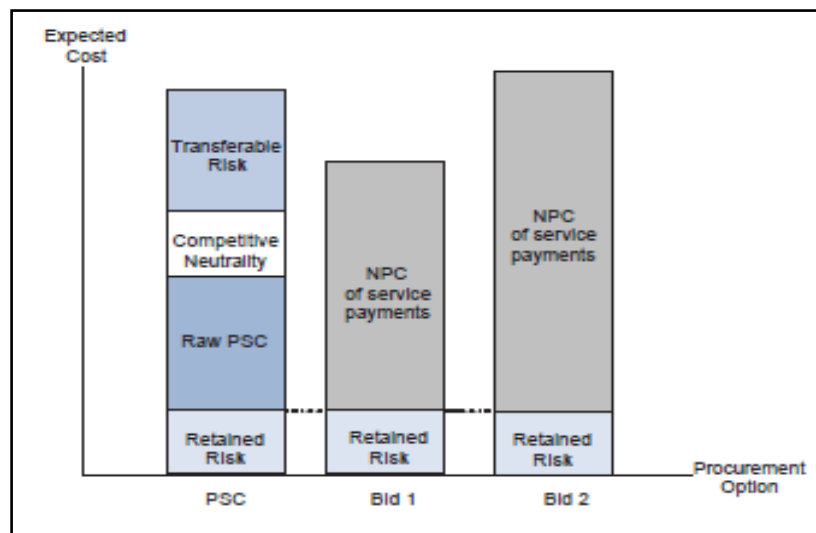


Figure 1. PPP-PSC comparison incorporating risk
(source: Victoria Partnerships)

2.5 Revised UK Version of Public Sector Comparator

This approach is a modification or an off short of the method described in section 2.2 above. The PSC following this method is defined as the present value of project whole-life cost, the estimated cost arising from changes in the scope of project, transaction cost of public project and an adjustment for optimism bias⁴. Unlike the previous approach, the PSC does not incorporate risk estimation. Another distinguishing feature of this method is that the cost of PPP project is not from the actual bids, but a shadow bid that is estimated based on the assumed project internal rate of return. As this method is intended to assist decision-making process, it requires sensitivity analysis be undertaken to generate a series of switching values, where the benefit of PSC and PPP approaches is equal. With regard to PSC, the sensitivity analysis relates to changing the value of capital expenditure, whilst for PPP, varying the internal rate of return

⁴ Optimism bias is defined by HM Treasury as a demonstrated, systematic, tendency for project appraisers to be overly optimistic. Estimation of optimism bias is done based on past data.

does it. The PPP authority in the United Kingdom to replace the method described in section 2.2 introduced this method.

2.6 Competitive Bidding Process

This approach is adopted by France – a country with long history of PPP in the form of concession and a track record of performance. Comparison is made among bids submitted. It is the least complex of the four, as it does not involve the estimation of PSC with all the difficulties associated with it.

From our literature review, we identified another method. Some state authorities in the United States adopt this method. In particular, most contracts for private prisons require that private firms to offer the service at 5% to 10% below what it would have cost the state, see Grimsey and Lewis [4]. Based on our survey, the choice of methods is influenced by several factors, namely:

- a) ***Country's legal requirement:*** This can be seen in the case of Germany whereby Federal and state budget laws dictated that an economic analysis be made for the PPP project and this is to be compared with the conventional approach, Freshfields Bruckhaus Deringer LLP [5].
- b) ***Economic system and philosophy:*** The use of PSC approach is common in countries without long history of private participation in public infrastructure development. Furthermore without sufficient performance track record and to appease public concern on the efficient use of public fund, it is necessary and politically correct approach to compare with conventional method. In the case of Singapore, PPP is looked upon in the context of best sourcing approach for public procurement and in this regard open bidding is identified as the approach to follow. Projects are evaluated not only in terms of cost to the Government, but also the design, service quality and innovation. In the case of United Kingdom, PPP is seen as an alternative method to procure services by public agencies. Hence, in the same manner as other public purchases, the provision and cost of services by private operators has to be superior to what they can be provided internally. The PSC approach is therefore a systematic way of assessing the best procurement method.
- c) ***History of private participation in public infrastructure development:*** For countries with long established tradition of PPP, comparison is no longer with the public sector but other private operators. After all, if ever public agency is to undertake the project, it is no longer considered as a benchmark. We have seen this in the case of France whereby PPP in the form of concession went back to as early as 17th century.
- d) ***Objectives, rationales and drivers of PPP program:*** This factor is quite common for ASEAN countries. Given the need to accelerate infrastructure development while at the same time there is a budgetary

constraint, PPP is seen as an avenue to bridge resource gap. After all, unlike the United Kingdom where service charge is to be paid by the Government, most PPP projects in the region are structured on user pay model. With financial assistance from the Government or public sector guarantee, user charge can be fixed at lower rate, resulting in the net present cost for PPP to be lower than PSC. Hence, using conventional approach as a benchmark for cost is quite meaningless. Even if financial assistance and value of guarantee are to be imputed into PPP costing thus making it to be more expensive, Government with its budget constraint is unlikely to opt for conventional approach. After all, PPP option has the capacity to provide space in its limited budget, as substantial part of the project cost will be met from charges imposed on ultimate users. For this reason, PPP projects in ASEAN countries are mostly assessed using competitive bidding process or in some special cases, direct negotiation.

- e) **Institutional Capability:** This is probably one of the reasons why ASEAN countries are unable to use PSC-PPP method of assessment. In particular, being new in PPP field, there is simply insufficient past data or information to make good and robust estimates on the value of risk or optimism bias. The same goes when attempts are made to estimate whole-life cost of the project. For instance, due to technological improvements, the estimation of replacement cost can be a daunting task. This is not to mention that maintenance cost for conventional approach is not based on scheduled maintenance but on the budget availability. Apart from data issue, level of competency is lacking especially with respect to risk identification, valuation and allocation. While engaging consultants can address skill issue, budget seems to be a major constraint. The solution therefore is to opt for open bidding and review the proposals based on the analysis undertaken by bidders. As corruptions are still prevalent in some ASEAN countries, choosing appropriate procurement method combined with inbuilt monitoring and knowledge management system could be useful in combating corruption.
- f) **PPP business model:** Most PPP projects in ASEAN countries are structured as concession model. Hence, there is a strong inclination to use French approach to evaluate projects. On the other hand, the PSC-PPP method is often used for availability based project structure, such as accommodation and process plant projects.

3 Developing Value Assessment Method: Issues and Challenge

Developing a standardized assessment method to be applied in Indonesia can be a very challenging task. More so when we consider countries within the grouping are at various stages of economic development. Nonetheless, we can still aim for a common assessment method given the push by most countries in the region to accelerate PPP development.

While some countries in ASEAN are more advanced than the rest, they cannot claim to have sufficient institutional capability to completely adopt a complex methodology as in the United Kingdom or Australia. Apart from skill availability in PPP project assessment, data availability especially with respect to project risk is not well documented or readily available.

In coming up with a framework for assessment of PPP project, the following specific issues have been identified and worth noted:

- 1) **Objective of PPP:** Most ASEAN countries would look at PPP as an avenue to bridge financing gap in infrastructure development. This is especially so when ultimate users are the one who will substantially pay for the cost of the project. The question as to whether conventional approach can deliver project at lower cost or more superior in terms of advantages is often not fully explored as it normally forces the Government to allocate fund upfront although this can subsequently be recoup through toll charges. It would appear from this argument that assessment method should best be done by letting private bidders to offer best value for money in an open competitive environment. In other words, the present practice should be allowed to continue. As we have learned in the previous section, the method that is adopted in France works in the background of long history of private participation with established track record. In fact, given this background, there is no data to build up estimates for public sector comparator. Most importantly, public has taken the view that it is the role of the private sector with Government only plays the role as enabler or facilitator. ASEAN environment is different. Infrastructure development has always been public domain and if assessment is not properly done or in a more comprehensive manner, it can result in negative political repercussion. Hence, the issue here is to establish rationales that despite difficulties in estimating public comparator, the method is still relevant for ASEAN countries. In this regard strong commitment and political will are required to push for a more systematic approach to incorporate clear measure of VfM in project assessment.
- 2) **Value for Money Concept:** For countries with established PPP program, assessment on PPP projects is done for the purpose of realizing value for money. In the case of the United Kingdom, HM Treasury defines VfM as “optimum combination of whole-of-life costs and quality (or fitness for purpose) of the good and service to meet the user’s requirement. VfM is not the choice of goods and services based on the lowest cost bid “. It is also to be noted that VfM is not defined in absolute term but relative to alternative procurement mode. For the ASEAN countries, greater prominence is given to alternative funding potential when screening projects for PPP. After

all, as indicated earlier, PPP is chosen as an avenue to bridge resource gap. Even if VfM is relevant as a focus for the assessment exercise, the costing which is based on whole-of-life approach can be a major problem for most countries in the region. Apart from availability of data and information about replacement cycle, future cost is hard to estimate accurately due to unpredictable technological change as well as inflationary trend. Any estimate beyond 3 years is a pure guess. One may want to note that for projects involving buildings with 30-year life, initial development cost accounts only at most 22% of the of the whole-of-life cost. This proportion will come down the longer the life of the asset. As for the balance, it is accounted for by the maintenance and asset replacement cost. In short, it can be said that there is a strong possibility of committing a mistake in the estimation as more than three-quarters of the cost are uncertain. These are the real challenges for the countries in the region if to adapt the whole life-cost VfM concept.

- 3) **Accounting Treatment:** It is quite common in ASEAN countries that PPP is seen as an avenue to create space in an otherwise tight national budget. Attempts are often made to structure PPP project from the perspective of the Government account as off-balance sheet. Perhaps the most popular approach is to structure the project as operating lease instead of finance lease. This works fine when accounting standard with regard to recognition of asset ownership is based on risk-reward approach. However, the standard is now shifting to control approach. The impact is not only on PPP projects structured as leases but also those in the form of service concession, including toll highway. With the adoption of control approach, many PPP projects will no longer be off-balance sheet and for this Government has to recognize its related liability, if any. While ASEAN countries may want to defer the adoption of this standard, it cannot therefore take the view that the status quo will remain. The trend towards global convergence in accounting standard is already taking place. The issue related to accounting treatment will have implication on the objective of PPP which is part of project screening process and test for absolute affordability.
- 4) **Level of Affordability:** PPP normally involves inflexible long-term contract with inter temporal financial obligation. Service payment for PPP is fixed upfront and subject to favorable service performance, it will appear as charged expenditure if Government is the payee entity. Hence, when assessing PPP project, it is not sufficient to only look at relative affordability⁵ of individual project but of prime importance, to verify absolute affordability of the Government having taken into

⁵ Relative affordability is defined as the financial commitment or cost advantage of one option against the other whereas absolute affordability is the comparison against the approved national budget.

account all PPP projects already and likely to be committed. Failure to do so will pose the country to unmanageable fiscal risk. The challenge in this case is to have institutional capability to monitor and control all PPP projects on timely basis. For many countries, central PPP unit with strong political support plays this role. It is also important to determine absolute affordability parameter, and preferably this is legally enforced and not a mere planning tool. The European Union, for instance, uses debt ceiling as its absolute affordability parameter while some other countries use certain percentage of Government annual revenue as a ceiling for the total annual PPP service payment.

- 5) **Diversity in Business Model of Infrastructure:** As indicated earlier, PPP approach is applied to various types of infrastructure and is structured using many forms of business model. In particular, as PPP program expands to include social infrastructure, it becomes necessary for the evaluation approach to involve the construction of PSC. In this regard, the procurement of such services is looked upon as an extension of government agencies' purchasing activity. Comparison between what can be provided internally and by external party becomes relevant. However, construction of PSC is not an easy task. Even for PPP economic infrastructure, assessment method needs to be differentiated by groups of projects. This is to take note the different business models used to make projects bankable. For instance, availability based model need to be assessed differently from usage-based model.
- 6) **Risk Identification, Allocation and Valuation:** Studies on hospital PPP projects in the United Kingdom came up with a finding that risk is almost always the deciding factor for projects to be implemented using PPP approach. This shows how important risk is in the PPP project assessment. However, risk assessment exercise is not an easy exercise. In the case of risk identification, one should be able to differentiate between risk and uncertainty. The differentiation is important, as uncertainty is not easily measurable ex-ante and also not an element that can be transferred from one party to another. The general practice is to share the impact of uncertainty. While there are specific definitions to these terms, in practice, there is a thin line dividing them. Even if one can differentiate risk from uncertainty, determining the materiality of risk ex-ante is challenging. When dealing with risk allocation, one is often advised that risk should be allocated to parties best able to manage them and we should always ensure optimal risk allocation. This guidance is vague to be of any help. Irwin [7] suggests that allocation of risk takes into account the party's ability to (a) influence the corresponding risk factor; (b) influence the sensitivity of total project value to the corresponding risk factor; and, (c) absorb the risk. Valuation of risk is another challenging task especially for ASEAN countries. For proper

valuation exercise, extensive data is required and need to be identified by types of risk. Otherwise, the value of risk is a pure guess without strong statistical backing.

- 7) **Government Contingent Support:** The practice of Government giving support to private enterprise is not a recent phenomenon but dated back nearly 4,000 years ago during the era of Babylon King, Hammurabi. While it is not wrong to provide guarantee, it is also important that Government is aware and able to estimate the contingent liability from such guarantee. As shown in Figure 2, guarantees can come in many forms and levels of financial exposure to the Government.

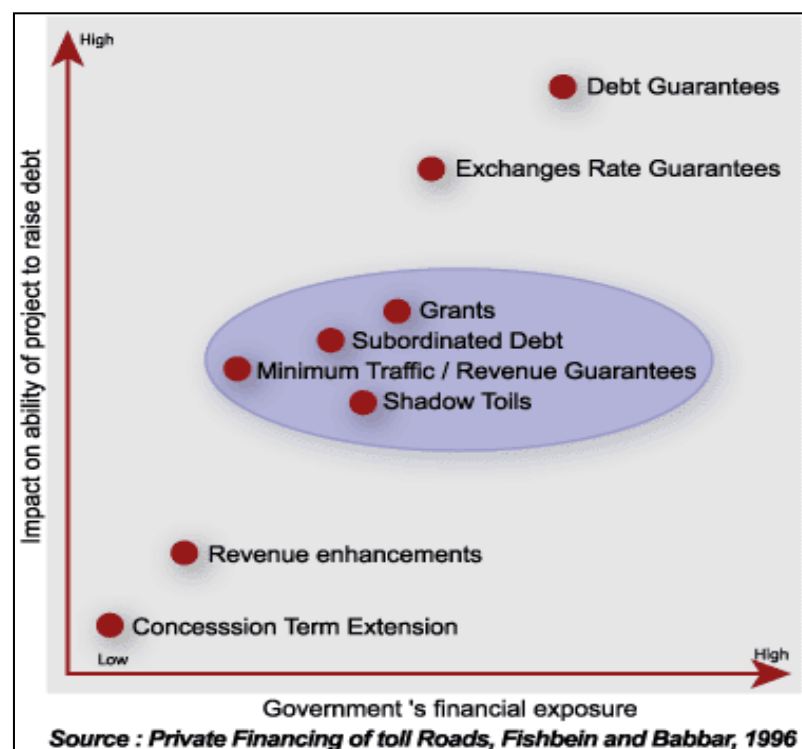


Figure 2. Types of government guarantee

There are many examples where Government had to bear disproportionate financial obligation due to guarantee. The Korean case of revenue guarantee for road linking Seoul to airport at Incheon is one such example. Another example is the Sydney Harbour Tunnel. From our survey on assessment methods, we have not seen cost of guarantees is incorporated in the exercise. While to include this in the methodology seems appropriate, valuation of guarantees, particularly those contingents in nature, such as revenue support, guarantee on return, demand guarantee and debt guarantee, is not easily done.

- 8) **Discount Rate:** Choice of discount rate is important in the assessment exercise as project incurs costs and generates benefits at

different point of time. Given the public nature of the PPP project, the choice of discount rate has to take into account national objective and not purely private financial objective. From theoretical perspective, there are several choices of discount rate and the selection of one over the others should be dictated by specific condition in each country. Zhuang, et. al. [6] identifies four choices, namely (i) Social Rate of Time Preference (SRTP) which is the rate a society is willing to postpone a unit of current consumption in exchange for more future consumption; (ii) Marginal Social Opportunity Cost of Capital (SOC) defines as the opportunity cost of public investment displaces private investment expressed in terms of rate of return; (iii) Weighted Average Approach of (i) and (ii). In case where foreign borrowing is also a funding source, the average also includes cost of this borrowing; (iv) Shadow Price of Capital. More specifically is whether project displaces consumption or private investment. However, real situation is not clear-cut and more often than not, it is a mixture of both. The issue about discount rate is made more complicated when project is impacting more than one generation (30 to 40 years) and in this regard the issue of intergeneration equity need to be considered. In practice, the choice of social discount rate across the world has been mainly between Social Rate of Time Preference (SRTP), Marginal Social Opportunity Cost of Capital (SOC) and the weighted average of the two.

The World Bank is adopting the weighted approach with rates ranging from 10% to 12%. Hence, to resolve this issue on the choice of discount rate, we are recommending that ASEAN countries follow the practice of the World Bank.

- 9) **Competitive Neutrality and Optimism Bias:** These elements are present in the two versions of PPP-PSC assessment method. While there are good reasons for their incorporation, the estimates can be difficult. For competitive neutrality, the problem is due to the extensive presence of State-owned enterprises (SOE) in the bidding process for PPP projects. There are instances that these enterprises are given favorable treatment and even if this practice can be stopped, it is difficult to ensure that their cost of capital is comparable to the true private enterprises. This is for the fact that having Government as equity holder, cost of equity is not that demanding. For this, their investment hurdle rate can be lower and they can bid at lower price vis-à-vis pure private enterprises.
- 10) **Balancing Stakeholders' Competing Interest:** The interest of various stakeholders should be considered when making assessment on PPP projects. There are at least four groups of stakeholders, namely the Government that acted both as regulator and stakeholder; private investors and operator; financiers and the public as the

ultimate user of the facilities. As a stakeholder, Government will look at value of the project, measured in terms of project's net present value and also the demand on public funding, particularly quantum of financial support and guarantee. To the investors and project operator, the emphasis is always on maximizing return and minimizing risk of the project. As for the financier, quality of debt instrument is paramount and with the adoption of the new Basel capital adequacy framework for banking institutions, optimizing return on its risk-weighted assets is also of equal important. The public as users of the facility will definitely concern with the service level and charges they have to pay. These interests, more often than not, compete with one another and to strike a fine balance between them is a challenge in project assessment.

4 Recommended PPP Value Assessment Method

It is to be noted that, at present not all ASEAN countries have the necessary PPP enablers to commit to PPP program. However, even for countries with the necessary enablers, there are issues and challenges for them to implement our recommended methodology. The previous section highlighted these issues in greater detail including the likely response to take. Given these challenges, our methodology should be taken as a reference for countries to enhance their institutional capabilities, enablers and address those challenges. In fact, improvements in the assessment methodology should be taken as a journey with realistic time frame for adoption.

In developing the methodology, we take note of two different sources of project origin, namely the solicited and unsolicited proposals. Despite the sensitivity and the difficulty of handling unsolicited proposals, we believe Government should welcome such proposals. In fact, this could be a source of new way of doing Government business. Unlike solicited proposals which have undergone thorough evaluation exercise in terms of needs and affordability, unsolicited proposals have not gone through similar process. For this reason, distinction in terms of process flow is made between the two in our evaluation process.

Another aspect that we need to highlight is the distinction between projects structured along the way of UK Private Finance Initiatives and the rest of the PPP projects. The former are those that Government procures based on the principle of best sourcing and paid for the output or services provided.

While we recognize open competition is the least complex among the choices that we have and hence easily implementable, it may not be suitable for ASEAN countries in general. In the first place, the number of bidders may be limited to ensure sufficient competitive tension among

them. Significant involvement of Government-linked corporations or state-owned companies also is an issue especially in terms of ensuring fair competition. Most importantly, public infrastructure has always been in a public domain and there is insufficient information on private sector track record in terms of costing, service level and reliability to gauge fair pricing and to determine key performance indicators. For these reasons, despite the difficulties the recommended methodology herein adopts the PSC-PPP like comparison approach, given the conditionality as explained below.

The process flow of proposed framework is shown in Figure 3. Its main feature is the two-stage assessment process, depending on the origination of the projects. The first stage is to provide guidance with regard to decision to invest while the second stage is to evaluate procurement options. This refers to the choice between conventional and PPP approach.

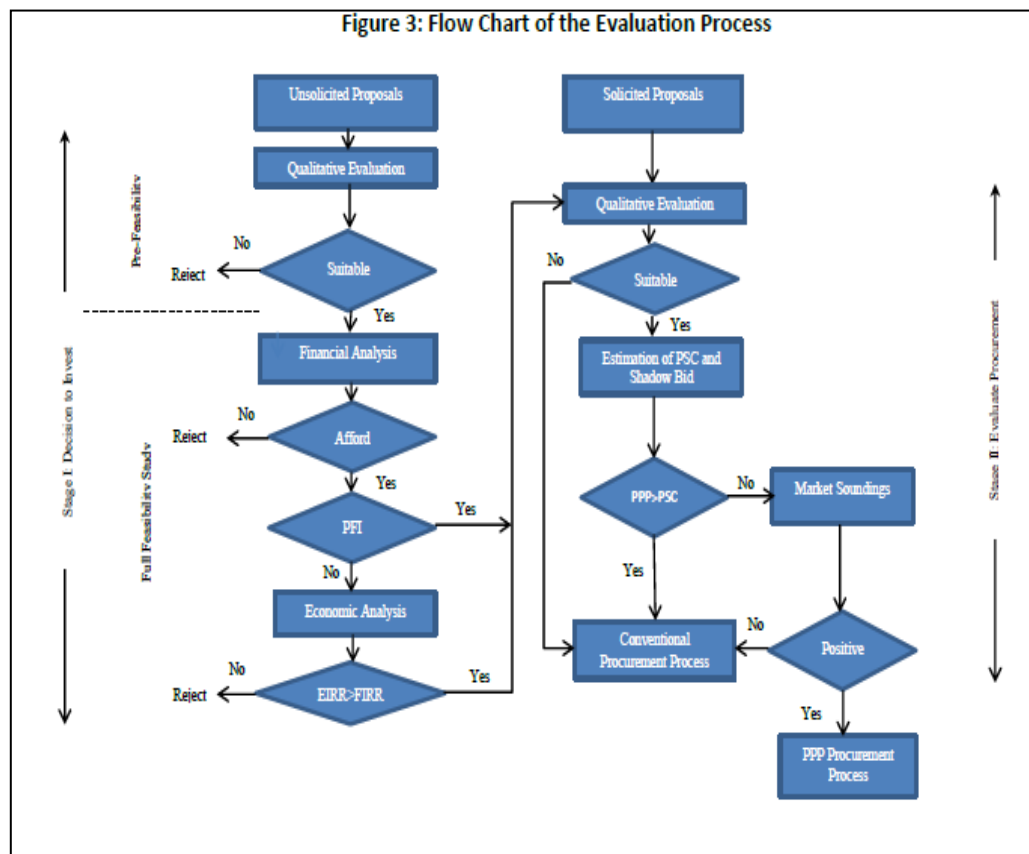


Figure 3. Flow chart of the evaluation process

4.1 Stage I: Decision to Invest

This stage is applicable to unsolicited proposals and hence, it is important to ascertain financial sustainability of the project on stand-alone basis, consistency with national development agenda, need of the country and

affordability measured against the Government budget ceiling. As the project is within the scope of public infrastructure, the economic return of the project should exceed its private financial return.

Stage I assessment begins with qualitative evaluation in the nature of pre-feasibility study. It is a high level assessment focusing on the following aspects:

- a) **Investment objective, scope and desired service outcome:** These will be evaluated in terms of its consistency with national development agenda or development thrusts as well as need of the country.
- b) **Drivers for change:** The project should have the ability to drive changes towards improvement especially in terms of improving the prevailing specific economic and/or social conditions.
- c) **Option analysis:** High level evaluation should be made on the impact of each of the three options, namely do nothing, undertake with size scaled down and to implement the project in full as proposed. This is to avoid over-investment and wastage from duplication in the provision of public infrastructure.
- d) **Critical success factors:** The focus is in to evaluate how challenging on the part of project operator to ensure success of the project.
- e) **Government financial obligations, both direct as well as contingent:** The assessment includes the request for direct grant, cost of land acquisition, soft loan or those contingent in nature, such as guarantees.

Aspects highlighted above are policy in nature. Government should determine up-front policy reference for easy comparison. In fact, if the requirements of the project are not in line with pre-determined policy parameters, project should already be declined at this stage without having to go to the next level, which is a full feasibility study.

The next level of assessment involves the construction of financial model identifying monetary income and expenditure, residual value, the timing they occur and sources of financing (including government contribution). The model will go through an iterative process to determine optimal mix of the level of Government payment and/or support, level of user affordability (for usage-based PPP projects), required return of investors and terms of private finance. The assessment also includes varying the output or service specifications so as to give indication on level of affordability, looking from Government and end-user perspective. Based on this, decision has to be made on whether Government is prepared to allocate funding or financial support to the project as well as size of investment that is tenable. There are several parameters normally used to help government gauge level of affordability. These include annual PPP payment as percentage of annual ordinary revenue, size of overall

government deficit (measured in relation to the size of the economy) and debt ceiling.

Apart from indicating level of affordability, the model, as we stated above indicates degree of financial sustainability. Financial sustainability is ensured if the accumulated generated cash is positive, or at most, equal to zero for all the years considered. On the contrary, if the is negative even for just one year, the project is not feasible and normally the structure and size has to be modified.

PPP projects are coming in many forms and structures. It is recommended that at this stage, the differentiation be made between those structured as full PFI (Private Finance Initiatives) and other forms of PPP. The former is defined as the provision of public facilities where usage risk cannot be transferred to the private sector. Usually, payment for the services is based on availability payment.

For non-PFI PPP projects, it is recommended that subsequent to evaluation on absolute affordability and financial sustainability, they be subjected to Economic Cost-Benefit Analysis (CBA). This is for a simple reason that the projects have implications on larger audience. There are clear benefits and costs to the society at large. For PFI projects, they are actually an extension of services purchased by the Government in the normal course of business. Instead of those services being procured or generated internally, private companies now provide them. Examples of these include school, hospital, prison and administrative complex. Hence, what really matter for these projects is the affordability of the Government to bear the financial commitment and whether PPP can give VfM. This is why having satisfied absolute affordability test it will continue directly to relative affordability test, which is the choice of procurement options.

The first step in economic CBA is to correct for fiscal effects and transfer payment viewed from economic perspective. For example taxes on profits, subsidies, welfare contribution and duties.

Having done this, the next step is to consider externalities. The externalities are social costs or benefits that appear outside project scope but influence the welfare of third parties without any monetary compensation. They are not captured by market mechanisms and not reflected as monetary costs and benefits of the project. Given their influence on the welfare of the community, they have to be quantified and then monetized in order to be included in the analysis as input or output.

The final adjustment is made to address market imperfection which results in market prices not reflecting the opportunity cost of goods. As we are aware, in economic analysis, prices are measured as opportunity

cost. In other words, it is the best alternative use of specific resources. To correct for market distortion and hence brings the market prices to be in line with economic concept, adjustments to benefits and costs are made using shadow prices. There are several methods in coming up with shadow prices and it is not the intention of this report to suggest preference to any one of them. It would be best that this task is left to individual countries to decide based on their local conditions. For instance, the practice of estimating shadow price of labor is linked to employment level in the country. For situation with high unemployment rate, the conversion factor to convert financial cost of labor to social cost will be less than one. If the reverse is true, the factor is greater than one implying that the project diverts labor resources from more productive use. Income multiplier will have to be calculated when capturing positive externalities.

The final step is to derive economic internal rate of return (EIRR). The rule of thumb is that EIRR should be higher than financial internal rate of return. This indicates that the project generates more value to the national economy compared to what it can reward the private investor. Hence, there is strong reason to support the project.

4.2 Stage II: Choice of Procurement Options

Similar to evaluation method for decision to invest, Stage II also has two components, namely qualitative and quantitative assessment. For the qualitative evaluation, the following aspects are emphasized:

a) Project characteristics should comply with country's PPP criteria.

The criteria in general includes ability to quantify service or output specification, potential of risk sharing, size and scope, stability in terms of underlying technology and other characteristics which can facilitate the realization of value for money from PPP option.

b) Capable and Viable private operators/ contractors: This is crucial as the success of PPP relies heavily on the ability of private operators to provide services over long duration. Hence, it is only about ability to create or develop the underlying assets, but also to maintain and have strong financial standing to support project over long period of time. As many components of the contract involves third party service provide, the operator should also prove that it has the managerial capability to manage dependencies.

c) Ability of the Government procuring agencies to manage dependency: Unlike privatization which Government is not answerable to the performance of the operators (except on legal compliance issue), PPP approach does not absolve the Government on its accountability to ultimate user of the services. The accommodation based PPP project, such as hospital, where Government is still responsible for patient care and other clinical services. The quality of these services depends significantly on the service quality of the PPP

components, such as facility management, food and catering or even ambulatory services.

- d) Bankability of the project.** PPP projects involve private funding and in terms of structure and viability, they need to be acceptable to financiers and debt holders. Apart from this, the financial strength of the operators is also critical as much of the risk during asset development stage rest with them.
- e) Public interest.** As mentioned earlier, Government is still accountable to the end users in PPP projects. For this reason, project has to start from the right footing especially in serving the public interest. Public interest concerns with effectiveness of the services, accountability of all the parties involved, and transparent process. Other areas, which need to be concern with is the consumer rights such as equity, service accessibility, privacy and probity of the parties involved.

Once the projects fulfill the qualitative criteria, they are now ready for quantitative assessment. The recommended methodology adopts the approach of comparing the cost of PPP with what it would have cost the Government if the project is to be implemented via conventional approach. In this regard, it requires the construction of public sector comparator (PSC). The PSC as shown in Figure 4 has three components, namely raw PSC or the base cost, competitive neutrality and transferable risks. We have intentionally excluded retained risk as the item should also appear on the PPP side and as such will be cancelled off in the process of comparison. Furthermore, it reduces the task of collecting data, which will not have impact on the comparative analysis. Hence, in actual fact, our PSC is the total cost of the conventional approach less the estimated cost of retained risks. In evaluating procurement approach, the PPP cost is based on the estimates derived earlier by our financial model (as in the decision to invest section). Since PSC and PPP cost will be expressed in terms of present cost, it requires the use of discount factor. For this purpose we recommend the same discount rate of 10% -12% used by the World Bank and Asian Development Bank be used.

Raw PSC or base cost is defined as whole-of-life capital cost (comprising development cost, acquisition of plant and equipment, asset replacement and capital improvement cost) plus maintenance and operating cost less third party revenue. We foresee the difficulty of estimating asset replacement cost item due to embedded technological change and estimates on asset inflation. Nonetheless, one can assume that any estimate on cost of technological change and asset inflation will be the same for both PSC and PPP. Hence, when comparison is made, it will again cancel off.

The second component of our PSC is competitive neutrality. This is defined as the advantages and disadvantages that accrue to a government business, which are not equally available to other bidder. In order to

simplify the estimates, it excludes effect of performance and efficiencies in a competitive market, cost differences between public and private sectors (including capital cost). Hence, our estimates of competitive neutrality will include taxes, duties and rates imposed by the Government on private companies. As in the case of cost, this will be expressed in present value term. It is probably neater if Government makes special provision to grant PPP company exemptions on above items.

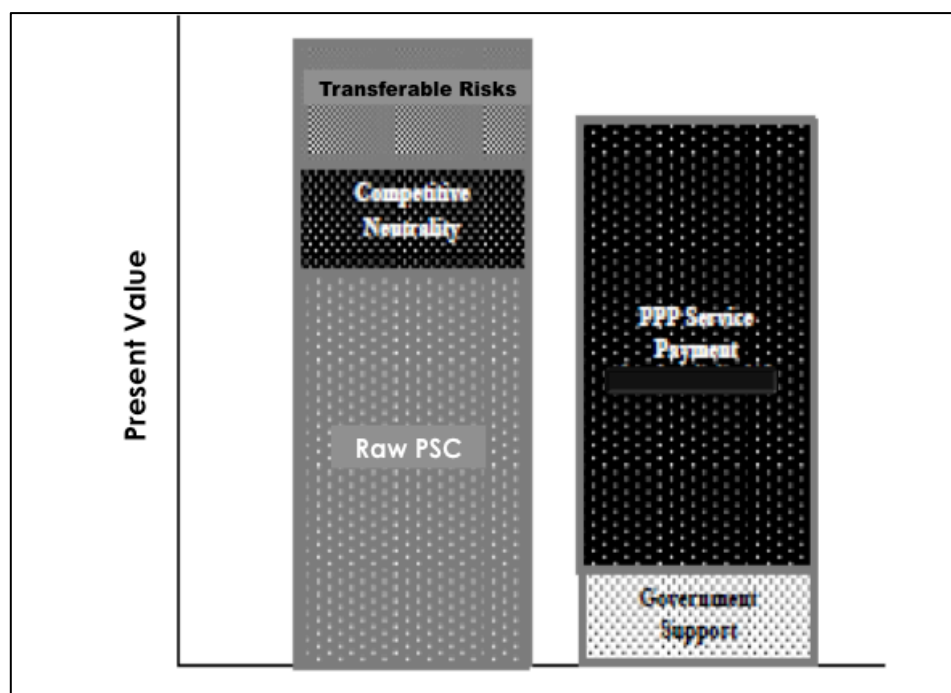


Figure 4. Quantitative assessment for procurement options

The third component is about risk. Although our focus is on transferable risk, we still need to identify all risk associated with the project and to determine its materiality. One approach normally used for this purpose is the cause-effect analysis such as Ishikawa fishbone diagram. The next step is to allocate risks between parties involve in the PPP contract. There is no standard rule or template for optimal risk allocation as it differs between country, market and projects. However, in general PPP operator is expected to bear risks associated with cost overrun, time overrun, upgrade cost (most of the time, it is a shared risk), maintenance performance, operating risk, revenue risk (unless Government finds it necessary to fully or partial bear the risk) and industrial relations risk.

Having identified the risks associated with the project and decides on their allocation, the next step is to value these risks. This can be a complicated process especially given data availability in most ASEAN countries. However, attempt must be made to address this issue, as risk

transfer is the one that normally tilt the balance towards PPP. Value of risk is estimated individually using the relationship below:

$$\text{Value of Risk} = \text{Consequence} \times \text{Probability of Occurrence} \quad (1)$$

There are several ways to estimate value of risk. It can be a simple deterministic method or an advance method of stochastic risk analysis, such as Monte Carlo or Latin Hypercube simulations. The deterministic method which is single-point estimate approach, is done by examining three main scenarios, namely below base case, base case scenario and above base case scenario. For the above base case, the scenario is further identified into likely, moderate and extreme. Each of these scenarios, a single estimate of consequence and probability of its occurrence are given based on past data. Table 1 shows how this estimation works.

With regard to Monte Carlo simulation, risk is represented using range of possible values known as probability distributions. Using probability distributions, variables can have different probabilities of different outcomes occurring. Probability distributions are more realistic in describing uncertainty in variables of a risk analysis. As in the case of raw PSC, value of risk will have to be discounted to bring it to present value. Hence, the time profile of its occurrence has to be determined. It is recommended that the deterministic method be used to value risk which has low impact on the project. For risk which has high impact, valuation be done using Monte Carlo simulation

Table 1. Deterministic approach to risk valuation

Scenario	Outcome (\$m)	Consequence (\$m)	Probability	Value of Risk (\$m)
Below base	80	-20	0.02	-0.40
Base (no overruns)	100	0	0.08	0.00
Above base				
Likely	110	10	0.55	5.50
Moderate	130	30	0.30	9.00
Extreme	150	50	0.05	2.50
TOTAL			1.00	16.6

To estimate PPP cost, we are recommending that the value of government financial support be included. However, we would leave to individual country's discretion on the inclusion and estimation of guarantees that are contingent in nature. After all, the general rule is that countries should know and be able to identify the risk they are taking before deciding to grant such guarantees. There are many attempts within academic circle to value governmental support in infrastructure projects,

such as Charles [8] studied Malaysia-Singapore Second Crossing Project as a case study and also in Irwin [9] which ASEAN countries may use as references.

Once PSC estimate is ascertain, it will be compared with the cost of PPP. Only when PPP is less than PSC, the former is chosen as the procurement option. Otherwise, project will be implemented traditional procurement.. The decision to adopt PPP as the procurement option will lead to market soundings. A positive response is a good basis to invite bids, while a negative response will put the project for conventional procurement. Actual bids are compared with PSC and the most favorable bid, in terms of service charges and quantum or structure of government support will be chosen.

5 Conclusion and Recommendation

The recommended methodology may appear to be somewhat complex. Given the institutional capability of most ASEAN countries, adoption of this methodology can be challenging and may involve significant initial cost. However, one has to look at this as one time investment that is important in ensuring value for money from PPP projects. It is important that PPP approach is used selectively particularly in relation to size and the source of the proposals. Hence, for project of a large size or scale, the evaluation cost will be insignificant both in relation to the total cost of the projects as well as the value of the benefits they will generate.

The recommended methodology is not for immediate implementation. We recognize that the key enablers have to be put in place first. For this reason, this document should be used as a guidance to plan the work program to develop the required supporting information and skill requirement, especially within the Government's PPP unit.

The following research areas are necessary to support further activities:

- Clustering of PPP maturity in ASEAN countries: This is to provide guidance to countries so that they know their standing and to study and learn from the progress made by others high on the learning curve.
- Risk Identification, valuation and management for PPP projects in ASEAN: ASEAN countries are likely to have different risk profile than those of developed countries. This is to take into account the peculiarity of the local social and economic environment.

With regards to Indonesia PPP case, having managed it for more than twenty years with all bad and good progress and achievement, it is expected that in the upcoming new term of government all remaining regulatory, institutional and inter-agency difficulties can be resolved to speed up PPP project implementation. In the future, PPP discourse seems

yet to pass the nurturing stage at all level of government administration, particularly on how to improve the institutional capacities of local government in dealing with PPP. The role of central government nevertheless is very crucial to carry on completing and enforcing PPP governance and international best practice. The missing link between the the huge PPP demand and the availability of capital in the market is obviously seen blocked by proper value assessment start from the very beginning of PPP projects preparation.

In contrast to traditional procurement, PPP scheme demand a totally different set of mind, therefore all PPP cycle activities from planning, preparation, tender and closing should be managed exclusively in a PPP center of excellence directly under presidential office and out of the existing routine line ministries. The center should conduct the PPP process in transparent, competitive and equitable manner to reach the right and best price of infrastructure services to the communities. The existing PPP center is now attached to Central Planning Agency (Bappenas) and is now under developing. To be strong and productive, a pool of permanent experts and supporting consultants should back up the unit. The center and its experts should also be accessible to subnational governments.

Until now social infrastructure such as hospital and medical care equipment, schools or campus and the facilities, and government offices all have not been included in the PPP scope. These types of infrastructures, particularly health services and medical equipment are urgently needed by the mass population below the middle income class, and are suitably financed through availability payments with or without user charges. Finally, as cycle of PPP projects from planning to operation, and to end of life may last beyond administrative and presidential office terms, in a longer run Indonesia would need a PPP Law.

As for academic communities, challenges in PPP implementation require them to develop the core competence in infrastructure planning and management, also legal and finance. Moreover, the faculties need to work interdisciplinary in conducting research on this challenging issues in order to accumulate empirical knowledge of certain elements in the PPP project management and offer courses and trainings to help spread and disseminate the knowhow widely.

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