

## H.M. TREASURY

### APPLICATION NOTE — INTEREST-RATE & INFLATION RISKS IN PFI CONTRACTS

#### §1 INTRODUCTION

- This Application Note is designed to help Authorities and their advisers develop, evaluate and implement cost-effective strategies for managing interest-rate and inflation risks under PFI Contracts.
- It reflects experience gained across the public sector in implementing PFI projects and should be viewed as a statement of best practice.
- Authorities should always seek suitable professional advice in relation to interest rate and inflation risk issues.
- Boxes are included at certain points throughout the text to highlight key topics and issues.

PFI Contracts are intended to pass risk to the private sector if this provides good value for money. In many cases the allocation of risk is straightforward—for example the private sector is generally best placed to take the risk of managing construction—but there are a number of areas where detailed analysis is necessary to determine who should manage a particular risk and what the implication is for value for money. One such area concerns interest-rate and inflation risks and their inter-relationship. These subjects are covered in this Application Note in three sections, as follows:

- Interest-rate risk and hedging (*cf.* §2)
- Inflation-related issues (*cf.* §3)
- Swap credit premiums (*cf.* §4).

In undertaking a value-for-money assessment of a PFI Contract, an Authority should always take into account the flexibility which the Contract provides for the Authority to implement future changes in service requirements. Hedging, by its nature, can introduce contingent liabilities for an Authority which may only crystallise in circumstances of contract change (or termination) and so may—depending upon the hedging strategy adopted—adversely affect Contract flexibility. Accordingly, an understanding and assessment of these contingent liabilities forms an important part of the value-for-money analysis.

This Application Note is designed to help Authorities and their financial and other advisers develop, evaluate and implement cost-effective strategies for managing interest-rate and inflation risks under PFI Contracts. It reflects experience gained across the public sector in implementing PFI projects and should be viewed as a statement of best practice. It is not intended as a general introduction to financial hedging issues, nor does it replace the need for Authorities to seek suitable professional advice in relation to these important issues. The Application Note should, nonetheless, always be used by Authorities to form a baseline against which a chosen approach to hedging should be compared and justified—if different from that recommended here.<sup>1</sup> If an Authority is in any doubt about how to use this Application Note it should contact H.M. Treasury's Corporate and Private Finance Unit.

H.M. Treasury

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<sup>1</sup> It should be noted that interest-rate and inflation risk issues are only one element of the overall financial structure of a project which Authorities should consider, and also that this Application Note considers such issues primarily from an Authority's point of view.

## §2 INTEREST-RATE RISK AND HEDGING

### §2.1 Introduction

- Interest-rate risk can be a significant risk in PFI projects, both before and after Financial Close.
- There are various approaches to managing this risk and an Authority must determine, prior to issue of the ITN,<sup>2</sup> what is right for its particular project.
- Most PFI projects use debt whose interest rate has been fixed, either in the interest-rate derivatives market,<sup>3</sup> or in the capital markets.

Long-term interest-rate movements can be a significant risk for the Contractor in projects where:

- long-term debt financing is required;
- this debt financing provides most of the funding (typically 90-93%); and
- there is limited debt-service ‘cover’ (*i.e.* surplus cash flow to protect the lenders against fluctuations in costs including interest-rate movements) or debt-service ‘tail’ (*i.e.* the period between the final scheduled debt repayment and the end of the PFI Contract).

In this situation, long-term lenders are generally not willing to have the interest-rate risk left with the Contractor, or would only do so if large contingencies were built into the Unitary Charge, which are unlikely to be value for money for the Authority.<sup>4</sup>

In such cases, the options for covering interest-rate risk are:

- (a) The Contractor’s parent company absorbs the risk within its corporate treasury function, which manages a full portfolio of funding arrangements supporting all of its business operations.<sup>5</sup> In such cases Authorities should have no involvement in interest-rate risks in the ways discussed in this Application Note.
- (b) The Contractor passes on the risk to the Authority through future adjustments in the Unitary Charge reflecting movements in interest rates.
- (c) The Contractor passes on the risk to investors by raising fixed-rate bond finance,<sup>6</sup> carrying a coupon linked to gilts.
- (d) The Contractor raises variable-rate finance, typically adjusted 6-monthly<sup>7</sup> based on LIBOR, but passes on this risk to financial institutions through long-term interest-rate hedging (*e.g.* interest-rate swaps).

It is important for the Authority to address interest-rate risk, and the Authority’s financial adviser should consider it early in the procurement process, certainly before issue of the ITN.

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<sup>2</sup> From 31 January 2006 it is expected that Competitive Dialogue will become the standard procurement procedure for PFI contracts rather than the Negotiated Bid procedure. ‘ITN’ is used throughout this Application Note nonetheless in the interest of consistency with current accepted language.

<sup>3</sup> The terms ‘hedging market’ and ‘derivatives market’ are used interchangeably in this Application Note.

<sup>4</sup> Lenders (and investors) should be more willing to absorb the risk where the level of gearing is substantially lower than the 90-93% indicated above.

<sup>5</sup> This is likely to mean that the Contractor is financed on a corporate-finance not a project-finance basis (*cf.* H.M. Treasury: “Standardisation of PFI Contracts” (v.3, 2004) (‘SoPC’), §32: *Alternatives to and Variants of Project Finance*, and §35.4.3: *Corporate Finance Exemption*).

<sup>6</sup> Or other fixed-rate financing, *e.g.* from European Investment Bank

<sup>7</sup> Or for shorter periods during the construction phase

The Authority should thus review:

- whether it is good value for money to absorb interest-rate risk on a long-term basis as set out in (b) above (*cf.* §2.2)

and if not:

- how to deal with movements in market rates from bid to Financial Close (*cf.* §2.3)
- the interest-rate assumptions and any hedging-strategy requirements in the ITN (*cf.* §2.4)
- the Contractor’s choice of instruments used to fix or hedge the interest rate (*cf.* §2.5)
- the timing for fixing or hedging interest rates (*cf.* §2.6)
- how best value for money can be ensured in execution of this fixing or hedging (*cf.* §2.7)

## §2.2 Should the Authority assume the interest-rate risk?

- Value for money and affordability need to be considered by the Authority when determining whether to assume any interest-rate risk through the PFI Contract.
- Contingent liabilities associated with some hedging instruments implemented by a Contractor can reduce the flexibility of a PFI Contract and so its value for money.

Authorities are generally reluctant to provide for adjustments reflecting changes in interest rates in their indexation formulæ for the Unitary Charge, since their own budgets are normally set by reference to constant or inflation-adjusted base lines and so are without scope to absorb this kind of risk.

The advantage of using a financial institution to absorb interest-rate risks is that they are able to price such risks and distribute them within the wider financial system. The potential disadvantages are the cost of the products, additional negotiations and potential contingent liabilities that may arise for the Authority. Also some market practices can increase the cost to the public sector unnecessarily (*cf.* §4).

Moreover, assumption of interest-rate risk by an Authority may have accounting implications for the Authority under FRS5 in terms of the risk allocation or ‘separability’ of the PFI Contract.<sup>8</sup>

Given that balance-sheet treatment has no bearing on value for money, Authorities may consider whether better value for money might be achieved by passing the interest-rate risk to the private sector for only a part of the term of the Contract and then having it revert to the Authority, notwithstanding the likely balance-sheet implications of such an approach.<sup>9</sup> Reasons for adopting this approach might include consideration of the Authority’s ability to benefit from a comprehensive refinancing of the project or aggregation of a series of projects, and greater long-term flexibility. However, it must also be noted that there are clear risks for future affordability if this approach is adopted and future interest rates were to be higher than projected. Moreover, to the extent that the capital element of PFI funding for Authorities is fixed, it may not be appropriate for Authorities to leave themselves exposed to future interest-rate changes.

A quite different issue arises in circumstances where the Unitary Charge is fixed for the term of the

<sup>8</sup> If the cost of finance is clearly separable in the Unitary Charge, the Unitary Charge itself could be separated into a ‘lease-style’ capital element which could be on-balance sheet with only the remaining service-charge element off-balance sheet. (*Cf.* Treasury Task Force Technical Note No. 1, “How to Account for PFI Transactions”.)

<sup>9</sup> For example, an interest-rate swap could be entered into by the Contractor for a period of only 10 years even though the debt has a term of 20-30 years; the Unitary Charge would then be subject to variation in line with prevailing interest rates after 10 years. In this case, the Authority will need to consider whether it is content for interest-rate risk to revert to it in this way (after 10 years), or whether it would wish to agree arrangements with the Contractor by which future interest rate exposure could also be hedged, at some future date, to fix the Unitary Charge levels for the remainder of the term of the PFI Contract according to the then prevailing forecasts of interest rates in the swap market—which may be higher or lower than those prevailing at Financial Close when the original swaps (for years 1-10) were executed by the Contractor.

PFI Contract but the underlying hedges executed by the Contractor are either for a shorter term or lesser amount than the underlying senior debt which is being hedged, or a combination of both. This may arise if the bidder wishes to take the risk on the unhedged portion of debt, so as to benefit from the potential up-side as well as to bear the potential down-side from future movements in interest rates. In such circumstances, the rates at which the hedged portion of the debt is actually hedged should not necessarily be the determinants of the level at which the Unitary Charge is fixed. The fixing of the Unitary Charge is a much more complex process in this case, potentially involving notional debt hedging rates,<sup>10</sup> and Authorities should, accordingly, take extra care including using specialist financial advice.

Changes in market interest rates for shareholder-provided subordinated debt (which is generally provided on a fixed-rate basis) at any stage, should not affect the Unitary Charge. Subordinated debt is a form of quasi-equity, which should bear the risk of changes to the opportunity cost of capital.

### §2.3 Risk of interest-rate movements until Financial Close

- During the bid period, Authorities have generally accepted interest-rate risk, in the form of potential adjustment (up or down) to the Unitary Charge until this risk is hedged, by the preferred bidder, at (or around) Financial Close when the Unitary Charge level is finally set.

So far this Application Note has considered interest-rate risk during the life of the PFI Contract. A further issue, however, is the gap in the time between bidding and Financial Close. When bidding for a PFI Contract, a Contractor would normally offer a Unitary Charge which is predicated upon a specified long-term interest-rate assumption for bonds, or hedging of bank finance whose interest rate is LIBOR-based, or a combination of both, at Financial Close. The market yields on long-term bonds and long-term LIBOR-based fixed-interest (swap) rates vary from day to day, and do not become fixed to a borrower until it commits to these instruments unconditionally.

For a Contractor who is not yet selected as preferred bidder, the cost or risk of hedging the long-term fixed interest rates implied in the Unitary Charge proposed at the time of submission of the bid may be out of proportion to other bid costs; so it could be unrealistic to expect interest-rate risk to be laid off in this way, at such an uncertain time. Even after the Authority has selected a preferred bidder, an uncertain timetable to Financial Close and the residual possibility that the deal may still not eventually reach Financial Close may (in most cases) make interest-rate hedging, at least prior to commercial close, an unjustified expense or risk.<sup>11</sup>

Consequently, the approach adopted by Authorities has generally been to accept interest-rate risk in the form of potential adjustment (up or down) to the Unitary Charge throughout the development, bidding and negotiating period of PFI projects, right up to the time when this risk is hedged by the preferred bidder at (or around) the time of Financial Close when the Unitary Charge level is finally set.

There are various factors which may reduce the risk of interest-rate movements pre-Financial Close such that the Contractor will be able to absorb it and still offer good value for money in the Unitary Charge. Although current market practice is generally as stated above, such factors could include:

- a short period between bid submission and Financial Close
- bids submitted on a corporate-finance basis where the parent company is able to take and hold a view on interest rates for an extended period of time (*cf.* §2.1 (a))

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<sup>10</sup> For example, the notional swap rate that would have been achieved had the entire debt amount been hedged to its full term (*cf.* SoPC §35.4.4.1).

<sup>11</sup> Also, in cases where an Authority has advised in the ITN that it will expect the preferred bidder to hold a funding competition for senior debt, it is unlikely that a bidder will consider carrying interest-rate risk prior to completion of the funding competition (see footnote 12 for reference to OGC guidance on funding competitions).

- a lower level of gearing (*cf.* footnote 4)
- if current relative interest-rate stability encourages the Contractor to carry the risk during the bidding period without hedging.

It should be noted that not all elements of the interest-rate pricing will shift before Financial Close, and any adjustment of the Unitary Charge must take this into account:<sup>12</sup>

- for a variable-rate loan, it is the associated swap rate (if any) which may change, not the credit margins (or commitment fees) on the loan or on the associated interest-rate swap (if any), which would normally be fixed within the Contractor's bid or determined under separate competitive processes (*cf.* §4)
- in the case of a bond however, both the gilt base rate and the margin over gilts may change,<sup>13</sup> but monoline insurance premiums (if any) or bond underwriting fees would normally be fixed within the Contractor's bid, or determined under separate competitive processes.

Private-sector risk assumption and innovation in interest-rate management may increase in the future if timetables to Financial Close shorten, interest-rate market volatility decreases and bidder confidence of reliable timetables increases, for example, as a result of greater standardisation. In which case, the situation may change and it will become more feasible and common for Authorities to consider whether they wish bidders to assume pre-Financial Close interest-rate risk.<sup>14</sup>

#### §2.4 Interest-rate assumptions and hedging policy in the ITN

- The ITN should ensure that bids can be assessed on a comparable basis as regards interest rates and require transparency of all hedging costs.
- The Authority should reserve for itself the right to approve the choice and process of execution of all hedging instruments proposed by the Contractor.

If interest-rate risk is to be borne by the Authority during the period up to Financial Close, the pricing of financing within bids should be calculated on a comparable basis. Best practice in this respect would entail stipulating to bidders in the ITN documentation a list of sterling swap rates and gilt rates published on a single date,<sup>15</sup> from which bidders derive their base financing costs to price their bids. Assumptions for short-term LIBOR rates should also be provided, to take into account credit interest on reserve accounts (bidders may make different assumptions about the spread below LIBOR to be achieved on such deposits).

In order to minimise the impact on affordability of any adverse market movements before Financial Close, bidders should be required to present a Unitary Charge based on interest-rate assumptions which provide a reasonable buffer against current rates. In current market conditions a 0.50% *p.a.* buffer may be appropriate both for a commercial bank financing with an interest-rate swap or a fixed-rate bond issue.<sup>16</sup>

<sup>12</sup> *Cf.* Office of Government Commerce: "Guidance on Certain Financing Issues in PFI Contracts" (July 2002), Section 2: *Using the Capital Markets for Finance* for more information on the mechanics of bond issues, and Section 1: *Ensuring Competition in the Financing of Contracts* for more information on how terms of finance may vary between receipt of ITN responses and Financial Close.

<sup>13</sup> The margin, generally known as the 'issue spread', may sometimes be capped. Note also that the rate on the Guaranteed Investment Contract (for which *cf.* footnote 30) will also change.

<sup>14</sup> If an Authority wishes bidders to consider assuming pre-Financial Close interest-rate risk, the ITN should make it clear that this will be taken into account in the bid evaluation—*i.e.* that a value will be assigned to a Contractor's bid price which is completely fixed (for the period of validity of acceptance) inclusive of all finance costs.

<sup>15</sup> In any event well before the bid submission date so as not to disrupt bidder internal approval processes.

<sup>16</sup> Unless inflation-indexed financing is used (for which *cf.* §3.5), since its pricing will be based on a real yield which will be lower in absolute terms and less volatile than the yield on a conventional gilt, in which case the buffer should be

Similarly, clear terms should be provided by bidders in respect of MLAs<sup>17</sup> or any other additional interest-rate costs, as well as the interest-rate calculation methods used.

The role of the Authority is, therefore: first, to ensure that hedging is considered within each bid and included within the bid evaluation (*e.g.* where there are differences between bids, or bidder qualifications to any hedging principles specified in the ITN); second to require transparency of hedging costs; and third, to do as much as it can in terms of the design of the ITN and the bidding process to encourage bidders to obtain best value for money. The Authority should reserve the right of approval of all hedging instrument(s) proposed by the Contractor and their execution (*cf.* §2.7).<sup>18</sup>

In this context, the choice of a fixed-rate capital market instrument (such as a bond) is as much a decision about interest-rate hedging as is the execution of interest-rate swaps in relation to a LIBOR-based bank loan. However if a bond is being used, the placement of the bond automatically fixes the interest rate—*i.e.* unlike a LIBOR-based loan, choosing an interest-rate hedging instrument is not a separate exercise for a fixed-rate bond.<sup>19</sup> The use of bond finance is discussed in Office of Government Commerce: “Guidance on Certain Financing Issues in PFI Contracts” (July 2002), Section 2: *Using the Capital Markets for Finance*, and is thus not considered in detail in this Application Note.

### §2.5 Choice of hedging instrument

- Interest-rate swaps are the most common hedging instrument in PFI projects where floating-rate bank debt has been arranged by the Contractor, but other financial instruments may be relevant.
- An Authority will require specialist advice on pricing and other implications of hedging instruments.

The hedging instrument of choice in PFI projects for LIBOR-based bank loans has been, almost universally, interest-rate swaps. This pattern has arisen for two reasons:

- the desire on the part of all concerned (the Authority, the Contractor and the lenders) to keep the hedging strategy as simple as possible by using a single instrument which can hedge the entire loan over its full maturity; and
- the liquidity of the swap market, particularly at longer maturities, where the availability of alternative instruments tends to tail off and so their pricing tends to become more volatile.

Nonetheless, despite the near ubiquitous use of swaps in PFI deals to date, this should not be automatically accepted by the Authority, and their financial advisers should assess this decision when preparing the ITN and again later when evaluating bids.<sup>20</sup> Interest-rate swaps (and some other financial instruments) can carry large breakage costs if they have to be terminated prematurely, which the Authority is liable to pay in some termination scenarios (*i.e.* Authority Default or Voluntary Termination, *Force Majeure* Termination, or Termination for Corrupt Gifts). Moreover, the implications of these contingent liabilities is not limited to termination scenarios and may impact on the Authority’s flexibility to change its service requirements during the life of the PFI Contract on terms representing value for money. Although large breakage gains are also realisable on premature termination, *e.g.* if market assumptions about future interest rates have increased, it is the contingent costs in particular which should be assessed within the Authority’s value-for-money analysis.<sup>21</sup>

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correspondingly lower (*e.g.* 0.25% *p.a.*).

<sup>17</sup> *i.e.* mandatory liquid asset costs, charged by banks in addition to the credit margin.

<sup>18</sup> *Cf.* footnote 27 to the definition of ‘Senior Financing Agreements’, SoPC §1.8.1.

<sup>19</sup> However there are other issues on execution, discussed in §2.7.

<sup>20</sup> Whether in response to an ITN, or as part of a funding competition carried out by a preferred bidder.

<sup>21</sup> The remainder of this section deals with breakage costs under hedging for bank loans. In the case of bonds, where a ‘Spens’ clause may apply, *cf.* Office of Government Commerce: “Guidance on Certain Financing Issues in PFI Con-

Proposals from a Contractor for the Authority to accept ‘standard’ hedging market terms should always be questioned. The fact is that there is more than one standard. The hedging market generally uses ISDA (International Swaps and Derivatives Association) documentation. Authorities should be aware that there are various methods under ISDA documentation for calculating breakage costs, and it is important that an objective (market price-based) measure should be used. This means that if the ISDA 1992 Master Agreement is used, the ‘Market Quotation’ rather than the ‘Loss’ payment measure should be used.<sup>22</sup> The ISDA 2002 Master Agreement offers only one payment measure (‘Close-out Amount’), which generally requires a determining party to consider market quotations and other market information but offers greater flexibility than the Market Quotation payment measure if that information would not produce a commercially reasonable result.

The question of breakage calculations is also relevant in considering the potential for the Authority sharing in gains from future refinancings. Refinancing is a scenario affecting the Authority where termination of the swap is not tied to termination of the Project Agreement (that is, termination of the swap is discretionary on the part of the Contractor).<sup>23</sup> In this context, particular note should be taken of the treatment of the swap credit premiums within the calculations applicable under the chosen form of documentation (see §4).<sup>24</sup>

Viable alternative strategies to sole reliance upon swaps are regularly used in the private sector and should be evaluated for their value for money on a project-by-project basis. One of the key differentiators between products used in the corporate treasury market is whether or not there is ‘optionality’ within the instrument. If there is, this effectively means that the Contractor can choose whether or not to take advantage of some form of protection against rising interest rates. The fact that the Contractor will benefit if rates fall instead, means that there will normally be an up-front option purchase cost, which would have to be funded by the Contractor. The principle of always buying hedging instruments under competitive conditions is doubly true of option based instruments because of their often bespoke nature and relative illiquidity, particularly for the longer dated maturities inherent in PFI projects (*cf.* §2.7).<sup>25</sup>

Relevant interest-rate products used within the corporate treasury market include:

- interest-rate caps, under which compensation is paid if interest rates rise above a specified level. This is in effect a series of options (‘caplets’) pursuant to which the hedging counterparty pays an amount (if any) calculated by reference to the amount by which the market interest rate exceeds the cap rate on particular dates.
- interest-rate collars, under which compensation flows if rates move outside a defined band. This can provide both some upside and downside potential to the Contractor. The ‘collar’ is constructed from a cap (as above) and the opposite transaction, a ‘floor’. If rates rise above the cap the Contractor exercises its option rights under the cap; if they fall below the floor the bank exercises its equivalent rights under the floor to impose a minimum level of interest

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tracts” (July 2002), Section 2: *Using the Capital Markets for Finance*, §2.12.

<sup>22</sup> Except where the hedge provider is hedging on a back-to-back basis, *i.e.* a ‘fronting bank’ structure is being used (*cf.* §2.7, §4 and Appendix 1), in which case the Loss method is justifiable (with Market Quotation being required in the underlying back-to-back swap). Note also that if, at the relevant time, no Market Quotation is available (because there is no market) then the calculation reverts to Loss automatically.

<sup>23</sup> It is important, in discussion concerning possible Refinancings, that steps are taken by the Contractor to ensure that any potential conflicts of interest arising between Contractor, lender and swap counterparty are properly managed on an arm’s-length basis and any new swaps dealt with as set out in §2.7.

<sup>24</sup> It is also possible to arrange for swap documentation to include break-point dates, over the term of the swap, on which the party taking out the swap (*i.e.* in this case the Contractor) may elect to terminate the swap without potentially incurring termination liabilities. This flexibility will inevitably come at a price, but if the break-point date is coincident with a Refinancing or a planned major change of the PFI project, it could nonetheless offer good value for money.

<sup>25</sup> The value-for-money assessment of all hedging instruments necessarily extends to their full range of economic characteristics, including potential termination liabilities and accessibility of a liquid secondary market for their disposal *etc.*

payments on the Contractor. Depending on how the rates are structured, it is possible for a collar to be nil-cost at the outset, *i.e.* the cap and floor are each worth the same amount (one being bought and the other sold by the Contractor, they net-off to a nil cost). Since this product involves the Contractor writing an option (*i.e.* the floor) it is sometimes regarded as a higher-risk product than a swap.

It should also be remembered that swaps which become effective at Financial Close may not involve potential payments between Contractor and its swap counter-party for some months (or longer); that is, swaps can have a 'delayed start' date (if necessary for a period of years) so that the hedge protection matches precisely the expected draw-down and repayment profiles of the loan being hedged.

Setting aside issues of competition (*cf.* §2.7), pricing for these option-based products is closely linked to that for interest-rate swaps. One advantage of a product where payments are only ever made from the counter-party to the Contractor is that they create limited credit risk for the counter-party (*i.e.* the counter-party is not relying on the Contractor's ability to pay further amounts beyond the option purchase price); this applies to interest-rate caps but not to collars which do involve potential credit risk for both parties. So whilst the use of a process which ensures competitive pricing is more important the more unusual or complex the product, the lack of credit risk for a counter-party should create a much larger potential pool of providers and so greater scope for an open market competition for these hedges. Balanced against this is the fact that the total market for such instruments is generally smaller than for interest-rate swaps.

The skills required to provide expert advice on interest-rate hedging strategies and execution will not always be found within the firm chosen by the Authority to provide all the other aspects of financial advice required. Where they are not available, the Authority should consider also appointing (or its financial adviser appointing as a sub-contractor) a hedging market participant, or specialist consulting firm which is close to the operations of the derivatives markets, to supplement the expertise of the financial adviser. The Authority's legal advisers should also have the necessary experience to review the ISDA documentation.

## §2.6 Timing

- An Authority must reserve for itself a right of approval over the timing of execution of all hedging instruments.

If the Authority decides that interest-rate risk should be a pass-through from the Contractor, through a transparent (one time) adjustment to the Unitary Charge around the time of Financial Close based on the fixed or hedged interest rate at that time, the Authority must reserve for itself a right of approval over the timing of implementation of this fixed-rate finance or other hedging. This right should be clearly stated in the ITN,<sup>26</sup> and the Authority must seek guidance from its financial adviser on a suitable approach.

However, this control over timing should not be exercised in such a way as to cause a significant delay in Financial Close, and so affect the overall project timetable and the Contractor's return.

In the case of bond issues carrying a fixed coupon, the interest rate will be fixed on the bond launch date, which will typically be a few days prior to the date of Financial Close. In the case of a major public issue, this launch date follows a 'road show' process, during which the lead manager will indicate to investors the proposed date and time of bond launch. It follows from this that the Authority should agree the commencement of the road show process and associated bond launch timing. In the case of a smaller private placement which does not have to go through this 'book building' process the Authority can exercise a more direct control over the timing of the placement.

In the case of loans carrying a variable interest rate, implementation of interest-rate hedges normally

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<sup>26</sup> And in the terms of a funding competition held after appointment of preferred bidder.

takes place at Financial Close, since hedge counter-parties required to take credit exposure either directly or indirectly on a Contractor with no assets will not be prepared to do so before then, and lenders do not want the interest-rate risk to be left uncovered for a significant period of time after Financial Close. Moreover, the Unitary Charge cannot be fixed until the interest rate has been fixed. However, it is also possible for the hedging to be put in place with the support of the Contractor's shareholders before Financial Close and then transferred afterwards.

Even if the Authority has agreed to bear the risk of changes in underlying interest rates prior to Financial Close impacting on the Unitary Charge, it should not provide contractual support for any hedging arrangements before Financial Close.<sup>27</sup>

The Contractor is not indifferent to the timing of the interest-rate hedging, because this will affect the level of interest accrued during construction, and hence project capital costs. But the Authority is obviously at much greater long-term risk, because its payments are determined by the swap rate achieved and so it should have the right to ensure that the hedging is executed under appropriate market conditions. This implies that Financial Close may, on occasions, be delayed if market conditions are unfavourable.<sup>28</sup>

In summary, for so long as the Authority carries interest-rate risk through potential adjustments to the Unitary Charge, it should have a right of approval both over how this risk is transferred back to the private sector, and when it is transferred. In practical terms this will require the Authority and its advisers to work closely with those actually implementing the policy, namely the Contractor, its advisers and lenders.

## §2.7 Execution

- Hedging instruments can generally be procured under competitive conditions.
- The presence of a single bank lending to the Contractor does not preclude the use of a competitive process for the execution of swaps or other hedging instruments.
- If a competitive process proves to be unavailable, however, then a fall-back of benchmarking the prices of hedging instruments can be considered.
- The ITN should set out the Authority's requirements in relation to the execution of hedging instruments.

The process for achieving best value for money when fixing interest rates at Financial Close is equally as important as the choice of hedging instrument and timing. It is preferable that this procedure be a competitive process, although there is a role for benchmarking where a competitive process has been given full consideration and rejected for sound reasons. The extent to which this is possible will depend on the choice of instrument, which decision itself may be influenced by the extent of available competition.<sup>29</sup> In any event, the execution process should be fully transparent to the Authority.

<sup>27</sup> Except for a very large bond issue or hedging transaction, where the transaction itself may impact pricing in the capital markets. In such cases, it may be appropriate for a so-called 'market stabilisation exercise' to be undertaken—a strategy to mitigate potential disruption in these markets. This is a complex exercise for which Authorities should seek suitable specialist market advice.

<sup>28</sup> If the Authority has agreed to accept adjustment to the Unitary Charge to take account of the interest rate determined by the hedging instruments eventually executed, there is no reason in principle why hedging may not take place shortly after Financial Close on a day of suitable financial market stability for the hedging to be carried out. Lenders and investors should be prepared to allow this degree of flexibility on the basis that variations in the Unitary Charge which are dependent on, *inter alia*, the hedges eventually implemented and the associated issue of affordability remain risks of the Authority.

<sup>29</sup> As mentioned in §2.5, extra care must be taken when buying option-based instruments to ensure that competitive processes are used. These markets are often relatively illiquid and involve substantial potential for the market to charge a premium.

Where interest-rate risk is transferred through the use of a public fixed-rate bond, the price (both the market-wide gilts price and the margin on gilts) is set in the run-up to and at the bond launch. Market practice involves an iterative book-building process and the possibility of having different suppliers/prices to choose from in an explicit way at a single point in time may not arise.

However, for bond issues arranged on a private-placement basis without prior book building in the market by the lead arranger (*i.e.* generally for the smaller-sized issues, although the judgement on what is ‘smaller’ will itself depend on prevailing market conditions), there may be scope for competitive offers covering the total interest rate on the bond (*i.e.* competition on the credit margin over the underlying gilt rate), and this possibility should always be investigated early in the bidding process. It should be noted, in this context, that some ‘public’ bonds are public only in name and Authorities should establish whether a competitive process for fixing the overall bond interest rate might still be possible, notwithstanding the ‘public’ label on the bond.<sup>30</sup>

As discussed in §2.5, interest-rate hedging instruments fall into two groups: those which expose the hedge instrument provider to counter-party credit risk (*e.g.* interest-rate swaps); and those that do not (*e.g.* interest-rate caps). Open-market competition should be required where the hedge instrument provider does not assume credit risk on the Contractor, or where the provider’s credit risk on the Contractor is covered by third parties, such as monoline insurers.

However, without such credit support, a Contractor is likely to find that there is a limited number of banks (or other hedge providers) which are prepared to offer it instruments such as swaps. It may be too difficult or laborious for a potential hedge provider to assess the credit risk (of the Contractor) unless it is a bank already committed to lend to the Contractor, and thus is already working on its due-diligence and credit approval process. Furthermore, complex intercreditor issues arise if a swap is not provided by one or more of the lenders to the Contractor.

This therefore frequently leaves the lending bank(s) as potential monopoly swap provider(s), which is clearly unsatisfactory from a value-for-money point of view. Accordingly, it is important to introduce competition into this process, so far as possible. For example, if a bank lending syndicate is in place at Financial Close, the banks (within the syndicate) can bid against each other to provide part or all of the interest-rate swap. This procedure should be supervised by the Contractor, the Authority, and the Authority’s financial adviser. Alternatively, and particularly if the loan is being underwritten by only one bank with any syndication taking place too late to introduce competition on the swap, the underwriter should act as a ‘fronting bank’, to enable the base swap pricing to be competitively bid.

In the fronting bank structure, the swap market is invited to bid to provide a swap to the fronting bank, which matches the interest-rate swap to be entered into by the fronting bank with the Contractor. The fronting bank charges a separate fronting fee, equivalent to the credit margin it would normally charge on the swap (for which *cf.* §4). The fronting fee is documented in a separate agreement, will be payable to the fronting bank at the same time as the underlying swap payments, and ceases to become payable upon expiry or earlier termination of the swap. The fronting bank structure is discussed in more detail in Appendix 1.

As a fall-back alternative to a competitive process for producing interest-rate hedges, the Authority can set a benchmark rate, based on recommendations from its financial advisers (suitably supported by markets specialists, as appropriate—*cf.* §2.5), which the nominated hedge provider chosen by the Contractor must beat or at least match. This benchmarking process may be enhanced by the solicitation of check quotes from other hedge market participants. This is clearly a less desirable process than a competition and places heavy responsibility on the Authority’s financial adviser to know what specific hedge rate represents good value to its client.

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<sup>30</sup> A further issue with bonds is that bond proceeds are fully drawn down at Financial Close, not as and when required as with a bank loan, and have to be redeposited. The interest to be earned on this deposit is itself used to fund the project, and is thus another rate which needs to be hedged, which is normally done through using a Guaranteed Investment Contract (GIC), for which *cf.* Office of Government Commerce: “Guidance on Certain Financing Issues in PFI Contracts” (July 2002), Section 2: *Using the Capital Markets for Finance*, §2.11. A competitive process should similarly be adopted for the placement of GICs.

Benchmarking of hedging pricing should be considered a poor substitute for competitive market testing, and it should be borne in mind that ‘screen’ prices provided by market information suppliers are seldom indicative of the best price that can be achieved at that time under competitive conditions, especially for longer-dated instruments such as those typically used by Contractors entering PFI Contracts.

Authorities and their advisers must consider whether bidder commitment to delivering a competitive process for the execution of hedging instruments is an ITN requirement, or evaluation issue. Either way, the ITN should clearly set out the principles by which hedging is to be undertaken by the Contractor and the approval rights reserved by the Authority in relation to hedging.

### §3 INFLATION ISSUES IN PFI CONTRACTS

#### §3.1 Introduction

- Inflation indexation within the Unitary Charge payment mechanism impacts on the assessment of value for money and affordability.
- Financial instruments which hedge inflation risks, whether through the derivatives or bond markets, raise important value-for-money issues for an Authority.

Unlike the position with interest-rate risk (*cf.* §2.2), Authorities are generally willing to assume some level of inflation risk in a PFI Contract, partly to balance the mixture of their own funding resources, and partly because passing all inflation risks to the Contractor is unlikely to be value for money.

However there are a number of complex and inter-related issues to be considered in this respect, namely:

- proportion of the Unitary Charge to be indexed (*cf.* §3.2)
- measures of inflation (*cf.* §3.3)
- inflation assumptions in bid evaluation (*cf.* §3.4)
- inflation-indexed financing or hedging by the Contractor (*cf.* §3.5)
- interaction between inflation swaps and interest-rate swaps (*cf.* §3.6)

#### §3.2 Proportion of the Unitary Charge to be indexed

- The Unitary Charge indexation<sup>31</sup> regime should itself be assessed from the perspective of value for money.
- The value-for-money baseline should be a matching of indexation of the Unitary Charge to the underlying inflation exposure of the Contractor's costs during the service delivery period of the PFI Contract, on the assumption that the Contractor's debt-servicing costs are fixed.
- Over-indexing of the Unitary Charge can erode value for money.

When considering the proportion of the Unitary Charge which should be indexed against inflation, there are two balancing factors which should be taken into account:

##### – The Authority's resources

The resources available to the Authority are likely to have indexation protection—partial or complete. Where partial, this will be either directly through the Authority's budget, or indirectly as a result of two or more distinct streams of funding being combined for its PFI project—*e.g.* such as in the case of Revenue Support Grant (an unindexed stream) being made available to a Local Authority to meet part of the cost of its project, with the balance of the cost being covered from the Authority's own (indexed) budget. The relationship between the degree of indexation of the Authority's resources and of the Unitary Charge payment stream is clearly an important issue in the Authority's assessment of affordability over the life of the PFI Contract.

##### – The Contractor's costs

Insofar as the Contractor's costs are subject to long-term inflation, it is likely to prove better value for money to index the element of the Unitary Charge which covers these costs against

<sup>31</sup> See §3.3 for appropriate measures of inflation.

inflation, rather than require the Contractor to build in long-term contingencies into its pricing.<sup>32</sup> Contractors' costs can be considered in several categories:

- Capital costs:
  - The risk of construction-cost inflation is normally taken entirely by the Contractor, which either passes this on to the construction sub-contractor or includes a contingency against this risk. Given the short-term nature of this risk, the construction contractor should generally be willing to provide a fixed price. (The only exception to this may be cases where there would be an especially long gap between Financial Close and completion of construction, or between Financial Close and start of construction, where it may be better value for money for the Authority to take (or share) this risk rather than expect the construction sub-contractor (alone) to price it.)
  - These fixed construction costs are substantially funded with long-term debt, the servicing of which (subject to the issues discussed below) is also a fixed series of payments. In these circumstances, the Unitary Charge element relating to debt service should not be indexed against inflation, unless there is a clear value-for-money case to the contrary.
- Maintenance and other facilities management ('soft FM') costs: this element of the Unitary Charge is normally suitable for indexation against inflation for the life of the PFI Contract. If there are benchmarking and market-testing provisions for these costs in the Contract, there is an argument that indexation is unnecessary except to cover movements between benchmarking/market-testing dates.<sup>33</sup> However, although the difference may be largely one of timing, indexation is likely to play a role in overall value for money.
- Lifecycle costs: the treatment is the same as for soft FM costs, *i.e.* indexation of part of the Unitary Charge, but generally without benchmarking / market testing.
- Other operating costs: these include the Contractor's own direct operating costs (*e.g.* management and corporate overheads), and costs such as insurance. Operating costs are likely to be subject to inflation. Insurance costs require their own special regime (see SoPC §24 (*Insurance*) as updated in December 2005).

In summary, therefore, Contractors' costs will be a blend of fixed costs and those subject to price inflation—*i.e.* variable costs. Depending on the extent to which capital costs dominate, so the proportion of Unitary Charge which is fixed may also be substantial, if debt service has itself been fixed through interest-rate swaps or otherwise (*cf.* §2). The balancing item of equity return for investors in the Contractor is derived from the excess of income over costs. As such, it will reflect a combination of differential inflation / indexation and fixed income / cost elements.

If the Unitary Charge is 'over-indexed'—*i.e.* the indexed proportion is larger than the indexed element of the Contractor's costs—this mismatch may enable the Contractor to offer a lower *initial* Unitary Charge, because the extra Unitary Charge revenue from a higher level of inflation indexation in later years enables there to be a relative 'back-ending' of debt service payments and equity return. The ability to 'profile' the Unitary Charge is normally constrained by the requirement that the Unitary Charge should be level before the application of indexation—hence without over-indexation the scope for back-ended funding is limited.

<sup>32</sup> This is not to imply that incentives for real efficiency gains and/or continuous improvements in service quality for a constant real price over the life of the PFI Contract should not also be considered and, if value for money, included within the PFI Contract payment mechanism.

<sup>33</sup> Not necessarily the case for all benchmarking provisions which sometimes do not operate symmetrically to reflect cost increases and decreases—*e.g.* downwards-only benchmarking.

The principal value-for-money rationale for using a level base Unitary Charge (and so for avoiding profiling) is to ensure a broadly consistent match between the benefits (*i.e.* the contracted services) being received by the Authority in any time period and the cost of purchasing those benefits (*i.e.* payment of the Unitary Charge). Level payment streams are a natural feature of output-based PFI Contracts and help ensure that proper incentives are maintained under the Contract payment mechanism over the life of the PFI Contract.<sup>34</sup> In fact, there are sound economic reasons—in terms of efficiency and productivity gains over time being captured by an Authority—for the ‘level’ Unitary Charge, in practice, to reflect a steadily declining real price.

Over-indexation of the Unitary Charge means that:

- The Authority is paying through the Unitary Charge for a longer average-life loan, which is more expensive over the life of the PFI Contract (as more interest is paid overall).
- The short-term affordability benefit may be offset by long-term affordability constraints if the indexation of the Unitary Charge is out of line with the mix of the Authority’s own resources.
- Termination liabilities (where the Authority compensates for debt outstanding) will be higher (assuming no change in inflation) because of the higher loan outstandings at any point in time, leading to a potential reduction of long-term contract flexibility (albeit that Unitary Charges will previously have been lower).
- There may be pressure to enter into inflation hedging (*cf.* §3.5).

Thus, the value-for-money baseline should be a matching of indexation of the Unitary Charge to the underlying inflation exposure of the Contactor’s costs during the service delivery period of the PFI Contract, on the assumption that the Contactor’s debt servicing costs are fixed.<sup>35</sup> A precise matching may, of course, not be possible, for example because lifecycle costs fluctuate from year to year, but a broad average match should be the aim. This may mean a greater initial affordability constraint, as the initial Unitary Charge may be higher. The adoption of this value-for-money baseline does not, of course, preclude the use of a financing structure in which debt-service elements are also variable, but it does require the incremental costs, risks and benefits of a departure from this baseline to be justified given the drawbacks for an Authority of over-indexation described above. Authority requirements in terms of the proportion of Unitary Charge to be indexed should be specified in the ITN.

### §3.3 Measures of inflation<sup>36</sup>

- The measure of inflation used in the PFI Contract payment mechanism may impact on affordability and value for money.

There are a variety of different measures of inflation, depending on what is being measured. It is important for an Authority to understand how these differ, and what effect these differences may have on both initial evaluation of a bid, and actual Unitary Charge payments (and hence value for money and affordability). Recent data for the main measures of inflation are as follows:

<sup>34</sup> This section should be read in conjunction with SoPC §10.2 (*Features of the payment mechanism*), as updated by H.M. Treasury: “Standardisation of PFI Contracts Version 3: Addendum—Further Guidance and Permitted Derogations and Clarifications” (December 2005), p.4.

<sup>35</sup> This baseline also reflects the kind of long-term inflation exposure the authority would expect were it implementing the project under conventional procurement. *Cf.* SoPC §14.2.1, where it is stated that “It is highly unusual for prices to be fixed (*i.e.* without indexation) throughout the term of any contract for periods for which PFI contracts are typically let or, conversely, for the whole Unitary Charge to be indexed.”

<sup>36</sup> This section should be read in conjunction with SoPC §14.2 (*Indexation*).



### §3.4 Inflation assumptions in bid evaluation

- Comparisons between different measures of inflation to be used within payment mechanisms and between different projections of inflation chosen by bidders are not straightforward.
- Great care is required to ensure that such comparisons are done on a like-for-like basis.

When evaluating bids for the purpose of establishing value for money (as opposed to affordability which is not the subject of this Application Note), four key indexation-related factors influence the calculation of the net present value (NPV) for a given bid:

- 1) The proportion of the Unitary Charge which is indexed.
- 2) The inflation index or indices applied to the Unitary Charge *e.g.* RPI or RPIx.
- 3) The assumptions made about the value of the index (indices) for the life of the PFI Contract, in order to derive the nominal costs to the Authority.
- 4) The deflator used to transform that nominal cash flow into a real cash flow, before the application of the public-sector real discount rate of 3.5%.<sup>40</sup>

The first and second factors have already been discussed in §3.2 and §3.3 respectively.

For the third factor, an Authority should seek suitable specialist advice in preparing assumptions about future values of the index (indices) and not rely on the assumptions proposed by a bidder.<sup>41</sup> The sensitivity of the value-for-money analysis to the assumptions used may be greater where different bidders use different indices, and/or propose different proportions of the Unitary Charge to be indexed. As long as the impact of alternative indexation assumptions is well understood and consistently applied in the appraisal, it should not undermine the proper analysis of inflation risks and hedging strategies.

The fourth factor is not project-specific. The deflator currently used in appraising PFI projects is 2.5%.<sup>42</sup> As can be seen from the historical figures set out above, this 2.5% deflator figure is mid-way between the averages for RPIx (2.4%) and RPI (2.6%) in recent years.

Particular care needs to be taken when the use of inflation-indexed finance is under consideration (see below), or if a sector-specific index is used (*cf.* §3.3).

### §3.5 Inflation-indexed financing or hedging by the Contractor

- Inflation hedging by a Contractor can create contingent liabilities for an Authority and so raise important value-for-money issues.
- In cases where inflation hedging is appropriate, it may be better value for money for an Authority to provide protection for the Contractor through the Unitary Charge indexation regime than for inflexible hedging instruments to be used.

In cases where a Contractor has an especially high debt:equity ratio, or where the Unitary Charge is highly over-indexed as discussed in §3.2, there may be pressure from lenders (or shareholders) to enter into a hedging arrangement to cover the risk that if inflation runs below the level assumed in

<sup>40</sup> *Cf.* H.M. Treasury: “The Green Book: Appraisal and Evaluation in Central Government” (2003), paragraph 5.49.

<sup>41</sup> Best practice is for the Authority to provide a set of forecasts of values for the index (indices) which bidders must use in preparing their financial projections to help Authorities carry out bid evaluations on a consistent basis.

<sup>42</sup> *ibid.* (paragraph 5.43) refers to the Bank of England’s inflation target, currently CPI 2% *p.a.* Guidance on the most suitable deflator to be used in investment appraisals is updated by H.M. Treasury from time to time.

their financial model (e.g. 2.5%), it would endanger debt-cover ratios (and equity returns).<sup>43</sup>

This inflation hedging can be done in one of two ways:

- Part of the funding can be provided as an index-linked loan, in which the principal and interest payments are indexed against inflation (usually RPI). The pricing of such instruments is at a margin over the yield for index-linked gilts (*i.e.* rather than a margin over the LIBOR swap rate (for a bank loan) or fixed-rate gilts (for a fixed-rate bond)).
- Alternatively, an inflation swap can be used: this swaps the amount of Unitary Charge indexed by inflation—and not naturally hedged internally by operating costs *etc.*—for the same proportion of the Unitary Charge indexed at the fixed inflation swap rate. This swap rate is known as the ‘break-even inflation’ rate or BEI, because if outturn inflation is consistently at this level the fixed and variable payments under the swap cancel each other out. Thus rather than allowing part of the debt service to become sensitive to inflation, as in the index-linked funding option, instead the over-indexed element of the Unitary Charge is effectively fixed by the inflation swap. The BEI is also derived from index-linked gilts. Because indexed gilts are indexed against RPI, RPI is generally used as the basis for an inflation swap.<sup>44</sup>

The net underlying financial effect of either method is similar,<sup>45</sup> just as there is no inherent difference between the net cost of a fixed-rate loan and a floating-rate loan with an interest-rate swap.

In fact, inflation-linked financing may produce a financial benefit which can be used to reduce the initial Unitary Charge, depending on market conditions. This can arise if the inflation implied in index-linked gilt pricing at that time (for the relevant duration of the funding) is higher than the inflation assumption being used by the bidder to calculate the Unitary Charge (*cf.* table in §3.3). Or, to put it another way, if the real rate of interest for indexed gilts is lower than for fixed-rate gilts at this inflation assumption. This will make index-linked funding appear ‘cheaper’ than its conventional equivalent, or make an inflation swap appear to produce a net cash inflow to the project each year. These effects need to be carefully analysed in the value-for-money assessment:

- Although an inflation-indexed loan or inflation swap hedges the Contractor’s cash flow and thus protects the position of investors and lenders, it does not affect the indexation of the Unitary Charge, and thus the Authority remains exposed to movements in inflation as determined by indexation of the Unitary Charge.<sup>46</sup> In this respect it is quite different to a fixed-rate loan or interest-rate swap, which both hedges the investors’ and lenders’ risks and fixes the Unitary Charge such that the Authority is not exposed to movements in interest rates.

<sup>43</sup> As with interest-rate hedging this question should not arise where the Contractor is using corporate finance (*cf.* footnote 5).

<sup>44</sup> In the cases where inflation hedging may be considered appropriate, in the same way as for interest-rate hedging this should be set out in the ITN (*cf.* §2.4). There are variants on the swap product which need to be considered (*cf.* §2.5) and the same issues apply in relation to a competitive procurement process and timing of execution (*cf.* §2.6 / §2.7). It should be noted that it is generally harder to establish value for money through benchmarking of inflation swaps than it is for interest-rate swaps.

<sup>45</sup> However, an important difference exists between an indexed linked bond (and indeed most bonds) on the one hand, and fixed-rate bank debt on the other, in circumstances of pre-payment of the two different loan types. Whereas the breakage of a swap on a bank loan can give rise to a loss or a gain for the borrower (depending on prevailing market conditions), with a bond there is generally a par floor on early redemption of the loan (under the Spens clause) which denies the borrower the equivalent of a gain which can arise in certain market conditions *Cf.* Office of Government Commerce: “Guidance on Certain Financing Issues in PFI Contracts” (July 2002), Section 2: *Using the Capital Markets for Finance*, §2.12. It should be noted, however, that the market is moving towards greater acceptance of a modified Spens clause with lower termination payments in certain scenarios.

<sup>46</sup> A similar point arises in the reverse case of an Authority agreeing to the Unitary Charge (or a portion of it) being indexed each year by a fixed inflationary amount (e.g. 2.5%). In such cases, the Contractor may plan to execute a hedge which swaps the underlying fixed inflation rate into a variable rate. This swap does not affect the indexation of the Unitary Charge but will introduce contingent liabilities for the Authority in the same way as do swaps from variable into fixed inflation rates.

- Thus, the financial benefit discussed above can only be achieved by the Authority taking a greater long-term inflation risk.
- The other key difference between interest-rate and inflation hedging by the Contractor is that the latter may lead to larger termination liabilities for the Authority, in cases where the Authority is liable for breakage costs on termination. Whilst interest-rate swaps can have significant break costs if rates have fallen, these will decline as time goes on, whereas break costs can be proportionately higher for inflation swaps or index-linked funding (with comparable market movements) because the effect of inflation is cumulative: thus if inflation remains above the level assumed in the pricing of the inflation swap or inflation-indexed loan, the amount payable on early termination of these grows greater over most of the loan life in proportion to the remaining loan outstanding. This may inhibit the Authority's long-term flexibility to terminate the PFI Contract,<sup>47</sup> and may also affect the level of any Refinancing Gain to be shared by the Authority.

It is therefore relatively hard for inflation-indexed finance or an inflation swap arranged by the Contractor to demonstrate the best long-term value for money for the Authority, even if there is an apparent initial benefit or affordability advantage.<sup>48</sup> Moreover, the requirement for such inflation hedging is mainly likely to arise if the Unitary Charge is over-indexed, and for the reasons set out in §3.2 such over-indexation also has to be justified on value-for-money grounds. In cases where there is a strong value-for-money case for some form of inflation hedging, it may be more appropriate for the Authority itself to provide this *via* the Unitary Charge indexation regime.

### §3.6 Interaction between inflation swaps and interest-rate swaps

- The contingent liabilities created by interest-rate and inflation hedging instruments do not cancel each other out.

If market interest rates go down relative to the rates fixed by a Contractor through hedging, this creates a breakage (unwind) cost on early termination of an interest-rate swap, whereas if inflation goes down it creates a gain on the inflation swap, and *vice-versa*. It can reasonably be expected that interest rates and inflation would go up or down together, and it could thus be suggested that an inflation swap hedges the Authority's risk of paying breakage costs on an interest-rate swap, and *vice-versa*, if the PFI Contract is terminated in circumstances where the Authority is liable for these costs.

However, because of the different pattern of termination payments discussed above—*i.e.* other things being equal, the cost of unwinding an interest-rate swap reduces over time as the loan is repaid, relative to that of unwinding an inflation swap—in reality the argument for mutual hedging is not strong.

<sup>47</sup> Or vary the Contract, or implement changes in service requirements on terms representing value for money.

<sup>48</sup> This general principle applies to stable and sustainable long-term market rates. Accordingly, the principle needs to be qualified by the fact that transient market conditions can arise which create windows wherein the real cost of indexed-linked bonds might fall substantially below its long-term sustainable rate. Nothing in this Application Note is designed to deter Authorities from benefiting from such exceptional market conditions, if the opportunity arises. But the transient nature of these market conditions inevitably means that they cannot form a sound basis for a pre-planned value-for-money strategy in the procurement of hedging instruments. Moreover, care must always be taken to distinguish properly between the effect of a higher level of indexation of the Unitary Charge and whether an indexed financing itself offers a lower real cost than fixed-rate finance.

#### §4 SWAP CREDIT PREMIUMS

- The liability to pay future credit premiums foregone on early termination of swaps can be reduced or, potentially, eliminated by adoption of an appropriate hedging implementation strategy.
- Credit premiums paid in relation to swaps can be reduced by competition.

Swap prices quoted by banks are based on a combination of the underlying market swap rate and a credit premium to reflect the return the swap provider requires for taking the project risk (that is, the credit risk of the Contractor).

If a swap is unwound, the termination cost (or gain) is calculated using standard ISDA methodology—in summary, the NPV cost of hedging out the swap in the market (*cf.* §2.5). But if the stream of future payments under a swap includes the credit premium, this means that on termination the bank providing the swap is being paid the NPV of all future credit premiums under the swap (something which generally does not happen when a bank loan is pre-paid).<sup>49</sup> The effect of these extra termination payments—in termination scenarios where the Authority covers swap unwind costs<sup>50</sup>—is:

- They can reduce the Refinancing Gain available to be shared with the Authority.<sup>51</sup>
- They give swap providers profits on terminations for *Force Majeure* and Corrupt Gifts,<sup>52</sup> where the Authority should only be making them whole, not paying them future profits. (For bonds, the PFI market practice is that the Spens premium is not paid on Corrupt Gifts and *Force Majeure* terminations.<sup>53</sup>)
- They may inhibit long-term PFI Contract flexibility.

Payment of future swap credit premiums on termination is not a universal market practice, and such payments are not always made by major corporations on unwinding their hedges. Therefore, Authorities should consider whether:

- The ITN should specify that the terms on which swaps are to be provided to the Contractor are also set out in the bid along with other financing terms.
- The NPV of future credit premiums should be paid in the cases of *Force Majeure* termination, or termination for Corrupt Gifts.
- The swap credit premiums should be excluded from the ISDA calculation, or separated out completely under a Swap Premium Agreement. In the latter case (which is probably preferable as the documentation is more straightforward), if the swap terminates, the swap is unwound according to the ISDA documentation, while payment of the credit premium simply ceases at that time, as the Swap Premium Agreement terminates. This approach is discussed above in §2.7 in relation to the use of a ‘fronting bank’ arrangement, and the same principles

<sup>49</sup> For bonds this element of future credit margins is effectively included within the non-cancellable premiums payable to the monoline insurer at the outset, and the Spens clause on the bond itself. The Spens clause for bonds is a complex issue in itself and is the subject of separate guidance (see Office of Government Commerce: “Guidance on Certain Financing Issues in PFI Contracts” (July 2002), Section 2: *Using the Capital Markets for Finance*).

<sup>50</sup> The issue thus does not apply in the case of Contractor Default under the Contract, or in any scenario where the Contractor is in default under the financing documents, but not under the Contract. However it does apply in the case of a Refinancing, where the breakage cost is deducted prior to determining the Refinancing Gain available to be shared with the Authority.

<sup>51</sup> Unless the same swap provider remains in place as a lender and agrees to ‘roll over’ the swap into the new financing, which obviously limits competition for the refinancing. Where the swap is ‘rolled over’ to a new lender, which is also the replacement swap provider, however, care must be taken to avoid a doubling-up of the credit premium.

<sup>52</sup> including Breach of Refinancing.

<sup>53</sup> Office of Government Commerce: “Guidance on Certain Financing Issues in PFI Contracts” (July 2002), Section 2: *Using the Capital Markets for Finance*, §2.12.3.

apply here (see Appendix 1).

All margins and fees charged by providers of finance including swap credit premiums are, of course, subject to market forces. Accordingly, swap credit premiums are more likely to represent value for money if, as for the other terms of finance, they are determined by competitive processes.

**§5     CONCLUSION**

Interest-rate and inflation risks require an Authority to make important value-for-money judgements prior to finalising the ITN and, subsequently, prior to appointment of preferred bidder<sup>54</sup> and eventual PFI Contract signature. Thorough financial modelling and analysis over a range of interest-rate and inflation risk scenarios and risk management/mitigation options is needed, with the help of suitable professional advisers, to fully inform an Authority about its best course of action, taking all risks and cost:benefit effects into account. It is important for Authorities to remember, in directing their advisers and in considering their recommendations, that whilst market precedents may be helpful indicators of what may be possible, they do not necessarily represent the best value-for-money solution for their particular project. Market conditions and each project's circumstances are unique. Furthermore, the depth and dynamic nature of the financial markets means that derivative instruments (such as interest-rate swaps) procured under competitive conditions should enable Contractors to harness the considerable potential of these markets to deliver innovation and to match Authority needs with good value for money.

Hedging products are sophisticated financial instruments. Even though they may be procured by the Contractor, they will generally involve issues of cost and risk—together impacting on value for money—for the Authority. Therefore, Authorities should require their advisers:

- to explain clearly the implications of all such instruments being proposed by Contractors, and
- to provide support where Authorities are exercising their rights of approval over key elements of the agreed hedging strategies.

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<sup>54</sup> And in relation to a funding competition for senior debt, if to be implemented by the preferred bidder.

## Appendix 1: Use of a ‘fronting bank’ arrangement for swap transactions

### Introduction

§2.7 describes how a fronting bank arrangement can be used to increase the level of competitiveness in swap pricing; and §4 describes how this arrangement may also address an important issue concerning swap credit premiums. This Appendix summarises the key features of a fronting bank arrangement. Whilst this structure may not, so far, have been used by a PFI Contractor (at least not with any publicity) it has been used within the wider project-finance market. It remains available for Authorities to specify as a requirement within the ITN<sup>55</sup> or, where not specified within the ITN, for Contractors to offer pre-emptively in their ITN responses, so as to improve the value for money of their bids.

### Outline Structure

The aim of the fronting bank structure is to separate the swap counter-party credit risk from the provision of the swap itself by involving (potentially) two banks rather than one in providing the swap to the Contractor. The fronting bank enters into a swap with the Contractor and a back-to-back swap with the second bank, to isolate the latter from the Contractor’s credit risk, *i.e.* the success or failure of the project. It is thus possible to introduce greater competition into both the provision of the swap and to the cost of purchasing credit cover on the swap (the swap credit margin) and, moreover, potentially also to solve the issue of termination payments on swaps necessarily including the swap credit margins foregone by termination.

### Implementation

The natural choice of fronting bank will be a bank which has already agreed (or is expected to agree) to advance senior debt to the Contractor. This bank will charge a fronting fee, equivalent to the credit margin it would normally charge on the swap were it providing both the swap and the credit cover. The fronting fee can be documented in a separate Swap Premium Agreement, and will be payable to the fronting bank at the same time as the swap payments, and in any case will cease to be payable upon expiry or earlier termination of the swap.

The back-to-back swap provider will be appointed by the Contractor on a competitive basis at Financial Close. The fronting bank itself may also bid against the market for the back-to-back swap. This procedure will be implemented by the Contractor and its advisers, and should be supervised by the Authority and its financial adviser.

Both the swap between the Contractor and the fronting bank, and the mirror swap between the fronting bank and the back-to-back swap provider, will be carried out using ISDA documentation.

The fronting fee should be taken into account in the initial bid and therefore not cause any subsequent changes in the Unitary Charge, unless the funding itself is subject to competition in which case the level of the fronting fee should be included in the terms for the competition.

If the back-to-back swap provider is an unconnected party, there is no reason why it should receive any additional protection against the credit risk on the fronting bank. However, the fronting bank may seek to be counter-guaranteed by other banks in a lending syndicate (if there is one).<sup>56</sup> Any syndicate

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<sup>55</sup> Or as part of a funding competition to be implemented by the preferred bidder.

<sup>56</sup> The creditworthiness of the fronting bank may have some impact on the pricing of the back-to-back swap, as it would in the conventional situation where it simply provides an all-inclusive swap to the Contractor (if the swap involves a market counter-party). Similarly it might be argued that the fronting bank is taking additional credit exposure through the use of the back-to-back swap with the market, but in reality this is no different from the position under a conventional arrangement, except that it would normally hedge off the interest-rate exposure on a portfolio basis. The fronting arrangement is simply making explicit what is normally an internal risk management matter but the counter-party risks of this hedging by the bank are the same.

bank guarantee fees should also be reflected in the initial bid.<sup>57</sup>

If a syndicate counter-guarantee is not provided, the lenders will have to share their security with the swap provider (*i.e.* the fronting bank not its market counter-party), for which an inter-creditor agreement would be required, dealing also with issues such as voting and enforcement rights. Typically in such agreements the swap provider has no voting or enforcement rights unless there is a default on the underlying loan (or in payment on the swap)—to avoid the problem of how the swap provider's risk is to be weighted against that of the lenders—which is another reason why only banks involved in the lending syndicate are likely to be suitable fronting banks.<sup>58</sup>

The decision on whether to use the fronting bank arrangement for any hedging instruments needs to be taken prior to issue of the ITN. If this approach is adopted, the ITN will need to include details on the procedures to be adopted for appointment of fronting bank and back-to-back swap provider.

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<sup>57</sup> Unless there is to be a subsequent funding competition, in which case (as for the fronting fee) this should be reflected in the terms of the competition.

<sup>58</sup> For other reasons for this, *cf.* §2.7.