Public Private Partnerships in the National Health Service: The Private Finance Initiative

Good Practice

Section 3: Technical Issues

NHS Executive

Contents

1. Introduction

1.1 This section of the guidance sets out best practice in a number of technical issues which has evolved from lessons learnt from the first PFI schemes in the NHS.

1.2 This section should be read from the initial stages of the development of a scheme, when the Strategic Outline Case and Outline Business Case for schemes are being drawn up. In particular the sections on risk allocation and evaluation, the Public Sector Comparator and transfers of surplus land are relevant from when proposals for a scheme are first being assessed. The remaining sections should also be considered before a scheme is advertised and should be taken into account when drafting the Invitation To Negotiate for the scheme.

~~1.3 PFI procurements should be made on value for money grounds and not to achieve an off balance sheet audit opinion. HM Treasury has now issued new accounting guidance – Treasury Taskforce Technical Note No. 1 (revised). "PFI in the NHS" reflects the new position. Revisions to "PFI in the NHS" will be issued as necessary to take account of any further developments. Until then, the guidance in this section must be followed.~~

2. Risk analysis

Introduction

2.1 Risk represents the possibility that things will not go as expected. Such a possibility is inherent in any project – whether PFI or not. And the level of risk is exacerbated by factors such as the size and type of project commissioned, the cost, and the length of both the construction and operating periods.

2.2 Throughout a PFI process, the NHS Trust should undertake extensive analysis of risks in order to ensure that it makes the right decisions at the appropriate stages. Via the presentation of risk analyses within Business Cases, it should seek to demonstrate the value for money (VFM) and affordability of its scheme, and the way any risk retained will be managed.

2.3 This chapter sets out how risk analysis should be approached during a PFI procurement in the NHS. For each stage of the procurement process, the chapter outlines:

- the types of risk that need to be analysed;
- the extent of the analysis required; and
- the way in which the analysis should be presented in the relevant business case.

2.4 To promote consistency and learning over time, it is important for project sponsors to closely follow the approach outlined in the chapter.

2.5 The use of the PFI since its introduction in 1992 has led to further developments and refinements in the analysis of risk in the procurement process for capital projects. Appendix 1 contains an example of a risk allocation matrix based on experience from completed PFI schemes. It is essential that project managers consider each category of risk – design, construction and development, performance, operating cost, variability of revenue, termination, technology and obsolescence, control, residual value, and other project risks. However, project managers must always take a bottom-up approach to this exercise and ensure that the individual risks identified under each category reflect the specific characteristics of their particular project. The matrix at Appendix 1 is illustrative; it is not intended to be definitive or exhaustive.

2.6 Developing a risk matrix based on the classifications at Appendix 1 is a useful tool for ensuring that all the individual risks over the whole life of the project – from design through to residual value – are properly considered. However, the guidance on risk in this chapter is meant to complement the guidance on risk assessment contained

in the *Business Case Guide* and *Management of Construction Projects* booklets in the Capital Investment Manual; it is not a substitute. To guard against double counting of risks it is important that the risk matrix is not drawn up in isolation from the costing of schemes as outlined in the Capital Investment Manual. All the likely individual risks under the matrix categories of 'Design' and 'Construction and Development' will need to be considered and costed for inclusion in the OBC and FBC cost forms (for example the 'on-cost' and 'contingency' sections of cost forms OB1 and FB1). Risks which may arise during the post construction and commissioning phase should also be considered, although it is important to note that control risk is specific to PFI procurement and can only be considered in detail from ITN onwards.

2.7 The Quantity Surveyor responsible for advising on the completion of the Capital Investment Manual cost forms and signing off the risk contingencies on these forms must also approve and sign off the risk allocation matrix and risk description tables (see Appendix 3) in respect of their areas of expertise. This should be evidenced in the Business Cases.

2.8 In identifying and assessing individual risks, NHS Trusts should also take proper account of the inter-dependence of risks as this may also lead to double-counting.

2.9 Both the quantification of risks and the estimation of probabilities that such risks may occur is to some extent a subjective analysis. For this reason the procuring entity should aim to use as much empirical information as possible. Such information can be derived from NHS Estates database and publications, Treasury Central Unit on Procurement (CUP) guidance, expert opinion and experience from similar projects (eg through post project evaluations held centrally by the NHS Executive). It is acknowledged that some individual risks which appear in the risk allocation matrix are still difficult to quantify (see Para 2.43), but the NHS Executive and NHS Estates are working together to improve the quantity and quality of information available on the costings of risk.

Stages in the procurement process

2.10 For the purposes of this chapter, a PFI procurement can be seen in terms of three stages:

- firstly, the sponsoring organisation identifies that there is a potential need for capital investment in order to meet its healthcare strategy. For schemes with a capital value of £25m or over, demonstration of this is required in a Strategic Outline Case (SOC);

- secondly, the sponsoring organisation identifies its preferred solution. For all schemes, demonstration of this is required in an Outline Business Case (OBC);

- thirdly, the sponsoring organisation identifies its preferred financing solution using private finance and fully develops its contract terms. For all schemes, demonstration of this is required in a Full Business Case (FBC).

2.11 Risk analysis features throughout the project, and informs the decision making process. It is an iterative, ongoing process. The NHS Trust should ensure that the level of detail is commensurate with the stage of the procurement process.

2.12 Figure 2.1 sets out the specific objectives of risk analysis at each stage of the procurement process, a suggested methodology, and the output required from the relevant business case. Figure 2.1 is supplemented by:

- the rest of this section which provides further detail on the approach to be adopted at each stage of procurement; and
- Appendices 1, 2 and 3, which provide examples of the methodologies and outputs required.

Figure 2.1 Risk analysis and the procurement process

Identification of need for capital investment

Objective of risk analysis	Suggested methodologies/ sources of information	Output
Enables NHS Trust/ commissioners: ● **To assess strategic risks;** ● **To become familiar with potential breadth of risks;** ● **To be clear about scheme affordability.**	● Risk audit interviews; ● Brainstorming; ● Rules of thumb.	SOC (where required) should set out: ● Strategic risks; ● Potential breadth of risks; ● Risk allowance. Good practice to produce Risk Register.

Objective of risk analysis	Suggested methodologies/ sources of information	Output
To enable the NHS Trust to arrive at a preferred option.	**Risk identification** ● Risk audit interviews; ● Brainstorming; ● Standard risk categories; NHS Estates database.	**OBC should show:** ● High level risk assessment;
	Risk quantification ● Weighting and scoring; ● Rules of thumb; ● Single point probability analysis; ● NHS Estates database.	● Risk adjusted NPC of short-listed options (where risk profiles differ); ● Risk adjusted NPC of the preferred option;
To demonstrate the sensitivity of the preferred solution to changes in key variables.	● Sensitivity analysis.	● 'Switching values' analysis;
To demonstrate procuring entity's requirements for publication in Memorandum of Information/ITN.	**Risk allocation** ● Standard Risk Allocation Matrix.	● Risk allocation matrix.

Development of Full Business Case

Objective of risk analysis	Suggested methodologies/ sources of information	Output
To inform the demonstration of value for money and affordability of scheme. **To demonstrate that the procuring entity will manage risk.**	Risk analysis should build on work done at OBC stage: Possible further analysis includes: ● Statistical techniques (eg multi point probability analysis); ● Further sensitivity analysis; ● Further weighting and scoring.	**FBC should show:** ● NPC of risk retained by the public sector; ● Risk allocation matrix (referenced to contractual agreement); ● Risk management strategy; ● Description table for each individual risk.

Identification of need for capital investment (SOC)

2.13 The objective of risk assessment at this stage is to acquaint the NHS Trust and its commissioners with the breadth of risks affecting both the current healthcare strategy and any potential scheme.

2.14 At this stage of the procurement process, the project team should identify the strategic risks facing their organisation, eg the risks affecting the overall pattern of demand or supply for heath care in the locality. The team should then assess how these risks are likely to affect the key assumptions underlying the organisation's developing healthcare strategy.

2.15 The NHS Trust and its commissioning HAs or PCGs should seek to demonstrate that they are aware of the potential risks affecting the proposed investment. They should identify the significant risks which they consider are associated with the investment and which could affect its cost, timing and deliverability. Importantly, both the NHS Trust and its commissioners should make explicit allowance for these risks when outlining affordability and deliverability. Failure to factor in an allowance for the cost of risks will result in an understatement of the true cost. This could cause problems at a later stage in the procurement process.

2.16 As a general rule, the type of risk considered at this stage is strategic or high level, and project managers should not seek to undertake detailed analysis. It is good practice, however, for NHS Trusts to clarify the key risks associated with the proposed investment, and establish both a preliminary Risk Register and Risk Management Strategy. The Risk Register is a working document that should be kept updated throughout the life of the project, and refined into a Risk Allocation Matrix. The Risk Management Strategy should outline how risks will be managed throughout the process.

Identification of preferred option to publication of ITN

2.17 The purpose of this part of the process is twofold. The procuring entity should aim to arrive at a proposed method of meeting its strategic needs which is affordable and represents best value for money. It should publish this as its *preferred option* within the Outline Business Case (OBC). Following on from this, it should outline what it requires from potential private sector partners in the Memorandum of Information and Invitation to Negotiate (ITN).

2.18 For the purposes of considering risk analysis, this part of the process comprises the following tasks:

- identification of the preferred option (paragraphs 2.21 to 2.25);
- testing of the preferred option's sensitivity to changes in key variables (paragraphs 2.26 to 2.27); and
- demonstration of the procuring entity's requirements for publication in the ITN (paragraphs 2.28 to 2.32).

2.19 Throughout this part of the process, the undertaking of detailed risk analysis helps ensure that the procuring entity makes informed decisions. In order to demonstrate the value for money and affordability of its preferred option, the NHS Trust should aim to *identify* and *quantify* the risks inherent in the project. In order to achieve optimum risk transfer, the NHS Trust should aim to allocate potential risks between the public and private sectors prior to the publication of the ITN, based on the principle of who is best placed to manage the particular risk.

2.20 The following sections discuss the type of risk analysis that should be undertaken up to and including the ITN stage, and outlines how the analysis should be presented in the OBC document.

Identification of the preferred option

2.21 As part of the process of developing the OBC, the NHS Trust will have identified and assessed various options for delivering the project objectives. This assessment would take into account the costs, benefits and risks associated with the shortlisted options (as per the Capital Investment Manual). Based on the results of the economic appraisal, a preferred option would be identified, typically the option with the highest ratio of benefits to costs.

2.22 The amount of effort devoted to the risk analysis at this stage should be commensurate with the purpose of the analysis. Where the shortlisted options have similar risk profiles[1], there is no need to quantify the risks associated with each option since the potential costs of these risks would be broadly similar, and are therefore not material to the identification of the preferred option. In this case, detailed risk analysis should only be carried out on the preferred option (as per paragraph 2.24) in order to establish the true cost of the option for the purposes of affordability.

2.23 Where the shortlisted options have materially different risk profiles, it will be necessary to assess the costs of risks for each option. The objective of this work is to demonstrate that the option selected is the one which delivers the best value for money.

2.24 Resource constraints demand that the work done at this stage is not as detailed as that done for the Full Business Case (FBC). The level of work carried out, however, should be sufficient to assure the procuring entity that the preferred option is affordable and represents the optimum solution. Typically, the work will entail:

- *risk audit interviews* and *brainstorming workshops* (to identify and allocate risks);
- *weighting and scoring analysis* (to identify the amount of risk associated with the shortlisted options/preferred option);
- *rules of thumb* (to establish the amount of risk which may be inherent in the shortlisted options/preferred option);
- *single point probability analysis* (to quantify the risks that may be inherent in the shortlisted options/preferred option).

These methodologies are discussed in Appendix 2.

[1]Options demonstrate differing risk profiles where their inherent risks are not the same (eg as in construction versus refurbishment) and/or where the likelihood/impact of risks differs.

2.25 The preferred option represents the embryonic Public Sector Comparator, and the benchmark against which the value for money of the PFI solution will be demonstrated. Throughout the remainder of the procurement process, it should represent a *viable and affordable* alternative to the privately financed solution. At the OBC stage, therefore, the procuring entity should be confident that its proposed solution is both affordable (if public capital were available) and value for money.

Demonstration of the preferred option's robustness

2.26 As part of the process of assessing the preferred option, sensitivity analysis should always be undertaken. Sensitivity analysis is the calculation of how changes in the underlying assumptions in the economic appraisal or risk analysis would affect the results, and hence the choice of the preferred option. The procuring entity should perform *sensitivity tests* on the risks which have been assessed as having relatively large values, and those which are subject to the greatest uncertainty (eg due to lack of historical information).

2.27 An effective way to present the results of sensitivity analysis is to calculate the *switching value* or cross over point. This is the amount by which the variable under investigation would have to change in order to affect the ranking of the options. A view should then be taken about the likelihood of the factor turning out worse than the switching value. Sensitivity tests and switching values are discussed in Appendix 2.

Requirements for the Memorandum of Information and ITN

2.28 As well as identifying the preferred option, the work done at OBC stage should result in a comprehensive Risk Allocation Matrix (RAM), an example of which is shown at Appendix 1.

2.29 Before the project is advertised and negotiations commence with the private sector, the procuring entity should have a clear understanding of the risks it intends to transfer to the private sector, and the likely costs of these risks.

2.30 The guiding principle that should be adopted in this process is one of optimal risk transfer. Risks should be allocated to the party who is best able to manage them. Risk allocation should be consistent with the guidance set out in *Commercial Issues* and with Treasury Taskforce guidance. If risks are transferred inappropriately to the private sector, value for money will decline since the premium demanded by the private sector will outweigh the benefit to the client. The work undertaken at the OBC stage will provide a basis to determine whether the premium charged by the private sector for assuming particular risks reflects the cost of the risk.

2.31 NHS Trust should set out the key risks they expect bidders to bear, and any significant variations to the risk allocation in Appendix 1, in the Memorandum of Information. A fuller and more detailed analysis should be provided in the ITN. This should include a commentary on the risk allocations and the risk allocation matrix itself, which should reflect the standard form contract also enclosed with the ITN. It is essential at this stage for bidders to be aware of the risks they are expected to manage, so that any premium charged for their transfer is taken into account in bid prices.

2.32 It should also be clear to bidders what importance is attached to the transfer of given risks in the high level evaluation criteria for assessing bids. All evaluation criteria must be relevant, objective and measurable to enable the scoring of bids

within the evaluation model when selecting a preferred bidder. The evaluation of bids and also of variant bids should take account of the risks to be borne by the private sector, and the plausibility of bidders' strategies for managing these risks. Bidders will clearly need to demonstrate a realistic awareness of the need and capacity to bear risks.

Development of preferred private finance solution, and demonstration in FBC

2.33 Before developing and submitting the FBC, the NHS Trust will have identified the best PFI bid. All price sensitive aspects of the proposed contract (including the risk transferred) will have been negotiated. The procuring entity should be fully assured of the value for money and affordability of its scheme and preferred funding solution.

2.34 The primary purpose of the FBC is to enable the NHS Trust to demonstrate that its scheme meets the approval criteria set by the Department of Health. The existence of detailed risk analysis provides assurance that the full implications of risk have been considered, and that risks are fully costed into the affordability and value for money analyses.

2.35 The method by which the NHS Trust plans to manage risks should be demonstrated in detail within the FBC document. The NHS Trust should demonstrate how risks have been transferred to the private sector partner via reconciliation to the project agreement. It should outline how it plans to manage the risks it has retained via the inclusion of a detailed risk management strategy.

2.36 The risk analysis undertaken at this stage builds on that carried out for the OBC. It is important to note, however, that in certain circumstances, the range and expected value of risks will have changed (although NHS Trusts should depart from their proposed risk allocation only for good reason, and should not depart from the positions set out in *Commercial Issues* and Treasury Taskforce guidance without the consent of the NHS Executive). Moreover, the results presented in the FBC should reflect the actual risk transfer achieved in the deal. The FBC stage can therefore be distinguished from the OBC stage at which point only the desired risk allocation was outlined.

2.37 The remainder of this section outlines the type of risk analysis that should be undertaken between the OBC and FBC stages, and clarifies how risk analysis should be presented in the FBC. For the purposes of considering risk, the aim at this stage is to demonstrate:

- value for money;
- the robustness of the assumptions behind the risk analysis;
- affordability;
- risk management.

Demonstration of value for money

2.38 The choice of the best funding solution (ie conventional capital or PFI) will have been made at OBC stage. One function of the FBC will be to set out the economic analysis which shows the risk adjusted net present cost of both the publicly and privately funded options.

2.39 Given the nature of PFI, the demonstration of value for money will often hinge on the level and cost of the risk transferred to the private sector. It is therefore essential for the risk analysis to be up to date, technically sound, and informed by reliable assumptions.

2.40 The risk analysis undertaken for the FBC will build on that carried out at the OBC stage. It will generally entail quantification of all risks which are retained by the procuring entity under both the publicly and privately funded solutions. It is vitally important that the risk analysis reflects the risk allocation achieved in negotiations with the private sector partner. As such, the transfer of risk should always be demonstrated via reference to the relevant part of the PFI contract.

2.41 In some circumstances, the range and expected value of risk will have changed. Given this, the risk analysis in the FBC should reflect:

- any additional risks that have become apparent;
- any risks that may no longer be appropriate;
- any changes in expected value resulting from greater certainty/availability of more accurate information.

2.42 At the FBC stage, the procuring entity should aim to employ more sophisticated techniques in order to quantify those risks that are inherently quantifiable. Such techniques are likely to include those such as *multi-point probability analysis or Monte Carlo sampling*. The purpose of such techniques is explained in Appendix 2.

2.43 Finally, the NHS Trust should aim to analyse all risks that are inherently non-quantifiable (eg the risk of changes in government legislation), doing so via such methods as *weighting and scoring approaches*. The NHS Trust should provide assurance to approving bodies that it has considered all risks (including non-quantifiable risks), and has a strategy for dealing with them if they should materialise. It should be noted that such analysis is of particular importance where the VFM decision is marginal.

Testing the assumptions behind the risk analysis

2.44 The estimate of the value of risk retained by the public sector under the PSC and the PFI option will be dependent on the reliability of the assumptions underlying the risk analysis. The right value for money decision may not be made if these assumptions are wrong. Hence for any key assumptions which are made when assessing the values and probabilities of risks, *sensitivity analysis* should be used to test their robustness.

2.45 Given the uncertainties in some of the assumptions underlying the risks analysis, it is recommended that an estimate for risk transfer should be made under a *best case scenario, worst case scenario*, and *most likely scenario* (see Appendix 2

for details). It may be appropriate to use statistical simulation techniques for the sensitivity analysis if these were used earlier in the risk analysis.

2.46 It is likely that the sensitivity analysis will concentrate on the assumptions made for the probabilities and financial impact of different values of risk occurring. If a weighting and scoring analysis has been used to assess the non-quantifiable risks, it may also be worth conducting sensitivity analysis on the weights and scores attached to the more significant risks.

Demonstration of affordability

2.47 The demonstration of affordability is, to a large extent, based on the work done to assess value for money. The NHS Trust should ensure that firm commissioner support for the project is provided at both OBC and FBC stage, and that this is based on the full risk adjusted cost of the deal, and that for FBCs this cost reflects the negotiations carried out since OBC stage.

2.48 The affordability requirement further demonstrates the importance of accurately costing and allocating risk within the FBC.

Demonstration of risk management

2.49 PFI projects represent a significant investment over a lengthy time period. It is important, therefore, that the procuring entity has a strategy for managing any risk that it retains. Such a strategy should cover risks that may arise directly from the project, and those risks associated with the realisation of benefits from the project.

2.50 The risk management strategy should therefore set out how any potential risks will be monitored in order that their materialisation can be identified at an early stage. It should also consider the resource requirements required to implement the strategy.

2.51 Where risks have been transferred to the private sector, the procuring entity should demonstrate how the contract facilitates such transfer. The FBC should confirm that there are no material outstanding issues affecting the allocation of risk between the parties.

2.52 Whilst it is not necessary for the NHS Trust to have a detailed understanding of its private sector partner's risk management strategy, it should have confidence that the SPV has a plausible strategy for managing the risk it bears. It is important to note that the NHS Trust should have assured itself at the bidding stage about potential partners' capacity to bear risk.

Presentation in the FBC

2.53 One of the key objectives of the FBC is that it enables the procuring entity to demonstrate its compliance with NHS Executive approval criteria. Given the significance of risk within PFI, it is vitally important that the NHS Trust fully demonstrates the risk analysis it has undertaken. Within the FBC, therefore, the following analysis should be provided:

- a revised risk allocation matrix (based on the actual negotiations);
- the methodology used to quantify risks;

- a description of each risk (example of risk description table at Appendix 3);
- a statement of whether the risk is quantifiable;
- a commentary detailing how the risk may impact, and the assumptions used to quantify it;
- the net present costs of the risk (under best, worst and most likely scenarios);
- the results of the assessment of non-quantifiable risks;
- a statement of how risks transferred are reflected in the project agreement;
- a statement of how risks retained will be managed.

2.54 The key output within the FBC should be the quantified results of the risks retained by the procuring entity under the publicly funded and PFI options. This should be supported by a Risk Allocation Matrix, Risk Management Strategy and Risk Description appendix.

3. The Public Sector Comparator

Introduction

3.1 The Public Sector Comparator (PSC) represents a risk adjusted costing of the public sector's solution to an output specification produced as part of a PFI procurement process. Throughout the process, the PSC serves as a benchmark against which the value for money of the different funding options can be assessed.

3.2 The PSC fulfils a number of key roles:

- at the OBC stage, its development helps to ensure that the output specification against which bids are sought from the private sector can be met within the NHS Trust/commissioning HA's affordability ceiling;
- on the receipt of bids from potential partners, the PSC serves as a useful benchmark against which the value for money of such bids can be assessed; whilst,
- at the FBC stage, the PSC provides a comparison against which the value for money of the best PFI solution can be demonstrated.

3.3 This chapter looks at the development of the PSC throughout the procurement process. It expands upon the key roles of the PSC, and outlines the issues involved in constructing a PSC.

3.4 It should be noted that HM Treasury guidance uses the term "reference project" to refer to "the exercise performed, in preparing a Business Case, to establish that an investment option exists which is affordable.". This can be equated to the identification of the Preferred Option at OBC stage. Both the reference project and the OBC preferred option essentially represent the embryonic public sector comparator.

OBC Stage

3.5 At the OBC stage, the PSC serves as a control against the tendering of an unaffordable project, and sets the benchmark against which the value for money of PFI bids will be assessed.

3.6 The PSC represents the NHS Trust's best estimate of what it would cost the public sector to fund the preferred option – expressed both in terms of the *risk adjusted net present cost and the annual cost to commissioning HAs or PCGs.*

3.7 During this stage of procurement, the key task for project managers is to ensure that the PSC reflects the scope of the preferred option, and that it is fully costed. Project managers should ensure that the PSC is tailored to the same output

specification – both in terms of quality and quantity – as that to be used throughout the PFI procurement.

3.8 Determining affordability is the key role of the PSC at this stage. Given the importance of affordability, it is essential that commissioning HAs and PCGs are closely involved. Further details of both the involvement of commissioners, and the factors which need to be considered when assessing affordability, are included in Chapter 6 of *Selection and Preparation of Schemes*.

3.9 Paragraphs 3.10 to 3.17 outline the principles upon which project managers should cost the PSC and the level of detail that they should consider. Paragraphs 3.18 to 3.20 outline how they should present the PSC in the OBC and the basis for its possible inclusion in the Invitation to Negotiate (ITN).

Detailed Costing of the PSC

3.10 At the OBC stage, the PSC represents a measured evaluation of a defined business need costed to prove viability. Costing of the PSC should follow the detailed guidance set out in the Business Case volume of the *Capital Investment Manual*. It should reflect the full cost implications of the potential investment, which would typically include:

- capital costs;
- life cycle costs;
- revenue costs;
- a quantification of risk;
- any savings.

3.11 Costs should be based on a level of design for the proposed solution, which is discussed in more detail in Chapter 12 of this section of the guidance. In addition, it should be noted that the quantification of risks is key to the development of the PSC, and project managers should closely follow the approach set out in the previous chapter.

3.12 The PSC should be appraised over the project's intended period of use. This is the period over which the asset provided can be used for its specific purpose. For hospital buildings, this will normally be the remaining physical life of the building. Conventionally, new healthcare facilities are assumed to have a lifespan of 60 years.

3.13 The results of the detailed costing of the PSC should be set out in a discounted cash flow analysis, from which the Net Present Cost (NPC) of the investment can be derived. This analysis sets the benchmark against which the value for money of the PFI option can be compared throughout the rest of the process.

3.14 It is important to note that the affordability analysis, whilst derived from the economic analysis, is a distinct exercise. Project managers should be in a position to assess the impact on prices to their commissioners via (amongst other factors) the quantification of the capital charges arising from the investment. Where affordability cannot be demonstrated, it will be necessary to revisit the costs identified in the options and consider opportunities for cost reduction (eg by adopting a different

design concept, altering the mix of upgrade/new build, etc). Any changes to the potential scheme that arise from the affordability analysis must be reflected in the output specification to be shared with potential private sector partners.

3.15 The costing of the PSC is intensive in terms of time and resources, and it is the responsibility of project managers to ensure that the level of investment is commensurate with the level of detail required. Project managers should pay due regard to the importance of the PSC, and commission professional advice where applicable.

3.16 Typically, the level of detail required is driven both by the assumptions on which the potential project is based, and the nature of the scheme. Where, for instance, it is assumed that a project will deliver large efficiency savings through the introduction of new working practices, it may be necessary to develop areas of the PSC in detail to demonstrate that the changes are feasible.

3.17 Similarly, where a scheme involves the refurbishment of existing buildings rather than a new build on a green field site, it is likely that more detailed survey work would be needed to estimate precise costs, since standard cost assumptions would not be sufficient

Presentation in the OBC/Invitation to Negotiate (ITN)

3.18 Within the OBC, the PSC is presented as the fully costed preferred option. The NHS Trust should specify the risk adjusted net present cost over the relevant appraisal horizon. To demonstrate affordability, the OBC should include a statement from the NHS Trust's main commissioner that confirms that the PSC is within the agreed affordability envelope.

3.19 In presenting the PSC, project managers should closely follow the requirements set out in the Capital Investment Manual, and ensure that the level of detail disclosed in commensurate with that indicated in the Treasury Taskforce Technical Note No. 5 *How to Construct a Public Sector Comparator*.

3.20 It is generally good practice for NHS Trusts to make details of the PSC available to the bidders as part of the Invitation to Negotiate (ITN). Publication of the PSC ensures that bidders have a clear idea of the level and type of service which they will be expected to provide. The PSC should always be made available unless the NHS Trust can demonstrate that there will be minimal competition, and that to issue the PSC would adversely affect the level of competition for the scheme.

Receipt of bids from potential PFI partners

3.21 From OBC onwards, the PSC represents a benchmark against which the value for money of a potential PFI solution can be assessed. It can therefore be used to inform decision making upon the receipt of tenders from potential private sector partners.

3.22 It is at this stage that the PSC is effectively "frozen", subject to the changes considered in paragraphs 3.35 to 3.39. However, project managers would be required to carry out further work on the PSC where variant bids are received from potential PFI partners.

3.23 A variant bid proposes a solution that is outside the scope of the standard bid required to comply with the ITN. Typically, it would deliver a different functional content, or meet a different risk allocation matrix to that specified in the ITN. Such a bid may present problems to an NHS Trust since its value for money cannot immediately be compared to that of the PSC.

3.24 When a variant bid is received, the NHS Trust should ensure that it assesses the value for money of that potential solution. If the acceptance of the variant bid would materially change the scope of the scheme or the allocation of risk, the NHS Trust should also review the PSC to ensure that it continues to provide a meaningful comparator. Importantly, it should first ensure that the bid still has the potential to satisfy service requirements.

3.25 Should the variant bid be selected as the preferred PFI solution, the changes made to the PSC must be reflected in the FBC.

FBC stage

3.26 The principal purpose of the FBC is to confirm the case for the preferred funding solution. The comparison between the PFI solution and the PSC is key to the demonstration of value for money. It is important to note, therefore, that the PSC will be subjected to keen scrutiny.

3.27 At this stage of procurement, the main task for the project manager is to ensure that the PSC represents a valid comparison to the PFI option. The PSC presented in the FBC should be up to date, and reflect any changes made to the scope, functional content or allocation of risks in the scheme since the OBC submission. The assumptions behind the PSC should also be fully demonstrated.

3.28 The following sections outline the development of the PSC up to and including the submission of the FBC:

- paragraphs 3.30 to 3.34 assess the overall criteria upon which the PSC should be based;
- paragraphs 3.35 to 3.39 review possible reasons why the PSC may be changed between the selection of the preferred bidder and the FBC stage;
- paragraphs 3.40 to 3.43 outline how the PSC should be presented within the FBC.

3.29 In certain circumstances, NHS Trusts are required to develop a Conventionally Funded Option (CFO) as part of their FBC submission. This Chapter concludes, therefore, with a brief review of the basis for CFOs.

Overall criteria

3.30 Within the FBC, the comparison between the PFI option and the PSC represents the key value for money test. Given its central role, it is essential that the PSC is developed in line with the criteria laid down by the NHS Executive and HM Treasury.

3.31 As at the OBC stage, the central requirement for the PSC is that it should represent the best estimate of the cost to the public sector of meeting the output specification on which the PFI option is based. The cost to the public sector in the PSC should include the costs of any risks that would be retained, that are transferred under PFI. The final PSC should reflect any changes that have been made to the output specification, scope or functional content or risk allocation in the scheme since the submission of the OBC.

3.32 The NHS Trust should assume that there would be sufficient public capital to fund the scheme, and that such funding would be available over the same timescale as for the PFI option. The FBC should only assume that the PFI option will be constructed over a different timescale to the PSC where this is as a result of genuine innovation by the private sector.

3.33 The PSC should be costed in line with the principles outlined in the *Capital Investment Manual*, and over an appraisal period which matches the anticipated life of the asset(s).[2] The NHS Trust should use a MIPS index to reflect the element of construction inflation that it will be required to bear during the construction period. It should ensure, however, that only the real price increase (eg the excess over general inflation) should be used in the economic appraisal.

3.34 As indicated in the previous chapter, the cost of the PSC is partly driven by assumptions about risks that may or may not materialise. The PSC should therefore be subjected to sensitivity testing and an optimistic, pessimistic and most likely cost outlined. Sensitivity testing should usually be carried out on the following variables:

- timing in the availability of public capital;
- changes in capital costs;
- changes in the length of the construction period;
- failure to achieve planned savings;
- changes in interest rates;
- changes in proceeds from any land sales;
- variations in inflation assumptions;
- variations in activity levels.

The above list is not intended to be exhaustive.

Changes to the PSC

3.35 The NHS Trust would generally be expected to update and refine the PSC between the submission of the OBC and FBC as necessary. Changes are most likely to be required in respect of:

- changes in MIPS (where the envisaged construction period is later than that envisaged in the OBC); and

[2]This is conventionally 60 years. In addition, an assessment of the PSC should be done over an appraisal period which matches the primary concession period of the PFI deal (typically between 25 and 35 years).

- changes in respect of risks that may have solidified or be no longer relevant.

3.36 The PSC should only be changed where the preferred private sector partner provides a different quantity or quality of services or a different allocation of risk as agreed, to that originally envisaged. It is important, however, to distinguish between changes in requirements and the results of genuine innovation demonstrated by the private sector partner. The NHS Trust should not seek to "cherry pick" innovative ideas and build them into its PSC.

3.37 In certain circumstances, major changes may occur between the submission of the OBC, the selection of the preferred bidder, and the submission of the FBC. Where such changes occur, the NHS Trust should ensure that its PSC remains a valid comparison.

3.38 There are no set rules in this area, and NHS Trusts should seek advice from the NHS Executive Private Finance Unit as to how far ongoing negotiations impact on the validity of the PSC. The following scenarios represent examples of changes since OBC/selection of preferred bidder which should be reflected in the FBC:

- where there have been changes to the functional content of the scheme, eg facilities have been added or removed;
- where the risk allocation has changed as a result of negotiations;
- where developments have impacted on the solution proposed (eg planning permission has been received, thus allowing, say, a new build solution rather than a refurbishment).

3.39 As a general rule, changes are more likely to be required when there is a long lead time between OBC and FBC submission.

Presentation in the FBC

3.40 It is important that the PSC is presented in a clear format, and that any changes since OBC stage are fully explained.

3.41 The presentation of the PSC should include the contents indicated in the *Capital Investment Manual* and the Treasury Taskforce Technical Note No. 5. The PSC should fully detail:

- the design solution on which the PSC is based;
- the way in which the PSC has developed over the life of the procurement process, and why; and
- the detailed assumptions on which the cost of the PSC is based.

3.42 It is important that the NHS Trust details and explains any differences between the PSC and PFI solutions. The PSC section should summarise the functional specifications of each option (in terms of bed numbers, area, design solution, etc), and fully explain any differences.

3.43 Finally, the PSC section should discuss the qualitative features of the PFI and PSC schemes, and make clear their respective advantages/disadvantages. These could be assessed by means of a weighting and scoring analysis.

Conventionally funded option (CFO)

3.44 Particular care must be taken to re-validate the underlying assumptions behind the PSC where the gestation period between the submission of the OBC and FBC is particularly long (eg over 18 months). If this period is too long and there are genuine doubts about the validity of the PSC, project sponsors may be requested to work up a Conventionally Funded Option (CFO). The CFO attempts to provide a like-for-like comparison by estimating the cost to the Exchequer of implementing an identical solution to that provided by the private sector. CFOs will not normally be required.

Further information

How to Construct a Public Sector Comparator, PFI Technical Note No.5, Treasury Taskforce, October 1999

Capital Investment Manual, Business Case Guide, NHS Executive 1994

4. The accounting treatment of schemes

Introduction

4.1 One of the governing principles for PFI is that a successful PFI project must be for the provision of a service over a number of years rather than the purchase of an asset. A PFI contract which is simply the purchase of an asset by the public sector under a financing agreement is likely to offer poor value for money. Whether a PFI contract is the provision of a service or the purchase of an asset by the public sector will also be reflected in the accounting treatment of the transaction.

4.2 Where the assessment of the accounting treatment of a transaction is that it should be accounted for as the purchase of an asset on the NHS Trust's balance sheet, then this expenditure is treated in substance as borrowing and will score against Public Sector Net Borrowing (PSNB). This means that the cost of the asset will be capitalised and charged in the first year of operation against the NHS Trust's External Financing Limits.

4.3 The assessment of the accounting treatment of a scheme is a helpful guide to assessing the level of risk transfer and hence value for money in a PFI scheme. Schemes will normally be expected to be able to demonstrate that they will not be on an NHS Trust's balance sheet. It is critical that the accounting implications of any changes to the basic contract structure are understood before they are agreed. Securing an off balance sheet opinion for an NHS PFI contract is not a simple process.

Application of accounting guidance

4.4 The accounting standards which are relevant to PFI and the accounting treatment of schemes are Financial Reporting Standard 5 (FRS5) *Reporting the Substance of Transactions* and Statement of Standard Accounting Practice 21 (SSAP21) *Accounting for Leases and Hire Purchase Contracts*.

Changes to the accounting treatment of schemes

4.5 FRS5 predated the development of PFI and clarification was needed of how the principles and requirements of FRS5 should apply to PFI transactions. In September 1997, HM Treasury issued interim guidance on how to account for PFI transactions as Treasury Taskforce *PFI Technical Note No 1*. This guidance was issued as an interim measure whilst the accounting profession developed definitive guidance on how FRS5 should be interpreted in relation to PFI transactions. The Accounting Standards Board (ASB) subsequently issued an "Amendment to FRS5" in September 1998, namely the addition of Application Note F "Private Finance Initiative and similar contracts".

4.6 Treasury Taskforce Technical Note No.1 (Revised June 1999) applies the principles in Application Note F in a way that will ensure consistency and cost effective compliance throughout the public sector.

4.7 The new accounting guidance, Treasury Technical Note 1 (Revised) *How to Account for PFI Transactions*, should be used to apply the amendment to FRS 5 on accounting for PFI contracts. The amendment to FRS 5 is applicable to financial statements for accounting periods ending on or after 10 September 1998. However, due to special dispensation from HM Treasury for 1998/99, the new HM Treasury accounting guidance applies to NHS Trust Accounts with signed contracts for PFI schemes from 1999/2000 onwards.

Transitional Arrangements

4.8 The interim guidance (Technical Note 1) will continue to be the basis for determining the *public expenditure treatment* for existing signed contracts and those projects inviting "Best and Final Offers" before 1 July 1999 and those which go to ITN during a three month transaction period starting on 1 July 1999. This assurance is given on the basis that audit pre-clearance (on the basis of the interim guidance) has been received by 1 July 1999 and the structure of the project/contract has not altered significantly since the receipt of that clearance.

Impact of the Guidance

4.9 The revised Technical Guidance replaces the interim Taskforce guidance (Technical Note 1). It follows the ASB's Application Note in determining the balance sheet treatment on the basis of the relative risks borne by the principals to the PFI contract. The assessment of risk is, essentially, based on the potential for variation in payment/revenue streams relating to features of the property. The revised guidance excludes the commercial consequences of purely service related risks in the contract when looking for variability, rather than the approach in the interim guidance which looked at all risks inherent in the contract.

4.10 It is no longer an automatic requirement for support staff to be transferred to the private sector consortium in order to achieve an off balance sheet audit opinion. The amendment to FRS 5, and the new Treasury Taskforce accounting guidance (Technical Note No.1 Revised) determine balance sheet treatment by assessing the impact of property risks, excluding separable service related risks from the analysis. Staff directly involved in running the buildings in the scheme are still likely to need to transfer. However, the extent to which "soft" facilities management staff (e.g. catering, portering etc.) transfer will depend on the individual NHS Trust's circumstances, and the achievement of value for money.

4.11 HM Treasury have stated that government departments will not be penalised in those rare cases where the public expenditure treatment for any project differs from that previously approved by the auditors at financial close of the project, for example because the auditors have changed. This cover is dependent on the change not being a consequence of an alteration in the substance of the contract. Further detail is in PES(96)30 – "Public expenditure treatment of finance leases and transactions that are in substance borrowing" – HM Treasury, 1996.

4.12 The remainder of this chapter is prepared on the basis that the Taskforce guidance (Technical Note No. 1) may be used to determine the accounting treatment of PFI transactions. Certain sections are, therefore, relevant only to those schemes with audit pre-clearance which are already at "Best and Final Offer" stage, or have a signed contract before 1 July 1999. "PFI in the NHS" will be revised as necessary to reflect developments in accounting treatment under the Revised Technical Note No.1.

How to reach an accounting judgement

4.13 The NHS Trust should be clear when deciding on the proposed allocation of risks and drawing up the contract structure and payment mechanism what the effect on the accounting treatment of the scheme will be. During negotiations with bidders, the impact on the accounting treatment of any changes to the contract structure must be understood before they are agreed. The balance sheet treatment is determined after weighing up a number of factors including the level of risk transfer and payment mechanisms. Any changes to these factors may affect the accounting treatment of the scheme.

4.14 The NHS Trust will be required to obtain written confirmation from its external auditors that they have no objection to the proposed accounting treatment of the scheme. This should be discussed with external auditors from an early stage.

4.15 For schemes already at "Best and Final Offer" or beyond at 1 July 1999, the key issues that auditors consider in determining whether the transaction is a contract for services include whether the substance of the contract provides for the provision of services both building related and non building related (ie in the form of a unitary payment) and whether payment is variable depending upon the level and quality of services provided.

4.16 Indicators that the private sector operator is taking commercial risk associated with a scheme, and which are important in the assessment of the accounting treatment of the scheme include:

- performance risk;
- pricing risk;
- operating cost risk;
- design risk;
- demand risk;
- residual value risk.

4.17 These factors are detailed further in HM Treasury's *PFI Technical Note No.1*.

The approval requirements for PFI schemes

4.18 Where OBC approval for a scheme has been given on the basis that it will be off the NHS Trust's balance sheet, the FBC should confirm that the proposed accounting treatment of the scheme will be off the NHS Trust's balance sheet. The FBC should include:

- an assessment of the proposed accounting treatment of the scheme in respect of the NHS Trust's balance sheet prepared by the NHS Trust's Director of Finance. This should be backed up by appropriate professional advice from the NHS Trust's external auditors or a major accounting firm. The assessment should include a summary of the rationale and key elements underlying the off-balance sheet accounting opinion;

- there must be a written indication from the NHS Trust's external auditors that they have no objections to the proposed accounting treatment of the scheme (see also TR 2/97 from the Audit Commission).

4.19 If there are any material changes to a scheme after the written indication is received from the NHS Trust's external auditors, the NHS Trust should obtain further confirmation prior to financial close.

Further information

How to Account for PFI Transactions, PFI Technical Note No.1, Treasury Taskforce, September 1997.

How to Account for PFI Transactions, PFI Technical Note No.1 (Revised), Treasury Taskforce, June 1999

Audit approach to PFI schemes in the NHS, Audit Commission Technical Release TR 24/96

Audit approach to considering accounting proposals for PFI schemes in the NHS, Audit Commission Technical Release TR 36/96

PFI – Provision of accounting views, Audit Commission Technical Release TR 2/97

HM Treasury guidance is also available on the Treasury's web site http://www.hm-treasury.gov.uk, under the section headed "Guidance"

5. Payment mechanisms

Introduction

5.1 This chapter looks at the factors which should be taken into account when developing the payment mechanism for a scheme. It deals with general principles only, as does the section on payment mechanisms in the Treasury Taskforce document *Standardisation of PFI Contracts*. The NHS Executive is reviewing its detailed requirements for payment mechanisms and will be issuing further more detailed guidance on this issue in due course. In the meantime, NHS Trusts should contact the NHS Executive Private Finance Unit about their proposals for a payment mechanism.

5.2 The payment mechanism for a scheme forms a vital part of the PFI contract. It is important because it will:

- define much of the risk transfer;
- establish the incentives for providing continuity of service;
- establish incentives for providing flexibility in design and operation;
- form a key determinant of the accounting treatment for the scheme.

5.3 NHS Trusts should set out the proposed payment mechanism for the scheme in the Invitation To Negotiate, which should be fully drafted before a scheme is advertised. The payment mechanism will be developed further during the course of negotiations but the NHS Trust must have a clear understanding of what is acceptable before involving bidders.

Objectives of the payment mechanism

5.4 The objectives of the payment mechanism will generally include:

- allocating risks to the partner best able to bear them;
- 100% variability of payments, ie no hospital, no fee;
- payment should only be for services received;
- encouraging the private sector to deliver on time;
- providing incentives for the private sector to deliver services that meet the agreed performance standards which enable the NHS Trust to deliver its required level of patient care;
- reward the private sector for efficiency savings;
- making sure that the NHS Trust is able to fulfil its financial obligations;

- limiting the direct cost items (like food) that are passed on to the NHS Trust;
- simplicity and transparency.

Developing the payment mechanism

5.5 The structure of the payment mechanism will have a key bearing on the allocation of risks within the PFI contract and it should be developed so that it meets the needs of both the public and the private sectors. Factors which should be taken into account when developing the payment mechanism include:

- the economic fundamentals of the project;
- the economic fundamentals of the NHS Trust's and commissioning HAs or PCGs' business;
- the assessment of underlying project risks and risk management;
- the definition of project requirements and output specifications;
- the definition of project constraints (such as the interface with clinical services);
- external factors such as VAT and the accounting treatment of the scheme.

5.6 The impact of external factors on the scheme is important. The NHS Trust should take clear account of these when developing the payment mechanism and should take relevant professional advice where necessary from an early stage.

5.7 The development of the payment mechanism should also encompass factors such as indexation of the payment stream throughout the contract period, and the market testing or benchmarking of services. Indexation is discussed in Chapter 6, and benchmarking/market testing is discussed in Chapter 7 of this section of the guidance.

VAT

5.8 The payment mechanism should be structured so as to allow the NHS Trust to recover VAT which is charged on the services provided under the PFI contract. The relevant Treasury Direction is made under Section 41(3) of the Value Added Tax Act 1994 and published in the London Gazette annually. It allows for NHS Trusts, Health Authorities and Special Health Authorities to claim a refund of VAT where services provided by the private sector include the operation of hospitals, healthcare establishments and healthcare facilities and the provision of any related services. The definition of any related services as it relates to the operation of hospitals means that the contractor can supply any other service which is not the provision of medical care. This would cover the supply of general services for the running of the building such as cleaning, maintenance, catering, etc. It must represent a complete package and not consist of separate charges which individually could be in part already eligible for VAT recovery under the contracted out services provisions.

5.9 In any properly structured PFI contract it should be demonstrable that the NHS Trust is procuring not simply the acquisition of an asset and some related services, but a bundled stream of services.

Variability

5.10 The test of the quality of a PFI contract is the extent to which risks which are best borne by the private sector have been transferred. One of the financial effects of risk transfer is variability of the payment. This is why variability is considered so important in the assessment of the accounting treatment of projects. Technical Note No.1 (Revised), on accounting for PFI, follows the ASB's Application Note in determining balance sheet treatment on the basis of the relative risks borne by the principals to the PFI Contract. The assessment of risk is, essentially, based on the potential for variation in payment/revenue streams relating to features of the property and excludes the commercial consequences of purely service-related risks in the contract when looking for variability.

5.11 The payment mechanism must be sufficiently variable for there to be a real risk of significant reductions in the project return if performance by the operator is not satisfactory. Significant reductions in return should not simply be the result of extreme low probability consequences such as default by the project company.

5.12 The payment mechanism should be developed with this in mind, and it is important that its practical effectiveness is not reduced by over long rectification periods, low acceptable standards, or by small deductions for very poor performance.

Unitary payment

5.13 The payment mechanism should be structured so that NHS Trusts only make a unitary payment each period for services delivered. The payment should be adjusted as appropriate to reflect the performance of the private sector operator under the contract. The NHS Trust should not make separate payments for different elements of the contract. When structuring the payment mechanism, the NHS Trust should have regard to the separability tests in Technical Note No.1 (Revised).

5.14 In particular the payment mechanism should not be structured so that an element is specifically related to the level of debt and interest outstanding to the private sector on the facilities provided. This would be indicative that the NHS Trust was entering into a transaction which is in substance borrowing with the private sector which would have an adverse impact on the accounting treatment of the scheme.

5.15 NHS Trusts should not seek to have the ability to direct to whom any elements of the unitary payment are paid (or not paid) within the operator and its financiers. Once the unitary payment has been made it is the responsibility of the project company and the contractual agreement between the project company's owners, financiers and subcontractors as to how payments are then apportioned.

Timing of payments

5.16 The NHS Trust should only commence making payments under the contract once the delivery of acceptable services has commenced. Payments should normally be made either monthly or quarterly in arrears.

Performance Incentives

5.17 The NHS Trust will pay the full amount of the unitary payment provided the hospital facilities are operating in accordance with specified criteria, enabling the NHS Trust to provide healthcare to its required standards. Failure to meet the specified criteria will enable the NHS Trust to make deductions to the unitary payment, providing an incentive for the private sector operator to remedy the failure.

5.18 The payment mechanism should reflect the fact that certain areas of the hospital facilities will be of greater importance to the NHS Trust than others. This is usually done by dividing up the hospital into operational units, which are then weighted according to the degree of importance attached to them. For example operating theatre suites could be classified as of utmost importance. The NHS Trust administration offices could be classified as of lower importance. Failure to meet the specified performance criteria in higher weighted areas would lead to proportionally greater payment deductions than in lower weighted areas.

5.19 The payment mechanism may also be structured so that the entire payment is withheld even though parts of the hospital are continuing to operate within the specified performance criteria. For example, if only a small proportion of the facilities are operational then it is possible that the NHS Trust will not be able to function at all and so will have to cease providing healthcare facilities.

5.20 The determination of payment deductions will also depend upon the period of time that operation of the hospital is affected, as the payment mechanism will generally allow for rectification periods. These are an agreed period of time that the operator has to put right any failure to meet the specified criteria before the unitary payment is affected. Different rectification periods can be agreed for different areas depending upon their importance to the NHS Trust. For example the rectification period for a performance failure in an operating theatre suite may be 10 minutes, whereas the rectification period in a ward may be one hour. Lengthy rectification periods should not be agreed, as these will undermine the variability of the payment mechanism.

5.21 If the NHS Trust chooses to continue to use an operational unit, even though the specified criteria are not met, then the NHS Trust should not be required to make full payment for that unit. A reduced payment of, say, 50% of the full payment may be appropriate. If the NHS Trust were to make the full payment under such circumstances then this acts as a disincentive to the operator to perform to agreed standards, and it also reduces the variability of the payment mechanism. However, the NHS Trust must take all reasonable measures to ensure that the operator is able to carry out any repairs or remedies necessary to restore full availability.

5.22 Payment deductions should not be made where an operational unit is closed for previously agreed maintenance periods or if the private sector operator's failure to meet the specified performance criteria is caused through negligence on the part of the NHS Trust's employees. It is advisable for benchmarks for maintenance periods

to be agreed during the contract negotiations. These may include incentives for the operator to minimise maintenance periods throughout the life of the contract.

5.23 If the service providers on a number of services consistently fail to meet performance standards then it should be specified in the contract how this will lead to termination of the contract. The contract should allow for financiers to the scheme to have step-in rights to find alternatives to the service provider(s) before termination of the project agreement is reached. Issues around step-in rights and termination are considered in more detail in *Commercial Issues*.

Volume

5.24 In contracts the volume element of the payment mechanism can be simply defined as the quantity of variable items such as the quantity of meals or linen provided, which will be directly related to the throughput of patients. Variations in payment in response to changes in the volume of these items is more likely to be a direct cost (or saving) pass through and it is unlikely that this element of the payment mechanism will then offer significant risk transfer.

5.25 In general, NHS Trusts should aim to keep direct cost pass through items to a minimum. For such items there is no incentive for the private sector operator to secure lowest cost throughout the life of the contract.

5.26 The volume element can also be related more directly to the throughput of patients through the hospital facilities. However, to date, the transfer of such volume risk to the private sector has not been possible on most schemes although there are exceptions.

5.27 Factors which are relevant to the transfer of such volume risk include:

- demand risk: projections of the trend in demand for healthcare services;
- supply risk: the level of alternative services available from other health care providers;
- market experience: greater experience in operating PFI projects may reduce concerns over volume risk;
- management risk: the bidders' assessment of the NHS Trust's ability to attract and manage increased volumes of health care services.

Implementation and monitoring

5.28 The payment structure devised must deliver its objectives. It must be simple and transparent enough to enable unambiguous modelling of the proposed prices (to test value for money and risk transfer). It must also produce payments that minimise the possibility of conflict between the NHS Trust and the operator. The payment structure should also be compatible if necessary with external arbitration.

5.29 The monitoring system should enable performance to be measured objectively by setting precise and quantifiable performance indicators and targets. For example, checking samples of outputs and outcomes, periodic reports by the operator showing performance against target, user surveys and preparation of user guides. The NHS Trust may also ask bidders to prepare method statements that set out the approach

and procedures they will follow and how they intend to meet the NHS Trust's minimum requirements, and comply with statutory requirements and what procedures and protocols they will follow.

5.30 The project company can be expected to have its own management and monitoring system, and it is sensible for the NHS Trust to use its access to this information as part of its monitoring arrangements. The NHS Trust may already have monitoring arrangements that it uses for services which are currently contracted out, and which it knows are effective in practice, that can be used in the PFI contract.

5.31 The monitoring system should aim to be as simple and transparent as possible. Since it will be part of a long term contractual arrangement it should also be made subject to audit.

Change control

5.32 It is likely that the NHS Trust will face many changes to its operations over the term of the PFI contract. This may necessitate changes within the terms of the original agreement which should be handled within a change control framework set out in the original contract. The change control framework should also allow for changes to the payment mechanism over time. This should cover, for example, variations to the level and standards of services provided, or for new services to be provided by the operator and old services discontinued.

5.33 The payment mechanism will also need to allow for changes in the cost or level of the provision of services where market testing provisions are included in the contract. Benchmarking and market testing is discussed further in Chapter 7 of this section of the guidance.

The Full Business Case

5.34 The FBC should include a thorough description of the payment structure and payment mechanism. This should explain the basis of the payment and should also set out the reductions or cessation of payment for unavailability, poor performance and non-performance. The description should also be accompanied with examples of how the payment mechanism will work in practice. It should also describe methods of monitoring and measures of performance.

6. Indexation

Introduction

6.1 This chapter looks at the options for indexing payments made under a PFI contract throughout the lifetime of the contract.

6.2 The method of indexation which is set out in the payment mechanism by the NHS Trust should take into account the following aims for the public sector:

- it should not allow the private sector operator to directly pass through cost increases;
- it should not result in costs faced by a NHS Trust rising faster than any increases in its income from its commissioning HAs or PCGs.

Choice of indices

6.3 The Retail Prices Index (RPI) or the GDP Deflator are generally the most suitable indices for use in PFI contracts in the NHS. The RPI focuses on prices of retail goods, whereas the GDP deflator is a more broadly based measure of overall inflation in the economy. PFI contracts to date have been indexed to RPI as this is the index which financiers tend to be most familiar with. From the NHS point of view, the GDP deflator would be preferable to RPI because this is the measure of expected inflation which is used in planning public expenditure. Thus, the best available working assumption is that payments from commissioning HAs or PCGs to NHS Trusts should be expected to increase over time in line with the GDP deflator.

6.4 Either RPI or the GDP deflator are acceptable indices as over the long term duration of contracts they can be expected to move broadly together. However, in the short term there may be divergences, in particular due to changes in mortgage interest rates (which do not affect the GDP deflator). An equally acceptable inflation series to use which would mitigate such variations is the series published as RPIX (RPI excluding mortgage interest payments).

6.5 Other relevant indices which relate to specific elements of the PFI contract may be considered. However, NHS Trusts should not allow the private sector to cherry pick indices. Additional indices should not lead to a direct pass through of cost increases to the public sector without the operator having the incentive to manage the effects of any cost increases. Health sector specific indices should also not be used as these will relate to cost changes across a broad spectrum of services including clinical services, rather than solely the type of services included in PFI contracts. Where additional indices are used, then the NHS Trust should ensure that their use does not compromise the risk transfer within the scheme nor the assessment of the scheme's accounting treatment.

6.6 A factor which should also be considered is the base year from which prices are indexed during the contract. This must be negotiated as part of the deal.

Indexation and the payment mechanism

6.7 A key principle of PFI is that there should be a single unitary operating payment. The indexation formula forms an important part of the payment mechanism.

6.8 A proportion of the cost base of the project company will initially be determined by the funds raised for the project from the private sector. Typically, such debt is fixed in nominal terms, and repayment to financiers is not indexed. Hence its value in real terms will fall over time. To reflect this, rather than apply RPI to the unitary payment, RPI – x% or RPI÷x may be appropriate. Bidders may be invited to bid values for x. Other formulae may also be considered.

6.9 The structure of indexation is also relevant to the accounting treatment of schemes. A typical PFI contract will have RPI indexation as a proxy for inflation. This is a transfer of pricing risk as the private sector takes the risk of differential inflation. The presence of RPI indexation is seen by some as an important factor in determining the accounting treatment of schemes. If indices are mixed and matched to allow the private sector to gain cost recovery, it is more likely to reflect a financing arrangement rather than a contract for the provision of services. The accounting treatment of schemes is discussed in Chapter 4 in this section of the guidance.

6.10 Implications of indexation for the recovery of VAT by NHS Trusts should also be considered. The VAT treatment of schemes is discussed in Chapter 5 in this section of the guidance under the guidance on payment mechanisms.

Value for money

6.11 To ensure value for money for the public sector throughout the lifetime of the contract, and to avoid service providers having to take pricing risks over an unreasonably long period then as well as indexation there should be an additional mechanism within the contract to adjust the level of the unitary tariffs. This may be through the periodic market testing of services or alternative mechanisms such as benchmarking. This is covered in more detail in Chapter 7 in this section of the guidance.

Contract issues

6.12 It is not recommended that contract clauses are agreed whereby it is up to either party to the contract to demonstrate whether or not a particular change in costs has been reflected in the indexation agreed in the contract. In practice, it will be extremely difficult to identify in isolation the impact of a single factor on an index which is affected by a multitude of factors. In addition, an increase in a particular area of costs may only be reflected in indexation cumulatively over a period of time which can be difficult to identify.

7. Benchmarking/ market testing of services

7.1 This chapter addresses the requirement for market testing of services which are part of a PFI deal. Market testing is not mandatory in PFI contracts so long as the contract contains another means of ensuring that value for money is maintained in all areas of the contract throughout its life.

7.2 The NHS Trust should consider the most appropriate mechanism for demonstrating value for money over the life of the project. There may be no need to conduct separate market testing. The means of ensuring value for money should then be defined as part of the facilities management agreement negotiated with the operator, and its implementation should be led by the operator with any appropriate input provided by the NHS Trust.

7.3 If an NHS Trust decides to make market testing a requirement of the PFI contract, the responsibility for testing the market should rest with the project company, as the body that would let a new sub-contract for the services concerned.

7.4 Contracts should address value for money by containing either:

- a clause which explicitly requires all relevant services (or multi service contracts) within the PFI scheme to be market tested by the project company at regular intervals, or;

- a clause which explicitly identifies another means of ensuring that value for money is maintained in all areas of the contract throughout its life.

7.5 The provision of building maintenance ("hard") services under PFI contracts should not be subject to market testing as such services are expected to form part of the whole life costing of facilities provided by the private sector.

7.6 Insurance provisions within the PFI contract should also not be subject to market testing. Insurance is discussed further in *Commercial Issues*.

7.7 Market testing is an important factor in determining the separability of the PFI contract when assessing accounting treatment. This is discussed further in Treasury Taskforce Technical Note No.1 (Revised).

8. Land and buildings in PFI schemes

Introduction

8.1 This chapter sets out the principles which apply when assets are included in PFI deals. It covers the following:

- the overriding principles for land and buildings in PFI deals
- criteria for judging whether to include land in a PFI deal
- where land is sold to the private sector for subsequent sale, in exchange for a reduction in annual payments
- where land or buildings are leased to the private sector
- debt restructuring, tax and other issues

Overriding principles

8.2 Before deciding to include surplus land in PFI transactions, NHS Trusts should consider from the outset the potential disbenefits. These may include:

- potential tax liability
- potential timing problems if transactions are not back to back
- accounting transactions (the requirement to pay 6% on the full value of the land, and related amortisation).

8.3 Where PFI contracts include the sale of surplus land in exchange for a reduction in service payments, NHS Trusts should ensure that:

- they own the land prior to sale
- the land is sold to the consortium for at least open market value
- they take all reasonable steps to maximise the value of the land prior to disposal, for example by obtaining enhanced planning permissions
- consideration is given to whether arrangements to share in the future benefits, which the consortium or other parties may derive from the land, will improve the value for money of the PFI deal

- parent company guarantees are obtained to enable the NHS to recover the full cost of the land in the event of the private sector partner being unable to complete the building project and deliver services
- the compensation calculation for termination takes account of any unutilized element of the deferred asset created from putting the land in the deal
- the timing of sale is appropriate
- the accounting treatment of land is considered fully when determining the affordability of the project.

8.4 Where the new hospital is to be built on a site that the NHS Trust already owns, NHS Trusts should ensure that:

- they retain their freehold interest in the land rather than sell this to the project company
- where land on which the hospital is to be built is leased to the consortium, the arrangements for land on expiry of the primary period are sufficiently flexible
- the accounting treatment of land is considered fully when determining the affordability of the project.

8.5 Occasionally it may be the case that an NHS Trust may wish to sell the land to the private sector. Any decision to sell the site on which the hospital is to be built, should first take into account the requirement that an NHS Trust should not enter into any contractual arrangement where assets essential for its functions are put at risk. If it is considered appropriate to sell rather than lease, the primary considerations should then be of a commercial value for money nature. If the buildings have an alternative use and the private sector is constructing the property with this in mind, then there may be an argument for selling the freehold. This would be more likely to be a valid reason for some small community type schemes. If the situation arises where there is a real commercial justification for an NHS Trust to sell the freehold to the project company, they should only do so in exchange for at least open market value.

8.6 Any major asset changes to an NHS Trust's balance sheet, as a result of entering into a PFI contract, must be agreed with the NHS Executive Private Finance Unit prior to entry in the balance sheet, capital charge estimates and hence pricing.

Surplus land

Ownership of the land prior to sale to the project company for subsequent sale: retained estate

8.7 All land which is included in a PFI scheme must be in the ownership of the NHS Trust before it is sold to the private sector, for subsequent resale. To obtain ownership, the NHS Trust may need to purchase land from the retained estate. The NHS Trust will need to purchase the land from the Secretary of State for at least open market value (OMV) in order to demonstrate that the Secretary of State has obtained value for money on the disposal. Where a subsequent disposal price

is to be included in the PFI contract and is in excess of OMV, the NHS Trust should purchase the retained estate at this price to demonstrate that the Secretary of State (acting through the Regional Office of the NHS Executive) is obtaining the best price on the open market for the land.

8.8 Timing of the purchase from the retained estate should be considered carefully. If the purchase and the subsequent sale to the consortium cross financial years, the assets will be included in the balance sheet at the year end. This will distort the relevant net assets of the NHS Trust and hence its capital cost absorption measurement. For this reason, it is recommended that NHS Trusts ensure all the transactions occur within the same financial year.

8.9 Usually property is transferred from the Secretary of State to NHS Trusts by means of orders made under section 8 of the 1990 NHS and Community Care Act (see FDL(96)54). However this does not apply to retained estate. Any disposal of retained estate to an NHS Trust is a cash transaction, not covered by section 8. Land and buildings must be transferred by conveyance from Secretary of State to the NHS Trust, and then sold on as a separate transaction as part of the PFI deal.

8.10 Regional Offices should confirm that land currently held within the retained estate and in the ownership of the Secretary of State is suitable for inclusion in a specific PFI project. Regional Offices will need to confirm this as part of the full business case. Including the land within the PFI scheme must be consistent with the regional strategy for disposals and use of the estate.

8.11 Detailed criteria for establishing suitability for inclusion in the PFI deal are outlined in this guidance. Suitability should be established at OBC stage as reference will need to be made in the OJEC notice which follows OBC approval.

Value obtained on disposal

8.12 Surplus assets must be sold or disposed of for at least open market value. It is not sufficient that the NHS Trust achieves a value which simply makes the scheme affordable. Identification of open market value requires relevant professional advice. The private sector partner must be prepared to pay at least the open market value for the asset at the point of sale.

8.13 It is recommended that a valid land valuation is sought from the District Valuer (DV). An NHS Trust may, of course, seek in addition another valuation from a suitably qualified and independent valuer and discuss any differences with the DV. However, valuation of land in PFI deals is a matter for the DV.

8.14 Where the land included in a PFI scheme represents only part of the total available estate, steps should be taken to ensure that the item of land sold does not adversely affect the value of the remainder. This could be achieved through DV valuations or market testing the entire site as a single disposal and comparing the likely figure obtained with the actual cost of sale plus an equivalent market test for the remainder of the land.

8.15 The NHS Trust should also consider whether the value to be derived from land disposals will be improved by the NHS Trust obtaining enhanced planning permissions for the land prior to disposal. The advantage of this approach is that the NHS Trust will receive the full benefit of any uplift in value from the enhanced planning permission.

8.16 NHS Trusts should consider whether overage arrangements are necessary. Overage is when the proceeds realised at the actual time of sale of the land by the PFI consortium are in excess of the minimum underwritten value in the project agreement and the excess is shared between the NHS Trust and the project company. Hence the total agreed price for the land should be the minimum of open market value at the time of signing the project agreement plus overage. Overage arrangements will go some way to ensuring that the NHS receives best value for money from the inclusion of surplus land in PFI schemes in respect of valuation risk and the forward sale of land. For example, this may be appropriate where enhanced planning permission is likely to increase the market value of the property. The affordability of the scheme for the purposes of FBC approval should be based on the minimum underwritten value.

8.17 The formula for the overage arrangements should take into account the risk and effort that the private sector has taken in enhancing the value of the land. Where the risk taken by the project company is not significant, a higher share of overage should accrue to the NHS Trust. Similarly, where the project company underwrites proceeds in excess of market value, a smaller share of overage may be appropriate. Irrespective of risk transfer, underage should not be agreed as this would cause difficulties in obtaining value for money. The anticipated benefits for any overage arrangements should be compared with any increase to the contract price which the consortium requires in return for agreeing to such arrangements.

8.18 The NHS Trust should also consider whether other arrangements to share in the future benefits which the consortium or other parties may derive from the land will improve the value for money of the PFI deal. The situations to be considered include: profits derived from subsequent disposals of the land within a short time of the original transfer of the land to the consortium (whether or not these profits are due to enhancements) and opportunities for the consortium to derive revenue from developing the land or acting as a building contractor on any development by a third party. As with all claw back arrangements the NHS Trust will need to assess whether such arrangements will improve the value for money of the PFI deal taking into account any price adjustment which the consortium may seek for agreeing to these arrangements.

Protection for surplus land value on early termination

8.19 If any surplus land is put into a scheme the value, including overage, must be protected in the event of early termination. Protection may include requiring a parent company guarantee to be provided by the Project Company. The NHS Trust should consult the NHS Executive for further details.

Timing of sale of surplus land

8.20 Disposal of the land to the project company should occur prior to the operating phase of the contract only when there is real commercial justification for the sale and there are appropriate safeguards to the NHS Trust by way of appropriate parent company guarantees.

Criteria for judging whether to include land in a PFI scheme

Timing

8.21 Regional Offices will need to confirm in the FBC that retained estate is suitable for inclusion in PFI deals. The criteria outlined below should be used to evaluate suitability. The timing of this assessment will need to be at OBC stage as reference will need to be made in the OJEC notice which follows OBC approval. The FBC is then concerned with proving the value for money of the deal, confirming that at least OMV has been achieved and assessing the implications on affordability.

- before commencing a PFI test NHS Trusts should explicitly review what parcel(s) of land/buildings might be associated with a particular scheme and ascertain into which of the following categories it/they would fall:

  (i) land/buildings that would continue operational use within the proposed development;

  (ii) land/buildings that would become surplus to requirements as a consequence of the proposed development (and by implication would not become surplus if the proposed development did not proceed);

  (iii) land/buildings with the potential to release development gain (ie enhanced value or more valuable planning consent) on either itself/themselves or other land/buildings if they were to be disposed of by the NHS;

- in the case of (i) then such land/buildings are clearly integral to the overall deal and the economic assessment of the overall PFI scheme would also suffice for the economic assessment of any such land transactions;

- in the case of (ii) a check is needed to ascertain whether the land/buildings under consideration are genuinely integral to the deal:

  - if the surplus land was not integral to the deal – eg if the project company could not walk away from the overall scheme if such surplus land/buildings were excluded from that deal, then two tests of value for money on the disposal would be required – one in the context of the assessment of the overall PFI scheme; the other comparing the value obtained via the PFI route against the expected value on conventional disposal;

  - if the surplus land was integral to the deal – eg if the project company was to use the liberated land and buildings for alternative purposes that would contribute to the overall PFI scheme – then the economic assessment of the overall PFI scheme would also suffice for the economic assessment of any such land transactions;

- in the case of (iii) then two tests of value for money on the disposal would be required – one in the context of the assessment of the overall PFI scheme; the other comparing the value obtained via the PFI route against the expected value on conventional disposal;

- surplus land should only be considered for inclusion within a PFI test if the Regional Office considers that the alternative of conventional sale and reinvestment of the proceeds in another scheme that has not secured private finance would not command a higher priority;

- if there is a possibility that surplus land/buildings might be considered for inclusion within a PFI scheme, this should be reflected in the OJEC advert;

- consideration should be given to whether inclusion of any surplus land would facilitate achievement of other national/local priorities and objectives;

- reference must be made to the Regional Office's/NHS Trust's estate strategy in making decisions on whether to associate surplus land with a PFI scheme;

- in assessing both the relative returns and relative priority between inclusion in a PFI scheme and conventional disposal, Regional Offices should also take into account:

  - the levels of risk and ease of disposal
  - the potential timing of disposal
  - the opportunities for securing planning permission
  - the holding costs of the land (eg continuing capital charges, security, essential health and safety expenditure etc) prior to its disposal
  - the impact of any delay and/or uncertainty in realising disposal values arising from inclusion within the PFI scheme that would be associated with each option;

- if more than one NHS Trust could make a claim for the inclusion of a piece of retained estate, the Regional Office would need to assess whether there was a prior/better claim on the land;

- in assessing which might be the "best" claim on a piece of surplus land, an alternative or continued operational requirement would tend to take precedence over disposal (within a PFI scheme). However, the Regional Office would need to ascertain whether a better solution might be secured by meeting the operational need elsewhere. However, no NHS Trust will be allowed to hold another NHS Trust to ransom;

- in the case of both the retained estate and NHS Trust-vested land, legal advice should be obtained to ensure that proper title to the land exists and that there are no impediments or reversionary clauses (eg Crichel Down rules) that would prevent the proposed disposal route or impose restrictions on the future use of the land. Particular care should be taken where for example the actual conveyancing of the land to the NHS Trusts, although intended, is not complete.

Land sold to the private sector for subsequent sale in exchange for a reduction in annual payments

8.22 Paragraphs 8.23 to 8.39 inclusive, and Examples A & B of Appendix 4, adopt a different approach from that in Treasury Taskforce Technical Note No. 1 (Revised) "How to Account for PFI Transactions.". This is because "PFI in the NHS":

a) is consistent with NHS accounting guidance in the Trust manual of accounts;

b) reflects specifically the requirements of the NHS to value surplus assets at open market value prior to disposal;

c) allows downward revaluations of surplus assets to be adjusted through the revaluation reserve.

"PFI in the NHS" may be updated in the light of discussions currently taking place between the NHS Executive, Audit Commission and Treasury regarding b) and c).

8.23 PFI schemes may include surplus land in the deal in order to reduce project financing costs and therefore reduce the unitary payment paid to the private sector partner and increase the potential affordability of the project. Where land is sold to the private sector for subsequent resale, the sale must be accounted for in the following stages:

Revaluation of the land from net book value in the NHS Trust's accounts to Open Market Value

8.24 The open market value (OMV) of the asset should be valued by the DV in order to verify that the price in the deal is at least open market value for alternative use. Where a reduction in future payments forms the economic benefit, the net present value (NPV) of the reduction in the value of the annual service payments must be greater than or equal to the OMV of the asset. The NPV should be calculated by using a 6% real discount rate. NHS Trusts should audit the bidder's financial model to ensure the benefit of including land is actually reducing the unitary payment by the amount required.

8.25 The land should be revalued at OMV for alternative use (in accordance with the Capital Accounting Manual) and any difference between the book value and the OMV should be taken to the revaluation reserve. The revaluation should take place when the land is declared surplus. A downward revaluation may need to be treated as a permanent diminution of value and should be taken to the income and expenditure account rather than the revaluation reserve. This will be governed by FRS 11 "Impairment of Fixed Assets and Goodwill" which distinguishes between impairment losses caused by a clear consumption of economic benefits, for example, physical damage or a deterioration in the quality of the service provided by the asset which should be recognised in the income and expenditure account; and other impairments due to general changes in prices. The latter is recognised in the statement of total recognised gains and losses as valuation adjustments.

8.26 Sometimes the property disposed of in the PFI deal is not available immediately for disposal, for example where it becomes vacant and surplus once the new site is redeveloped and operational. Up to that point, such sites may remain operational. NHS Trusts have the option, in accordance with the Capital Accounting Manual, to make a functional life adjustment to the building. This is where the DV provides a reassessment of the remaining life of the building in which the assessed life will be the known period until disposal to the consortium. When a life to closure has been agreed, the valuation will be carried out using a maximum remaining life of two times the life to closure for any element of the building, subject to the latter not already having shorter physical remaining lives.

8.27 It is recommended that NHS Trusts make a functional life adjustment only when the appropriate NHS Executive Regional Office has agreed the planned disposal, the scheme has FBC approval and has reached financial close, thereby providing certainty that the disposal is taking place.

Disposal of the fixed asset

8.28 The sales price is the NPV of the annual reduction in payments when discounted at 6%. Where the price obtained in the deal exceeds the open market value then the difference should be accounted for as a profit in the NHS Trust's Income and Expenditure account. Worked examples can be found in Appendix 4 of this section of the guidance. Example A shows the accounting entries for a nil profit on disposal. Example B shows the relevant entries where the price obtained exceeds the OMV and a profit on disposal is realised.

Creation of a deferred asset

8.29 The surrender of land in exchange for a long term reduction in service payments creates a deferred asset in the NHS Trust's accounts. This is because the benefit of placing the land in the deal is realised over a future period and effectively constitutes a prepayment. The deferred asset should be accounted for at the point at which the land is disposed of to the consortium.

8.30 The value of the deferred asset is equivalent to the economic benefit obtained from including land in the PFI deal, ie the NPV of the reduction in the value of the annual service payment when discounted at 6%. This initially would be the underwritten value but may change as a result of overage arrangements. Deferred assets should not be indexed over the life of the contract because the prepayment is a fixed monetary amount not linked to inflation.

8.31 The deferred asset should be treated as a prepayment within current assets in the accounts. The amount relating to services to be received after more than one year must be separately disclosed in debtors to the accounts in order to meet the requirements of Urgent Issues Task Force Abstract 4.

Capital cost absorption duty on the deferred asset

8.32 The deferred asset is included within relevant net assets for the calculation of capital cost absorption.

Subsequent amortisation over the contract life

8.33 The write-off of the deferred asset created should be over the primary lease period so that the period of amortisation matches the period over which the benefit of land in the deal is obtained (the primary period being the period up to the first break clause in the contract). However, if the period agreed for making the discounted or reduced service charges is shorter than the primary lease period, then the release of the prepayment should take place over the shorter period.

8.34 The purchaser will have to fund the additional costs of the deferred asset write off through the NHS Trust income and expenditure account. However, against this, by enabling the consortium to reduce financing costs, the affordability of the PFI scheme to the purchaser would be improved.

Effect of overage

8.35 If the value of the land increases in the future due to the operation of overage provisions, the deferred asset will be increased and the resultant balance written off over the remaining contract life. The increase in the deferred asset will be matched by an adjustment to the NHS Trust's income and expenditure account at the point when the consortium recognises the disposal of the land for an increased value.

8.36 (The situation may arise where the proceeds from the land sale exceed the annual payments. In such a case, the accounting principles are no different; however the NHS Trust should consider whether it would prefer a lump sum for the excess or a future income stream.)

Where the land does not become available until later in the contract period

8.37 In some circumstances, the surplus land may become available later in the contract (for example where the vacation of the site is dependant on the new hospital being built) and the NHS Trust may wish to put a "cash injection" into the deal in the meantime in return for a reduction in service payments. The NHS Trust itself may undertake to sell the surplus land and to put all or some of the proceeds into the deal. In these circumstances the NHS Trust (or NHS Executive Regional Office in the case of retained estate) would be expected to conventionally market the site ie the sale could be to any buyer so long as at least OMV is obtained. Effectively the relationship between the sale of the land and reduction in unitary fee is divorced. Prepayments of this sort should only be made if they are justifiably value for money. Bullet payments should not be made ahead of service commencement and the NHS Trust Board should take advice on the legality of the proposed transaction from its lawyers.

8.38 A deferred asset is created at the point the cash is injected in the deal and write off is, as before, over the shorter of the primary lease period or the period over which the reduction in payments is obtained. The NPV of the reduction in service payments should at least equal the cash injected in the deal. The deferred asset is included within relevant net assets for calculation of capital absorption cost.

8.39 The land should be revalued in the NHS Trust's books at OMV at the date it becomes available and is put up for sale. Any difference between the OMV and sales price actually realised will form a profit or loss on disposal.

Land or buildings leased to the private sector which subsequently form part of the PFI scheme

8.40 The remaining paragraphs in this chapter reflect the guidance contained in HSC 1999/022 "Land and Buildings in PFI Deals" issued in February 1999. This guidance is currently under review in conjunction with HM Treasury and NHS Trusts should check the current position with the NHS Executive.

8.41 Where the NHS Trust owns the land on which the hospital is to be built, the NHS Trust should retain its freehold interest in the land rather than sell this to the project company. It is usual for the NHS Trust to lease it to the private sector on a head lease and for the private sector to lease the hospital site back to the NHS Trust on a sub lease. It may be the case that the headlease is at a peppercorn rental.

8.42 Three different scenarios exist:

- only land is leased to the private sector; or
- and and existing buildings are leased to the private sector. These buildings then may or may not be refurbished by the private sector and become inextricably linked with the PFI scheme; or
- land and buildings are leased to the private sector and the buildings become the responsibility of the consortium to demolish in order to make way for new build. Such buildings are written off in the normal way.

Options for land on completion of primary period

8.43 In these cases, the contract should be drafted to provide for sufficient flexibility of arrangements on completion of the primary period. For example, it could include an option for the private sector to purchase this land for at least OMV if the NHS Trust no longer wishes to use this facility. In the event of early termination or expiry of the contract (including the expiry of the primary concession period), the headlease to the SPV should automatically fall away.

8.44 Any decision that an NHS Trust takes with regard to the property at the end of the primary period should be made after consideration of the NHS Trust's overall estate holdings. A sale should never prejudice the best interests of the NHS Trust's overall estate holding.

Lease of land only

General Principles

8.45 By granting the Project Company a leasehold interest, the NHS Trust has disposed of an asset. Even where the disposal is in exchange for a peppercorn rental, there will be a benefit to the NHS Trust in entering into the lease arrangements because the private sector will lease the hospital back to the NHS Trust on a sub lease. The NHS Trust should recognise in the balance sheet both:

- the economic benefit from entering into the lease arrangements, i.e. the deferred asset; and
- its reversionary interest in the land which is leased.

8.46 The value of the reversionary interest in the land should be recognised in the NHS Trust's balance sheet as part of fixed asset investments. In order to ascertain the reversionary interest, the existing use value of the land should be discounted at the factor which is a function of 6% and the number of years until the first break point in the lease (where the land is not already at existing use value as a hospital site, it should be independently valued on this basis by the District Valuer). The reversionary interest should be included in net relevant assets for calculation of capital cost absorption like any other capital asset.

Disposal of the element relating to the headlease

8.47 The grant of the headlease should be treated as a fixed asset disposal. The consideration for the lease will be the economic benefit or deferred asset arising. The calculation of the deferred asset is detailed below.

Deferred asset

8.48 Where an NHS Trust enters into such a lease with the private sector, it will do so because there is an economic benefit in terms of reduced availability payments, ie if the private sector had to pay full market rental, they would simply pass this charge on to the NHS Trust in the availability payments.

8.49 The benefit of entering into the lease with the consortium should be recognised in the NHS Trust's accounts. This benefit will be deemed to be a deferred asset. The deferred asset should be equivalent to the difference between the existing use value of the land and the reversionary interest in the lease. The deferred asset is included within net relevant assets for calculation of capital cost absorption.

8.50 The deferred asset should be written off through the Income and Expenditure account over the life of the lease. The economic benefit will count as disposal proceeds for the grant of the headlease.

Value for money

8.51 The economic assessment of the overall PFI deal is sufficient for the economic assessment of any such land transactions.

Land *and* existing buildings are leased

Buildings not integral to the PFI scheme

8.52 Where the existing buildings are not being refurbished by the private sector and the private sector do not take on the risks or rewards of ownership, these building should continue to be recognised in the NHS Trust's balance sheet, in accordance with the fundamental principles of the accounting standard FRS5 "Reporting the substance of transactions".

Buildings are integral to the PFI scheme

8.53 Paragraphs 8.54 to 8.55 will be revised to reflect the Treasury's approach to residual value which was issued in Treasury Taskforce Technical Note No. 1 (Revised) "*How to Account for PFI Transactions*.".

8.54 Where the existing buildings are refurbished by the private sector, who take on the risks and rewards of ownership, they become inextricably linked with the PFI scheme. As a result, the accounting treatment of the buildings should follow FRS5 and depend on the overall terms of the contract. Where the economic substance of the transaction is that the private sector owns the buildings, the NHS Trust will need to account for the disposal of the building.

8.55 In the same way as for land, a deferred asset will arise on the commencement of the lease. However, because the consortium assumes the risks and rewards of ownership, the related buildings will be removed from the NHS Trust's balance sheet in full and the deferred asset will simply be equivalent to the existing use value of the buildings as a hospital site. The deferred asset should be written off through the income and expenditure account over the life of the lease. The deferred asset is included within relevant net assets for calculation of capital cost absorption.

Value for money

8.56 The economic assessment of the overall PFI scheme is sufficient for the economic assessment of any such land transactions. Each land transaction must give demonstrable value for money within the overall PFI scheme.

Worked Examples

8.57 Worked example C in Appendix 4 of this section of the guidance demonstrates accounting for leases of land and buildings in PFI deals.

Debt restructuring

8.58 It may be necessary in certain circumstances for NHS Trusts to restructure their balance sheets. Where interest payments exceed 6%, NHS Trusts may swap Interest Bearing Debt (IBD) for Public Dividend Capital (PDC). Where cash is received from the sale of assets, IBD/PDC can simply be repaid. However, any restructuring should be dealt with by the Accounts and Trust Allocations Branch of the NHS Executive. Debt restructuring will need to be addressed in the Full Business Case for the PFI scheme.

Other issues

Ownership of the hospital site

8.59 In some cases, where a new hospital is being built, the site may be purchased new. Where it is proposed that the NHS own the land, the NHS Trust must purchase the site rather than the NHS Executive. The reasoning behind this is that the purchase and lease of the land by the Secretary of State to the NHS Trust would go against the intention of the 1990 Act, which makes provision for NHS Trusts to own and manage property. The Solicitors Division of the NHS Executive have advised in the past that Secretary of State cannot hold land on behalf of NHS Trusts.

Tax

8.60 Where land is included in a PFI scheme, a tax liability may be incurred by the project company. The tax liability is a potential additional cost to the NHS Trust. The project company may need to take financial advice on the tax treatment of land. The affordability of the scheme should reflect appropriate professional advice on the tax treatment. EL(97)70 issued on 10 November 1997 sets out NHS policy with regard to tax avoidance. Under no circumstances should the NHS underwrite the private sector's tax liability.

Equipment

8.61 The same principles apply to equipment as those outlined for land and buildings above.

Further information

Estatecode volume 2, NHS Estates, 1994

The NHS Trusts Capital Accounting Manual

EL(97)70 NHS Executive, 1997, *Tax Avoidance*

9. Information technology and equipment in schemes

Introduction

9.1 This chapter looks at issues concerned with the supply of information technology and equipment within larger PFI contracts for the provision of hospital facilities and associated services. It does not cover plant and equipment that would normally be expected to be provided as part of the building infrastructure (group 1 equipment). It does cover equipment, including major medical and scientific equipment, which has implications in respect of space, construction or engineering services (group 2 and some group 3 equipment). This chapter also assumes that basic IM&T infrastructure such as cabling will be provided as part of the PFI contract.

9.2 It is ultimately for the NHS Trust to decide, in the light of its own circumstances, whether to procure IM&T and equipment as an integral part of the main PFI project agreement, or separately. An important factor to bear in mind is that the useful economic life of IM&T assets is much shorter than for buildings, making contract matching and management more complex. The other important factor is ensuring that the IM&T procured for a larger PFI contract is consistent with the strategic direction of the NHS Information Strategy as set out in "Information for Health".

9.3 The key issues which need to be considered include:

- whether to include IM&T within the main PFI contract. Factors to be considered before making this decision include: the lifetime of existing contracts, the extent to which services are being re-engineered in the larger PFI contract (and which therefore require IM&T support), how affordable it is to include IM&T, how big the risk is of double-counting benefits, whether including IM&T is managerially feasible;
- whether to include equipment within the main PFI contract;
- an allowance for the cost of IM&T and equipment, regardless of whether it is to be included in the main PFI contract, should be made in the affordability calculations for the project;
- if IM&T and/or equipment is to be procured separately from the main PFI contract, how and when will this be catered for in the design and provision of engineering services of the facilities.

9.4 This chapter goes on to look at the advantages and disadvantages of including IM&T and equipment with the main PFI contract.

Choice of procurement route

9.5 For any new facilities, IM&T and equipment could be procured by the following means:

- through the main PFI contract with the project company;
- through separate public funding; or
- through separate PFI contracts with IM&T and equipment suppliers.

It would also be possible to procure different elements of IM&T and equipment through any combination of the three procurement methods.

9.6 The decision on whether to procure IM&T and equipment as part of the main PFI contract should be taken before the scheme is advertised in the Official Journal of the European Communities (OJEC). This is discussed further below.

9.7 If IM&T and equipment are to be procured separately from the main PFI contract then these contracts can be tendered at a later stage. However, NHS Trusts should ensure that they have a clear understanding of the timetable that the separate IM&T and equipment procurements will have to be set against in order to fit in with the timetable of the main PFI procurement.

9.8 In particular, when drawing up the output specifications for the main project, NHS Trusts will have to include sufficient allowance to cater for IM&T and equipment to be procured separately. This will have an impact on the NHS Trust's specifications for design space requirements, and may impact on the level of provision of engineering services.

Affordability and value for money

9.9 The affordability calculations of any project must include an explicit allowance for the provision of IM&T and equipment regardless of whether they are to be procured using public funds or through PFI. The effect on affordability must be considered when the Strategic Outline Case (for major schemes) and the Outline Business Case (for all schemes) are being developed, as well as in the Full Business Case.

9.10 The decision on which, or what combination, of the three routes above should be followed is ultimately based on which offers best value for money taking into account the risks and degree of complexity associated with each method of procurement.

Commissioner support

9.11 The importance of commissioner support for investment proposals applies equally to IM&T and equipment, regardless of the procurement option chosen. If IM&T and equipment is combined with the main project, then commissioner support for the project as a whole should cover this, assuming that the NHS Trust's IM&T strategy has been separately approved. If not, explicit support for the IM&T strategy should be sought from the commissioning authority, and secured in the context of the Local Implementation Plan for "Information for Health". Where IM&T and

equipment are to be procured separately, explicit commissioner support will also need to be given separately, depending upon the NHS Trust's delegated limits. NHS Trust delegated limits are set out in Appendix 1 of *The Selection and Preparation of Schemes.*

9.12 The affordability ceiling that is agreed with commissioning HAs or PCGs for the proposed project to be developed within must allow for the cost of IM&T and equipment, whichever procurement route is to be followed for IM&T and equipment.

Considering the options

9.13 The NHS Trust should decide which of the above procurement routes it intends to follow as early on in the development of a project as possible. In practice, this means deciding whilst the scope of the project is being developed during preparation of the OBC.

9.14 If IM&T and equipment is likely to be a significant cost element in the project then it should be mentioned in the contract notice which is placed in OJEC. The OJEC notice should be worded so that it gives the NHS Trust the greatest possible flexibility during the course of procurement. It should not unnecessarily rule out IM&T and equipment provision as part of the services to be provided by the private sector. An NHS Trust could indicate in OJEC and in the ITN that IM&T and equipment could be considered as a variant to the main project, allowing the NHS Trust to defer any decision to exclude or include until firm proposals, value for money, affordability, risk transfer etc, can be fully evaluated. The notice should give the NHS Trust flexibility to eliminate IM&T and/or equipment from the main procurement in the event that bids received are unsatisfactory or do not achieve value for money.

9.15 NHS Trusts which have already advertised a project in OJEC which does not mention either IM&T or equipment, and who are considering bringing either into the project, will need to obtain legal advice on whether this is feasible within the scope of their original OJEC advertisement and EU procurement regulations.

9.16 If the NHS Trust has stated in the OJEC notice that it wishes to include IM&T and equipment within a project, there is no requirement for a bidder to include IM&T and equipment suppliers in the consortium at prequalification stage. However, it is expected that major IM&T and equipment suppliers will have been designated by the time when responses are received to the Final Invitation To Negotiate. The risk that they have not been designated is one of the key risks in incorporating IM&T into larger PFI contracts.

9.17 If the bidders' proposals on IM&T and equipment do not meet the NHS Trust's requirements or assessment of value for money upon evaluation, then the NHS Trust can elect to proceed with the procurement but with IM&T and equipment being provided through a different route. The IM&T and/or equipment contract would then need to be re-advertised as a separate contract under the relevant EU procurement rules. If below the current EU procurement limits (which is unlikely), then it should be advertised in "Government Opportunities".

9.18 Longlisting and shortlisting criteria for the evaluation of bids should cover IM&T and equipment requirements comprehensively, whether either are being dealt with as separate schemes or are being combined with the main procurement. The

criteria should deal with the interfaces between the operation of any IM&T and equipment to be provided as part of the project and any which will continue to be run by the NHS Trust. NHS Trusts may also need to consider which facility components form the main project and which form the IM&T and equipment, if there is a possibility that the two will be procured separately. For example, it is important to be explicit about whether ducting, power points, etc are part of the main project or of the IM&T procurement.

Project management

9.19 IM&T and equipment schemes are as susceptible to good management as any other procurement and PRINCE is the recommended methodology. Nonetheless, including IM&T and equipment within a larger project at any stage gives rise to greater complexities for project management. NHS Trusts should explicitly address this, and will almost certainly need to incorporate specialist IM&T and equipment skills into the project management arrangements. This should include the additional skills necessary to evaluate the IM&T and equipment element of bids including an assessment of proposals for whole life maintenance.

9.20 For both equipment and IM&T, the NHS Trust will need to have undertaken a detailed analysis of its requirements before any procurement commences. This will need to include user consultation and consideration of process redesign. The output specifications for the scheme should clearly reflect the NHS Trust's IM&T and equipment requirements.

9.21 If either the IM&T or equipment is to be procured separately, then the NHS Trust should also address what project management arrangements will be required to ensure that any IM&T and equipment required will be procured, commissioned and available in time for the commencement of services in the new facilities. NHS Trusts should strongly consider whether a separate IM&T project manager is required.

9.22 The accounting treatment of the IM&T and equipment should also be considered from an early stage in the development of a scheme.

Information technology

9.23 Fitting IM&T into a larger PFI procurement involving the provision of services and facilities is a complex and difficult task. NHS Trusts should only proceed with this if they are confident that they will be able to address the additional complexities that arise at the same time as dealing with the larger procurement. Factors which should first be considered include:

- the economic life of IM&T assets is likely to be considerably shorter than that of the facilities, and technological development is at a fast rate;
- the IM&T to be provided in the new facility may not be procured for several years yet, as it will not need to be available until the facilities are completed;
- how the provision of IM&T services will affect the availability of other services and facilities through the payment mechanism, and how such risks will be allocated between members of the project company and the financiers to the scheme;

- the degree of likely competition during the procurement process between IM&T service providers in order to ensure best value for money for the NHS.

9.24 Because of the rapid pace of technological development in the field of IM&T, where IM&T is to be included within the main project agreement, NHS Trusts should explicitly limit the length of the IM&T element of the main contract to seven to 10 years. Typically, this is expressed as a seven or eight year subcontract with optional of extension periods of up to three years to give the NHS Trust some flexibility at the end of the contract term.

9.25 At the end of the term of the IM&T subcontract, the NHS Trust should retain a free hand to act according to EU and NHS procurement regulations that will be in force at the time. The NHS Trust should consider the following options:

- to competitively re-tender the service (and the incumbent project company could bid as well as other IM&T suppliers) for a further seven to eight year period;

- to take the service back in house.

The NHS Trust will also need to address what will happen to any equipment which has a residual value at the contract end. It should reserve the right to purchase the IM&T equipment or to have a new supplier who wins a tender to purchase the IM&T equipment.

9.26 The Full Business Case for a project must include a reference to the interface of the NHS Trust's operations with IM&T. This reference should include a summary of the NHS Trust's IM&T strategy and how it relates to the project. The FBC should also address the benefits identification and realisation process resulting from the implementation of IM&T services. It should specifically identify where the main scheme relies on benefits generated through the IM&T component, and the implications if they fail to be realised. The project's benefit realisation plan must include benefits which will result directly from the IM&T element of the main project contract.

9.27 Where IM&T is included within the main project then a separate business case is not required, provided the IM&T element falls within delegated limits. Where IM&T is to be procured separately, then this should be treated as a separate project and the processes outlined in the *Capital Investment Manual* and HSG(95)48 should be followed, with a separate business case. Where the main (construction and services) project falls within delegated limits, but the IM&T element is above delegated limits, then approval will be required for the IM&T element. NHS Trusts should agree with the NHS Executive whether a single or separate business cases would be required on a case-by-case basis.

Equipment

9.28 Equipment provision in PFI schemes has many of the same characteristics as IM&T, and therefore many of the same potential pitfalls. *Capital Investment Manual*, Appendix 5: "The Equipping of Construction Schemes in the Management of Construction Projects" sets out what should be done to develop an equipment

strategy for projects. This should apply to all equipment which can be transferred into new facilities, not just major medical and scientific equipment.

9.29 The FBC should confirm that an equipment audit has been undertaken which has confirmed the assumptions used in the FBC for the amount of equipment which can be transferred to the new build and/or transferred to the private sector operator.

9.30 For equipment to be supplied under the PFI contract, the NHS Trust should confirm to its satisfaction that the PFI partner has involved the necessary equipment suppliers in the process to date.

9.31 For equipment to be provided outside of the PFI contract, the NHS Trust should identify how it will be financed and what are the timescales for procurement. The NHS Trust should also ensure that requirements of major medical or scientific equipment have been taken into account in designs, and sufficient time has been allowed for procurement and delivery lead times.

9.32 The decision on whether medical and scientific equipment should remain as part of the main project agreement for its full term (ie usually 25-30 years), or whether there should be a shorter contract length or break points at the NHS Trusts discretion should be made by the NHS Trust depending upon the circumstances of the individual scheme.

9.33 However, NHS Trusts should not lock themselves into a sole supplier for the whole contract term. The contract should allow the NHS Trust to specify that equipment from alternative suppliers can be sourced (through the project company) which meets the NHS Trust output specifications.

9.34 Where a PFI transaction can be broken down into separate components, these must be considered separately for the purposes of accounting treatment. An element of the PFI scheme may be considered separable for a number of reasons, for example because the contract for that element run for a different length. This should be taken into account when deciding the balance sheet treatment of IM&T and equipment.

Further information

Private Finance and IT: A Practical Guide, Treasury Taskforce/Cabinet Office Central IT Unit, March 1998

Information for Health: An Information Strategy for the Modern NHS 1998-2005, NHS Executive 1998

HM Treasury guidance is also available on the Treasury's web site http://www.hm-treasury.gov.uk, under the section headed "Guidance".

10. Methods of financing PFI schemes

Introduction

10.1 This chapter provides a basic introduction to the key methods of financing PFI schemes. It is intended to give managers involved in PFI procurements in the NHS an understanding of the differences between alternative methods of financing schemes. This should assist NHS Trusts in understanding the financing packages that will be put forward by bidders. This section is not intended to replace the professional advice that NHS Trusts will require from their financial advisers. Financing costs (like other costs) and any risks related to financing are to be managed by the private sector.

10.2 This chapter addresses three aspects of the financing of schemes:

- bank financing;
- bond financing;
- the role of equity.

10.3 To date, larger PFI schemes in the NHS have been funded either using bank financing (also known as project financing) or bond financing (also known as capital markets financing). Both types of financing are likely to involve the provision of equity. The two types of financing are not exclusive – it would be possible for a larger deal to be partly financed using both types of financing. Furthermore, schemes may be refinanced during the contract period which may involve the same or a different type of financing. A scheme may sometimes be refinanced once the new facilities are built and commissioned and hence when the risk profile of the project changes (as there will no longer be any construction risk). Smaller projects may also be financed internally, at least initially, by companies (ie on their own balance sheets) rather than using bank or bond financing.

10.4 There is no preference on the part of the public sector for any particular type of financing. There are both advantages and disadvantages to using bond or bank financing. It is necessary for the project company to look at the requirements of each individual project and to assess whether these can best be addressed through a bond or bank finance route. Furthermore, the financing markets will develop over time. For example, longer maturities are now achievable for bank financing for PFI schemes than were available earlier in the development of PFI. The key for the public sector is to ensure that the overall deal, of which the method of financing is one part, is best value for money.

Bank financing

10.5 Bank financing comprises debt that is issued by commercial banks. Once the funding has been agreed the money is committed but will only be drawn down as it is required during construction. Bank debt is also called senior debt and is the first form of funding to be repaid during the contract period. Senior debt bears the lowest risk of any finance in a bank financed PFI scheme and will therefore earn the lowest rate of return. If risks crystallise during the repayment period of the PFI contract, the banks will be able to take security over the PFI contract and will require rights to take over the contract if the project company fails to complete its obligations. Senior debt will typically comprise the bulk of funds on bank financed schemes.

10.6 Senior debt is provided at variable interest rates and the project company may be required by financiers to purchase an interest rate management tool that will provide a fixed rate for some or all of the debt term. NHS Trusts are not expected to take the risk of variable interest rates from financial close as payments to the project company will be fixed (depending on the acceptable provision of facilities and services), subject only to indexation. Senior debt is flexible and allows restructuring and early repayment in a way that many other forms of funding do not.

Bond financing

10.7 With this type of financing, the project company issues a bond. A bond is purchased by capital market investors such as pension funds and insurance companies. In a public offering, the bond must be rated by at least one rating agency. These are institutions whose sole purpose is to rate the creditworthiness of organisations and projects. The minimum rating acceptable to investors is the so-called “Investment Grade”.

10.8 Unlike a bank deal, where the loan is drawn down throughout the construction period, in a bond issue the total amount of the bond is drawn down on day one. The funds are then held in a special account and drawn down from this to meet construction and other payments, including interest on the bond. Repayments of principal and interest on the bond are made generally half yearly throughout the bond term, as in a bank financing.

Relative Benefits

10.9 Each of the methods of financing have differing characteristics, which derive from the nature of the investors. These differences are:

Term

10.10 Bond investors are institutions who want long term fixed rate assets. There are not, therefore, the same maturity constraints as on a bank financing. On early PFI deals in the NHS, the term of bond financing has been 30 years whereas the maturity on bank debt is shorter, and has tended to be around 20 to 23 years. A longer term helps affordability. However, as PFI matures, the bank market appears to be moving towards longer maturities.

Price

10.11 Bonds are priced by reference to gilts (government debt), the relevant gilt being determined by the maturity and average life of the bond. To the gilt is added a credit margin.

10.12 Bank financing is priced at a quoted interest rate known as LIBOR plus a credit margin. In order to achieve a fixed rate, the floating rate LIBOR is swapped into a fixed rate. The fixed rate is arrived at by reference to the relevant gilt(s), to which is added a swap spread, and, generally, a risk spread, to give an all-in fixed rate. The credit margin is then added to this rate.

To take an example, assume pricing is off 10-year gilts:

Bond pricing:	10-year gilt	5.90%
	Credit margin	1.20%[1]
		7.10%
Bank pricing:	10-year gilt	5.90%
	Swap spread	0.50%[1]
	Risk spread	0.10%[3]
	Credit margin	1.20%[4]
		7.70%

Flexibility

10.13 Bond financing structures normally limit the flexibility of the sponsors in funding or requesting changes in the construction or operational phase. A bank debt financing usually allows a stand-by facility to be put in place that can be called on if required to fund charges. By comparison a bond financing does not easily allow for this. Any combination of bank and bond financing requires complex inter-creditor issues (who gets paid first) to be resolved. It is common in bond financings therefore to overcome this problem by raising a standby facility as part of the initial funding. This is inefficient since it involves raising more money than is required. There is also inflexibility in the bond holder's requirement for a fixed annual payment in contrast to banks which can offer payment grace periods or back-ended repayment profiles.

Arbitrage

10.14 The total bond amount is made available up front and the funds are placed on deposit. In a period when the short term interest rates are lower than the long term rates, the amount earned on the deposit would be considerably less than the amount of interest due on the bond. This negative arbitrage has to be priced in, thus adding to the cost of a bond. This is not a problem with bank funding as the money is not drawn down until needed.

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1 Subject to market fluctuations, underlying project risk and rating achieved – usual range: 1.00% – 2.00%

2 Subject to market fluctuations

3 To be negotiated with the bank handling the swap – usual range: 0.05% – 0.20%

4 Margin required by bank based on assessment of risks in the project – usual range: 1.0% – 1.5%

Up-front costs and timing

10.15 There are additional up-front fees, such as the rating agency fees, bond trustees' fees, additional legal costs, which accrue to a bond financing.

Sponsor access

10.16 Some sponsors will not be or are not in a position to consider bond financing as a source of funding. Bond underwriters or bond guarantors will require the contractor, who is usually one of the main sponsors of any project, to provide guarantees in the form of a letter of credit against their own balance sheet to protect the bond holders, or bond guarantor, against cost overruns or delays. In some cases this protection is not only against cost overruns but also extends to protecting the guarantor or the bond holders against loss of expected returns on thei investment. The impact of providing these guarantees restricts the financial capability of the contractor.

"Wrapped" bonds

10.17 Some of the drawbacks of a bond such as diffuse investors pricing uncertainty and deliverability can be mitigated through the use of a monoline insurer to "credit enhance" or "wrap" the bond. A monoline insurer is an insurance company rated AAA by the rating agencies, whose sole business is to guarantee the payment of bonds and other debt. By adding its guarantee ie "wrapping" the bond, the bond will be rated AAA, the highest rating achievable.

10.18 "Wrapping" project related bonds is forming an increasing part of the monoline's business. The monoline will undertake a due diligence exercise similar to that undertaken by banks to decide whether it is satisfied with the underlying risk of the project. It will require the bond to be rated at least investment grade by the rating agencies.

10.19 The monoline insurer charges a fee for its guarantee, which is the equivalent of a bank's credit margin. To build on the above example:

10-year gilt	5.90%
Market rate for AAA rated paper	0.70%[1]
Monoline credit margin	0.40%[2]
	7.10%

The guarantee fee, unlike credit margins, is payable in a lump-sum up front, with considerable cash-flow implications. The movement on AAA paper is less than that for lower rated paper, thus pricing a wrapped bond is less unpredictable, but still not without market risk.

10.20 If an unwrapped bond is being used there are 3 points which should be contemplated:

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[1] Subject to market fluctuations and reflecting the investors' appetite for AAA paper – usual range: 0.50% to 0.80%

[2] Margin required by monoline based on its assessment of risks in the project – usual range: 0.25% – 0.75%

Multiple investors

10.21 The bond will be purchased by a large group of different institutions and can be freely traded in the market. It can therefore be difficult to contact all the investors and to obtain the necessary decisions or waivers from the required majority in a timely manner. This can be a major obstacle to the smooth running of a project. An advantage of this, however, is that there is less monitoring of the project by the investors, and fewer restrictive covenants on the project company than are usually required by a bank.

Pricing uncertainty

10.22 The appetite for project related bonds can move greatly over relatively short periods of time. Institutions may be looking for different types of assets at different times depending on the amount they have to invest, the return they require and what other assets are available in the market at the time. This makes pricing the margin on the bond difficult. The margin is not just, as on a bank deal, the appropriate credit margin for the underlying risks in the project, but also an element of market pricing.

Deliverability

10.23 In a volatile market, investors may not want to purchase at any price.

The role of equity

10.24 All PFI transactions are likely to involve equity of some sort. There are effectively two sources for this form of funding, the project company shareholders (or sponsors) and third party specialist equity providers. Equity is the most expensive form of funding as it bears the highest level of risk within the contract.

10.25 The optimum mix of funding between equity and other types of finance will be that which minimises the weighted average cost of capital whilst still meeting all parties objectives. Each funder will have different investment criteria and in addition the mix of funding must be adequate to allow the project company to accept the level of risk transfer that is required. For instance as bank funding is risk averse it is unlikely that a transaction funded 100% by debt will provide sufficient risk transfer to form an acceptable PFI contract. In this sort of situation the project will not be value for money and will be much more likely to be on balance sheet.

10.26 The other key risk borne by equity providers is that of getting the project through the competition and negotiation phases to a successful financial close.

10.27 There tend to be two different types of equity in PFI projects:

“Pure” equity (ordinary shares)

10.28 This is always the first to perish in the event of a problem and therefore the most expensive. The general principal for equity is “first in last out” although for the sake of tax efficiency in some projects the money is not physically put into the scheme until the end of the construction phase although it is still at risk from the outset.

Subordinated debt

10.29 Also sometimes called junior debt, subordinated debt ranks behind senior debt and is a quasi-equity instrument that is used to allow a more tax efficient treatment of funds input. As it bears more risk than senior debt it will require a higher rate of return. The majority of equity in NHS PFI schemes is subordinated debt, with the investors taking a blended return from a pro rated package of equity and subordinated debt.

10.30 NHS Trusts should obtain advice in writing from their financial advisers that the method of financing chosen represents the best value for money available in the circumstances.

11. Financial models of schemes

Introduction

11.1 The final documentation of any PFI deal comprises the legal documentation in the form of contracts and the financial documentation in the form of a financial model. This chapter sets out the key issues which NHS Trusts should be aware of concerning the financial model for a scheme.

11.2 The financial model will reflect the financial basis upon which the transaction has been agreed and may be subject to adjustment in future years following a provision in the contract such as market testing. Consequently the model is a fundamental part of the contractual agreement between the parties and should be treated as such throughout the process. At financial close NHS Trusts should be as familiar with the model as they are with the project agreement.

11.3 The financial model is produced by the bidder, and will form the financial basis of all bids received. It will become more developed as the procurement process progresses but even at an early stage should be sufficiently robust for the bidder to have confidence in the accuracy of its bid. NHS Trusts should specify that bidders must produce a model in response to the Final Invitation To Negotiate that takes into account all major assumptions including detailed tax planning. This will be in the format of detailed income and expenditure, cashflow and balance sheet projections for the full contract period.

11.4 This level of detail is necessary to formulate an accurate assessment of the project company's costs and revenues and consequently the tariff payable by the NHS Trust for services received. It is also an essential part of the financing process and its absence would indicate a project for which financing has not been considered sufficiently seriously. Production of a financial model including specified assumptions and outputs, should be a requirement for a compliant bid at Final ITN stage, and will be considered in the evaluation of bids.

11.5 As part of the selection procedure between shortlist and preferred bidder stage, NHS Trusts should review the financial model of each bidder as part of the assessment of the full bid. The areas that the NHS Trust should concentrate on are detailed below. Bidders should be required to make their models available (including in electronic form) as part of the evaluation process.

Structure of the model

11.6 A financial model is a financial representation of the transaction agreed between the parties and is documented as financial projections of the project company throughout the life of the contract period. The model should contain the following as a minimum:

- assumptions book including description of model methodology
- proposed funding structure
- input schedules
- projected profit and loss accounts
- balance sheet projections
- cashflow projections
- funding schedules
- calculation of project returns for the different elements of financing
- supporting schedules (eg loans, fixed assets, taxation, payment mechanism).

11.7 The financial model incorporates the key financial assumptions on which a bid is based and forms the basis of the calculation of the annual tariff. The NHS Trust must be clear when comparing bids what assumptions have been made, and how they impact upon the model.

11.8 For example in a £50 million construction contract a 0.5% difference in assumed interest rates could have a £250,000 per annum effect on the annual tariff. Consequently it is important that NHS Trusts understand why competing bidders have made different funding assumptions. Is this simply a different estimate of potentially the same rate or does one bidder have a genuine ability to raise funds more cheaply than another?

Assumptions within the bidder's control

11.9 Areas that are within the direct control of the bidder are the simplest to identify and compare between competing bids. These tend to be the areas that the bidders are most comfortable discussing but NHS Trusts should note that these are only one part of the cost to the NHS Trust. These include the following:

- funders' and advisers' fees
- construction costs
- design
- facilities management costs
- project company set up and running costs
- contingencies
- sources of income

- project timetable
- funding strategy, costs, payment profiles, required ratios and returns to funds.

11.10 The most important issue here is for the NHS Trust to understand fully the details behind what the bidder has included in the costings. It is very simple for a bidder to assume that the NHS Trust will be providing something and the NHS Trust to assume otherwise. Good examples are things like equipment, linen, crockery etc, where one bid may include it and one may exclude it.

11.11 Another area of concern here is the level and nature of contingencies. Clearly all bids will include contingencies which may be separately identified or not. The important issue for bid evaluation purposes is to establish which costs the contingency is included to cover. It is expected that prices in bids will be fixed and that the risk that assumptions are wrong should remain with bidders.

11.12 NHS Trusts should also have a thorough understanding of assumptions made in bids which may directly affect the comparability of bids, and they will need to ensure that they are able to compare bids on a consistent basis. Assumptions in this category include:

- interest rates
- inflation rates
- timing of payments
- taxation.

These are discussed below.

Interest rates

11.13 Interest rates should always be transparent in the financial model and should include a buffer of 0.5% above the relevant interest rates ruling at the time of submission of bids. This should allow the NHS Trust some flexibility if interest rates rise between when bids are received and financial close. By the time of Full Business Case submission, an interest rate buffer of 0.25% above the relevant interest rate ruling at the time of FBC approval will be required. The relevant interest rate is most likely to be that on which the proposed hedging strategy is based.

11.14 NHS Trusts should understand how funds are to be raised and what funding terms and conditions the project company can obtain in relation to other similar transactions currently in the market. It is important to note that the terms available to bidders may vary based on the perception of project risks, the bidders' companies' credit rating, the structure and nature of the funds to be raised. Bidders should be asked to:

- specify the factors which would alter their financing costs; and
- give details as to how sensitive their bids are to changes in financing costs; as a minimum, a range of plus or minus 1% should be used.

Circumstances in which financing costs can be increased should be limited and exceptional. It is essential that the NHS Trust satisfies itself (usually by taking professional advice) as to the reasonableness of the funding assumptions included in the model.

11.15 The financial model should also contain details of the cost and timing of the interest rate hedging strategy that the project company have allowed for the financing, and of the advisory and up front fees associated with financing the project.

Inflation rates

11.16 Most PFI contracts will stipulate that the unitary payment will increase by reference to RPI. To assist comparability bidders should be instructed to use a uniform assumption for the inflation rate. Bidders should also be able to demonstrate the effect on bids of using their preferred assumption for the rate of inflation, if this is different from the NHS Trust's instructed uniform inflation rate. It should be noted that different inflation assumptions will dramatically affect the funding cover ratios and returns to equity.

Profile of payments

11.17 Affordability and cashflow can often be eased by adjusting the payment profile. This may be by introducing surplus land into the transaction or by phasing payments to reflect the NHS Trust's anticipated cash availability. These methods can materially reduce the unitary payments and thus using different assumptions can make comparability between bids difficult. To ease this problem bidders should be asked to run one financial model based upon standard assumptions and then provide a sensitised version of the model identifying the bidder's proposed structure with an explanation of the variances.

Taxation

11.18 Taxation rates are expected to vary over time but the nature of PFI is that the private sector takes the risk of taxation increases. Consequently it is usual for the model to incorporate one tax rate. The taxation calculations are usually fairly complicated and are expected to be accurate. As it is unusual for the project company to share any benefit attributing to complex taxation saving structures that may be built in over time, bidders should be expected to have taken advice and to have structured the project in a tax efficient way.

11.19 Consequently in respect of tax, the NHS Trust should ensure that the assumptions used by all of the bidders are correct and that any tax schemes incorporated into the financial model are feasible. The company and its funders should undertake appropriate due diligence prior to selection of preferred bidder where there is a risk of major tax schemes failing to work.

Sensitivity analyses

11.20 The bidders should be encouraged to run sensitivity analyses on their financial model so that the NHS Trust can identify which bids are more or less sensitive to factors. It may be that in choosing a preferred bidder that the NHS Trust chooses to appoint a slightly more expensive but less volatile bid. For example, bidders may adopt different approaches to managing the effects of changes

in interest rates (prior to financial close) and changes in the actual level of the retail price index at financial close

11.21 NHS Trusts should obtain disk copies of the shortlisted bidders' models and should ensure that they understand how the model works. The NHS Trust (or their advisers) may run sensitivity analyses on these models but these should be used for indicative purposes only. The only person qualified to decide what the impact of a certain event would be is the bidder and the NHS Trust should always ask the bidder to run any key sensitivities. This is important both from the point of view of accuracy but equally ownership. The bidder must accept ownership of a sensitivity otherwise it will use this later in the negotiation process.

11.22 The NHS Trust should also consider running sensitivity analyses based on their own assumptions with regard to the availability of facilities, the performance of services and expected levels of indexation to assess differences between bids and funding structures.

Funding structures

11.23 One of the major areas of difference between different financial models is likely to be the funding structure. At the earlier stages of procurement, each bidder should have appointed a financial adviser who will have commenced work on developing a funding structure and incorporating it in the financial model. However, funding terms will not be fully developed until later in the process.

11.24 By the time that a preferred bidder is being selected, there should be support in the form of draft funding agreements approved by financiers that reflect the terms modelled.

Investment criteria

11.25 The investment criteria that financiers should build into the financial model vary but they will include:

- the Annual Debt Service Cover Ratio
- the Loan Life Cover Ratio
- Internal Rates of Return to the project (pre-finance) and to equity
- the margin of the funds before and after completion
- the maturity of the loan and repayment profile
- any grace period
- the construction drawdown profile.

11.26 The NHS Trust's review of the financial model should include checks that these are consistent with the market and with draft terms of funding and other assumptions in the bid.

The due diligence process

11.27 The financiers will require due diligence to be undertaken on the financial model as well as on the transaction as a whole. This will require an independent expert, usually a reputable accountant to perform a model "audit" to validate the integrity of the model. The purpose of this is to ensure that the model is adequately constructed and that the assumptions as stated are reflected in the model.

11.28 As the financial model is a complex spreadsheet this is an important stage in the process. However, it is likely that it will only be done towards the end of the process, as it is fairly costly and time consuming. The bidder should underwrite the accuracy of the model and should take the risk that the model audit proves the price to be incorrect ie the additional cost should not be passed onto the NHS Trust. However where such errors are significant they will inevitably lead to attempts to re-open the price, so the NHS Trust should take steps to have the model's accuracy checked independently to ensure that there are unlikely to be any such "surprises" at a later stage.

12. Design quality

Introduction

12.1 Design will be a key factor in determining which bids win PFI contracts. All things being equal, the best designed methods of meeting the output specification should always win the tender.

12.2 Good design is one important tool among several to enable NHS Trusts to obtain value for money. Whole life costings are vital to PFI, and these are largely determined by design decisions. Hence the impact of poor design is explicitly considered in the PFI procurement process. PFI and design considerations are, therefore, closely linked.

12.3 This chapter looks at who should be involved in the design process and key issues in defining and assessing design quality.

Understanding design quality

12.4 Different users will have their own concept of quality in relation to a building. The project team will need to determine and reasonably document the subjective quality judgements which apply to the design of the project in hand. The people who can be involved in the design process are set out below:

- **the client** who commissions the hospital buildings is concerned with the capital investment and the running costs, and the ability to operate an efficient service from the building. It is the client's responsibility to assemble a team with the qualities and abilities needed to manage the design and construction process;

- **designers, builders and healthcare advisers** are concerned with the correct interpretation of the client's need;

- **patients and staff** are concerned with the quality of the environment for everyday working and living. The quality of the designed environment can be conducive to the well-being of the occupants and can enhance the healing process for the patients;

- **visitors** to the building need to find a welcoming environment with easy accessibility;

- **the public** are concerned with the location of the services within their community;

- **the people who operate and maintain the building** are concerned with the functional and economic efficiency with which services can be operated and delivered.

Achieving design quality

12.5 Achieving good design quality is not a matter of applying quality control techniques, rather it is how to build quality into the scheme from the outset. For a complex scheme, the outset means a point well before the design commences. The NHS Trust needs to ensure that the right skills and resources are available to the project team at each step.

12.6 Two key areas which must be addressed when developing the proposals for a scheme include the degree of flexibility and adaptability of buildings the NHS Trust requires to allow for changes in the operations of the NHS Trust throughout the contract period:

- flexibility – during a building's lifetime its constituent parts may have to fulfil more than one function, due to technical advances and changes in medical treatment techniques. Flexibility should be an in-built feature of the design, to allow for minor adaptations and alterations to be undertaken without the NHS Trust incurring excessive costs. The capacity for the building to respond to these changes will also assist in guarding against the risk of the structure becoming obsolete before the contract end;

- adaptability – the capacity for major change for any healthcare building in relation to either its expansion or contraction is a risk that should be estimated at the time of the initial design conception.

The NHS Trust project team

12.7 One of the project team's first tasks will be to define the project brief based upon the established business need. The team will need to have access to the skills required to define the requirements of the brief and how to understand design proposals when they are tabled.

12.8 Where necessary, design consultants should be chosen at this stage for their detailed technical understanding of the issues and ability to be open minded and to explore what the options mean. Terms of appointment should reflect the nature of their involvement. The client organisation should seek professional design advisors, who have more to contribute at this stage than aesthetically creative architects. Creativity should focus on the generation of new options for delivering healthcare.

12.9 A procurement involving design and construction services is complex and requires a thorough understanding of the construction marketplace. It is unlikely that such knowledge can be found other than within the industry, among advisors with sound construction project management experience. Not only must a client body understand its project, but it must also have access to national and international market knowledge. It is inadequate for the in-house and external advisors only to have experience of public capital procurement. Broad previous experience is essential in the more integrated procurement routes such as PFI, Guaranteed Maximum Price and "Design and Build".

Developing the project before OJEC

12.10 The goal of the OBC is a measured evaluation of a defined business need and a possible solution, costed to prove viability. The preferred option in the OBC is not the final solution as bidders should not be constrained under PFI. The major impact on design quality should be the robustness of the case to build. Should the scheme need to be substantially changed in the context of design quality, a changed scheme is usually less of a success than a scheme that was conceived of correctly from the outset. Flexibility and adaptability should be considered and quantified and designed in to the solution. The need should be quantified as a functional requirement on a department by department basis.

12.11 The specification of design quality forms part of the output specification for the facilities which should be taken account of in the OBC. This should involve:

- **design quality standards** – an essential part of the design brief is an initial statement of design quality intent which the client should prepare as part of the operational policy for each department or functional part of the health building. This should set out the design quality aspirations of the users. The client needs to be satisfied that these are properly interpreted by the professional design advisers who should prepare the specification of design quality. The quality of design in terms of the functionality of the building should proceed from the clients definition of required outputs and capacities which will be translated into space requirements. For health buildings many of these requirements have been encapsulated in the relevant Health Building Notes and Health Technical Memoranda. These design standards need to be tailored to meet the specific requirements of a project;

- **building quality standards** – the quality of the building structure, materials and finishes may be specified in terms of the required performance or in terms of appropriate quality. Some performance characteristics can be measured, such as sound attenuation or thermal insulation values, while others are not easily quantifiable and can only be specified by description.

12.12 The Invitation To Negotiate (ITN) is the first comprehensive project description the selected bidders see, and will form the basis of the final contract. At this point the required standards of design quality must be firmly defined. With more traditional procurement routes, the client customarily relied on the professional competence and integrity of the design teams and allowed time for the designers to get to know the aims and objectives of the client in terms of quality. In contrast, PFI procurement relies on a single issue of information to the bidders and their designers, albeit with subsequent scope for clarification of details. This must specify quality aspirations effectively. The tendency has been for NHS Trusts to rely on designers to hypothesise the unstated project quality objectives. This is a high risk approach to PFI. Instead, the project team should take time to debate the issue with the NHS Trust's senior and operational management teams to understand the value of quality standards and to establish appropriate benchmarks or aspirations.

The role of design advisers in PFI schemes

12.13 There is an important distinction between the design teams, usually part of the bidding consortia, and the design advisers employed by the client NHS Trust. The design advisers (architect, engineer and quantity surveyor) require special skills and qualities. They are required to take an analytical and objective view. They need to prepare the clients for the activities and decisions that will be required of them during the design process such as defining quality aspirations and evaluating design proposals. They will take a leading role in preparing output specifications for design. One of the most important roles is in assisting the project team in preparation of the project and design brief. The more thorough the work of establishing the correct brief, the better will be the resulting design quality. A training programme should be established for people taking part in the design process.

The evaluation of design proposals

12.14 The evaluation criteria for evaluating design proposals in bids should be determined when the Invitation To Negotiate is being drafted prior to advertising the scheme in OJEC, and they should be clearly set out in the ITN document itself. Figure 12.1 below lists some factors which can be taken account of in setting the evaluation criteria. Criteria which are not directly measurable can be assessed using, for example, a weighting and scoring matrix.

Figure 12.1: Good hospital design

Good hospital design should:-
1. **Fit into its surroundings** ● be a good neighbour to adjoining buildings ● fit well on the site and meet Town Planning requirements
2. **Create a user friendly, healing environment** ● a pleasant, external appearance, with a human scale ● an obvious main entrance and easy to find special entrances ● a welcoming entrance and reception area ● a simple, clear plan for easy wayfinding ● a reassuring internal appearance with views to the outside ● natural daylight and ventilation to occupied areas ● comfort and privacy where needed ● space, colour, light and views to enhance the healing process ● pleasantly landscaped surrounding areas and internal courtyards
3. **Provide a safe and secure environment** ● design for health and safety ● clear fire planning principles ● design for security control
4. **Provide easy access for** ● ambulances, public transport and fire appliances ● cars for visitors and staff with adequate car parking ● pedestrians and disabled people ● separate access for goods deliveries and waste disposal

5.	**Reflect appropriate health building standards** ● be based on appropriate space standards ● reflect Health Building Notes ● reflect Health Technical Memoranda ● be functionally appropriate
6.	**Be efficient** ● in relationship of functions ● in movement of people and distribution of supplies ● in utilisation of space
7.	**Be economic** ● in staffing and operation ● in energy utilisation ● in building maintenance
8.	**Be flexible** ● adaptable to respond to change of use ● able to meet changing demand ● phaseable for planning, construction stages or future development
9.	**Specify appropriate constructional standards** ● building materials and finishes should be appropriate to use ● finishes should be easy and economic to maintain ● engineering systems should be organised for ease of use and future adaptation

13. Establishment orders

[Chapter under revision – new guidance to be issued shortly]

Appendix 1:
Example of allocation matrix

1. Design Risks

No.	Risk Heading	Definition	Allocation		
			public sector	private sector	shared
1.1	Failure to design to brief	Failure to translate the requirements of the NHS Trust into the design.		✔	
1.2	Continuing development of design	The detail of the design should be developed within an agreed framework and timetable. A failure to do so may lead to addition design and construction costs.		✔	
1.3	Change in requirements of the NHS Trust	The NHS Trust may require changes to the design, leading to additional design and construction costs.	✔		
1.4	Change in design required by operator[1]	This is the risk that the operator will require changes to the design, leading to additional design costs.		✔	
1.5	Change in design required due to external influences specific to the NHS	There is a risk that the designs will need to change due to legislative or regulatory changes specific to the NHS.	✔		
1.6	Failure to build to design	Misinterpretation of design or failure to build to specification during construction may lead to additional design and construction costs.		✔	

[1] The operator is the private sector body which receives payments from the procuring entity for providing the services.

2. Construction and Development Risks

No.	Risk Heading	Definition	Allocation		
			public sector	private sector	shared
2.1	Incorrect time estimate	The time taken to complete the construction phase may be different from the estimated time.		✔	
2.2	Unforeseen ground/site conditions	Unforeseen ground/site conditions may lead to variations in the estimated cost.		✔	
2.3	Unforeseen ground/site conditions under the footprint of existing facilities	Additional costs resulting from where the private sector is unable to carry out necessary surveys prior to commencing work because facilities are currently occupied.	✔		
2.4	Delay in gaining access to the site	A delay in gaining access to the site may put back the entire project.			✔[2]
2.5	Responsibility for main-taining on-site security	Theft and/or damage to equipment and materials may lead to unforeseen costs in terms of replacing damaged items, and delay.		✔	
2.6	Responsibility for main-taining site safety	The Construction, Design and Management (CDM) regulations must be complied with.		✔	
2.7	Third party claims	This risk refers to the costs associated with third party claims due to loss of amenity and ground subsidence on adjacent properties.		✔	

[2] Depending on circumstances.

No.	Risk Heading	Definition	Allocation		
			public sector	private sector	shared
2.8	"Compensation Events"	An event of this kind may delay or impede the performance of the contract and cause additional expense.	✔		
2.9	"Delay Events"	An event of this kind may delay or impede the performance of the contract and cause additional expense.			✔
2.10	Force Majeure	In the event of Force Majeure additional costs will be incurred. Facilities may also be unavailable.			✔
2.11	Termination due to force majeure	There is a risk that an event of force majeure will mean the parties are no longer able to perform the contract.			✔
2.12	Legislative/ regulatory change: NHS specific	A change in NHS specific legislation/regulations, leading to a change in the requirements and variations in costs.	✔		
2.13	Legislative/ regulatory change: non-NHS specific	A change in non-NHS specific legislation/regulations taking effect during the construction phase, leading to a change in the requirements and variations in costs.		✔	
2.14	Changes in taxation	Changes in taxation may affect the cost of the project.		✔	
2.15	Changes in the rate of VAT	Changes in the rate of VAT may increase the costs of the project. VAT should generally be refundable to the NHS Trust.	✔		

No.	Risk Heading	Definition	Allocation		
			public sector	private sector	shared
2.16	Other changes in VAT	Changes in VAT legislation other than changes in the rate of VAT payable.	✔		
2.17	Contractor default	In the case of contractor default, additional costs may be incurred in appointing a replacement, and may cause a delay.		✔	
2.18	Poor project management	There is a risk that poor project management will lead to additional costs. For example, if sub-contractors are not well co-ordinated, one sub-contractor could be delayed because the work of another is incomplete.		✔	
2.19	Contractor/ sub-contractor industrial action	Industrial action may cause the construction to be delayed, as well as incurring additional management costs.		✔	
2.20	Protester action	Protester action against the development may incur additional costs, such as security costs.			✔
2.21	Incorrect time and cost estimates for decanting from existing buildings	The estimated cost of decanting from existing buildings may be incorrect, there may also be delays leading to further costs. Public sector risk unless delays and cost attributable to the private sector operator.	✔		

No.	Risk Heading	Definition	Allocation		
			public sector	private sector	shared
2.22	Incorrect time and cost estimates for commissioning new building	The estimated cost of commissioning new buildings may be incorrect, there may also be delays leading to further costs.		✔	

3. Performance Risks

3.1	Latent defects in new build	Latent defects to the structure of the building(s), which require repair, may become patent.		✔	
3.2	Change in specification initiated by procuring entity	There is a chance that, during the operating phase of the project, the procuring entity of the services will require changes to the specification.	✔		
3.3	Performance of sub-contractors	Poor management of sub-contractors can lead to poor co-ordination, and under-performance by the contractors. This may create additional costs in the provision of services.		✔	
3.4	Default by contractor or sub-contractor	In the case of default by a contractor or sub-contractor, there may be a need to make emergency provision. There may also be additional costs involved in finding a replacement.		✔	
3.5	Industrial action	Industrial action by the staff involved in providing facilities services would lead to higher costs and/or performance failures.		✔	

No.	Risk Heading	Definition	Allocation		
			public sector	private sector	shared
3.6	Failure to meet performance standards	There is a risk that facilities management (FM) will not provide the required quality of services. This may be costly to correct, and the operator may incur financial penalties		✔	
3.7	Availability of facilities	There is a risk that some or all of the facility will not be available for the use to which it is intended. There may be costs involved in making the facility available.		✔	
3.8	"Relief Events"	An event of this kind may delay or impede the performance of the contract and cause additional expense.			✔
3.9	Force Majeure	In the event of Force Majeure additional costs will be incurred. Facilities may also be unavailable.			✔
3.10	Termination due to force majeure	There is a risk that an event of force majeure will mean the parties are no longer able to perform the contract.			✔

4. Operating Cost Risks

4.1	Incorrect estimated cost of providing specific services under the contract: within market testing periods	The cost of providing these services may be different to the expected, because of unexpected changes in the cost of equipment, labour, utilities, and other supplies.		✔	

No.	Risk Heading	Definition	Allocation		
			public sector	private sector	shared
4.2	Incorrect estimated cost of providing specific services under the contract: at point of market testing	The cost of providing these services may be different to the expected, because of unexpected changes in the cost of equipment, labour, utilities, and other supplies. This risk would be shared if the PFI contract envisages that changes in cost at the point of market testing are shared between the NHS Trust and the operator.	✔		
4.3	Legislative/ regulatory change having capital cost consequences: NHS specific.	NHS specific changes to legislation/regulations may lead to additional construction costs, and higher building, maintenance, equipment, or labour costs.	✔		
4.4	Legislative/ regulatory change: non-NHS specific	Non-NHS specific changes to legislation/regulations may lead to additional construction costs, and higher maintenance, equipment, or labour costs.			✔
4.5	Changes in taxation	The scope and level of taxation will effect the cost of providing services.		✔	
4.6	Changes in VAT	This may increase the cost of the provision of services to the NHS Trust. However changes in VAT are generally refundable to the NHS Trust.		✔	

No.	Risk Heading	Definition	Allocation		
			public sector	private sector	shared
4.7	Incorrect estimated cost of providing clinical services	The cost of providing clinical services may be different to the expected. These costs include: staff, recruitment, training, equipment, and supplies.	✔		
4.8	Incorrect estimated cost of maintenance	The cost of building and engineering maintenance may be different to the expected costs.		✔	
4.9	Incorrect estimated cost of energy used	Failure to meet energy efficiency targets or to control energy costs.		✔	
4.10	Patient infection caused by poor facilities management	There is a risk that a patient infection could be traced directly to the actions of staff employed and managed by the facilities manager. This may include, for example, food poisoning and wound infection from incorrectly sterilised dressings. This risk may lead to increased treatment costs, and, possibly, legal costs if the patient takes legal action.			✔
4.11	Patient infection – other	Patient infection caused by staff employed by and controlled by the procuring body. This risk may lead to increased treatment costs, and, possibly, legal costs.	✔		
4.12	Estimated cost of transferring the employment of staff to new employer is incorrect	The estimated cost of the transfer of the employment of staff, under TUPE, may be incorrect. This includes the cost of any legal appeals. The NHS Trust may be asked to warrant information			✔

No.	Risk Heading	Definition	Allocation		
			public sector	private sector	shared
4.13	Estimated cost of restructuring the workforce providing services under the contract is incorrect	The estimated cost of restructuring the workforce at any time during the operating phase, such as recruitment costs and redundancy payments, may be incorrect.		✔	

5 Variability of Revenue Risk

5.1	Non-performance of services	Payment will only be made by the NHS Trust for services received.		✔	
5.2	Poor performance of services	The operator will incur deductions from the performance payment for the poor performance of services.		✔	
5.3	Changes in the size of the allocation of resources for the provision of health care	There is a risk that the resources allocated to the area are reduced or increased. If such changes do occur, there may be a need to re-scale the provision of services.	✔		
5.4	Changes in the volume of demand for patient services	There is a risk that the volume of demand for health care will change, because of changes in the size of the catchment area. This may occur because there is, for example: an unexpected increase in the size of the population, leading to an increase in demand; or the provision of a new alternative provider health care, leading to a reduction in demand.	✔		

No.	Risk Heading	Definition	Allocation		
			public sector	private sector	shared
5.5	Unexpected changes in medical technology	Unexpected changes in medical technology may lead to a need to re-scale or reconfigure the provision of services. For example, if the increase in day surgery is greater than expected, the total number of required beds may fall.	✔		
5.6	Unexpected changes in the epidemiology of the people in the catchment area	Unexpected changes to the epidemiology of the people in the catchment area may lead to a reconfiguration or re-scaling of the provision of services.	✔		
5.7	Unexpected sudden increases in demand, due to major incident	There is a risk of large unexpected increases in demand (eg due to a major incident).			✔
5.8	Estimated income from income generating schemes is incorrect	There is a risk that income generating schemes, such as car parking and retail outlets, generate less or more income than expected.		✔	

6 Termination Risks

6.1	Termination due to default by the procuring entity	The risk that the procuring entity defaults leading to contract termination and compensation for the private sector.	✔		
6.2	Default by the operator leading to step-in by financiers	The risk that the operator or individual service providers default and financiers step-in leading to higher costs than agreed in the contract.		✔	

No.	Risk Heading	Definition	Allocation		
			public sector	private sector	shared
6.3	Termination due to default by the operator	The risk that the operator defaults and step-in rights are exercised by financiers but that they are unsuccessful leading to contract termination.		✔	
7	**Technology and Obsolescence Risks**				
7.1	Technological change/asset Obsolescence	Buildings, plant, and equipment may become obsolete during the contract.		✔	
7.2	Technological change	Technical changes may cause the NHS Trust to revise its output specifications.	✔		
8	**Control Risks**				
8.1	Control of clinical services	The NHS Trust retains control of clinical services which means that it retains significant control of the nature of the services provided by the operator.	✔		
8.2	Control of services provided under the PFI contract	The operator should retain control of these subject to 8.1 above.		✔	
9	**Residual Value Risks**				
9.1	Procuring entity no longer requires assets at end of contract	The risk that the procuring entity will wish to vacate the asset at the end of the contract period, and that the operator may be faced with decommissioning costs.		✔	

No.	Risk Heading	Definition	Allocation		
			public sector	private sector	shared
10	**Other Project Risks**				
10.1	Incorrect cost estimates for planning approval	Estimated cost of receiving detailed planning permission is incorrect, including the cost of satisfying unforeseen planning requirements.		✔	
10.2	Delayed planning approval	A delay in receiving planning permission may have broader cost implications for the project, as well as the loss of potential savings.			✔
10.3	Land sale receipts	The estimated receipts from the sale of surplus land may be incorrect.		✔	

Appendix 2:

Tools and techniques for incorporating risks

Risk Audit Interviews and Brainstorming Workshops

1. The identification, assessment and management of risks (especially for large projects and small projects which are novel) requires considerable skills and professional judgement. Risk audit interviews and brainstorming workshops will help to identify the relevant risks, assess any interdependencies between the risks, how they might occur, their likelihood of occurring and the likely financial consequences.

2. These techniques are at the 'soft' end of the analytical spectrum. They are particularly useful at the SOC stage. At the FBC stage (and to a lesser extent the OBC stage), they should be supplemented with 'hard' techniques such as the statistical techniques described later.

3. A risk audit interview involves interviews led by an experienced risk manager/expert with key project participants and staff. These interviews are conducted individually, and supplemented by peer group meetings and brainstorming sessions. The group will brainstorm all the risks which apply to the project, after which grouping under common headings may be made. The facilitator will record and distil from these risks the ones which require further investigation. These may subsequently be quantified.

Rules of Thumb

4. Rules of thumb or heuristics are often used to aid decision-making. For example, a financial institution may choose to lend three times a person's salary in considering a mortgage application. These rules provide broad guidelines for mangers in decision-making. They are often based on expert judgement and experience, and supplemented with other information.

5. As a preliminary step, an NHS Trust could, therefore, draw on expert opinion and information from comparable schemes to determine what allowance to make for risk. Given the uncertainty in "rules of thumb" and difficulties in comparing schemes, estimates derived from this approach should be compared with estimates based on more detailed approaches (eg probability analysis).

Sensitivity Analysis and Switching Values

6. Sensitivity analysis is the calculation of how changes in the underlying assumptions in an economic appraisal or risk analysis would affect the results from the particular analysis. It involves varying the important and uncertain variables in the particular analysis to see what effect this has on the conclusions. If the conclusions are not markedly affected, then the conclusions or results are robust.

7. Sensitivity analysis should be used in circumstances where:

- there are genuine uncertainties in the values ascribed to some variables;
- the outcomes of the particular analysis are sensitive to a number of key variables (ie variables with relatively large values); and
- there is reason to expect significant bias in the estimates of costs, benefits or risks.

8. In a risk analysis, it is good practice to perform sensitivity tests on the risks which have been assessed to have relatively large values and those with uncertain probabilities and/or financial impact. The latter could result from lack of historical information or lack of experience of managing the particular risk.

9. An effective way of presenting the results of sensitivity testing is to calculate the switching value or cross-over point. This is the amount by which the variable(s) under investigation would have to change in order to affect the ranking of the options. For example, it can show by how much the value would have to fall (if it is a benefit) or rise (if it is a cost or risk) to make it not worth undertaking the option. A view can then be taken about the likelihood of the factor turning out worse than the switching value.

Scenario Planning

10. Scenario planning assesses the effect on the success or otherwise of an option of combining different assumptions about the future. A small number of scenarios (typically the optimistic, most likely and pessimistic) is selected and the expected net present cost of each investment option is calculated for each of the chosen scenarios.

11. Each scenario can be tested for sensitivity to changes in key variables. Some key questions to explore under each scenario are:

- does the ranking of the options change under optimistic and pessimistic assumptions?
- how likely are the best and worse case scenarios to arise?
- what would be the effect on affordability and prices to commissioners of each scenario?
- what would be the effect on value for money of each scenario?

Weighting and Scoring

12. In an economic appraisal or risk analysis, it is not always possible to measure all relevant decision-making variables in monetary terms. For example, an option may make it possible to improve the delivery of care, but this is difficult to quantify in financial terms. The same would be true for some risks (eg adverse public relations or changes in medical technology).

13. In such situations, weighting and scoring approaches should be adopted. In an economic appraisal, this would require the following steps (i) identifying relevant

benefit criteria (eg quality of physical environment, accessibility to services, and flexibility of accommodation for alternative use); (ii) setting weights for each criterion depending on their relative importance (eg weights could be ascribed in such a way that they sum to 100%. A criterion with 50% would be twice as important as one with 25%); and devising a simple scoring system for each option (eg marks out of 10, with zero as a possibility). The weight multiplied by the score would give the weighted score for each criterion in each of the options considered. The sum of the weighted scores produces the total weighted score for each option.

14. In the case of an assessment of non-financial benefits, the option which attracts the highest total weighted score is the most attractive. For a risk analysis, the option with the highest total weighted score is the most risky.

15. Given the inherent subjectivity in this approach, it is important for the process and reasoning behind the scores and weights to be clearly recorded to demonstrate that a plausible and even-handed analysis has been undertaken. It is the number of people involved in the process, their expertise and the way the decision is made (eg by negotiation and compromise) that lends credibility to this analysis.(Further details on weighting and scoring can be found in the *Capital Investment Manual*).

Single point probability analysis

16. At its most basic, a risk analysis could consist of an estimate of the cost of each risk occurring, multiplied by a single probability of that risk occurring in a particular year.

17. For example, the risk of cost overruns of a particular service may be estimated as:

Annual cost of service	£2m
Estimated impact of risk of cost overrun	£200,000
Estimated probability of risk occurring	10%

Estimated value of risk = £200,000 x 10% = £20,000

Multi-point probability analysis

18. For any risk, a range of possible outcomes is more likely. An output probability distribution gives a complete picture of the possible outcomes, and recognises that some of these outcomes are more likely to occur than others. An “expected” outcome is the average of all possible outcomes, taking into account their different probabilities.

19. For example, it is estimated that a particular facility will cost £50m to build. The expected cost associated with construction cost uncertainties could be analysed to give the following events and the likelihood of occurring:

Possible cost (£m)	Difference from estimated cost (£m)	Estimated probability of event occurring	Risk value (£m)
45	-5	0.1	-0.5
50	0	0.6	0
55	+5	0.1	+0.5
60	+10	0.1	+1.0
65	+15	0.1	+1.5
		1.0	+2.5

20. In the above example, the most likely outcome is that of no extra cost, as this outcome has the highest probability. The expected outcome is the sum of each possible outcome multiplied by its probability, ie an extra cost of £2.5m. This would need to be calculated in net present value terms, taking account of the time period over which the risk occurs.

21. The number of likely outcomes may vary for each different risk. In the example above, it was felt that five outcomes could be meaningfully specified, including one for a cost saving in the project. However, introducing extra outcomes need only be done if they add value to the qualification process.

Using statistical computer software: scenarios and Monte Carlo simulation

22. There are a variety of packages available which take the analysis of risk using probability distributions a step further. In general, computer simulations start by generating a series of simple profiles to fit a number of defined cases for each risk (usually three): the worst case (maximum impact), the most likely case (expected impact), and the best case (minimum impact). A limited number of standard profiles is usually available within the software and in some programmes the input can be in the form of a curve chosen from a standard set.

23. Monte Carlo simulation is widely available in the form of a number of software packages for this sort of analysis, although alternative statistical methods are equally acceptable. In this method, a random value of probability and its associated value of consequence is selected from the sample profile for each risk in turn and these are then combined to give a total value for the overall project. This procedure is repeated for a large number of iterations. The more iterations, the better the accuracy.

24. Such an analysis is a very powerful method of assessing risk and risk transfer. However, there may not be sufficient data within the NHS to determine the probability distributions easily and therefore managers will have to generate a lot of the data based upon a “common sense” analysis of possible outcomes. Ultimately it is better for the NHS Trust to use robust assumptions and unsophisticated techniques than vice versa as the output of any analysis can only be as reliable as the input.

Appendix 3:

Example of risk description table for the FBC

An example of the detail expected in an FBC on an individual risk that is quantified in the risk analysis is set out below.

Risk reference:	4.8	
Category:	Operating cost risks	
Risk:	Incorrect estimated cost of maintenance	
Definition:	The cost of building and engineering maintenance may be different to the expected costs	
Impact on:	The general up-keep and maintenance of hospital buildings. Will impact upon the availability of facilities.	
Commentary:	The NHS Trust has allowed £500,000 per annum in the Public Sector Comparator to carry out repair and replacement work to maintain the new facilities at estates condition B.	
	The risk is quantified as the possible difference in costs from the estimated cost of maintenance on an annual basis.	
Level of risk retained by NHS Trust:	PSC: 100%	PFI: 0%

Outcome per annum	£'000	**Worst** 250	**Medium** 100	**Best** 0	**Timing** applies throughout operational period
Probability	%	15	70	15	

Evidence for assumptions:	● Best case: adequate provision for maintenance made ● Medium case: maintenance costs underestimated by 20% ● Worst case: maintenance costs underestimated by 50% The values and probabilities were estimated on the basis of the NHS Trust's own experience and on the professional advice of [the NHS Trust's technical advisers].

PFI contract reference:	Schedule [ ] Payment Mechanism: availability Schedule [ ] Estates and Maintenance Service Level Agreement

Appendix 4:

Land sold to the private sector for subsequent sale, in exchange for a reduction in annual payments

Example A: Disposal at Open Market Value

The accounting entries are shown below. Figure 1 (Worked Example A) below shows the impact on the trust's accounts over the entire contract period.

Assumptions

Land at Book Value	£12m
DV valuation at OMV	£10m
NPV of reduced payments	£10m
Profit/(loss) on disposal	Nil
Primary period	25 years
Annual payment	£15m (before reduction for land value)
Reduction for land value	£782,267 pa
Actual amount payable	£14,217,733 pa

Accounting entries

At the point where the land is disposed of to the consortium:

		£m
(1)	Debit: Revaluation Reserve	2
	Credit: Fixed Assets	2
	Being the revaluation to open market value	

NOTE: this may need to be treated as a permanent diminution of value, in which case it would be taken to the income and expenditure account rather than the revaluation reserve.

(2)	Debit: I & E disposal account	10
	Credit: Fixed Assets	10
	Being disposal of the asset	

(3)	Debit: Deferred Asset	10
	Credit: I & E disposal account	10
	Being creation of a deferred asset	

At the end of year 1:

(4)	Debit: I & E	0.4
	Credit: Deferred asset	0.4

(5) Debit: I & E account 14.217733
Credit: Creditors 14.217733
Being PFI charge after the reduction in unitary payment due to land

Figure 1: Worked Example A

	VALUE FOR MONEY TEST			I&E EFFECT					
	Annual Payment Reduction	Discount Rate 6%	Net Present Value	Profit On Disposal	Deffered Asset Write Off	PFI charge	Total I&E Charge	I&E EFFECT WITHOUT LAND	(h) less (g) DIFFERENCE between the nominal and the real benefit of the land
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
0	0	0	0	0	0	0	0	0	0
1	782,267	1.06	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
2	782,267	1.1236	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
3	782,267	1.191016	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
4	782,267	1.262477	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
5	782,267	1.338226	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
6	782,267	1.418519	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
7	782,267	1.50363	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
8	782,267	1.593848	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
9	782,267	1.689479	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
10	782,267	1.790848	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
11	782,267	1.898299	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
12	782,267	2.012196	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
13	782,267	2.132928	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
14	782,267	2.260904	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
15	782,267	2.396558	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
16	782,267	2.540352	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
17	782,267	2.692773	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
18	782,267	2.854339	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
19	782,267	3.0256	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
20	782,267	3.207135	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
21	782,267	3.399564	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
22	782,267	3.603537	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
23	782,267	3.81975	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
24	782,267	4.048935	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
25	782,267	4.291871	737,990	0	400,000	14,217,733	14,617,733	15,000,000	382,267
	19,556,675		**10,000,000**	**0**	**10,000,000**	**355,443,325**	**365,443,325**	**375,000,000**	**9,556,675**

Notes (a) derived from the financial model
(b) discount annual reduction in payments at 6%
(c) npv of annual reduction is £10m
(d) profit on disposals is NIL: £10m (npv) less £10m (OMV)
(e) write off the defferred asset over the primary lease period
(f) annual payment £15m less £0.782m reduction
(g) total impact on I&E
(h) charge if no land in the deal – based on a 9% rate of interest and assuming the unitary payment is equivalent to the loan repayment only
(i) the deferred assest is based on the NPV of future savings i.e. real savings
the actual saving of £0.782m is based on the nominal saving over and above the £15m payment

Example B: an upwards revaluation to OMV and realisation of proceeds in excess of OMV.

The accounting entries are shown below. Figure 2 (Worked Example B) shows the impact on the Trust's accounts over the entire contract period.

Assumptions

Land at Book Value	£12m
DV valuation at OMV	£14m
NPV of reduced payments	£18m
Profit/(loss) on disposal	£4m
Primary period	25 years
Annual payment	£15m (before reduction for land value)
Reduction for land value	£1,408,081 pa
Actual amount payable	£13,591,919 pa

Accounting entries

		£m
(1)	Debit: Fixed Assets	2
	Credit: Revaluation Reserve	2
	Revaluation to open market value	
(2)	Debit: I & E disposal account	14
	Credit: Fixed Assets	14
	Disposal of asset	
(3)	Debit: Deferred Asset	18
	Credit: I & E disposal account	18
	Creation of a deferred asset	

At the end of year 1:

(4)	Debit: I & E	0.72
	Credit: Deferred asset	0.72
	Being amortisation of the deferred asset over 25 years	
(5)	Debit: I & E account	13.591919
	Credit: Creditors	13.591919
	Being PFI charge after the reduction in unitary payment due to land	

Figure 2: Worked Example B

	VALUE FOR MONEY TEST			I&E EFFECT					
	Annual Payment Reduction	Discount Rate 6%	Net Present Value	Profit On Disposal	Deffered Asset Write Off	PFI charge	Total I&E Charge	I&E EFFECT WITHOUT LAND	(h) less (g) DIFFERENCE between the nominal and the real benefit of the land
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
0	0	0	0	-4,000,000	0	0	-4,000,000	0	4,000,000
1	1,408,081	1.06	1,328,377	0	720,000	13,591,919	14,311,919	15,000,000	688,081
2	1,408,081	1.1236	1,253,187	0	720,000	13,591,919	14,311,919	15,000,000	688,081
3	1,408,081	1.191016	1,182,252	0	720,000	13,591,919	14,311,919	15,000,000	688,081
4	1,408,081	1.262477	1,115,332	0	720,000	13,591,919	14,311,919	15,000,000	688,081
5	1,408,081	1.338226	1,052,200	0	720,000	13,591,919	14,311,919	15,000,000	688,081
6	1,408,081	1.418519	992,642	0	720,000	13,591,919	14,311,919	15,000,000	688,081
7	1,408,081	1.50363	936,454	0	720,000	13,591,919	14,311,919	15,000,000	688,081
8	1,408,081	1.593848	883,447	0	720,000	13,591,919	14,311,919	15,000,000	688,081
9	1,408,081	1.689479	833,441	0	720,000	13,591,919	14,311,919	15,000,000	688,081
10	1,408,081	1.790848	786,265	0	720,000	13,591,919	14,311,919	15,000,000	688,081
11	1,408,081	1.898299	741,760	0	720,000	13,591,919	14,311,919	15,000,000	688,081
12	1,408,081	2.012196	699,733	0	720,000	13,591,919	14,311,919	15,000,000	688,081
13	1,408,081	2.132928	660,163	0	720,000	13,591,919	14,311,919	15,000,000	688,081
14	1,408,081	2.260904	622,796	0	720,000	13,591,919	14,311,919	15,000,000	688,081
15	1,408,081	2.396558	587,543	0	720,000	13,591,919	14,311,919	15,000,000	688,081
16	1,408,081	2.540352	554,286	0	720,000	13,591,919	14,311,919	15,000,000	688,081
17	1,408,081	2.692773	522,911	0	720,000	13,591,919	14,311,919	15,000,000	688,081
18	1,408,081	2.854339	439,312	0	720,000	13,591,919	14,311,919	15,000,000	688,081
19	1,408,081	3.0256	465,389	0	720,000	13,591,919	14,311,919	15,000,000	688,081
20	1,408,081	3.207135	439,046	0	720,000	13,591,919	14,311,919	15,000,000	688,081
21	1,408,081	3.399564	414,195	0	720,000	13,591,919	14,311,919	15,000,000	688,081
22	1,408,081	3.603537	390,750	0	720,000	13,591,919	14,311,919	15,000,000	688,081
23	1,408,081	3.81975	368,632	0	720,000	13,591,919	14,311,919	15,000,000	688,081
24	1,408,081	4.048935	347,766	0	720,000	13,591,919	14,311,919	15,000,000	688,081
25	1,408,081	4.291871	328,081	0	720,000	13,591,919	14,311,919	15,000,000	688,081
	35,202,025		**18,000,000**	**-4,000,000**	**18,000,000**	**339,797,975**	**353,797,975**	**375,000,000**	**21,202,025**

Notes
(a) derived from the financial model
(b) discount annual reduction in payments at 6%
(c) npv of annual reduction is £18m
(d) profit on disposals is NIL: £18m (npv) less £14m (OMV)
(e) write off the defferred asset over the primary lease period
(f) annual payment £15m less £1.408m reduction
(g) total impact on I&E
(h) charge if no land in the deal – based on a 9% rate of interest and assuming the unitary payment is equivalent to the loan repayment only
(i) the deferred assest is based on the NPV of future savings i.e. real savings
the actual saving of £1.408m is based on the nominal saving over and above the £15m payment

Worked Examples A & B: Funding Savings

For both Example A & B Figures 3 and 4 show the benefit of putting the land in the PFI scheme in terms of savings in financing charges.

Assumptions

Interest rate 9%
The entire unitary payment of £15m equals the repayment of the loan
The loan is calculated on an annuity basis.
Construction cost £147,338,690
Project company realises £16m proceeds from the land sale in year 1

Without Land

Loan required is £147,338,690 repaid at £15m pa over 25 years
(see figure 8.3)

With Land

The loan required is £131,338,690 repaid at £13.3711m pa over 25 years
(see figure 8.4)

Saving from putting land in the deal

Repayment with no land	£15,000,000 pa
Repayment with land	£13,371,100 pa
FUNDING COSTS SAVED	£1,628,900 pa

Figure 3

	Opening Balance	Loan	Bullet Repayment	Interest Charged	Repayments	Closing Balance
0						
1	0	147,338,690		13,260,482	(15,000,00)	145,599,173
2	145,599,173			13,103,926	(15,000,00)	143,703,098
3	143,703,098		0	12,933,279	(15,000,00)	141,636,378
4	141,636,378			12,747,274	(15,000,00)	139,383,652
5	139,383,652			12,544,529	(15,000,00)	136,928,181
6	136,928,181			12,323,536	(15,000,00)	134,251,718
7	134,251,718			12,082,655	(15,000,00)	131,334,373
8	131,334,373			11,820,094	(15,000,00)	128,154,467
9	128,154,467			11,533,902	(15,000,00)	124,688,369
10	124,688,369			11,221,953	(15,000,00)	120,910,323
11	120,910,323			10,881,929	(15,000,00)	116,792,253
12	116,792,253			10,511,303	(15,000,00)	112,303,556
13	112,303,556			10,107,320	(15,000,00)	107,410,876
14	107,410,876			9,666,979	(15,000,00)	102,077,855
15	102,077,855			9,187,007	(15,000,00)	96,264,863
16	96,264,863			8,663,838	(15,000,00)	89,928,701
17	89,928,701			8,093,583	(15,000,00)	83,022,284
18	83,022,284			7,472,006	(15,000,00)	75,494,290
19	75,494,290			6,794,486	(15,000,00)	67,288,777
20	67,288,777			6,055,990	(15,000,00)	58,344,767
21	58,344,767			5,251,029	(15,000,00)	48,595,797
22	48,595,797			4,373,622	(15,000,00),	37,969,419
23	37,969,419			3,417,248	(15,000,00)	26,386,667
24	26,386,667			2,374,800	(15,000,00)	13,761,468
25	13,761,468			1,238,532	(15,000,00)	0

	Opening Balance	Loan	Bullet Repayment	Interest Charged	Repayments	Closing Balance
0						
1	0	131,338,690		11,820,482	(137,371,100)	129,788,073
2	129,788,073			11,680,927	(137,371,100)	128,097,899
3	128,097,899			11,528,811	(137,371,100)	126,255,611
4	126,255,611			11,363,005	(137,371,100)	124,247,516
5	124,247,516			11,182,276	(137,371,100)	122,058,693
6	122,058,693			10,985,282	(137,371,100)	119,672,876
7	119,672,876			10,770,559	(137,371,100)	117,072,335
8	117,072,335			10,536,510	(137,371,100)	114,237,746
9	114,237,746			10,281,397	(137,371,100)	111,148,043
10	111,148,043			10,003,324	(137,371,100)	107,780,268
11	107,780,268			9,700,224	(137,371,100)	104,109,392
12	104,109,392			9,369,845	(137,371,100)	100,108,138
13	100,108,138			9,009,732	(137,371,100)	95,736,771
14	95,746,771			8,617,209	(137,371,100)	90,992,881
15	90,992,881			8,189,359	(137,371,100)	85,811,140
16	85,811,140			7,723,003	(137,371,100)	80,163,043
17	80,163,0,43			7,214,674	(137,371,100)	74,006,618
18	74,006,618			6,660,596	(137,371,100)	67,296,114
19	67,296,114			6,056,650	(137,371,100)	59,981,664
20	59,981,664			5,398,350	(137,371,100)	52,008,914
21	52,008,914			4,680,802	(137,371,100)	43,318,617
22	43,318,617			3,898,676	(137,371,100)	33,846,193
23	33,846,193			3,046,157	(137,371,100)	23,521,251
24	23,521,251			2,116,913	(137,371,100)	12,267,064
25	12,267,064			1,104,036	(137,371,100)	0
REDUCTION IN UNITARY CHARGE					1,628,900	

Worked Example C: lease of land and buildings to the project company which form part of the PFI scheme

Assumptions

NBV of buildings to be refurbished by the Trust	£3m
NBV of buildings to be refurbished by the private sector	£8m
NBV of land leased to the private sector	£5m
Primary period	25 years
Assuming that the leasehold interest can be terminated at the end of the primary period, the discount factor for 6% at the end of 25 years is	0.233
Reversionary interest in the lease of the land of the land (£5m *0.233)	£1.165m
Deferred asset	£11.835m
= NPV of land & buildings £13m less reversionary interest	£1.165m

Accounting entries		£m
(1)	Debit: I&E disposal account	11.835
	Debit: Fixed asset investments	1.165
	Credit: Fixed assets – land	5
	Credit: Fixed assets – buildings	8

Being disposal of the headlease

(2)	Debit: Deferred asset	11.835
	Credit: I&E disposal account	11.835

Being recognition of the benefit of entering into the lease

At the end of year 1:

(3)	Debit: I & E	0.4734	
	Credit: Deferred asset		0.4734
	Being amortisation of the deferred asset over 25 years		

(4) The deferred asset is a net relevant asset for the purposes of calculating the capital absorption cost.