

12-1-2008

## Strategies to improve value for money in financing public private partnerships

Richard McKenzie

Follow this and additional works at: <http://epublications.bond.edu.au/pib>

---

### Recommended Citation

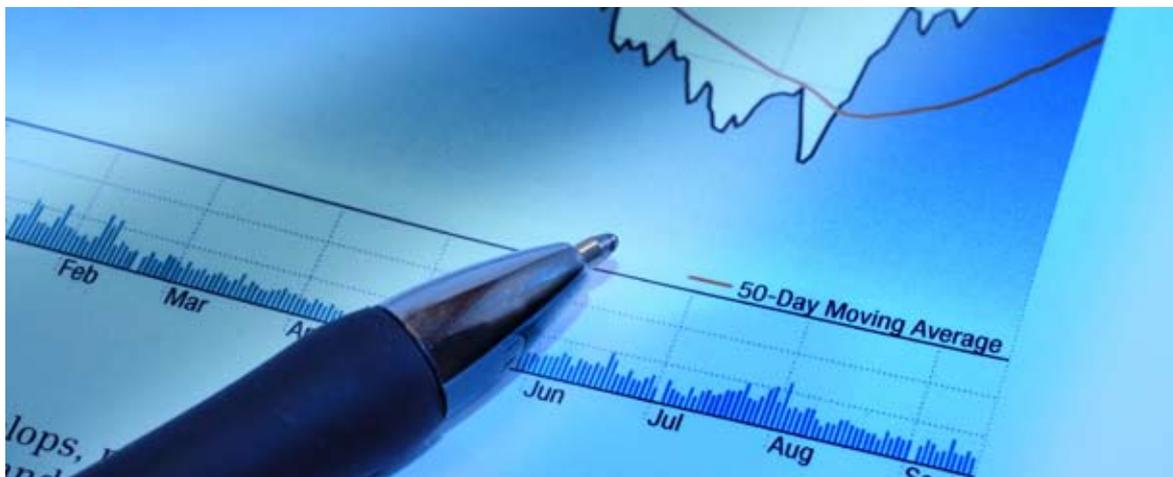
McKenzie, Richard (2008) "Strategies to improve value for money in financing public private partnerships," *Public Infrastructure Bulletin*: Vol. 1 : Iss. 7 , Article 2.

Available at: <http://epublications.bond.edu.au/pib/vol1/iss7/2>

This Journal Article is brought to you by the Institute of Sustainable Development and Architecture at [ePublications@bond](mailto:ePublications@bond). It has been accepted for inclusion in Public Infrastructure Bulletin by an authorized administrator of [ePublications@bond](mailto:ePublications@bond). For more information, please contact [Bond University's Repository Coordinator](#).

# Strategies to Improve Value for Money in Financing Public Private Partnerships

Richard McKenzie\*



## 1. INTRODUCTION

This paper explores strategies for improving the value for money to Government in the financing component of public private partnership (PPP) procurement for social infrastructure projects, drawing on the experience of methods trialled over the past five years in the United Kingdom and Australia. The primary purpose is to examine Credit Guarantee Financing (CGF) and the Supported Debt Model (SDM) which have been applied in the United Kingdom and Queensland respectively, with a view to discussing their relative strengths and weaknesses. The present uncertainty, shortages of capital and volatile pricing in world capital markets signals a diminished role for the private sector in the provision of economic and social infrastructure in the medium term. The CGF and SDM approaches suggest alternative methods that undoubtedly will come under closer examination by all governments in 2009.

The paper also addresses the issue of managing interest rate risk and refinancing gains in PPP transactions and makes a number of suggestions about how alternative financing strategies could be included in the National PPP Guidelines currently being developed by Infrastructure Australia.

## 2. TYPICAL FINANCING STRUCTURES FOR A PPP

The financing of PPP projects generally accords with the principles of project finance. The PPP consortium is typically a highly geared entity, where senior and subordinated debt would generally account for approximately 90% of

capital. This could be provided through the debt capital markets by way of bonds or wrapped bonds<sup>1</sup>, and / or a bank syndication involving a complex web of tripartite agreements and cross-guarantees (for example, Grimsey & Lewis 2002). The small portion of equity or an equity guarantee may typically be provided by an investment bank for the construction phase of the project.<sup>2</sup> Financing of the project could typically be organised in three phases:

1. Construction finance to commissioning
2. Early stage operation to early maturity
3. Long-term investment

Progress through each of these phases represent refinancing windows as the risk profile of the project changes (diminishes), where changes in equity investors and the capital structure can occur (Regan 2008). For example, on successful completion of the construction phase, an investment bank as the provider of initial project equity would generally seek to realise a refinancing gain through an equity dividend and / or the sale of their equity share (e.g. to a fund manager looking for a longer term infrastructure investment).

In establishing the PPP contract, Government typically specifies that interest rate risk is transferred to the PPP consortium; such that once the project is operational the component of unitary charge linked to debt servicing is fixed. However, as noted in the current draft National PPP Guidelines being developed by Infrastructure Australia (IA), government may choose to accept CPI risk where senior debt is financed through CPI indexed bonds.<sup>3</sup>

1. The use of bonds or bonds guaranteed by a monoline insurer (i.e. wrapped bonds) was a popular form of financing for PPP projects in Australia, although the recent drying up of these markets associated with the credit crisis is likely to see a move towards greater use of bank syndication (Mahmudova 2008).

2. Provision of PPP project equity by an Investment bank has been typical in the Australian market, with the Investment bank also generally being involved in organising the under-writing of project debt. In the United Kingdom, the PPP's consortium of contractors are often also the equity holders.

3. National PPP Guidelines: Volume 1 - Practitioners Guide, section 10.1, heading Interest Rate Risk (draft as at 24 September for submission to IA).



### 3. OPPORTUNITIES FOR IMPROVING VALUE FOR MONEY

There are considerable costs associated with a PPP financing structure, such as bank lending margins, transaction and advisory fees and hedging costs to achieve fixed rate debt. In addition, there is also evidence in the literature of abnormal profits being made by project owners through refinancing (NAO 2006). However, the current draft National PPP Guidelines place little emphasis on these issues within the broad set of strategies to ensure value for money is maximised for PPP procurement.<sup>4</sup>

The remainder of this paper describes some strategies that have been trialled over the past five years in the United Kingdom and Australia to improve value for money in the financing of PPPs in the following areas, and how these methods could potentially be referenced in the National PPP Guidelines, specifically:

- Accessing lower cost of state funds for project debt
- More flexible approaches for managing interest rate risk
- Ensuring maximum transparency in project refinancing and the sharing of gains.

4. This is not surprising, as the key reference documents from which the guidelines were established also place little emphasis on the issue of the financing structure.

5. For example, the spread between 5 year Commonwealth bonds and corporate bonds rated BBB of 1-5 year tenor at 30 June 2005 stood at 0.84%, June 2006, 0.75%, June 2007, 0.88% and June 2008 2.67% (RBA, 2008). Historically the spread between Commonwealth bonds and State government bonds has averaged around 0.25%, although this widened to around 0.6% with the onset of the credit crisis.

6. For example, for a typical hospital PPP project, HM Treasury estimate (see NAO 2006) that 17% of nominal whole of life project costs can be attributed to the financial risk premium the government pays to the private sector for assuming the risk in constructing and operating the asset.

### 4. ACCESSING LOWER COST OF STATE FUNDS FOR PROJECT DEBT

The interest rate of senior debt for PPP project finance, whereby the PPP entity may typically attract a BBB investment grade rating, is substantially above the rate that State government finance authorities charge their agencies for debt funded procurement. This reflects Governments ability to borrow at lower rates from capital markets.<sup>5</sup> However, for PPP transactions, the difference in funding costs in part also reflects the project risks transferred from Government to the PPP entity. Nonetheless, the cost of finance is a key component contributing to the determination of the unitary charge to be paid by government for the asset and associated service provision.<sup>6</sup> As a consequence, the following two strategies have been trialled in the United Kingdom and Australia in an attempt to achieve a balance between effective risk transfer to the private sector and accessing lower cost of State funds for debt financing.

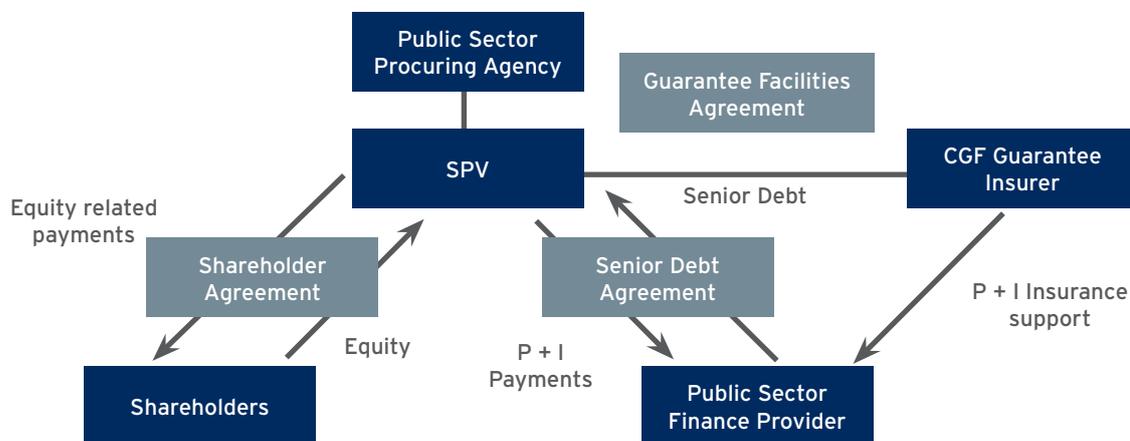


#### 4.1 CREDIT GUARANTEE FINANCING

Credit Guarantee Financing (CGF) is an arrangement whereby a public sector finance provider lends to a Special Purpose Vehicle (SPV) established for the purpose of a PPP, where the senior debt serviced by the cash flows from the SPV are upgraded to a AAA rating via a guarantee provided by a monoline insurer or bank, as outlined in Figure 1. This form of financing for PPPs has been trialled in the United Kingdom (UK). It is based on the following premise by H.M. Treasury:

*...the cost of benchmark Government borrowing, scaled up by the cost of the necessary CGF insurance to bring the SPV cash flow to a AAA credit rating, can be expected to be lower than the issuance of asset backed senior debt of equivalent rating. This reduction in cost would therefore have the effect of increasing the value for money to the procuring agency" (H.M. Treasury 2008).<sup>7</sup>*

FIGURE 1: PPP CGF MODEL



Source: HM Treasury, CGF Technical Note 1

The CGF model was trialled in the UK for two PPP hospital projects, one in Leeds and the other in Portsmouth. These projects reached financial close in October 2004 and December 2005 respectively, with a bank providing the credit guarantee for the Leeds project and a monoline insurer for the Portsmouth project. According to HM Treasury, the following estimated quantitative savings can be attributed to the application of CGF for these projects:

- whole of life savings of £70M. The Leeds project has a term of 30 years with an initial capital value of £230M and the Portsmouth project has a term of 35 years with an initial capital value of £225M
- 8% of total financing cost for the Leeds project and 16% of total financing cost for Portsmouth
- savings from both projects amount to approximately 3% of the ongoing unitary charge (H.M. Treasury 2006).

It is important to note that the above savings do not accrue to the procuring authority, rather they accrue to whole of government through the public sector finance provider, as a market rate of interest is charged to the SPV.<sup>8</sup> The above savings in finance costs accruing to whole of government are estimated from the market rate of interest charged to the SPV, less the cost of the credit guarantee less the gilt rate.<sup>9</sup>

7. Amended extract taken from HM Treasury, CGF Technical Note 1.

8. It is claimed that financial transaction costs are also less under the CGF model and these may therefore accrue to the procuring authority, although there are additional administrative costs associated with application of the CGF that also need to be taken into account.

9. UK cost of borrowing is referred to as the 'gilt' rate.

#### 4.11 THE FUTURE OF CGF IN THE UNITED KINGDOM

HM Treasury are not planning further application of the CGF model in the foreseeable future, but have not completely ruled out reviewing this decision. The key reasons for the current position are as follows:

- The recent turmoil in financial markets has created an environment not conducive to application of the CGF model, in particular the required credit guarantee is seen as highly illiquid and the market participants able to provide such a guarantee has diminished.
- Application of CGF requires HM Treasury to perform all the roles expected of a bank and other financial service providers in a privately financed PPP. Therefore, this requires establishment and maintenance of support areas such as a policy team, a deal team and administrative team dedicated to application and maintenance of CGF projects. Therefore, to achieve sustainability for these functions and economies of scale, the CGF model needed to be applied to a sizeable portion of the PPP market<sup>10</sup>, and projects needed to be large enough to justify the associated administrative and transaction costs.
- As the savings from the lower cost of finance do not accrue to the procuring authority, broad based ministerial support for the CGF model was not achieved.<sup>11</sup>

#### 4.12 BENEFITS AND CRITICISMS OF THE CGF MODEL

Aside from the cost of finance savings, the CGF model is designed to generate additional benefits including:

- Government's ability to tap-issue established debt markets allows borrowings to be undertaken in-arrears to financial close. This reduces the associated credit risk and the potential negative carry costs of traditional PPP structures.
- The Government could potentially capture refinancing gains, which may be possible through a lower cost for the credit guarantee when the project moves into the operational phase where project risk is significantly reduced.

However, the method of estimating whole of government savings as outlined in Section 4.1 has a number of questionable aspects which are explored in detail in Appendix 1. The major issue is pricing the differential risk between AAA rated State debt and AAA credit wrapped corporate debt. Other more general criticisms of CGF include:

- Application of the CGF creates an additional layer of contractual complexity for the PPP

project with associated costs and time delays. Legal and advisory costs have the potential to be significantly higher which ultimately is passed on by way of higher unitary charges. In addition, the administrative costs borne by the State to apply and maintain the CGF model for each project are high.

- The contractual requirement of the guarantor to maintain a AAA credit rating, or face the prospect of having to find a replacement guarantor at their own cost, creates a disincentive for bidders in this market.<sup>12</sup> It is also unclear whether a secondary market allowing flexibility for banks or credit insurers (monolines) to sell off the credit guarantee at a later time would develop. Therefore, should the market for credit wrapped bonds re-establish in the future, it is likely that the price of the type of guarantee required for the CGF would be significantly higher than for the two pilot transactions struck in the UK in 2004 and 2005.
- PPP consortia are generally a collection of entities with different time frame objectives.<sup>13</sup> Therefore, flexibility is of high importance and it is common for them to lock in on medium term debt with a view to potential refinancing windows where risk has diminished and asset value improved. The CGF model with its long term debt obligations inhibits this flexibility, which may therefore also reduce competitive tension in the bid process.

#### 4.2 THE SUPPORTED DEBT MODEL

The Queensland Department of Education, Training and the Arts is currently trialling application of the Supported Debt Model (SDM) for financing a project to build seven schools in South East Queensland - known as the SEQ Schools project. The concept of the SDM was developed by the Queensland Department of Infrastructure and Planning, and has the following principles in its application for PPP financing:

- The State refinances a portion of the project debt once it reaches the operational phase.
- The proportion of debt finance provided by the State for the operational phase of the project is determined as the minimum portion of the projects' total financing requirement that could be recovered (based on the estimated termination payment) following contractor default (Queensland DETA, 2008. See Appendix 2 for more details). As such, this proportion must be estimated on a project by project basis. As part of this refinancing process, the remaining capital required for the project would be funded by private sector equity and subordinated debt.

10. However, the greater the portion of CGF deals the greater would be the governments exposure to the organisations providing the credit guarantees, which is likely to be subject to various limits and would therefore need to be closely managed.

11. These reasons are based on verbal comments provided by HM Treasury to the author.

12. This issue is now more pronounced given recent experience in financial markets. For example, the Bank of Scotland which provided the guarantee for the Leeds hospital project has now lost its AAA credit rating. Of the five Monoline insurers operating in Australia with a market share of approximately 10% or more that were rated AAA in 2007, only one has retained its AAA rating, with two being downgraded to AA and the other two downgraded to BB (RBA, 2008).

13. For example, builders generally want to sell down and move on as they are not investors, asset managers (i.e. service companies) generally don't have much financial backing to support equity contribution, consultants and financial intermediaries are short-term players. This generally just leaves the lenders.

- Bidders are advised to factor in the lower cost of debt for the operational phase of the project through the expressions of interest process.<sup>14</sup>

The rationale behind the SDM is that, once the construction phase has been completed, the project risk exposure reduces significantly and the probability of any senior debt not being repaid in the event of termination (including for contractor default) is relatively low. Therefore, a certain portion of the project's total financing requirement (the supported debt element) can be assessed as notionally risk free and thus it is appropriate to be provided by the State, taking advantage of its lower cost of funds and therefore enhancing value for money through lower unitary charges. The amount of senior debt to be provided by the State in the operational phase of the project is announced in advance of the expressions of interest phase, which should ensure lower unitary charges being proposed in the bidding process.

#### 4.21 PRELIMINARY EVALUATION OF THE SDM

Whilst the SDM is still very much in the trial phase, it has attracted attention in the press and drawn political comment. Some advantages and disadvantages of the SDM approach that can be identified at this early stage of its development are summarised below.

##### Advantages

- The SDM allows the State to implicitly capture refinancing gains, which have typically been realised by private sector financiers, or at best, partially shared with the State. It may also increase the likelihood that project equity holders are committed to the long-term tenure of the project.
- SDM financing is attractive from a value for money perspective, particularly given the recent increased spreads for private sector borrowing following the global credit crisis.
- In comparison with CGF, the SDM focuses government lending on the less risky element of the PPP project, and as a credit wrap is not required, it is likely to be simpler in application for PPP contracts from an administrative and legal perspective.
- Whilst State debt retains the highest ranking, the subordinated debt provider takes on many of the roles and responsibilities usually associated with the senior debt provider which should bring a high level of market discipline to the structure. This effectively offers the private sector debt provider with greater control and incentives, similar to the level a senior debt provider would have under a 100% privately financed PPP.

##### Disadvantages

- Estimating the proportion of the projects total financing requirement that can be regarded as 'risk free' for the operational phase of the project is a resource intensive task and the associated costs to the State need to be taken into account.
- The residual portion of (subordinated) project debt provided by the private sector will have different risk characteristics than traditional privately financed PPP project debt, and is expected to be provided by way of mezzanine finance at a much higher rate. This detracts from the gains made through lower cost of funding for the senior debt provided by the State.
- The SDM significantly reduces the likelihood of the project equity holders (which may include financiers or related parties) achieving refinancing gains which is considered a large incentive for their involvement in financing PPP projects. This issue of incentive has been raised in the financial press in relation to the SEQ schools project.

Experience being gained from the current trial of the SDM in the SEQ Schools project allows some preliminary assessment of the above pros and cons to be made.

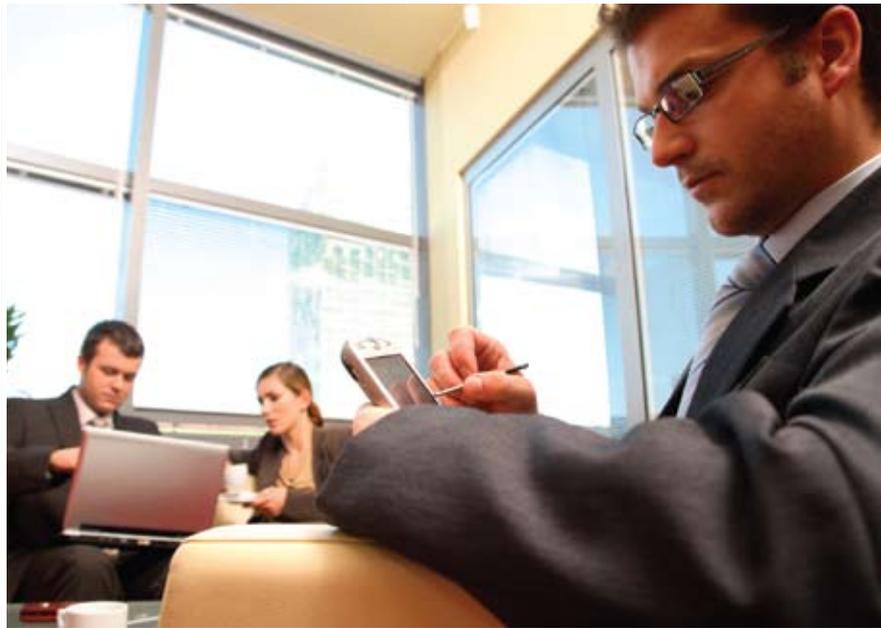
- Despite negative coverage reported in the Australian Financial Review, the market sounding phase of the SEQ schools project attracted the interest of a large field of potential financiers.<sup>15</sup>
- The estimated proportion of the projects total financing requirement expected to be risk free in the operational phase of SEQ schools project has been estimated at 70%, and represents the portion to be refinanced as senior debt by Queensland Treasury Corporation. The remaining capital is expected to consist of 22.5% mezzanine finance and 7.5% equity (Queensland DIP 2008). Savings are expected to accrue from application of this capital structure compared to the typical 100% privately financed model, provided the cost of mezzanine finance is below a 'break-even' benchmark.<sup>16</sup>

The proportion of senior debt to be financed by the state under the SDM and expected cost of the required residual finance would appear to be the key issues associated with the ability of the SDM to consistently deliver value for money outcomes, together with the cost associated with estimating these for each project.

14. A similar concept of 'supported debt' was actually developed in the United Kingdom and applied by Citi-group as a financing variant for PPPs in the UK (see Citi, 2007). The key difference being that under the UK approach the government guarantees a portion of the senior debt (which in this example was sold as bonds by Citi-group to large institutional investors at a rate marginally above LIBOR) in the operational phase of the project, whereas for the SDM being trialled in QLD the State actually lends this 'supported debt' portion.

15. Based on comments from the Queensland Department of Infrastructure and Planning.

16. Queensland DIP have noted that the proportions of senior debt, mezzanine finance and equity are not fixed in stone and could therefore be subject to change to achieve a more optimal capital structure depending on prevailing market conditions.



## 5. AGGREGATE MANAGEMENT OF INTEREST RATE RISK

Common practice under traditional PPP financing structures involves the transfer of interest rate risk (IRR) to the PPP consortium. This approach has been justified on the basis that it lends certainty to the State's service payments. The PPP entity would generally hedge exposure to IRR by establishing long-term fixed-rate nominal or long-term CPI linked debt financing structures, although in the latter case, the state is assuming CPI risk. Nevertheless, the New South Wales Government has adopted the policy that the State is prepared to accept IRR in the operational phase of PPP projects, in recognition that the full transfer of IRR may be sub-optimal as a result of the following:

- Full transfer of interest rate risk locks the private sector into long-term funding and discourages them from accessing other markets which may be capable of delivering a more efficient structure (and greater value for money)
- Hedging costs typically rise in proportion to the term of the funding
- Long-term nominal interest rates may contain a term premium that is not present in shorter term rates

As each of the States already manage variability in interest rate exposure in their long-term debt portfolios, it would seem logical that debt related to PPP project financing could be managed in the

same way.<sup>17</sup> From an accounting perspective, this can be made transparent, as in New South Wales where the unitary charge paid by the procuring authority is broken into a repayment of capital (principal + interest) and recurrent cost components, with the former being passed directly to the Treasury Department.

Implementation of this methodology in the PPP bidding process is relatively simple. Specifications in the expression of interest (EOI) documentation gives bidders the option to present their financing proposal as fixed rate, CPI linked or floating rate.<sup>18</sup> Experience gained thus far in New South Wales indicates that this range of choices provides more options to the market for financing which creates greater competition and lower financing margins to the PPP.<sup>19</sup>

The PPP entity is still required to assume IRR during the construction phase of the project, that is, prior to commencement of the unitary payments which only occurs once the project is successfully delivered. In addition, if the successful bid includes a variable interest rate model, the PPP entity is required to maintain the risk associated with credit margins (for example, held at a fixed basis point rate above BBSW as specified in the base case financial model) and any other financing fees or refinancing costs.<sup>20</sup>

17. For example, New South Wales Treasury Corporation (TCorp) advised that they currently manage approximately \$10B of loans on behalf of the Crown.

18. Specific details on the benchmarks for which financing proposals will be assessed are clearly outlined in the EOI document. References to this paper include two such examples for the NSW Department of Housing (2005) and Department of Health (2007) projects.

19. This comment is based on discussions with TCorp.

20. Bank Bill Swap Reference Rate.

## 6. REFINANCING

It is widely recognised that the possibility of the equity holders of the PPP entity being able to realise significant refinancing gains should the project move successfully into the implementation phase has been a strong incentive for potential bidders. Enabling government to capture of these gains is a key attribute of both the CGF and SDM models outlined in Sections 4.1 and 4.2.<sup>21</sup> The sharing of refinancing gains is also a realistic goal under traditional private PPP financing arrangements as a way to achieve better value for money. However, of equal importance is an enhanced understanding of the drivers of these gains to enable an objective assessment of whether they would bring additional risks to the project. Thus the process of assessing a proposed refinancing is a key element of ensuring value for money is realised for government from a whole of project perspective.

### 6.1. UK EXPERIENCE

Experience in the UK (NAO 2006) provides evidence that substantial refinancing gains were made in several PPP projects established in the 1990's. This led to considerable attention being paid by H.M. Treasury to whether refinancing may bring additional risks that need to be carefully evaluated and how refinancing gains should be shared with the procuring authority.

Since 2002, all PPP contracts established in the UK have been required to apply the established code of practice (see HMT 2005a) for determining how the procuring authority's share of any refinancing gain should be calculated. The basic premise of this code is that the procuring authority is entitled to 50% of the refinancing gains in most usual circumstances.<sup>22</sup> In addition, HM Treasury (2005b) also established guidance material to assist in evaluating refinancing proposals and their impact on project life value for money. The central issue here is whether refinancing can bring new risks to the project which the procuring authority needs to carefully assess before approving any proposed refinancing by the equity holders of the PPP entity - regardless of whether they stand to share in the potential gains.

In its 2006 review of PPP debt refinancing which involved a cross government survey of PPP projects, the UK National Audit Office noted that:

"... the new gain sharing arrangements seemed to be working well .."

"... refinancing gains arising from the Code have declined since 2004 ..."

"... The Treasury's emphasis on value for money appears to be bringing greater discipline ...."(NAO 2006).



This experience provides some evidence that the implementation of the detailed guidelines has helped bring transparency to the issue of refinancing which in turn has led to better value for money outcomes for government in a holistic sense with PPP procurement.

### 6.2 RECENT AMENDMENT TO THE UK CODE FOR REFINANCING

In October 2008 H.M. Treasury released an amendment to the above mentioned code of practice for the sharing of refinancing gains.<sup>23</sup> The amendment reflects the fact that potential refinancing gains may be generated on projects signing in the current market, should credit margins or other terms subsequently return towards levels observed prior to the onset of the credit crisis. The new code specifies a scaled sharing of refinancing gains depending on the amount generated, with a maximum of 70% of the gain to be awarded to government. It is to be applied to all future PPP projects and those in competitive procurement as at 1 November 2008, although this amended code of practice will be reviewed in eighteen months following a reassessment of market conditions.

The issuing of this amendment reflects the UK government's priority focus on issues associated with refinancing as a crucial element for ensuring value for money in PPP procurement, and that a flexible approach is needed to proactively react to changing market conditions.

21. Albeit indirectly in comparison to the realising of refinancing gains in a typical private PPP financing structure.

22. To be paid either as a lump sum or ongoing reduction in the unitary charge.

23. HM Treasury (2008), Standardisation of PFI Contracts - Amended Refinancing Provisions.



### 6.3. DRAFT NATIONAL PPP GUIDELINES POSITION ON REFINANCING

The current draft National PPP Guidelines (Volume 1, Practitioners' Guide) addresses the issue of refinancing briefly in section 10.1 and Appendix 2. It states that the government should expect to share in 50% of any refinancing gain and that this should be clearly specified in the contract.<sup>24</sup> This is expanded on in more detail in Section 32, Refinancing, contained in the National PPP Guidelines: National Commercial Principles for Social Infrastructure - October 2008.

The current guidelines emphasise that any proposed refinancing must be approved by government and detail the information on the nature of the refinancing that must be provided. It also specifies how the refinancing gain should be calculated to determine whether government is entitled to share half of the gain. Whilst these guidelines are quite articulate, there is perhaps an over emphasis on refinancing incurring only the upside risk. It would seem more appropriate to note in the Practitioners' Guide that any proposed refinancing needs to be carefully evaluated prior to approval.

The more detailed guidelines on refinancing in Section 32 of the National Commercial Principles for Social Infrastructure could also include specific information on the types of additional risks that refinancing could bring to the project. Such risks include proposed increases in the level of senior debt; increases in termination liabilities; loss of contract flexibility, issues with contract amendments or extensions, and possible changes to the unitary charge profile and indexation regime. These types of risks need to be carefully identified and measured to ensure the proposed refinancing is in the best interests of the project from a whole of project life perspective. The existing material as prepared by H.M. Treasury would serve as a useful reference for this purpose.<sup>25</sup>

In addition, the guidelines should consider leaving scope for a more flexible approach to be taken with the percentage of refinancing gains the government should expect to share, depending on the state of the credit markets when deals are struck.

---

24. Volume 1: Practitioners Guide, Section 10.1 under Financial Risk and Benefits; Appendix B, Risk Table - Refinancing Benefit.

25. HM Treasury 2005, Value for money in refinancing.

## 7. CONCLUSIONS AND RECOMMENDATIONS

### 7.1. ACCESSING LOWER COST OF STATE FUNDS FOR PROJECT DEBT

The application of CGF for the trial projects conducted in the UK were certainly ground breaking in their efforts to achieve greater value for money for government in the financing of procurement undertaken using PPPs. However, as the focus of the CGF model begins at commencement of the project, it takes on board construction risk or maximum uncertainty, and therefore risks which are difficult to accurately price. In addition, the degree of inflexibility it may place (or perceive to place) on the PPP structure might also restrict bid depth. These issues, together with the costs associated with its application and ongoing maintenance that must also be borne by the State, limit the attractiveness of the CGF model as a long term strategy to achieve better value for money in PPP procurement.

The SDM currently being trialled for the South East Queensland Schools PPP project is an attractive alternative to CGF as its application focuses on the less risky operational segment of the project. Here, the state is fulfilling its original service objective. The SDM overcomes some of the inflexibility associated with the CGF model, maintaining bank participation and eliminating the need for a major financing involvement from a third party credit guarantor. However, it involves high set up costs that must be appropriately recognised, and realisable savings are somewhat dependent on the estimated proportion of the projects total financing requirement deemed to be risk-free in the operational phase of the project. Therefore, it would seem that its application should be limited to projects where the (operation phase) risk profile is well understood from past projects and expected to be low. Nonetheless, the SDM would appear to offer potential to achieve better value for money in appropriate social infrastructure projects, and may also assist in increasing competitive tension in PPP project financing.

#### Recommendation 1

The National PPP Guidelines put in place by Infrastructure Australia should recognise the potential role for the SDM as a finance option employing state funds for project debt in circumstances that improve value for money in social infrastructure projects, particularly those with well known risk characteristics.<sup>26</sup>

### 7.2. AGGREGATE MANAGEMENT OF INTEREST RATE RISK

The approach undertaken in New South Wales to allow bidders in social infrastructure PPP projects the flexibility to present financing models involving floating, fixed or CPI indexed rate debt is an effective strategy to maximise competitive tension for privately financed PPP projects. The requirement that the State assume the associated interest rate risk (for the operational phase of the project) by managing floating rate (or CPI indexed) debt originating from these projects within its existing portfolios would seem to impose minimal additional risk retention.

#### Recommendation 2

Infrastructure Australia include reference in the National PPP Guidelines a provision that allows scope for bidder's financing models to include floating rate debt if this improves value for money and greater competition in bid markets. An implication of this measure is that government would need to manage the associated interest rate risk (for the operational phase of the project) as part of its broader debt portfolio.

### 7.3. REFINANCING

The current draft National PPP Guidelines specify that government should share in any refinancing gain and that any proposed refinancing must be approved by government. Whilst these guidelines are comprehensive, they assume that refinancing only occurs or is achieved with upside risk.

#### Recommendation 3

That the National PPP Guidelines place greater emphasis on the depth of evaluation required for any proposed refinancing prior to approval.<sup>27</sup> For the more detailed guidelines on refinancing in Section 32 of the National Commercial Principles for Social Infrastructure, more specific information should be included about the types of additional risks that refinancing could bring to the project which need to be considered in the evaluation process. The existing guidance prepared by H.M. Treasury would serve as a useful reference for this purpose.<sup>28</sup> In addition, the guidelines should consider leaving scope for a more flexible approach to be taken with the regards to the percentage of refinancing gains (i.e. in excess of 50%) the government should expect to share, depending on the State of the credit markets when deals are struck.

26. Sections 6.5.1 Cost of Finance and 12.2.2 Commercial and Financial Issues of the Practitioners Guide could include such references.

27. Section 10.1 under Financial Risk and Benefits; Appendix B, Risk Table – Refinancing Benefit.

28. HM Treasury (2005). Value for money in refinancing.

## REFERENCES

- Citi 2007, *Supported Debt Structure Overview*. PPT presentation.
- H.M. Treasury 2003, PFI guidance: *CGF Technical Note 1*.
- H.M. Treasury 2008, *Standardisation of PFI Contracts - Amended Refinancing Provisions*.
- H.M. Treasury 2006, *PFI: Strengthening Long Term Partnerships*.
- H.M. Treasury 2005a, Guidance Note: *Calculation of the Authority's Share of a Refinancing Gain*.
- H.M. Treasury 2005b, *Value for money in refinancing*.
- Infrastructure Australia 2008, *Practitioners' Guide*, National PPP Guidelines, Volume 1 (draft as at 24 September).
- Infrastructure Australia 2008, *National Commercial Principles for Social Infrastructure*, National PPP Guidelines, October.
- Grimsey, D. Lewis, M. 2002. Evaluating the risks of public private partnerships for infrastructure projects, *International Journal of Project Management*, Vol. 20, pp. 107-118.
- Mahmudova, M. 2008, *PPP/PFI Outlook 2008*, Infrastructure Journal.
- Mottolini, M. (2007). *Residual risk to WATC from AAA monoline insurer in CGF model*.
- New South Wales Department of Health 2007, *Orange and Associated Health Services PPP Project*, Proposed Schedules.
- New South Wales Department of Housing 2005, *Bonnyrigg Living Communities Project - Requests for Detailed Proposals*.
- Queensland Department of Education, Training and the Arts (DETA) 2008, *SEQ Schools Project - Invitation for Expressions of Interest*.
- Queensland Department of Infrastructure and Planning (DIP) 2008, *Supported Debt Model - SDM versus PPP*, Powerpoint Presentation.
- Regan, M. 2008, *Strategic Infrastructure Procurement*, Course Notes, University of Melbourne, Melbourne.
- Reserve Bank of Australia 2008, *Bulletin*, August.
- United Kingdom National Audit Office 2006, *Update on PFI debt refinancing and the PFI equity market*.

## APPENDIX 1. ESTIMATING SAVINGS FROM APPLICATION OF CGF

The potential for savings under the CGF model is based on the premise that the state cost of funds plus a margin for the AAA rated credit guarantee (credit wrap) is less than the market rate for PPP finance. A model for these savings, which is essentially that used by H.M. Treasury to estimate the savings from the Leeds and Portsmouth hospital projects as outlined in Section 4.1, could be expressed as follows:

$$S = Z - Y - X$$

**Where:**

- S* is the savings from application of CGF (basis points)
- X* is the cost of State funds (e.g. UK 'gilt' rate, WATC<sup>29</sup> bond rate)
- Y* is the market based cost of credit wrap (risk premium + margin)
- Z* is the market benchmark cost of funds for PPP finance (risk premium + margin).

The CGF model implies a kind of market arbitrage in that *S* is always expected to be greater than zero. However, it is unclear whether the above approach takes into account the correct benchmark cost of funds or whether it correctly accounts for residual risks that are retained by the State under the CGF model. Such aspects could possibly be taken into account in the following way for potential application by State financing authorities in Australia, leading to a repricing of the estimated savings:

$$S = Z - z - (Y + y) - (X + x)$$

**Where:**

- x* is the spread between Federal Government bonds and semi-government bonds<sup>30</sup> plus the normal margin applied to its cost of funds by the State lender when providing debt to authorised borrowers to cover administration costs and the government guarantee.
- y* is the risk premium between AAA rated wrapped corporate debt and State debt
- z* is the privity of contract forgone to monitor performance of the PPP without bank involvement, or conversely the additional cost associated with the requirement for bank involvement.<sup>31</sup>

Under this revised formula, it may be less certain that *S* is greater than zero in all cases and whether an arbitrage under the CGF model is therefore always possible.

In practice, several of the variables in the above models are difficult to estimate. Whilst X and Z should be generally available from the market or recent examples of PPP projects, a price for Y is harder to establish. In light of recent events in financial markets it is also likely that credit guarantees may have been somewhat underpriced in the period of the CGF trials, in particular the extra compensation that should be required to mitigate the requirement to sell the guarantee should the guarantors credit rating drop below AAA. This issue is particularly pertinent at present, given that four of the five main monoline insurers operating in Australia that were rated AAA prior to the global credit crisis have been downgraded, with two of these being downgraded to BB status (RBA, 2008). In addition, the Royal Bank of Scotland who provided the credit wrap for the first application of CGF in the UK has recently lost its AAA rating.

Of the additional proposed variables, for x, in the case of Western Australian Treasury Corporation (WATC), the spread to Commonwealth bonds to at 31 July 2008 was 55 basis points (BP) and administration costs plus the government guarantee add around 30 BP.<sup>32</sup> A market price of y could be measured by the spread between AAA rated credit wrapped corporate bonds and AAA rated semi-government debt.<sup>33</sup> As at July 2008 this was approximately 180 BP. This spread has increased significantly since the onset of the global credit crisis, as it averaged around 50 BP in the years before 2007. Interestingly, only a small part of this increase in spread (around 25 BP) comes from the difference in AAA corporate and semi-government debt, with the remainder due to a widening in the spread between AAA corporate and AAA credit wrapped bonds from 25 BP to 130 BP (RBA 2008). This shows the significant repricing of risk which has occurred for credit wrapped bonds since the onset of the credit crisis, which in part reflects the downgrading of the credit rating for a number of institutions providing this product. Estimating z is difficult, and essentially impossible for the 'privity of contract' alternative. The cost of bank involvement could possibly be estimated through the margins and fees applicable for traditional PPPs, appropriately scaled for the degree of bank involvement.

Another consideration is the issue of fees. Proponents of the CGF claim lower financial transaction costs add to its attractiveness. However, detractors point to higher administration

and legal costs, and the implicit costs of time delays. The ongoing costs to the State to maintain a professional team to establish new and monitor existing applications of the CGF model are also substantial - and relate to the costs implied by z above.

Whilst the potential for savings in financing costs under the CGF model are still clearly evident, it is possible that these may have been over estimated by H.M. Treasury for the two CGF trials, at least in the context of how the model could be applied in Australia. In addition, the significant arbitrage opportunity that existed between the costs of AAA credit wraps and the difference between government costs of funds and a market benchmark for traditional PPP finance is likely to be significantly less should this market re-establish in the future.



29. Western Australian Treasury Corporation, used as a benchmark for this analysis.

30. It is necessary to take this spread into account when making a comparison to savings estimated in the UK examples, given that the UK gilt rate is essentially equivalent to Commonwealth bonds.

31. This relates to the tripartite agreements put in place by bank lenders for PPPs where a security trustee is appointed as an agent to monitor performance of the PPP on a daily basis.

32. Note, this has increased from a historical rate of around 25 BP since the onset of the credit crisis. All spreads are derived from bonds with an approximate maturity of 10 years from information available in WATC internal systems unless otherwise stated in the text.

33. Mottoni (2007) performed some initial basic modelling to try and directly estimate the risk implied by y on the basis of double default probabilities of the AAA Institution providing the credit wrap and the PPP entity (assumed to be investment grade), and found this to be very small. HM Treasury also performed a similar analysis with the same findings. However, these analyses were based on default probabilities estimated prior to the credit crisis and a number of other limiting assumptions.

**APPENDIX 2 FURTHER DETAIL ON THE SUPPORTED DEBT MODEL**

The following information is a direct extract from the South East Queensland Schools project EOI (DETA 2008).

**Estimating the risk-free portion of debt assumed in the SDM**

A detailed analysis was carried out to determine the portion of debt that is considered notionally risk free. The notionally "risk free" portion was based on the minimum portion of Project debt over the life of the Project that could be recovered (based on the estimated termination payment) following contractor default, where the outgoing contractor had severely underperformed for a number of years prior to the contract being terminated.

This approach was as follows:

- a number of contractor default scenarios over the entire Concession Period were assessed;
- the compensation payment (market value less State costs) to the outgoing contractor was estimated for each contractor default scenario;
- the debt outstanding was compared to the contract compensation payment for every year of the contract; and

- the notionally risk free debt level for each year of the contract was determined based on the minimum level of Project debt recovered under various contractor default scenarios.

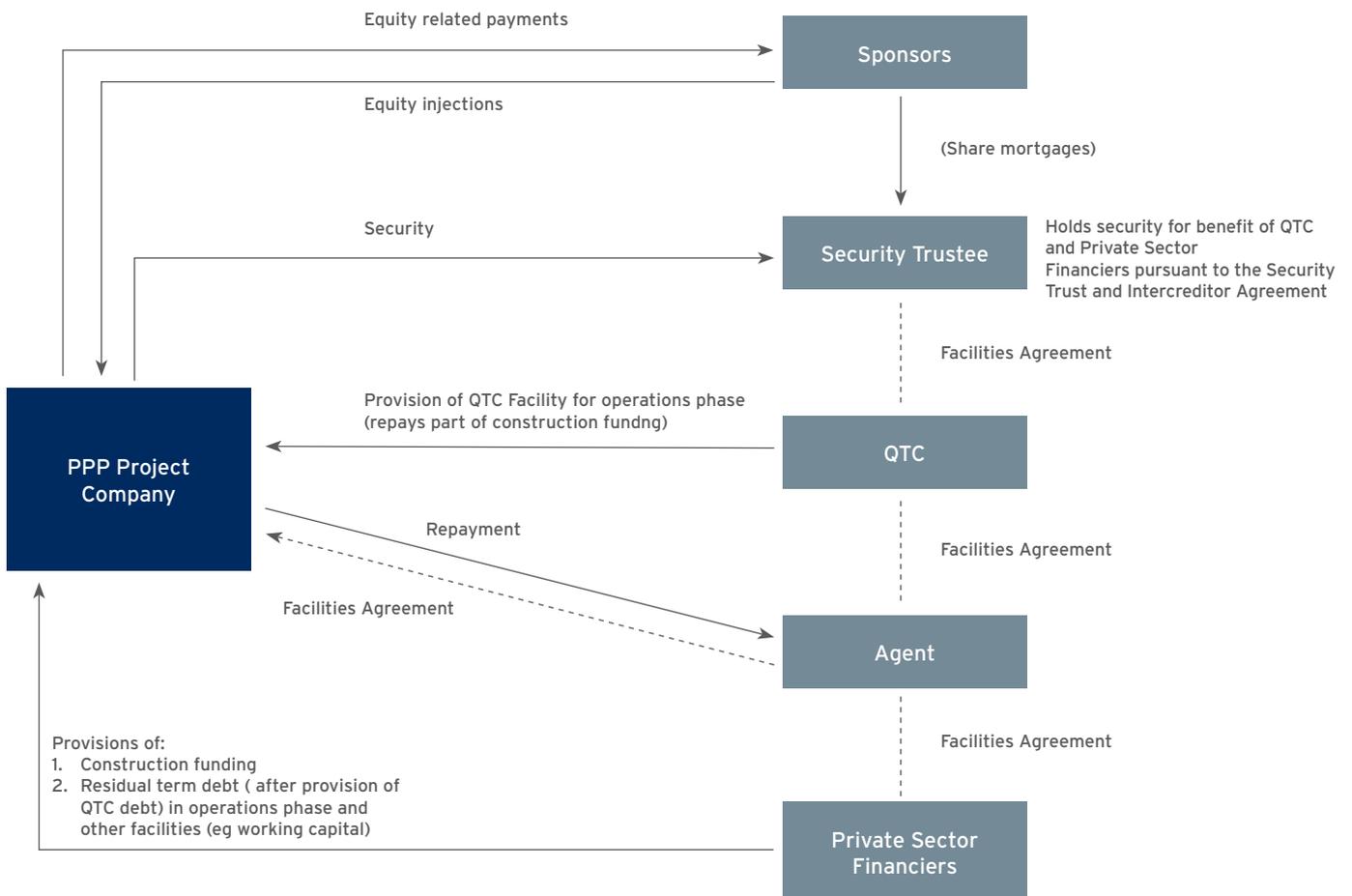
The findings of the detailed analysis indicated a notional risk free portion of debt for the Project of 70% of the total financing requirement in all but the most extreme default and disaster scenarios.

**Contractual arrangements**

QTC will have first priority for repayment of debt and priority to security on enforcement. However, taking into account the views of a number of respondents involved in the market sounding exercise conducted in relation to the SDM, QTC will forgo, except in specified circumstances, some of the rights usually conferred on a senior lender - such as the right to direct that the debt be accelerated in an event of default and for the security to be enforced. Instead, those rights will be afforded to the private sector financiers. To this extent, QTC may be regarded as providing 'passive debt' to the Project.

The diagram below shows a possible contractual structure for the debt.

**FIGURE 2: DIAGRAMMATIC REPRESENTATION OF THE SDM CONTRACTUAL ARRANGEMENTS**



Note: This structure is simplified and indicative only. Other corporate trust structures may apply

\*Richard is a Commercial Analyst with Western Australian Treasury Corporation