Home Affairs Bureau

Detailed Financial Profile of the Procurement and Financing Options related to the Multi-purpose Sports Complex (MPSC) at Kai Tak

Executive Summary

January 2014

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Contents

1. Introduction

The Home Affairs Bureau (HAB) of the Government of the Hong Kong Special Administrative Region (Government) has commissioned PricewaterhouseCoopers Advisory Services Limited (PwC) to conduct a study (Consultancy Study) to assess the detailed financial profile of the procurement and financing options related to the Multi-purpose Sports Complex (MPSC) at Kai Tak.

1.1 Background to the Consultancy Study

The then Chief Executive of the Government announced in his 2006-07 Policy Address that a MPSC, fully equipped with world-class facilities, would be included in the Kai Tak Development (KTD). The development of an MPSC at Kai Tak was identified as a key development component in the Kai Tak Planning Review (2007). In the 2011-12 Budget, the Financial Secretary reaffirmed the Government's commitment to press ahead with the planning of the MPSC at Kai Tak. In his 2013 Policy Address, the Chief Executive described the planning of the MPSC as a priority.

The MPSC will be a "sports park" for Hong Kong, with a mixture of high quality sports facilities for public use, open space, park features and retail and dining outlets so that the wider public and visitors to Hong Kong can enjoy the park throughout the day, seven days a week.

1.2 Study Objectives and Scope

HAB, the Civil Engineering and Development Department (CEDD) and the Architectural Services Department (ASD) commissioned a number of studies on the MPSC. The most recent study, PwC's "Procurement and Financing Options for the MPSC", identified a number of procurement and financing options for the MPSC including the Public Works Programme (PWP) and Private Sector Participation (PSP) options.

In order to advance the MPSC project, the Government would like to understand in detail the total costs to the Government under various procurement and financing options. Therefore, the objectives of the Consultancy Study are to:

- Facilitate the Government to assess the relative costs of viable procurement and financing options for the MPSC
- Inform the Government on the extent of allocation of project risks between the public sector and the private sector for different procurement and financing options, and the mechanism through which risks are shared between the public and the private sector.

The scope of work involves:

- Analysing viable procurement and financing options, which include options specified in the RFP, which are sumamrised below:
    - **Public Works Programme** in the form of the Government building and outsourcing operations through:

        - a Management Contract (MC) – the base case
        - a Revenue Contract (RC)
    - **Private Sector Participation** with private sector finance options covering Design-Build-Finance-Operate (DBFO), Partial Private Finance (PPF) and Joint Venture (JV) options
    - **Commercial Procurement** in the form of Land Tender Process.
- Formulating financial models for viable procurement and financing options for the MPSC based on the assumptions that take account of experience worldwide and the Hong Kong context (including the feedback received from the HAB's Expression of Interest exercise (from Jan to Feb 2013) in the development of the MPSC)
- Providing a detailed and quantitative assessment of the potential project risks under viable procurement and financing options for the MPSC, including their probability of occurrence and financial implications in dollar terms
- Recommending potential mitigation measures for high-level risks under viable procurement and financing options for the MPSC
- Providing a detailed financial analysis of the "full costs" of the viable procurement and financing options for the MPSC, suitably adjusted to reflect different project risks
- Making a recommendation as to which option for the MPSC would offer the maximum benefits for the Government in terms of the ability to achieve the Government's vision and objectives; the level of risk transfer; value for money; Government's commitment; and delivery of project and timescale[1].

1.3 Approach to the Study

We have adopted a structured and logical approach to ensure objectivity and impartiality in our assessment. Details of our approach are set out below.

1.3.1 Step 1 – Development of Assumptions

In this step we:

- Reviewed responses to the Expression of Interest (EOI) exercise in the development of the MPSC (from Jan to Feb 2013) and other relevant information such as suggestions from the National Sports Associations (NSAs) in terms of potential events to be hosted at the MPSC.
- Discussed and agreed a set of assumptions underpinning the financial analysis. These assumptions were drawn from the responses to the EOI exercise, publicly available information and our market information.
- Developed two sets of event profiles, covering the base case and the best case scenarios, based on the information from previous MPSC reports and inputs from NSAs and HAB.

[1] Refer to Section 4.1 for further details on the evaluation criteria.

1.3.2 Step 2 – Risk Workshop

In this step we:

- Prepared for and conducted a two-day Risk Workshop to facilitate discussions amongst the key project stakeholders on potential project risks relating to the MPSC project, their probability of occurrence and financial implications, and the preferred allocation under different procurement and financing options.
- Developed the Risk Register for the MPSC project, covering the procurement and financing options being considered in the Consultancy Study.
- Considered the appropriate risk adjustment factors to be used in the financial analysis, based on the input gathered during the Risk Workshop.

1.3.3 Step 3 – Assessment of Options

In this step we:

- Conducted financial analysis (including a sensitivity analysis) for the various procurement and financing options based on the set of assumptions agreed with HAB, and estimated the opportunity cost of Government financing.
- Reviewed responses to HAB's EOI to inform and guide development of assumptions.
- Identified the procurement and financing option(s) which is (are) unlikely to be commercially viable (i.e. non-feasible) from the perspective of the private sector and therefore not considered further.
- Assessed the adjustments required to reflect the project risks retained by the Government under different procurement and financing options.
- Assessed, in both qualitative and quantitative terms, the feasible procurement and financing options against a set of evaluation criteria including the ability to achieve the Government's vision and objectives; the level of risk transfer; value for money; Government's commitment; and delivery of project and timescale.
- Recommended the preferred procurement and financing option for the MPSC based on the analysis

1.4 Structure of this Executive Summary

The remainder of this summary has the following sections.

- **Section 2** provides an overview of the procurement and financing options considered during this Consultancy Study.
- **Section 3** provides an overview of the financial analysis and summarises the outputs including a sensitivity analysis on key assumptions.
- **Section 4** sets out the qualitative and quantitative assessment of the feasible procurement and financing options against a set of evaluation criteria. This section also summarises our recommendations of the preferred procurement and financing option for the MPSC.

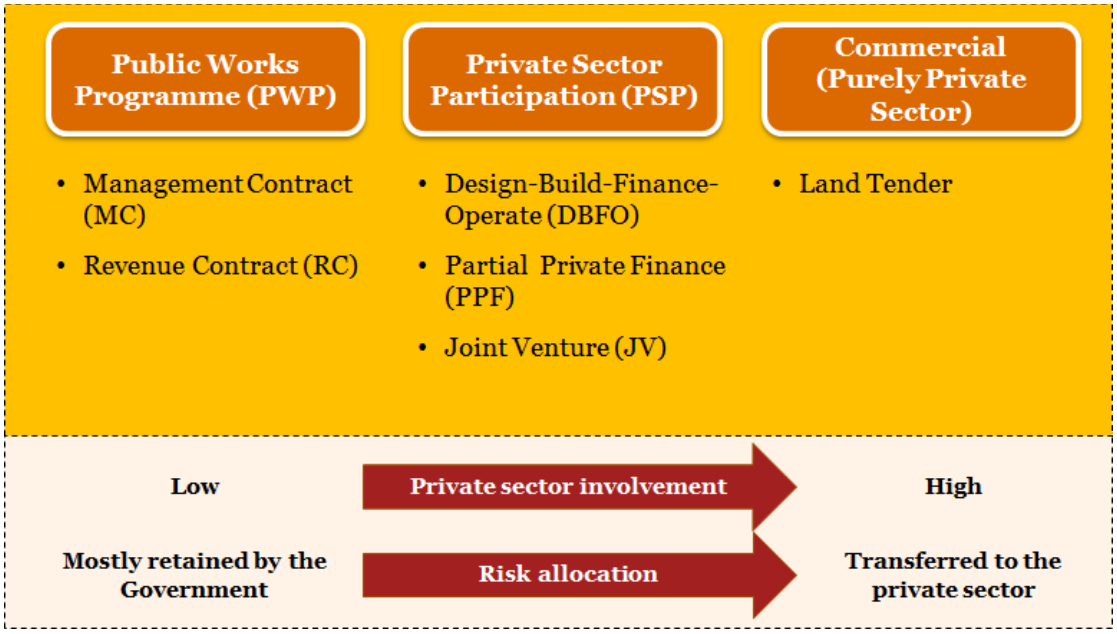
- **Appendices** provide further details on the key attributes of the procurement and financing options considered in this Consultancy Study; the sensitivity analysis; and the detailed assessment of the options.

2. MPSC's Procurement & Financing Options

In this section we provide an overview of the procurement and financing options considered during this Consultancy Study. Further details about the key attributes of the options can be found at Appendix A.

2.1 Overview

The key differences between various procurement and financing options include the degree of private sector involvement and the risk allocation (and thus the degree of risk transfer from the Government to the private sector). The diagram below sets out the key features of the procurement and financing options.



2.2 Further Details on the PWP Option

The PWP option will be used as the base case against which the PSP and the Commercial Procurement options will be assessed. As such, it is important to ensure that the base case used for MPSC reflects the local context, i.e. the common practices associated with the procurement and operation of public sector infrastructure projects in Hong Kong.

We assume that the PWP option adopts a combined "design and build" approach. Upon completion of the construction of the MPSC, a private sector operator will be responsible for operating and maintaining the MPSC. This is similar to the Management Contract or Revenue Contract option – further details about these two options are set out below.

2.2.1 Management Contract (MC)

Under this option, the construction and operating costs would be funded by the Government. A milestone-based, fixed price, date-certain payment construction contract is entered into with a D&B contractor.

A management contractor would separately be contracted to manage and operate the facility in return for a service fee. This model allows part of the operating risks to be transferred to the private sector. The construction and latent defects risk, as well as demand risk are retained by the Government.

As agreed with HAB, the Management Contract option represents the base case for this Consultancy Study.

2.2.2 Revenue Contract (RC)

Under this option, the construction costs would be funded by the Government. A milestone-based, fixed price, date-certain payment construction contract is entered into with a D&B contractor. Government retains construction risks and latent defects risk.

Similar to the Management Contract, a management contractor would separately be contracted to manage and operate the facility. However, unlike the Management Contract, the Government would not be required to pay a service fee to the management contractor under this option. Instead, the contractor would share the revenues generated from operating the facility with the Government. Therefore, the Government and the private sector share certain operating and demand risks under this arrangement.

The commercial viability of this option depends on whether the operating profit (i.e. operating revenue net of all relevant costs) realised by the operator represents a reasonable return against all of the commercial risks associated with operating and maintaining the MPSC.

2.3 Further Details – PSP Option

2.3.1 Design Build Finance Operate (DBFO)

Under the DBFO option, the Government assigns the development and operation of a project to the private sector, through a Special Purpose Vehicle (SPV). The SPV is typically a company formed by various consortium bidders (private sector players with complementary skills to deliver the project e.g. a construction firm, an event organiser, a facility management company) with expertise in developing and managing the type of facility concerned – in this case a stadium and associated facilities. As well as designing, building and operating the facility, under the DBFO option, the SPV raises the necessary financing for the Project to finance its development, through to commissioning.

DBFO projects are highly leveraged to finance project cost and to maximise equity returns to the SPV. Upon commencement of commercial operations, the Government makes a unitary payment to the SPV to cover the whole-life-project cost including capital expenditure (Capex), operating expenditure (Opex) and lifecycle

costs. As such, abatement regimes are structured, where unitary payments are at risk for poor performance.

2.3.2 Partial Private Finance (PPF)

Under the PPF option, the private sector provides equity funding and the Government provides a certain proportion of the project funding upfront as a loan to the SPV. The remainder of the debt requirement will be raised from the private sector. With Government providing a portion of project debt, this offers a level of support and comfort to the private sector where raising private finance for the full debt requirement may be challenging, as was the case during the global financial crisis. In some cases, Government debt would be priced lower than commercial debt. It should also be noted that under the PPF model, Government is exposed to project risks typically borne by debt providers – e.g. performance risk during construction and operations.

2.3.3 Joint Venture (JV)

The JV option has a number of variations and the one considered in this Consultancy Study has similar arrangements as that of AsiaWorld-Expo as agreed with HAB. This option requires joint equity from the Government and private sector party (or parties as the case may be) to fund the full amount of project costs. Under this JV option, no debt will be assumed. A joint venture company (i.e. the SPV) will be formed by the Government and the private sector party, which is also responsible for the design, build and operation of the facility. The Government may supervise and monitor the consortium through the SPV. This option also allows the Government to transfer part of the project risks to the private sector. However, as the Government is the major shareholder, it retains greater proportion of project risks.

2.4 Further Details – Commercial Procurement Option (Land Tender)

One form of the Commercial Procurement option is a land tender. This option assumes that a private sector operator deploys its own resources to build and operate the MPSC on the site which is under a land lease from the Government. All the operating revenue from the MPSC would accrue to the contractor, while the Government receives a land premium from the contractor.

The commercial viability depends on whether the operating profit (i.e. operating revenue net of all relevant costs) realised by the operator represents a reasonable return against all of the commercial risks associated with financing, building, operating and maintaining the MPSC. Thus, Government would need to provide more flexibility to the private sector in areas such as events programming and development of commercial and retail space to allow the contractor to recoup their investment. The level of land premium which the private sector will propose will depend on the expected value if that can be derived in the form of revenue generated from the MPSC as well as the commercial and retail space.

It is highly unlikely that this option would succeed as the project costs would likely outweigh the net revenues generated by the project.

3. Financial Analysis

This section summarises the outputs of the financial analysis including a sensitivity analysis on key assumptions. The analysis also identifies the procurement and financing options which are unlikely to be commercially viable from the perspective of the private sector (i.e. non-feasible options).

3.1 Overview of the Financial Analysis

The process adopted for the financial analysis is set out below.

1. Financial models were prepared for all of the procurement and financing options being considered.
2. A set of base costs (Base Costs) for the MPSC project was produced based on a set of assumptions agreed with HAB. An initial screening of the options was performed to identify non-feasible options.
3. A sensitivity analysis was conducted to examine how the variation of a particular assumption would impact the Base Costs under the agreed set of assumptions.
4. Appropriate risk adjustments to the Base Costs were made and a set of risk-adjusted, total costs (Total Costs) to the Government were then produced.
5. All costs presented in this section are quoted in Net Present Value ("NPV") terms as at April 2016 when the construction of the MPSC formally commences. The nominal figures are discounted at a rate of 7.64% unless otherwise stated.

3.2 Risk Adjustment

We have discussed risks specific to the MPSC project in the Risk Workshop and agreed on the probability of occurrence of, and the relevant costs or revenues being impacted by, such risks.

3.2.1 Establishment of Base Costs

Before conducting the risk adjustment exercise, the Base Costs that the Government will assume under the PWP, PSP and Commercial options have to be estimated by considering the difference between what the Government pays and what it receives under different options:

Options	Government Pays	Government Receives
PWP		
MC	• Capex • Management contract fees (to cover Opex) • Lifecycle costs	• All event-related revenues[2] • All third-party revenues[3] ("TPR") • Taxes paid by its contractors (e.g. the EPC[4] contractor and management contractor)
RC	• Capex • Lifecycle costs	• The Government's Operating Licence Fee, which is a function of the EBITDA (the analysis assumes that the Government receives 15%[5] of the EBITDA received by the management contractor) • Taxes paid by its contractors (e.g. the EPC contractor and management contractor)
PSP		
DBFO	• Unitary payment (to cover Capex, Opex, lifecycle costs, financing costs and equity return)	• The Government's share of TRP • Taxes paid by the SPV • Taxes paid by the subcontractors of the SPV
PPF	• Unitary payment (to cover Capex, Opex, lifecycle costs, financing costs and equity return) • Under this Option, the Government provides a portion of debt at sub-market rates to the SPV (or Project Company)	• The Government's share of non-event related revenues or TPR • Taxes paid by the SPV • Taxes paid by the subcontractors of the SPV • Interest charges on the proportion of debt provided by the Government

[2] Event-related revenues refer to those directly generated from the use of the MPSC's facilities (e.g. venue charges, commission on merchandise)
[3] Including non-event-related revenues.
[4] EPC stands for "Engineering, Procurement and Construction".
[5] The sharing ratio is a subject of negotiation between the Government and the management contractor. For comparative purposes, we have assumed that the amount of the Government's Operating Licence Fee under the RC option is broadly the same as the Government's share of TPR under the PSP options. Based on this assumption, the sharing ratio of 15% of EBITDA is used in the financial analysis.

Options	Government Pays	Government Receives
JV	• Unitary payment (to cover Capex, Opex, lifecycle costs, and equity return) • Under this Option, the Government provides a significant portion of equity (or 95% of total Project costs required) to the SPV (or Project Company)	• The Government's share of TPR • Taxes paid by the SPV • Taxes paid by the subcontractors of the SPV • Return on the proportion of equity provided by the Government
Commercial		
Land Tender	• Nil	• A land premium from the private sector

Once the Base Costs are established, they are risk adjusted by taking into consideration the values of risks retained by the Government.

3.2.2 Risk Adjustment of Key Risks

a) Only risks that are deemed to have a medium to high probability of occurrence and cost impact were quantified (refer to the table below) and considered in our assessment of the Total Costs to the Government. The risk adjustment value is estimated by multiplying the "Probability of Occurrence" by the "Consequence & Impact", which will be expressed in terms of the relevant cost and/or revenue base.

Types of Key Risks	Description

Risks retained by the government	• Detailed design, build and decant phase:
	  ○ Interface works – delays and/or cost increases due to problems interfacing with utilities and other works on the Kai Tak site that are not the responsibility of the Design and Build Contractor.
	• Operating risks
	  ○ Variations in operating requirements by HAB – HAB requires changes to operations which have an impact on costs and revenue share.
	  ○ Functionality changes – additional investment in facilities required to meet evolving needs or functionality requirements of HAB or other Government agencies, e.g. international sporting governing bodies.

Types of Key Risks	Description

Risks that could be transferred to the private sector depending which option is adopted	• Planning and design phase
	  ○ Variation in design by the D&B contractor – design changes that lead to additional costs and delays.
	• Detailed design, build and decant phase[6]
	  ○ Completion of construction by completion date – failure to complete construction by the completion date.
	• Operating risks
	  ○ Demand risks – the demand for services varies significantly causing (i) operational problems; and/or (ii) revenue fluctuations; the level of demand for facilities on non-government use days; and insufficient use of Government Key Usage Days.
	  ○ Inflation – inflation of operating costs during the concession period.

b) Once the key risks are quantified, the impact of these risks on different procurement and financing options is assessed and reflected in the total cost to the Government:

- The values of risks, which are retained by the Government, are applied across all procurement and financing options, as the Government will assume such risks in all circumstances.
- The values of risks, which could be transferred to the private sector depending which procurement and financing option is adopted, vary between options:
  - Under the DBFO option, the impact associated with the transferred risks to the Government is nil, as the private sector would have already priced in such risks in the unitary payment it requires from the Government.
  - Under the PPF and JV options, the impact associated with the transferred risks is proportional to the relative amount of debt or equity provided by the Government under each option.

[6] A project risk that commonly occurs in infrastructure projects is "construction cost exceeding the budget". As discussed in the Risk Workshop, this risk is considered by the workshop participants as having a low probability of occurrence, even though its impact is potentially high. As only project risks that have a medium to high rating for both the probability of occurrence and potential impact are quantified, the risk of construction cost exceeding the budget is not quantified for inclusion in the financial analysis.

3.3 Caveats

As part of this Consultancy Study, a financial analysis was conducted to assess the cost impact of the procurement and financing options. The financial analysis is based on a set of assumptions discussed and agreed with HAB, and subject to changes and uncertainties[7].

When conducting the analysis, where possible, we have tried to use published and/or official information. Where this was not possible, for any anecdotal information collected, the information presented represents only estimates based on the available information. This was supplemented with certain relevant information from the EOI responses, which were also used as a basis for developing the assumptions.

A more accurate (and for that matter, certain) cost estimation of the MPSC project can only be obtained after the Government has issued the tender and received proposals (and committed fee proposals) from the market.

We have assumed that the information provided to us by the Government and obtained through published sources to be accurate. However, using this information in our analysis does not indicate PwC's endorsement or assurance over the accuracy of the information, and the reliability of the method of preparation. Also, the financial analysis does not constitute opinion or any other form of assurance.

PwC does not accept or assume any liability or duty of care for any other purpose or to any other person to whom this financial analysis is shown or into whose hands it may come save where expressly agreed in our agreement with the HAB for this Study.

3.4 Key Assumptions

A set of key parameters and assumptions used for underpinning the financial analysis are set out in the table below. Note that all monetary figures are specified at Q4 2012 price level unless otherwise stated.

3.4.1 General Assumptions

Key Parameters	Figures	Sources / Remarks
Modelling timing		
Model start date	01/10/2012	
Concession start date	01/04/2016	
Concession end date	31/03/2046	
Concession term	30 years	This figure covers both the construction and operation periods.
Construction		
Construction start date	01/04/2016	
Construction duration	42 months	
Construction end date	30/10/2019	
Construction costs (total)	$18.30b	This figure (i) is based on PwC analysis (with reference to comparable figures of

[7] The set of assumptions has been prepared in the absence of a design for the MPSC, which can have a substantial impact on the total project costs.

Key Parameters	Figures	Sources / Remarks
		sports facilities in Hong Kong and overseas, and the Technical Feasibility Statement ("TFS") prepared by the ArchSD); is adjusted for different facility mix when overseas sports facilities are used as reference; (ii) is adjusted for different cost rates in Hong Kong and overseas locations when overseas figures are used as reference; and (iii) does not include any construction contingencies
Third-party revenues		
Sharing ratios	0-50%	Vary, depending on the types of revenues
Maintenance and life cycle cost		
Maintenance cost	2.5% of annual net operating revenue	
Life Cycle cost	1% of Construction cost p.a.	

3.4.2 Financial Assumptions

Key Parameters	Figures	Sources / Remarks
Equity structure		
Gearing ratio	90.00%	Only applicable to DBFO, PPF, and Land Tenders Options where private sector financing is involved. Under the JV model, no debt has been assumed.
Equity Internal Rate of Return (IRR)	13.00%	The assumption adopted the suggestion put forward by one of the respondents of the recent Expression of Interest (EOI) exercise
Shareholder loan of the total Asset	8.00%	
Portion of Government contributed Equity / Shareholder Loan	95.00%	Only applicable to JV Option. The remaining 5% is contributed by the private sector.
Debt assumptions		
Proportion of debt provided by the Government	50.00%	Only applicable to PPF Option
Debt Service Cover Ratio	1.20x	Cash flow available for debt services are sculpted to senior debt (which are typically provided by banks and/or private lenders)
Upfront fee	1.00%	
Commitment fee	2.50%	
Interest rate – senior debt provided by private sector lenders	6.50%	Only applicable to DBFO, PPF, and Land Tenders Options

Key Parameters	Figures	Sources / Remarks
Interest rate – subordinated debt provided by the Government	4.50%	Only applicable to PPF Option

3.4.3 Accounting and Taxation Assumptions

Key Parameters	Figures	Sources / Remarks
Taxation		
Corporate Income Tax	16.50%	Tax credits (if any) are assumed to be carried indefinitely
Depreciation		
Building and infrastructure	26.5 years	Only applicable to the Land Tender Option in which the SPV holds the building and infrastructure
Life Cycle costs	N.A.	Life cycle costs are treated as expenses at the time of accrual

3.4.4 Government Funding Assumptions

Key Parameters	Figures	Sources / Remarks
Unitary Payment (UP)		
Amount	Vary	Only applicable to DBFO, PPF and JV
Indexable portion	40.00%	The payment arrangements adopted by a comparable stadium project overseas is referenced
Escalation factor apply to the Indexable portion	3.50%	Forecast Hong Kong Consumer Price Index ("CPI")

3.5 Findings from the Analysis

Based on a set of assumptions agreed with HAB, we conducted a financial analysis for all of the procurement and financing options considered during this Consultancy Study. The results of the analysis are set out below.

3.5.1 Base Costs

A summary of the Base Costs for all of the procurement and financing options are set out below.

	PWP		PSP			Commercial
	MC	RC	DBFO	PPF	JV	Land Tender
Base cost to the Government (HK$ in million in NPV terms)	33,537.97	34,382.93	34,078.09	36,385.92	34,134.41	Not financially viable and therefore is **not** considered any further in the assessment – see Note 8 below

Note that the PWP MC option offers the lowest Base Cost to the Government.

3.5.2 Total Costs to the Government

The Total Cost to the Government for a specific procurement and financing option can be estimated by making appropriate risk adjustments to the relevant Base Cost, as shown in the table below.

	PWP		PSP		
Cost to the Government (HK$ in million)	**MC**	**RC**	**DBFO**	**PPF**	**JV**
Base cost	33, 537.97	34,382.93	34,078.09	36,385.92	34,134.41
Adjustments for risks retained by the Government					
Interface work	262.26	262.26	262.26	262.26	262.26
Variation in operating requirement by HAB	1,452.93	1,452.93	1,452.93	1,452.93	1,452.93
Functionality change	4,270.64	4,270.64	4,270.64	4,270.64	4,270.64
Adjustments for risks that could be transferred to the private sector depending which option is adopted					
Variation in design by the D&B Contractor	4,270.64	4,270.64	0	1,921.79	4,057.10

[8] Under the Land Tender Option, the MPSC project is not financially viable. The operating income generated by the SPV is insufficient to fully service its debt placing the SPV in a default position, and would certainly not provide sufficient revenues to offer any equity return to the private sector investor.

	PWP		PSP		
Cost to the Government (HK$ in million)	**MC**	**RC**	**DBFO**	**PPF**	**JV**
Fail to complete construction by completion date	262.26	8.21	0	207.08	912.98
Demand risks	642.64	13.59	0	0	610.51
Inflation	1,207.97	0	0	0	1,147.57
Total Cost to the Government (risk adjusted)	45,907.31	44,661.19	40,063.92	44,500.62	46,848.40

3.5.3 Value for Money

In the context of this Consultancy Study, the value for money is defined as the difference between the Total Cost to the Government for the MC option (i.e. the base case) and that for the other options (i.e. RC, PPF, DBFO and JV options):

	PWP		PSP		
Value for Money (HK$ in million)	**MC**	**RC**	**DBFO**	**PPF**	**JV**
VfM with respect to the MC option:		1,246.12	5,843.39	1,406.69	(941.09)

The results above suggest that the DBFO option offers the Government best value for money with respect to the MC option (the base case).

3.6 Sensitivity Analysis

Sensitivity analysis was conducted to assess how different values of the following key assumptions would impact the Total Cost to the Government under the various feasible options. Key observations include:

- **Capex** – Increases in Capex (other things being equal) will cause a corresponding increase in the Total Cost to the Government. However, the effect on project costs to the Government will depend largely on the reason for the cost increase. If the cost increase is driven by a private sector risk (i.e. the private sector incur additional costs as they fail to build to design, or the design is ineffectual), then the cost impact under the MC option would be far greater (100% of the cost increase) than that under the DBFO option (zero increase to the Government as the Government has transferred the risk to the private sector).

- **Opex and lifecycle costs** – If Opex or lifecycle costs increase, the Total Cost to the Government will increase as well.
- **Escalation factors** – The nominal values for revenues and costs will have an impact on the Total Cost to the Government. The nominal values are determined by the revenues and costs (in real terms), and escalated by factors such as the inflation, maintenance cost and lifecycle cost index. If the escalation factors increase, the Total Cost to Government will also increase.
- **Revenues** – The revenues generated by the MPSC alone are expected to be limited and therefore their corresponding impact on the Total Cost to the Government would also be limited. Third party revenue streams are also considered, such as commercial, specialty retail and F&B, and possibly accommodations (hostel) among others.
- **Financing Costs** – There is no financing under the MC and RC options and therefore any change in the commercial lending rate has no impact on the Total Cost to the Government. For other options, the Total Cost to the Government generally increases as the lending rate increases. This is because with higher lending rates, the interest charges incurred during the construction period (and hence the project costs) will increase, thus requiring a higher loan amount from debt providers to finance the project. The Government will then need to provide higher unitary payments to the private sector. Similarly, any decrease in lending rates will result in a reduction in project costs and the corresponding loan amount required.

Further details of the sensitivity analysis can be found at Appendix B.

3.7 Opportunity Cost

In general, the Government's fiscal reserves, if not deployed, will be placed in the Exchange Fund where it will earn interest. The analysis of opportunity cost of the Government Financing in the context of this Consultancy Study refers to the differential of interest payable to the Government between the Government's discounted lending rates (4.50%) and the annual return rate offered by the Exchange Fund (about 5.60%) under the PPF option where the Government provides 50% of the total debt. The interest incomes (in NPV terms) associated with a lending rate of 4.50% and 5.60% were estimated and the difference between these two income figures (HK$1,452m) represents the opportunity cost to the Government.

4. Assessment and Recommendations

This section sets out the qualitative and quantitative assessment of the feasible procurement and financing options against a set of evaluation criteria agreed with HAB, and summarises our recommendations (with further details at Appendix C).

4.1 Evaluation Criteria and Summary of Assessment

The table below shows the set of criteria that have been used to evaluate the feasible procurement and financing options, and a summary of assessment of the options which are considered to be financially viable from the perspective of the private sector:

Criteria	Key Considerations	Summary of Assessment
Ability to achieve the Government's vision and objectives	The stakeholders have highlighted that there are four key aspects to this criterion: • Creation of vibrant sports, leisure and entertainment appeal to attract the masses • Development of a facility that satisfies functionality and is quality in design • Development of a project that is deliverable in the current financial and legal environment • Development of a project that delivers efficient facilities management. The preferred procurement and financing option should allow for the MPSC project to achieve the above stated vision and objectives.	All of the options can include mechanisms to incentivise the private sector to address the Government's vision and objectives, while bringing in private sector innovation and optimising commercial opportunities (albeit to a different degree for the options considered). That said, it is worth noting that: • The PPF, DBFO and JV options are "inherently" more effective in terms of incentivising the private sector to maximise revenue streams, whilst delivering on Government's vision. The JV option may present a challenge if the Government and its private sector partner have competing (and sometimes conflicting) priorities in terms of management and operations of the MPSC.

Criteria	Key Considerations	Summary of Assessment
Level of risk transfer	Risk allocation is an important consideration in evaluating the preferred procurement option. Delivering a complex project of this nature will require a robust risk management strategy to ensure efficient operations over the long-run. The Risk Register prepared during Phase 2 of the Consultancy Study sets out the respective risk allocation for different procurement and financing options.	The DBFO option achieves maximum risk transfer (of HK$5,985.83m in NPV terms) whilst the JV option necessitates the Government retaining the majority of project risks (which amounts to HK$12,713.99 m in NPV terms). As the key "equity" provider to the MPSC project under the MC and RC options, the Government assumes key project risks that the private sector takes on under the DBFO option, which amount to HK$12,369.33m, and HK$10,278.27m respectively in NPV terms. The project risks retained by the Government under PPF option is HK$8,114.70m in NPV terms.
Value for money	The ability to achieve a value-for-money solution is another important consideration in determining the preferred procurement and financing option for the MPSC. In the context of this Consultancy Study, the value for money is defined as the difference between the Total Cost to the Government for the MC option (i.e. the base case) and that for the other options (i.e. RC, PPF, DBFO and JV options). Irrespective of the procurement and financing option adopted, the ability to generate interest in the market and attract a sufficient number of quality bidders is essential in creating competitive tension during the bidding process, which will drive competitive bids that seek to offer value for money solutions.	The DBFO option offers the best value for money, which amounts to HK$5,843.39m in NPV terms, followed by the PPF option (at HK$1,406.69m in NPV terms) and the RC option (at HK$1,246.12m). The JV option has a negative VfM figure (at HK$(941.09m)).

Criteria	Key Considerations	Summary of Assessment
Government's commitment	This refers to the Base Costs to the Government under different procurement and financing options, and is an important consideration for the Government when preparing for a funding request.	The MC option offers the lowest Base Cost to the Government (at HK$33,537.97m in NPV terms), followed by the DBFO option (at HK$34,078.09m in NPV terms) and the JV option (at HK$34,134.41m in NPV terms).
Delivery of project and timescale	The 2019 Rugby World Cup will be held in Japan and there is an opportunity for Hong Kong to secure some pool games as part of the 2019 Rugby World Cup. The preferred procurement and financing option should allow for the MPSC project to commence operations before the 2019 Rugby World Cup.	All options would take considerable time to execute and further consideration has to be given to the Government's objective of ensuring the MPSC is developed by 2019. That said, we believe that the DBFO/PPF/JV options usually result in a shorter project delivery timeline from feasibility to operation. This is because the private sector operator takes full responsibility for the construction and operation, so any delays can adversely impact on its ability to make a return on the project and service the project debt. Perhaps a more important consideration for the Government is that the project timeline is likely to be more certain by adopting the DBFO/PPF/JV options as the risk (of delay) sits with the private sector.

4.2 Recommendations

4.2.1 Preferred Option

To help identify the preferred procurement and financing option, we developed an evaluation table which sets out the relative merits of different options with respect to the base case (i.e. the MC option) based on the discussions above:

	PWP	PSP		
Criteria **Additional benefits or performance**	**RC**	**DBFO**	**PPF**	**JV**
Ability to achieve Government's vision and objectives	●	✓✓	✓✓	✓
Level of risk transfer	✓	✓✓✓	✓✓	●
Value for money	✓	✓✓	✓	×
Government's commitment (or the Base Cost)	●	●	×	●
Delivery of project and timescale	●	✓	✓	✓

Legend:

✓	The number of ✓ represents the level of increased benefits relative to that offered by the MC option to the Government in relation to a specific criterion
●	Represents that the option concerned offers a similar level of benefits as that of the MC option in relation to a specific criterion
×	The number of × represents the level of reduced benefits relative to that offered by the MC option to the Government in relation to a specific criterion

It is clear from the table that the DBFO option offers considerable benefits over the base case to the Government, assuming that the criteria all carry the same weight. Furthermore our analysis suggests that the DBFO option offers:

- An "implicit" mechanism whereby the private sector is incentivised to achieve the Government's objectives, perform to the required quality standards and maximise commercial opportunities.
- A more certain (and potentially shorter) project timeline from contract award to operation – this is an important consideration from the perspective of event/programme planning.
- A completely separate management structure from the Government that allows each party to focus on its primary objectives.
- Ability to allocate risk to the party best able to manage it from the perspective of the Government in terms of:
    - Transferring performance risk to the private sector from construction through to operations.
    - Transferring project risk as an equity provider for any non-performance of the SPV. Where Government provides financing to the

project, as in the case of PPF or JV, it inherently assumes a level of project risks

- Minimising the need to deal with competing (and sometimes conflicting) priorities between the Government and its private sector partner associated with management and operation of the MPSC (which is typical under the JV option).
- Allowing a far greater degree of risk transfer than any of the other options and provides the Government with the strongest set of tools to incentivise performance.

- Best value for money (with respect to the MC option) amongst all of the procurement and financing options.

This leads to the conclusion that the DBFO option is the preferred procurement and financing option for the MPSC project.

4.2.2 Other Considerations

We understand that the Government may consider adopting the MC or RC option given its prevailing policy/agenda and financial situation, and appointing the operator before the design is finalised so that input from the operator can be considered during the design phase.

Whilst this arrangement ensures that the future stadium design incorporates input from the operator, it is not the same as a "DBO" arrangement in that:

- The very fact that the D&B aspect and operation aspect are governed under two separate contracts inevitably leads to an issue where the operator has no incentive to drive Capex down – the operator will likely seek the highest specification to reduce future maintenance and lifecycle costs and also ensure maximum flexibility even if there is little business justification (e.g. revenue gain).
- It is unlikely that all lifecycle risks can be "effectively" transferred to the operator. Typically the Government has to retain certain risks, particularly those relating to design or construction fault. This gives rise to an additional interface risk to the Government.

That said, we understand that there may be a number of reasons why Government may wish to pursue one of the PWP approaches set out in the report, including:

- the preference to ring-fence itself against any unfavourable market conditions where private sector funding (in terms of equity and debt) is severely constrained;
- the desire to retain full project control and accept the associated project risks in order to meet the social and policy objectives;
- Government's limited experience and track record of using the DBFO model in Hong Kong compared to PWP
- the complex legal structures that are needed under the other procurement and financing options.

Should the Government decide to adopt one of the PWP models, we recommend that it uses an integrated Design, Build, Operate ("DBO") approach, rather than separate Design and Build, and Operate contracts.

A. Summary of Key Attributes of the Options

	Equity Structure	Debt Financing		Construction		Operation		
	Equity contribution	Debt structure	Rates and other arrangements	Capital cost contribution	Contract structure	Revenue	Hostel / Commercial / Office	Maintenance and Life cycle work
PWP								
Management Contract	Fully funded by the Government	N.A. as MPSC is fully funded by the Government	N.A.	Fully funded by the Government	A mile stone, fixed price, date-certain payment construction contract is entered into with a D&B contractor who will charge the Government on a cost plus basis	Revenue from the use of the MPSC's facilities and third party revenues (TPR) are retained by the Government. In addition the Government pays a service fee to the management contractor on a cost plus basis	For the 10,000 sq.m. of the office space, priority will be given to NSAs and sports-related companies. NSAs are charged at sub-market rates, which are subject to annual adjustment according to the CPI; the hostel and commercial area are run under prudent commercial principles	The management contractor is responsible for performing routine maintenance for the MPSC to the required standard (which is paid for as part of the contract). However, the contractor can charge the Government for life cycle maintenance work on a cost plus basis[9]
Revenue Contract	Fully funded by the	N.A. as MPSC is fully funded	N.A.	Fully funded by the	A mile stone, fixed price,	All revenues including TPR	For the 10,000 sq.m. of the	The management contractor is

[9] A conservative approach to financial analysis has been taken. It is assumed that the operator will not take any risks related to lifecycle maintenance of the MPSC and hence a cost plus basis arrangement has been adopted.

	Equity Structure	Debt Financing		Construction		Operation		
	Equity contribution	Debt structure	Rates and other arrangements	Capital cost contribution	Contract structure	Revenue	Hostel / Commercial / Office	Maintenance and Life cycle work
	Government	by the Government		Government	date-certain payment construction contract is entered into with a D&B contractor who will charge the Government on a cost plus basis	are shared between the Government and the contractor	office space, priority will be given to NSAs and sport-related companies, and NSAs are charged at sub-market rates, which are subject to annual adjustment according to the CPI; the hostel and commercial area are run under prudent commercial principles	responsible for performing routine maintenance for the MPSC to the required standard (which is paid for as part of the contract). However, the contractor can charge the Government for life cycle maintenance work on a cost plus basis
PSP								
Partial Private Finance	Fully funded by the private sector equity providers	Half of the debt is funded by the Government (sub-ordinated debt) and the remaining half is funded by the private sector debt providers (senior debt).	Lending rates vary between tranches; the Government has an option to settle all the debt upon commercial operations and no refinancing of debt is required	Fully funded by the SPV	The SPV has a master concession agreement with the Government covering the construction of the MPSC. A sub-contractor is engaged by the SPV to	Revenues from the use of the MPSC's facilities are retained by the SPV whilst TPR are shared between the Government and the SPV. In addition the Government	Ditto	The SPV is required to maintain the MPSC (covering routine maintenance and life cycle work) to the required standard during the concession period

	Equity Structure	Debt Financing		Construction		Operation		
	Equity contribution	Debt structure	Rates and other arrangements	Capital cost contribution	Contract structure	Revenue	Hostel / Commercial / Office	Maintenance and Life cycle work
		Both debts are drawn on a pari-passu basis (i.e. at the same rate)			construct the MPSC	pays an availability payment to the SPV based on the performance standards agreed between the SPV and the Government		
DBFO	Fully funded by the private sector equity providers	Fully funded by the private sector debt providers	Commercial lending rates. The Government has an option to settle all the debt upon commercial operations; no refinancing of debt	Ditto	Ditto	Ditto	Ditto	Ditto
Joint Venture	All project costs are to be funded by equity with 95% coming from the Government and the remaining 5% from the private sector equity	N.A. as MPSC is fully funded by equity	N.A.	Ditto	Ditto	Ditto	Ditto	Ditto

	Equity Structure	Debt Financing		Construction		Operation		
	Equity contribution	Debt structure	Rates and other arrangements	Capital cost contribution	Contract structure	Revenue	Hostel / Commercial / Office	Maintenance and Life cycle work
	providers							
Commercial Procurement								
Land Tender Process	Fully funded by the private sector equity providers	Fully funded by the private sector debt providers	Commercial lending rates	Fully funded by the SPV	The SPV is solely responsible for the construction of the MPSC. A sub-contractor is engaged by the SPV to construct the MPSC	Direct revenues (i.e. those associated with the use of the MPSC's facilities) as well as TPR are retained by the SPV	The office space, the hostel and the commercial area are run under prudent commercial principles	The SPV is responsible for maintaining the MPSC according to its specific requirements

B. Sensitivity Analysis

Further details of the sensitivity analysis are set out below.

B.1 Capital Expenditure (Capex)

	PWP		PSP		
Total Cost to the Government (HK$ in million in NPV terms)	MC	RC	DBFO	PPF	JV
Base case – HK$18,300m	45,907.31	44,661.19	40,063.92	44,500.62	46,848.40
Capex – HK$21,100m (or +15% of the base case)	51,376.09	50,059.24	45,751.71	50.752.98	52,487.89

B.2 Operating Expenditure (Opex)

The Opex includes maintenance costs but excluding those related to lifecycle maintenance.

	PWP		PSP		
Total Cost to the Government (HK$ in million in NPV terms)	MC	RC	DBFO	PPF	JV
Sensitivity – Opex reduced by 10%	45,266.04	44,500.53	39.518.65	43,964.05	46,260.31
Base case	45,907.31	44,661.19	40,063.92	44,500.62	46,848.40
Sensitivity – Opex increased by 10%	46,545.62	44,818.78	40,602.05	43,032.20	47.431.53

B.3 Lifecycle Costs

	PWP		PSP		
Total Cost to the Government (HK$ in million in NPV terms)	MC	RC	DBFO	PPF	JV
Sensitivity – equivalent to 0.5% Capex per annum	43,453.25	42,259.72	37,988.88	42,482.25	44,512.41
Base case – equivalent to 1% Capex per annum	45,907.31	44,661.19	40,063.92	44,500.62	46,848.40
Sensitivity – equivalent to 1.5% Capex per annum	48,358.41	47,059.58	42,133.87	46,518.62	49,186.34

B.4 Escalation Factors

	PWP		PSP		
Total Cost to the Government (HK$ in million in NPV terms)	MC	RC	DBFO	PPF	JV
Sensitivity – Inflation of 2.50%; Maintenance cost and Lifecycle cost index of 5%	45,399.30	43,964.93	39,787.86	44,135.47	46,723.10
Base case – Inflation of 3.50%; Maintenance cost and Lifecycle cost index of 5%	45,907.31	44,661.19	40,063.92	44,500.62	46,848.40
Sensitivity – Inflation of 4.50%; Maintenance	46,538.67	45,520.54	40,402.38	44,940.26	47,025.56

	PWP		PSP		
Total Cost to the Government (HK$ in million in NPV terms)	MC	RC	DBFO	PPF	JV
cost and Lifecycle cost index of 6%					

B.5 Revenues

	PWP		PSP		
Total Cost to the Government (HK$ in million in NPV terms)	MC	RC	DBFO	PPF	JV
Base case – Base case event profile	45,907.31	44,661.19	40,063.92	44,500.62	46,848.40
Sensitivity – Best case event profile	45,592.47	44,509.54	39,546.85	43,982.65	46,463.47

B.6 Financing Costs

	PWP		PSP		
Total Cost to the Government (HK$ in million in NPV terms)	MC	RC	DBFO	PPF	JV
Sensitivity – Commercial lending rate 5.50% and Government lending rate 3.50%	45,907.31	44,661.19	37,413.84	43,557.38	46,848.40
Base case – Commercial lending rate 6.50% and Government lending rate	45,907.31	44,661.19	40,063.92	44,500.62	46,848.40

	PWP		PSP		
Total Cost to the Government (HK$ in million in NPV terms)	**MC**	**RC**	**DBFO**	**PPF**	**JV**
4.50%					
Sensitivity – Commercial lending rate 7.50% and Government lending rate 5.50%	45,907.31	44,661.19	42,969.50	45,452.31	46,848.40

C. Detailed Assessment

Our assessment of the procurement and financing options against the criteria discussed in Section 4 is set out in the table below.

	PWP		PSP		
Model / Criteria	MC	RC	DBFO	PPF	JV
Delivery of vision and objectives	The Government has full control over the design, construction, operations; financing of the MPSC; and full discretion over the events programme and facility mix that will best achieve its vision and objectives. However, the Government needs to articulate clearly its requirements through an input-based specification to ensure that a complex facility such as the development of the	Refer to the discussions on the Management Contract option.	The Government will need to articulate clearly its desired outcomes which will be reflected in the output-based specification, as well as other mechanisms such as through an Events Programming Committee[10]. Participation or representation by the Government on the Events Programming Committee will ensure that the interests of the public sector are	The Government will need to articulate clearly its desired outcomes that will be reflected in the output-based specification, as in the case of the DBFO option. Similar to the DBFO option, the PPF option facilitates access to private sector input and innovation in order to ensure that a complex facility such as the MPSC development is supported by a robust	There is often a potential conflict between the Government and the private sector. The Government will seek to meet its social objectives, while the private sector seeks to maximise commercial returns from the MPSC. To avoid this, the expected outcome of the MPSC project will need to be discussed and agreed upfront by the Government and its private sector partner, and clearly articulated

[10] An Events Programming Committee is responsible for reviewing and deciding the events/programmes to be hosted at the MPSC, and ensuring that a balance is struck between commercial and community events/programmes.

	PWP		PSP		
Model / Criteria	MC	RC	DBFO	PPF	JV
	MPSC is supported by a robust events programme to achieve its vision. The Government may face challenges in delivering the vision and objectives of the MPSC if the input-based specification is unable to address the complexities of operating the MPSC. In addition, the Government will incur unnecessary capital, operating and maintenance costs if the input-based specification is "over-specified".		safeguarded. It is important to achieve a balance between the delivery of HAB's objectives of promoting a sporting culture in Hong Kong and the need to derive commercial revenues to ensure the long-term viability of the MPSC. The private sector is incentivised to meet its target returns, while seeking to achieve the Government's objectives.	events programming. The private sector is incentivised to meet its target returns, while seeking to achieve the Government's objectives. However, it should be noted that failure by the private sector to meet the Government's objectives will attract deductions from the unitary payment. This will, in turn, adversely affect the private sector's ability to service its debt obligations to the Government.	in the JV agreement. Similar to the DBFO and PPF options, the JV option facilitates access to private sector input and innovation in order to ensure that a complex facility such as the MPSC is supported by a robust events programming.
Level of Risk Transfer	The Government retains the majority of risks during the	The degree of risk to be borne by the Government during the planning, design and	Maximum risk transfer is achieved under the DBFO option, including key risks such as	Under the PPF option, the Government assumes all project risks borne by private	Under this option, the Government provides 95% of equity and thus 95% of the total project

	PWP		PSP		
Model / Criteria	MC	RC	DBFO	PPF	JV
	planning phase. During the detailed design and construction phases there is some degree of risk transfer to the private sector covering aspects such as unavailability of resources, misinterpretation of design, interface issues, and cost overruns. During the operation phase, certain risks are transferred to or shared with the private sector such as those associated with demand and inflation. The estimated risk adjustment value for this option is HK$12,369.34m in	construction phases of the MPSC is similar to that of the Management Contract option. During the operation phase, certain risks are transferred to or shared with the private sector such as those associated with revenue and operating costs, and minor changes to services and facilities. The estimated risk adjustment value for this option is HK$10,278.271m in NPV terms.	design, construction, operations, lifecycle and interface risk. For a project of this nature, it is expected that the demand risk will be retained by the Government under the DBFO option. However, there is the potential for commercial revenues risk from such activities as community use of the facilities, retail and F&B. The estimated risk adjustment value for this option is HK$4,509.5m in NPV terms (corresponding to the risks retained by the Government under any circumstance), the lowest amongst all the	sector lenders as in the case of the DBFO option. A key risk item that the Government will need to consider is performance risk. Any underperformance (or non-performance) by the private sector will attract payment deductions. This may, in turn, adversely affect the private sector's ability to meet its debt obligations to the Government. That said, the Government may manage this risk by adopting similar strategies that the private sector lenders use such as limitation of liabilities and establishment of Parent	costs in the absence of debt. Therefore, the Government retains a significant portion of project risks. In addition, any performance failure of the MPSC would translate to the Government being penalised as an equity partner. The estimated risk adjustment value for this option is HK$12,713.99m in NPV terms, the highest amongst all the options.

	PWP		PSP		
Model / Criteria	MC	RC	DBFO	PPF	JV
	NPV terms.		options. All of the key risks (apart from the demand risk) are transferred to the private sector under the DBFO option and hence the estimated risk adjustment value is nil, the lowest amongst all the options.	Company Guarantees[11]. Whilst the demand risk is typically retained by the Government under the DBFO option, there is the potential for transferring some third party revenue risk to the private sector, particularly for predictable activities, such as commercial revenues and community use of the facilities. The estimated risk adjustment value for this option is HK$8,114.70m in NPV terms.	

[11] Parent Company Guarantees are generally provided by the contractor's immediate parent and operate as a guarantee to ensure a contract is properly performed and completed. In the event of a contractor default, the parent is obliged to remedy the breach.

	PWP		PSP		
Model / Criteria	**MC**	**RC**	**DBFO**	**PPF**	**JV**
Value for Money	This requires the Government to deliver the MPSC to the required standard within budget. This may be achieved, but equally the MPSC could experience time delays, resulting in cost overruns. It is important to assess the Government's previous track record of delivering projects and its capacity to monitor the progress during the design and construction phases and managing contractor(s) at the operating phase. As the MC option is the base case for the Value for Money (VfM) analysis, there is no	Refer to the qualitative discussions on the Management Contract option. The estimated VfM for this option is HK$(1,001.93m) in NPV terms.	If optimum risk allocation between the Government and the private sector is achieved, the private sector is incentivised to provide a value-for-money solution under a competitive tender process. The private sector is incentivised to enhance the commercial viability of the MPSC project by maximising event-related revenues and generating third party revenues, which the Government will share. The estimated VfM for this option is HK$3,945.30m in NPV terms.	Refer to the qualitative discussions on the DBFO option. The estimated VfM for this option is HK$(0.63m) in NPV terms.	Value for money under the JV option is achieved when the JV is able to deliver the MPSC to the required standard within budget. However, any time and cost overruns will adversely impact both the Government and its JV partner. Thus, the JV agreement should enable effective project management and delivery of value for money in the procurement of the design, construction and operation of the MPSC. The estimated VfM for this option is HK$(941.09m) in NPV

Model / Criteria	PWP		PSP		
	MC	**RC**	**DBFO**	**PPF**	**JV**
	VfM figure for this option.				terms.
Government's commitment (i.e., the Base Cost to the Government)	The estimated Base Cost to the Government is HK$33,537.97m in NPV terms.	The estimated Base Cost to the Government is HK$34,382.93m in NPV terms.	The estimated Base Cost to the Government is HK$34,078.09m in NPV terms.	The estimated Base Cost to the Government is HK$36,385.92m in NPV terms, the highest amongst the options.	The estimated Base Cost to the Government is HK$34,134.41m in NPV terms.
Delivery of project and timescale	Based on the discussions with HAB and other stakeholders, we understand that projects delivered under the PWP option generally have a high risk of delays due to the level of involvement and decision making process of multiple governmental bureaux and departments. Therefore, the probability of achieving	Refer to the discussions on the Management Contract option.	There are multiple parties from the private sector consortium involved during negotiations including subcontractors and lenders. Lenders would also require time to conduct the necessary due diligence prior to financial close[12]. A typical procurement process under the	Under the PPF option, the Government underwrites a substantial amount of debt (say 50%) for the MPSC project. When compared with the DBFO option, there is less amount of debt required from the private sector, which may result in a smaller number of private sector lenders being involved within the	Depending on the parties' ability to resolve conflicting objectives between the Government and the private sector partner, the timescale is comparable with that of the PPF option. It should be noted that there is a risk that the timescale has to be extended if there is significant

[12] It refers to a stage in a financial agreement where terms and conditions have been satisfied (or waived), all legal documents executed, and draw-downs become permissible.

Criteria \ Model	PWP		PSP		
	MC	**RC**	**DBFO**	**PPF**	**JV**
	a 2019 target date for the completion of the MPSC is considered relatively low under the PWP option.		DBFO option would take 18 to 24 months at a minimum and may take longer depending on the complexity of the transaction. That said, there are ways to expedite the process such as having an Advance Works Agreement[13] to enable the preferred bidder to start work prior to financial close in order to achieve the delivery timeline for the MPSC.	consortium. Therefore, the procurement process under the PPF option is envisaged to take less time to complete when compared to that of the DBFO option. However, it should be noted that the Government should conduct a rigorous due diligence process, akin to that conducted by the private sector lenders.	disagreement between the Government and the private sector partner.

[13] An "Advance Works Agreement" refers to a legally binding contract entered into between the preferred bidder and the procuring authority which authorises the preferred bidder to commence specific works (i.e. "Advance Works") on a project before financial close. If financial close was not achieved, the procuring authority reimburses the preferred bidder for the actual costs incurred in performing the Advance Works. Advance Works Agreements, therefore, can be used to mitigate, to a certain extent, delays associated with the public sector procurement process and help ensure delivery of the project in accordance with the planned project timeline.