ANALYSIS OF THE CAUSES OF THE QUEEN ELIZABETH NHS HOSPITAL TRUST DEFICIT

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Final Report

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CONTENTS

Important Notice

This report has been produced by Cambridge Economic Policy Associates (CEPA) as a contribution to public debate on health reform issues. The work has been funded by the CEPA Pro Bono Fund. CEPA contributes a portion of annual profits to the Pro Bono Fund to support work of this nature. The work has benefited from co-operation of the Queen Elizabeth Hospital NHS Trust Management. In particular they have made available information about the trust. Nevertheless the analysis and conclusions of the report are entirely the responsibility of CEPA.

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LIST OF ACRONYMS

CEPA	Cambridge Economic Policy Associates
CRL	Capital Expenditure Resource Limits
EFL	External Funding Limit
FCE	Full Consultant Episode
HA	Health Authority
I&E	Income and Expenditure
MFF	Market Forces Factor
NHS	National Health Service
OBD	Occupied Bed Days
PbR	Payment by Results
PCT	Primary Care Trust
PDC	Public Dividend Capital
PFI	Private Finance Initiative
QEH	Queen Elizabeth Hospital
RAB	Resource Accounting and Budgeting
RL	Resource Limit
RPI	Retail Price Index
SHA	Strategic Health Authority
WTE	Whole Time Equivalent

EXECUTIVE SUMMARY

In December 2005 the Queen Elizabeth Hospital (QEH) auditors issued a Public Interest Report noting that the QEH was likely to fail to meet its statutory break-even duty. The underlying deficit in the 3 year period ending 2005/06 was projected at £12.9 million per annum – about 10% of total income. The accumulated deficit after RAB effects in 2008/09 was projected to be £100 million, i.e. more than 70% of projected total income. This report is an investigation of the causes of the QEH income and expenditure deficit.

QEH is a 'first wave' 'whole hospital' PFI scheme. The PFI contract has a 60 year term made up of an initial 30 year term and options to extend for a further two 15 year periods on advantageous terms. The availability component of the unitary charge is a fixed annual amount in real terms (indexed for movements in the RPI) until the end of the first 30 year period of the contract. During the second 30 year period the availability charge reduces very sharply. Approval and signature of the PFI contract took place in the late 1990s when the value for money test was that proposed schemes should be cheaper than the public sector comparator when the cost of public finance (the government discount rate) was 6% in real terms.

Since the scheme reached financial close there have been major changes in the NHS. The reduction in the cost of public capital from 6% to 3.5% resulted in a reduction in the dividend on Public Dividend Capital payable by non-PFI trusts. A corresponding reduction in funding for capital costs in the newly introduced payment by results tariffs left non-PFI hospitals neutral to the change. However, first wave PFI hospitals, including QEH, have 'locked in' a higher cost of finance in their PFI availability payments than is funded in the tariffs.

Our investigation of the causes of the QEH deficit indicates that QEH incurs 'excess capital costs' of about £8.5 million per annum in each of the first 30 years of the contract. This is the magnitude of the contractually fixed costs incurred by the trust that are not funded in payment by results tariffs. The cause of the excess costs is attributable to three factors: the reduction in the cost of public finance from 6% to 3.5% since the contract was signed; the front-end loading of the availability payments in the first 30 years; and the higher than national average capital cost/income ratio of QEH. Consequently the trust will incur a recurrent income/expenditure deficit of about this amount over the first 30 years even if it operates as efficiently as the average hospital trust in England.

About 40% of the aggregate excess costs over the first 30 years will be recouped as a result of paying lower availability payments during the second 30 year period of the contract. The other 60% of the excess costs will be permanent excess costs.

QEH does not receive compensating income support to fund these excess costs in the form of a higher than average Market Forces Factor for Outer London hospitals. In fact the QEH MFF is lower than the average for Outer London hospitals.

A review of latest available data on QEH operational efficiency indicates that it performs at least as well as the average hospital trust in England and in some areas significantly better. There is no evidence to support the view that a significant proportion of the QEH deficit is caused by operational inefficiency or poor management.

The QEH excess capital costs are 'locked-in' for 30 years. The PFI contract terms and the fact that the private finance was sourced from the bond market mean that a change in the contract terms in an attempt to mitigate excess costs would result in prohibitively expensive breakage costs for QEH and the NHS.

If QEH is required to achieve I/E and cash flow recurrent balance despite having to incur these excess costs then controllable expenditure on patient services will have to be cut by more than 10% immediately and further unit cost reductions of 2.5% per annum will have to be achieved thereafter. This would, in effect, impose the excess costs on local patients and increase the risks of deterioration in the quality of patient care.

RAB accounting artificially exaggerates the apparent magnitude of the trust's deficit. We strongly agree with the Audit Commission that hospital trusts subject to payment by results should not be subject to the RAB financial regime and that any element of a trust's deficit which has resulted from RAB adjustments should be unwound through provision of cash backed income. Deficits incurred by hospital trusts including QEH should be funded with medium and long term interest bearing loans and/or additional Public Dividend Capital whose dividend can be deferred, and the accounting treatment should reflect this. Adoption of the approach recommended by the Audit Commission would immediately, sharply reduce the reported financial deficit of QEH. Nevertheless a large recurrent deficit will remain even if the trust operates as efficiently as the average trust in England.

In our view there is a clear case for dealing permanently with the portion of QEH's deficit that is attributable to non-controllable excess capital costs. The proposed solution is to allow for the excess costs that are permanent by making a small adjustment to QEH's MFF and to allow for the excess costs that are recoverable in the second 30 year period by funding this portion of the deficit with long term loans repayable during the second 30 year period of the contract. The portion of the deficit that cannot be attributed to these excess costs (about £4 million per annum) should be eliminated by additional cost improvement actions by the trust. The proposed solution would require QEH to reduce controllable unit costs by 6% in 2006/7 and by about 15% by 2009/10. These demanding but achievable performance improvement targets will maintain the pressure on the trust to improve performance without increasing the risks of deterioration in the quality of patient care.

Only a small number of other PFI hospitals are likely to be able to advance valid arguments for similar treatment. The portion of excess capital costs that relate to the reduction in the cost of public finance from 6% to 3.5% will only apply to 'early' PFI schemes. The portion that relates to the front end loading of the availability payments is specific to the profiling of availability payments in the QEH contract. It is important that the valid arguments for

addressing the QEH excess costs are not viewed as the 'thin end of the wedge' – an excuse for other trusts to argue for unjustifiable additional funding for expensive PFI schemes.

INTRODUCTION

In December 2005 the Queen Elizabeth Hospital NHS Trust (QEH) Public Interest Report was issued by the hospital's auditors, PriceWaterhouseCoopers (PWC). The report noted that the QEH was likely to fail to meet its statutory break-even duty.[1]

The underlying annual deficit over the 3 year period ended 2005/06 reported by PWC averaged about £13 million (approximately 10% of total income). The projected annual RAB-adjusted deficit over the 3 year period ended 2008/09 averaged £23 million (about 15% of projected total income). The accumulated RAB-adjusted deficit in 2008/09 was projected to be about £100 million – over 70% of total income. Furthermore, the cash position was described as "very serious" with an accumulated cash shortfall predicted to reach £47 million in 2005/06.

1.1. Background

QEH is an NHS hospital trust, formed in March 2001, when services from three sites relocated to the new PFI site at Woolwich, South East London. QEH is a new NHS hospital created by major refurbishment of the former military hospital located on the Woolwich site. The trust provides a full range of acute services, except ophthalmology, ENT and orthodontic services. It provides urology and dermatology services for a number of hospitals across South East London. The hospital employs around 2,200 staff and has about 500 beds. In 2005/06 the Trust had income of around £133m. Net assets were £26m, the low figure reflecting the transfer of the bulk of the hospital assets to the PFI special purpose company. The population of Greenwich borough (which it serves) is expected to grow by 40,000 (about 17%) over the next ten years, mainly due to the Thames Gateway development. The population is relatively young and this is reflected in high birth rates and related high demand for maternity / children's services. In 2005/06, 3950 births including home births were recorded in the hospital.

QEH was a 'first wave' 'whole hospital' PFI scheme. In 1998 QEH entered into a 60-year (£118m[2] capital value) agreement with Meridian Hospital Company for provision of buildings and facilities management services necessary for the successful operation of the hospital. The trust also has a much smaller facilities management PFI contract (with a reported capital value of £6.4m[3]), with Toshiba Medical Systems Ltd. This is a 15 year contract for maintenance and replacement of medical equipment.

[1] "Queen Elizabeth Hospital NHS Trust Public Interest Report" Pricewaterhouse Coopers, December 2005

[2] District Valuer's valuation as at 31st March 2004.

[3] Capital value of this scheme as presented in the QEH 2004/05 audited accounts (Note 25.1).

1.2. NHS Reform

Since the PFI schemes were executed there have been many changes to the policy environment in which the QEH and all NHS hospital trusts in England operate. Of particular note for present purposes are the following:-

- The introduction of payment by results (PbR). For services to which payment by results applies, hospital trusts are paid a standard tariff for each patient that receives treatment. The tariff is based on the average cost of providing the service across all NHS trusts in England. The average cost funded by the tariff includes recurrent (operating) costs and the average capital charge. The tariffs fund capital charges (i.e. depreciation and the cost of finance) in an amount equal to the average depreciation charge and cost of finance across all NHS hospital trusts in England. Therefore, if trusts have capital charges that are higher than the national average then they receive funding in the tariffs, to pay their capital charges, which is less than the costs charged to their income and expenditure account. They will tend to incur an income and expenditure deficit. Conversely trusts with capital charges lower than the national average will receive funding greater then their income and expenditure capital charge and can spend the 'excess' on service provision[4].

- The public sector cost of capital was reduced from 6% (in real terms) when early PFI schemes were executed to 3.5% in 2003/04. As a result the dividend on Public Dividend Capital payable by hospital trusts was reduced from 6% to 3.5%.[5] PbR tariffs were introduced after the reduction in the public sector cost of finance. Funding in the tariffs for the use of public capital is sufficient to pay the current 3.5% dividend on Public Dividend Capital.

- The Market Forces Factor (MFF) is an adjustment to PbR tariffs to take account of non-controllable regional cost variations eg regional differences in rates of pay for staff. If the MFF adjustment adequately funds a trust for non-controllable regional cost variations then differences between the trusts' actual costs and national average costs will be allowed for in their funding. Therefore a trust with an appropriate MFF adjustment will achieve income and expenditure balance if it is operating as efficiently as the average trust.

- Patient choice allows patients to choose their provider, which opens up the prospect of hospital trusts attracting more patients to the hospital and, conversely, of losing patients that choose to go elsewhere. Because hospital trusts are paid the tariff for each patient treated, a loss of patients to other providers will correspondingly reduce its income by an

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[4] Further explanation is given in Palmer K (2006), 'NHS Reform: getting back on track' King's Fund Discussion Paper

[5] Public sector bodies are charged for their use of public sector capital. When the public sector cost of capital was 6% a trust that employed £100 million of public sector capital (in the NHS called Public Dividend Capital) would have to pay an annual 'dividend' on PDC – in this example equal to £6 million – to the Department of Health. The reduction in the public sector cost of capital to 3.5% reduced the annual dividend on PDC to £3.5 million per annum. The tariffs include funding sufficient to pay this 3.5% dividend on PDC.

amount equal to the reduction in patient volume times the average tariff relating to the lost activity, and vice versa.

1.3. Possible causes of hospital deficits

There are a number of possible causes of hospital deficits in the 'new' NHS (Palmer 2005).[6] They include:

- If operating efficiency is lower than the national average (and therefore operating costs are higher). This is because PbR tariffs remunerate hospitals at the level sufficient for them to break-even if their costs equal national average costs. If a trust's operating costs are higher than the national average they will incur a deficit.

- If a trust's capital charges in its income and expenditure account relating to 'sunk' capital costs are greater than the funding in tariffs to pay for those capital charges. The key point here is that current and future capital charges relating to 'sunk' capital investment are fixed for the life of the assets and cannot be managed downwards. In particular the capital charges of PFI schemes are fixed contractually for the life of the PFI contract.[7]

- If the MFF value does not adequately compensate a trust for non-controllable cost variations to which it is subject then funding will be less than costs incurred and the trust will incur a deficit.

- If activity is lower than planned, for example because patients choose to go elsewhere, then the reduced income may cause the trust to incur a deficit because, whereas it can manage down its controllable costs, it is left with a portion of its fixed costs that have to be paid regardless and for which it is no longer funded.

This report considers the evidence to determine whether – and to what extent – each of these possible causes of hospital deficits explain the QEH's particularly adverse financial position.

In discussions about NHS finance there is often confusion about what is meant by deficits. In this paper we distinguish the reported deficit, the recurrent or underlying deficit and the RAB-adjusted deficit. The reported deficit set out in the trust accounts is stated after non-recurrent I/E effects. The recurrent or underlying deficit refers to the excess of the current year's operating expenditure and capital charges over the current year's income before any non-recurrent I/E or RAB adjustments. This is the most valid measure of the current performance of the trust and it is the measure of the deficit on which we focus most in this report. Resource Accounting and Budgeting (RAB) accounting rules currently operate in the

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[6] Palmer, K. (2005), *How should we deal with hospital failure – Facing the challenges of the new NHS market, King's Fund*

[7] Early termination of the contract usually crystallises an obligation to pay the service provider a capital sum equal to the present value of the unitary payments over the contract life, so there is no net saving. Some PFI contracts have benefit sharing in the event of refinancing, which may result in a reduction in the annual capital charge of the trust post-completion, but QEH's contract has no such provisions.

NHS. The term RAB-adjusted deficit refers to the deficit after RAB adjustments have been made. RAB adjustments are explained and discussed in Section 7. There are major differences between the QEH reported deficit, its recurrent deficit and its RAB-adjusted deficit.

1.4. Structure of Report

- Section 2 sets out CEPA's baseline projection for QEH's income and expenditure account and the key assumptions underpinning it.
- Section 3 focuses on establishing whether QEH is experiencing any 'excess capital costs' relating to 'sunk' capital that are not fully funded in the PbR tariffs and what their contribution is to the hospital's I/E deficit.
- Section 4 considers whether the trust's Market Forces Factor (MFF) adequately compensates QEH for the excess capital costs that it incurs.
- Section 5 considers the evidence about the relative efficiency of QEH clinical operations.
- Section 6 considers whether QEH is subject to, or is likely to become subject to, 'stranded costs' arising from loss of patients to alternative providers.
- Section 7 explains how the RAB accounting rules affect the reported income and expenditure deficit and why the projected RAB-adjusted I/E deficits do not give a true view of the underlying financial position.
- Section 8 discusses the findings of the report.
- Section 9 sets out our conclusions.

2. BASELINE FINANCIAL PROJECTIONS AND KEY ASSUMPTIONS

Table 2.1 sets out the financial position of QEH in 2004/5 and 2005/6. In 2004/5, the recurrent income and expenditure deficit before RAB effects was £14.2 million (equivalent to 11.0% of total income) and the reported deficit net of support and RAB effects was £9.2 million. In 2005/6, the outturn recurrent deficit before RAB effects was £12.1 million (equivalent to 8.6% of total income)[8] and the reported deficit net of support and RAB effects was £19.3M.

Table 2.1 shows projected financials, based on a set of simple assumptions.

- Income projections assume activity growth is 2% per annum reflecting a judgement about the growth in activity that PCTs will be able to afford to pay for.[9] Tariffs are assumed to increase for cost inflation of 2.5% per annum but reduce annually by a 2.5% efficiency factor. Therefore, overall, income increases steadily at 2% per annum in nominal terms.

- Payments to the PFI service provider increase by 2.5% per annum in line with the terms of the contract. These costs account for about 17% of QEH's total income in 2005/06.

- Clinical and non-clinical non-PFI costs per unit of activity are assumed to increase by 2.5% per annum because of cost inflation before cost improvement plan (CIP) savings. CIP savings are assumed to reduce costs by 2.5% per annum of income in line with the efficiency factor built into the tariffs. The net result is that unit costs reduce by 2.5% per annum and cost reductions in 2009/10 amount to about 10% of income in that year.

- The dividend on PDC in 2004/05 was £1.8m, and is assumed to grow at 2.5% per year.

- The NHS Incentive Scheme is expected to start in 2006/07. It consists of a charge to the hospital on in-year deficit brought forward from the previous year. In 2006/07, the figure charged to the hospital is £1.3m. In future years the cost of the incentive scheme is modelled as 10% of the previous year's projected deficit post-RAB effects.

- From 2006/7, interest on cash borrowing from the NHS will also be introduced. We have assumed, on the basis of information provided to us by QEH management, that the cost to QEH in 2006/07 will be £1.5 million. In subsequent years, we assume interest at 4.5% per annum is charged on the cumulative cash outflows at each year end. At the end of 2006/7 the outstanding cumulative cash deficit is estimated to be £65 million.

Table 2.1 shows that, despite the assumption that the trust successfully improves productivity by 2.5% per annum as 'required' by the PbR efficiency factor, QEH continues

[8] Source: QEH Finance Director

[9] Source: SE London Service Redesign and Sustainability Project

to incur a large recurrent income and expenditure deficit before RAB effects and financial support throughout the period. The recurrent deficit in this scenario averages about £12-13 million per annum before RAB and financing effects throughout the projected period. When the effects of the NHS incentive scheme and interest on cash borrowings are taken into account the deficit widens steadily to reach about £25 million in 2009/10. The projection shows clearly that the QEH financial position is not sustainable even if it achieves the 2.5% per annum improvements in productivity embedded in tariffs. It is projected to have a substantial continuing cash flow deficit in every year which would have to be financed by additional borrowing from the SHA or NHS Bank if it is to continue to provide services for patients.

It is important to note that this baseline scenario is not a forecast, nor should it be considered a reflection of the views of QEH management or the hospital's Board about the likely evolution of the I/E deficit over the projected period. Rather it is a scenario developed to show that given the growth of activity expected to be affordable for PCTs and assuming the trust reduces unit costs by the full 2.5% per annum 'required' by the tariffs, QEH continues to generate a large recurrent I/E and cash flow deficit for the foreseeable future.[10]

Table 2.1 also shows the effect on QEH's financial position of RAB effects. (RAB effects are explained in section 7). The in-year deficit post-RAB effects in 2005/6 is £19.3 million (c 13% of total income), increases to £42.3 million (c 29% of income) in 2006/7 and then continues to increase rapidly to about £114 million (c 75% of income) in 2009/10. The accumulated post-RAB deficit in 2009/10 is £335 million, more than 200% of total income! The rapid increase in the post-RAB deficit is a consequence of the way that RAB-accounting works. It turns a difficult financial position – an underlying deficit of about 8% of income - into an impossible one. There is clearly no prospect of the trust ever being able to generate surpluses on the scale required to eliminate a RAB-adjusted deficit of this magnitude.

[10] QEH's financial recovery plan for 2006/7 requires substantially greater cost reductions than are assumed in Table 2.1. The implications of this are discussed in detail in section 8.

Table 2.1: Baseline QEH projection of I/E statement[insert new table 2.1 here]

		2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Recurrent income		126.4	140.2	143.0	145.9	148.8	151.8
Costs (after CIPs)		*-139.1*	*-150.5*	*-153.5*	*-156.6*	*-159.7*	*-162.9*
	Clinical	-95.3	-105.2	-110.0	-115.0	-120.2	-125.7
	Non-clinical (non PFI)	-20.4	-21.3	-22.3	-23.3	-24.4	-25.5
	PFI costs	-23.4	-24.0	-24.6	-25.2	-25.8	-26.5
	Efficiency savings	0.0	0.0	3.4	6.9	10.7	14.8
Capital and financing costs / revenues		*-1.5*	*-1.8*	*-1.9*	*-1.9*	*-2.0*	*-2.0*
	Dividend on PDC	-1.8	-1.9	-1.9	-2.0	-2.0	-2.1
	Interest receivable	0.4	0.2	0.2	0.2	0.2	0.2
	Other finance costs	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Recurrent I/E deficit (before RAB effect)		**-14.2**	**-12.1**	**-12.3**	**-12.6**	**-12.9**	**-13.2**
RAB income effect		-3.8	-4.7	-27.9	-42.3	-63.0	-87.1
Support		4.5	-3.6				
Non-recurring items		3.2					
PFI Income		1.1	1.1	0.7	0.2		
NHS Incentive Scheme (starts 2006/07)				-1.3	-4.2	-6.3	-8.7
Interest on cash borrowings from the NHS (from 06/07)				-1.5	-3.5	-4.1	-4.8
In-year surplus / (deficit) post RAB & support		**-9.2**	**-19.3**	**-42.3**	**-63.0**	**-87.1**	**-114.1**
Accumulated I/E surplus / (deficit) brought forward			-9.2	-28.5	-70.8	-133.8	-220.9
In year deficit		-9.2	-19.3	-42.3	-63.0	-87.1	-114.1
Accumulated I/E surplus / (deficit) carried forward		**-9.2**	**-28.5**	**-70.8**	**-133.8**	**-220.9**	**-335.0**

Source: QEH FT Diagnostic Report, published accounts, QE Finance Director and CEPA analysis.

The remainder of the report looks at the underlying causes of QEH's recurrent income and expenditure deficit.

3. EXCESS CAPITAL COSTS

In this section we consider the evidence for whether QEH incurs 'excess capital costs'. The term excess capital costs refers to I/E capital charges that accrue in QEH's income and expenditure account which are not fully funded in PbR tariffs.

3.1. Overview of the Meridian PFI contract

Tribal Secta was commissioned by QEH to undertake an analysis of the Meridian PFI contract.[11] Their report describes the major terms of the Meridian PFI contract. Pertinent points relevant to the analysis include:

- The Unitary Payment is made up of an Availability element and a Service element. The availability element funds the annual capital charges associated with provision by Meridian of the hospital assets and the service element funds the cost of provision of facilities management services. In 2005/06 the Unitary Payment amounts payable to Meridian were projected to be £20.5 million of which the Availability element is £13.7 million and the Service element £6.5 million (and £0.3 million 'other').[12]

- The PFI contract is for 60 years but the Availability element of the Unitary Payment is 'front-end loaded'.[13] It is structured such that in effect QEH pays the whole of the Availability payment (ie the rental cost for use of the assets) for the 60 year contract period over the first 30 years. The availability element of the Unitary Payment is zero for the second 30 years of the contract period. Therefore the annual availability payment is much higher during the first 30 year period than would have been the case if a constant real availability charge had been levied over the 60 year life of the PFI contract. Conversely the availability payment during the second 30 year period is much lower than would have been the case if a constant real payment had been levied over 60 years.

- The Unitary Payment is a constant annual amount in real terms for each of the first 30 years and escalated annually by increases in the retail price index (RPI).

- The PFI contract reached financial close in mid-1998. As one of the earlier PFI schemes the contract terms are particularly inflexible and there are no mechanisms for early termination, or for the trust to benefit from post-completion refinancing.

- The value for money test prior to financial close was achieved in 1998 when the cost of public sector capital was 6% in real terms (i.e. before allowing for inflation).

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[11] Tribal Consulting (March 2006), *Queen Elizabeth House NHS Trust – PFI excess costs report*

[12] These numbers differ from those in Table 2.1 because they relate to the Meridian contract only whereas the numbers in Table 2.1 refer to total PFI costs, including the medical equipment PFI.

[13] The contract is structured with a 30 year initial term and the QEH option to extend for a further two 15 year periods. The availability charge in years 31-60 is zero so the trust is extremely likely to exercise the options.

- The PFI debt was financed via a bond issue. The cost of debt is relatively high (4.9% real) and fixed for the life of the debt issue and there are prohibitively expensive 'breakage' costs so early termination, refinancing or re-profiling of the availability payments is not a viable option.

At the time the QEH PFI Scheme was approved, the value for money test was whether the scheme was cheaper than the Public Sector Comparator (PSC) at a time when the public sector cost of capital was 6% real. The QEH PFI scheme was shown to represent value for money only if:

- Unidentified cost savings of £8 million per annum were achieved, and

- The contract life was extended to 60 years with a much lower availability payment for the second 30 year period.

On the analysis at the time, even if the unidentified cost savings of £8 million per annum were fully achieved, over 30 years the PFI scheme was more expensive than the PSC. This means that over the first 30 years the cost of private sector finance was more than 6% per annum in real terms. Therefore, over the first 30 years, even if tariffs funded a 6% real cost of finance (rather than the 3.5% which is in fact funded) QEH would still have incurred 'excess' financing costs.

Affordability in the early years of the scheme was addressed locally (prior to introduction of the new NHS financing arrangements) by agreeing 'smoothing monies' and funding for certain deferred assets. This transitional funding is being phased out in 2007/08.

3.2. The Concept of Excess Capital Costs

Excess capital costs are any capital costs incurred in the past by a trust whose recurrent capital charges in the I/E account are not fully funded by the newly-introduced payment by results tariffs. There are two possible causes of excess capital costs at QEH:

- if the annual cost of finance of the PFI scheme is higher than the funding provided in PbR tariffs to cover the cost of finance; and/or

- if the ratio of capital charges/total income at QEH is higher than the national average for this ratio even though the cost of finance is the same.

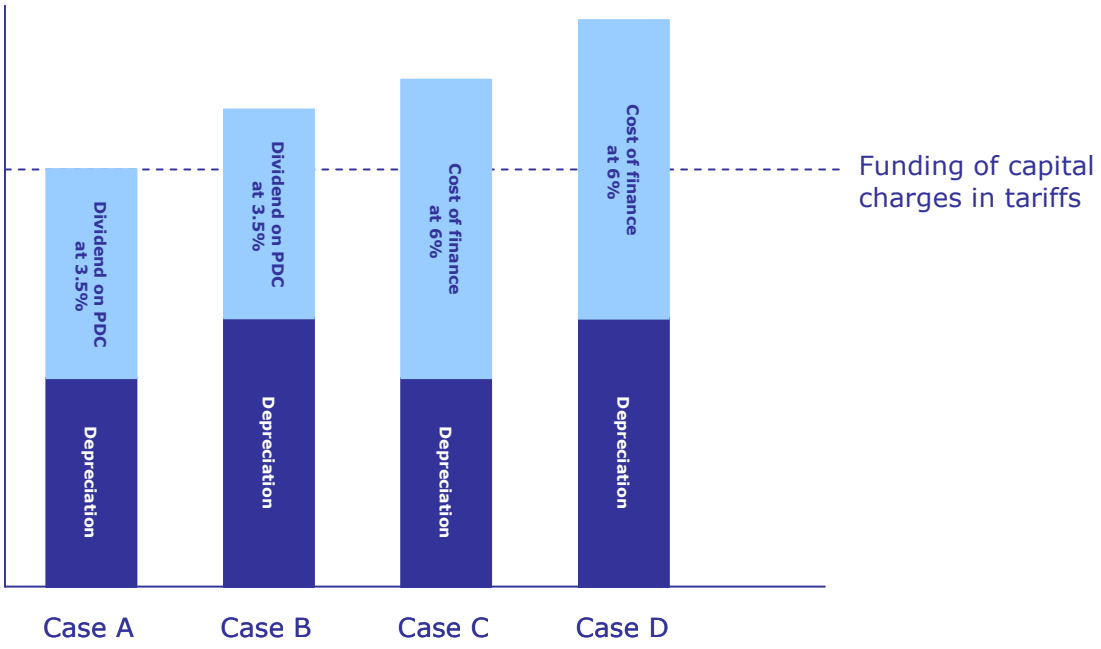
In Figure 3.1 below, Case A shows the position where a trust has an annual income and expenditure capital charge exactly equal to the amount of funding in the tariffs. The trust's capital charge is made up of depreciation and the cost of finance (3.5% per annum applied to Public Dividend Capital employed). Funding in the tariffs is equal to the average of the depreciation charge across all hospital trusts in England and the average dividend on PDC across all hospital trusts in England. In Case A the trust's capital charge is equal to the funding in the tariffs so it achieves income and expenditure balance in respect of capital costs.

Case B shows the position of a non-PFI hospital whose capital costs/total income ratio is higher than the national average but whose cost of finance is 3.5%. The capital charge in the I/E account is greater than funding in the tariffs because the depreciation charge and the 3.5% dividend on PDC are applied to a proportionately higher amount of capital relative to the value of activity provided than is the case for the average trust. In this case the trust will incur an I/E deficit in respect of the capital costs. Moreover, because the capital costs are 'sunk' the trust cannot manage its capital costs to remove this component of its deficit.[14] Since most new hospitals tend to be more expensive per unit of activity provided than older, depreciated hospitals, Case B is the situation likely to be encountered by any new hospital, however financed.

Case C shows the position where a hospital trust has a capital cost/total income ratio equal to the national average but is an 'early PFI' scheme. In this case the depreciation component of the capital charge is fully funded. However, the cost of finance (6%) is significantly higher than the 3.5% that is funded in the tariffs.

Case D shows the position where a hospital trust has a capital cost/total income ratio higher than the national average and is also an 'early PFI' scheme. In this case both the depreciation and cost of finance components of the capital charge will be under-funded in the tariffs. Hospitals in this position will incur the largest income and expenditure deficits in respect of their 'sunk' capital costs.[15]

Figure 3.1: Excess Capital Costs



[14] Unless the trust is able to sell or lease some of the assets and use the proceeds to reduce capital employed.

[15] PFI hospitals have much less flexibility to sell or lease assets to unlock excess costs.

3.3. Excess Capital Costs at QEH

We have used this conceptual framework to evaluate excess capital costs at QEH.

Excess cost of finance in first 30 year period of the PFI contract

The difference between QEH's actual cost of finance (more than 6% real over the first 30 years) and what it would have been if it were a non-PFI hospital funded by PDC paying a 3.5% per annum dividend can be readily calculated. Tribal has undertaken an analysis of the I/E excess costs of finance incurred by QEH arising from the reduction in the government discount rate from 6% when the scheme was approved to the current 3.5%. CEPA has replicated this analysis. The calculations show that the unfunded amount of the excess cost of finance attributable solely to the reduction in the cost of finance from 6% to 3.5% was £3.2 million in 2005/06 declining gradually to about £2.0 million per annum over the last 10 years of the first 30 year period.

We have also calculated the unfunded annual capital charge arising from the 'front-end loading' of the Unitary Charge in the first 30 year period. We estimate these unfunded excess costs at an additional £2.3 million in 2005/06 rising steadily to £3.7 million per annum over the last 10 years of the first 30 year period.

The sum of these two effects is to generate excess (ie unfunded) capital charges in QEH's income and expenditure account of about £5.6 million per annum in every year of the first 30 years of the PFI contract.[16]

A number of changes to the accounting treatment of the QEH PFI schemes since financial close also impact on its income and expenditure statement:

- Originally the land at the QEH site was deemed to be off-balance sheet by the auditors. However in 2002/03 QEH decided, in response to new DH guidance on land and buildings in PFI transactions and to external audit advice, that the land should be on-balance sheet. The valuation of the land prior to financial close was £4.17 million. The District Valuer's valuation in 2005/06 was £45.15 million. The unanticipated on-balance sheet accounting treatment of the land attracts an additional I/E charge of £1.54 million per annum.

- Various non-medical assets have been transferred to Meridian post-financial close. The deferred asset value of £21.8 million in 2005/06 creates an additional I/E charge of £1.18 million in each year.

- The accelerated payment of the availability payment gives rise to an I/E credit of about £1.9 million in 2005/06. The amount of this credit increases steadily over the first 30

[16] Details of these calculations are set out in Appendix 2.

years of the contract as the value of the residual interest increases to reach an average value of about £3.9 million per annum during the last 10 years of the first 30 year period.

- The dividend on PDC (charged at 3.5%) relating to the residual interest gives rise to an unplanned I/E and cash flow cost pressure of £0.3 million in 2005/6 rising to an average of £2.4 million per annum during the last 10 years of the first 30 year period.

Table 3.1 summarises the excess costs of finance that accrue in QEH's income and expenditure statement.

Table 3.1: QEH Excess Cost of Finance (£m)

	2005/06	2011/12-2021	2021/22-2031
Reduction in public sector cost of capital	-3,206	-2,600	-1,965
Front-end loading of availability payment	-2,272	-2,673	-3,712
Deferred asset charge	-1,180	-1,180	-1,180
Residual interest – dividend on PDC effect	-338	-1,183	-2,368
Land	-1,540	-1,540	-1,540
Residual interest credit	1,930	2,900	3,870
TOTAL	-6,606	-6,275	-6,894

Source: Tribal Report and CEPA calculations

The net adverse impact on QEH's income and expenditure statement in 2005/06 is £6.6 million. The annual average adverse impact over the first 30 years of the PFI contract is about £6.6 million per annum.

Higher Capital Charge/Income ratio than national average

The Audit Commission report on 'Introducing Payment by Results'[17] highlights the fact that "capital costs … differ between hospitals according to their mix of old … and new assets … (and) may also have differential costs according to whether they have been funded by public capital or PFI. Capital costs account on average for 8% of the tariff but for individual hospitals this can vary from 4% to 15%". The point they were making was that tariffs that fund the average capital costs of hospital trusts may not adequately fund those trusts whose capital costs are higher than the national average (and may over-fund trusts with a lower ratio than the national average).

[17] Audit Commission (2004): *Introducing payment by results - Getting the balance right for the NHS and taxpayers*, Audit Commission

The Audit Commission report used data that pre-dated the reduction in the government discount rate and therefore the related reduction in the dividend on Public Dividend Capital for non-PFI funded assets. Therefore the capital charges which they reported incorporated the 6% cost of public sector finance. When the dividend on PDC was reduced to 3.5% the I/E charge payable by publicly funded trusts reduced accordingly, as did the funding for this cost built into tariffs.[18] Accordingly, we have re-estimated the average capital charge for all trusts using data that post-dates the reduction in the cost of public capital.[19] Our calculations indicate that the average capital charge for the land, buildings, dwellings and furniture and fittings for all NHS trusts in England for 2004/05 is 5.8% of annual revenue in that year. Our calculation is based on those elements of capital charges which are directly comparable with the QEH PFI contract, which excludes medical and IM&T equipment. Compared to the national average (which is the basis for setting PbR tariffs) the equivalent ratio for QEH (for the year 2005/06)[20] is 12.2%, some 6.4% higher. Appendix 1 sets out the details of these calculations.

Since funding of capital charges in the tariff is based on the national average capital charge, QEH capital charges will be very significantly under-funded unless there is a compensating upward adjustment in its MFF. The amount of under-funding relating to the 6.4% shortfall is estimated to be £8.5 million in 2005/06. The excess cost of finance as calculated above is included in this figure. Hence for 2005/06 the analysis shows that the total under-funding is £8.5 million of which £6.6 million arises from the excess cost of finance and the accounting changes noted above and an additional £1.9 million from the higher-than-average capital cost/income ratio of QEH. Over the first 30 years of the PFI contract the total excess costs average about £8.5 million per annum of which £6.6 million is attributable to the 'locked-in' 6% cost of finance and the front end loading of the availability charge.

Excess cost of finance in second 30 year period of the PFI contract

After the first 30 year period the availability payment reduces to zero for the remaining 30 years of the contract period. From the 31st year the excess costs relating to (i) the reduction in the cost of public finance, (ii) to front-end loading of the availability payment profile and (iii) to the deferred asset charge - all go to zero. However, at that point the land and the residual interest in the buildings attract a dividend on PDC charge and depreciation on the residual interest (Table 3.2). Therefore, while it is the case that in years 31-60 there are no further excess capital costs, it is also the case that the funding in tariffs is only sufficient to pay the I/E charges incurred by QEH in that period. There is no 'over-recovery' in tariffs

[18] Note that whereas capital charges for publicly funded assets reduced, the cost of finance in early PFI schemes did not reduce. Nevertheless funding in tariffs to pay these costs did reduce.

[19] The latest available NHS-wide data when the work was done was for 2004/05 financial year.

[20] We use the actual 2004/5 QEH figures and the latest available summarised NHS Trusts figures for the same year 2004/05.

ie no funding in excess of the I/E charge during that period that could be used to repay indebtedness caused by the excess cost of finance during the first 30 years.

Table 3.2: QEH Excess Cost of Finance (Years 21-60)

Contract Period	21 – 30	31 – 40	41 – 50	51 – 60
Reduction in public sector cost of capital	-2.0	0	0	0
Front-end loading of availability payment	-3.7	0	0	0
Deferred asset charge	-1.2	0	0	0
Dividend on PDC Charge				
Residual interest – buildings	-2.4	-2.22	-1.33	-0.45
Land	-1.54	-1.54	-1.54	-1.54
Residual interest credit	+3.9	0	0	0
Depreciation of residual interest	0	-2.53	-2.53	-2.53
TOTAL I/E Charge (£m pa)		**-6.3**	**-5.4**	**4.5**
TOTAL Excess Capital Costs (£m pa)	**-6.9**	**0**	**0**	**0**

Source: Tribal Report and CEPA calculations

During the second 30 year period, if funding in tariffs were still based at that time on the average capital cost/income ratio across all trusts, then the funding in tariffs would be greater than the QEH I/E charge because QEH's buildings would by then be substantially depreciated while much of the remainder of the capital stock of hospitals in England would have been replaced or upgraded. We estimate this benefit to average about £3.3 million per annum over the second 30 year period increasing from about £2.4 million per annum during the first 10 years of the period to about £4.2 million during the final 10 years.

4. PbR AND THE MARKET FORCES FACTOR

In principle PbR tariffs are set at the same level for all providers equal to national average costs of each procedure. In practice uniform tariffs are adjusted trust-by-trust by the Market Forces Factor (MFF). The MFF is supposed to adjust income to take account of regional non-controllable variations in trusts' costs.

The value of the MFF has a major impact on the income received by hospital trusts. A 2% change in the MFF results in a 2% change in income received for services covered by the tariffs. In 2006/07 more than two thirds of all QEH's service income was covered by the tariffs. The robustness of the methodology for setting the value of the MFF is therefore of great importance for all hospital Trusts. If it is set 'too high' the trust will receive 'undeserved' income at the expense of other trusts, which must lose out as a result. Correspondingly, a trust whose MFF is set 'too-low' (i.e. lower than is required to fund its non-controllable above-average costs) is likely to incur an income and expenditure deficit even if it is efficiently operated.

In this section we first review the basis on which the DH sets the MFF values. Second, we consider the position of QEH and whether the evidence suggests that its MFF has been set at an appropriate level.

4.1. The basis for setting the MFF

The basis for setting the MFF is set out in 'Payment by Results and the Market Forces Factor', a note published on the DH website (www.dh.gov.uk).[21] The MFF is constructed by combining three indices:

- a staff index using data on private sector wages;
- a buildings index based on a rolling average of tender prices for public and private contracts; and
- a land index calculated for each trust using data from the Valuation Office for NHS estate.

The weighting of the three indices is: 67.6% staff, 4.6% buildings, 0.6% land and 27.3% zero weighting.

The staff index – which is by far the largest component of the MFF – is based on variations in wages in the private sector. The DH note says: "Intuitively it should be possible to base the MFF directly on the costs of employing NHS staff together with the additional (staff)

[21] Department of Health (2005): *Technical paper on the Market Forces Factor - Payment by Results and the Market Forces Factor*, found in Implementing Payment by Results: Technical guidance 2005/06, Department of Health

costs such as agency staff'. It adds that there are problems with this approach – data availability, perverse incentives and reduced efficiency incentives – and therefore DH prefers using private sector wage levels and rates of change. The staff index is computed using statistical analysis of private sector employment costs separately for each PCT region.

There are some general points to be made about the MFF:

- The basis for computing the MFF does not pick up the most important cause of regional variations in non-controllable costs, namely, the variations in the capital charges relating to 'sunk' capital expenditure. As noted earlier, the Audit Commission reports that capital costs vary from 4% to 15% of total costs with an average of 8%. These costs are totally non-controllable because the capital costs have already been incurred and the capital charges (depreciation, dividends on PDC and PFI availability charges) accrue over the full life of the assets as a capital charge in the income and expenditure account. No management action can vary them. Yet the considerable variations across trusts in their capital charges are more-or-less ignored in the MFF values.[22]

- By far the most important component of the MFF index weighting is private sector staff cost variations. Yet, as the DH note recognises, NHS wage and salary costs are set by national wage bargaining and wage differentials for permanent staff are the same for all hospitals in the same 'zone' (Inner, Outer, Fringe London). The MFF, insofar as it relates to variations in permanent staff costs should be the same for all hospitals in the same 'zone'. Clinical agency (GPs, nurses) staff costs will not be linked to private sector wage rates, rather they will be most influenced by demand for NHS staff and permanent NHS staff costs. Non-clinical temporary staff costs will be more closely linked to private sector staff costs. However, these typically account for less than 5% of a hospital's total staff costs. Even large regional variations will have very minor impact on variations in total staff costs. Moreover within a single area e.g. Outer London, variations across trusts are likely to be small because there is a lot of mobility of temporary NHS staff across London.

- The reasons given in the DH note for not using measures of the differential cost of NHS agency staff when setting the MFF are not convincing. Data on the market rates for agency staff in a region is available. It would be straightforward to assemble information on non-controllable cost variations across a region relating to observed variations in the cost of employing clinical and non-clinical temporary staff.

- The majority of hospitals (including QEH) spend no more that 2% to 3% on agency staff as a proportion of total staff costs.[23] Therefore even large variations in the cost of agency staff will not convert into significant MFF variations. For example, if agency costs

[22] Since the MFF is intended to adjust for regional variations in costs the Department of Health might argue that the MFF is not designed to deal with variations in capital charges relating to sunk capital costs, which are trust specific. In which case this major cause of non-controllable cost variation across trusts is simply ignored, since nowhere else are the tariffs adjusted to take account of them.

[23] www.drfosterintelligence.co.uk/productivity

constituted 5% of labour costs and Trust A had temporary staff costs per employee on average 20% higher than Trust B, the staff costs-related MFF differential would be 1%. Yet the MFF value variations across trusts in a single region are vastly greater than this.

4.2. QEH's MFF Value

The MFF values for 15 Outer London and for two relevant Inner London[24] NHS hospital trusts over the last 3 years are shown in Figure 4.1. Of these, three hospitals (Bromley, QEH and West Middlesex) are 'whole hospital' early PFI schemes.

Figure 4.1: MFF values ***[Amanda – fix format, table all on one page]***

Hospital	2004/05[25]	2005/06	2006/07
Bromley Hospitals NHS Trust [PFI]	1.190	1.203	1.203
West Middlesex University Hospital NHS Trust [PFI]	1.269	1.266	1.266
Queen Elizabeth Hospital NHS Trust [PFI]	1.251	1.186	1.203
Barking, Havering and Redbridge Hospitals NHS Trust	1.165	1.166	1.166
Barnet and Chase Farm Hospitals NHS Trust	1.214	1.219	1.219
Ealing Hospital NHS Trust	1.239	1.226	1.226
Epsom and St Helier University Hospital NHS Trust	1.216	1.227	1.227
Homerton University Hospital NHS Trust [Inner London]	1.321	1.312	1.312
Kingston Hospital NHS Trust	1.226	1.257	1.257
Lewisham Hospital NHS Trust [Inner London]	1.215	1.229	1.235
Mayday Healthcare NHS Trust	1.251	1.221	1.221
Newham University Hospital NHS Trust	1.217	1.242	1.242
North Middlesex University Hospital NHS Trust	1.268	1.194	1.194
North West London Hospitals NHS Trust	1.185	1.243	1.243
Queen Mary's Sidcup NHS Trust [Outer fringe London]	1.173	1.144	1.144
The Hillingdon Hospital NHS Trust	1.142	1.227	1.227
Whipps Cross University Hospital NHS Trust	1.196	1.195	1.195

Source: www.dh.gov.uk

The following points should be noted:

[24] The two Inner London trusts are Homerton University Hospital NHS Trust and Lewisham Hospital NHS Trust.

[25] MFF data for 2004/05 has been rebased by CEPA so that the hospital with the lowest MFF value in that year was given a value of 1and other hospital MFF values expressed as a factor of 1 to make them consistent with 2005/06 and 2006/07.

- First there is very considerable variation in MFF values across hospital trusts listed in the Figure, all but two of which are subject to Outer London staff cost weighting. In 2006/07 the highest MFFs for Outer London hospitals were West Middlesex (1.266), Kingston (1.257) and NW London (1.243) and the lowest were Barking (1.166), N Middlesex (1.194) and Whipps Cross (1.195).[26] This implies that differences in non-controllable cost variations across Outer London hospitals justify a difference in MFF-adjusted total tariff income of 10%. These MFF value variations cannot be explained by variations in actual staff costs per employee. The trusts all pay their permanent staff on standard NHS pay scales with the same Outer London weighting. Temporary staff costs make up a small percentage of trusts' total staff costs and they recruit in a comparable labour pool.

- Second the pattern of MFF values is closely related to the distance of the trust from the heart of London. Hence the highest MFF of all is Homerton (1.31) by virtue of its relative closeness to the City. This is unsurprising because the index used to compute MFF values attributes greatest weight to variations in private sector wage rates. Lewisham, the other Inner London trust in the Figure, has a much lower MFF (1.235) because it is further from the heart of London.

- Third there is no relationship between the MFF value and whether a hospital is new (and therefore likely to have a capital cost/income ratio higher than the average) or a first wave 'whole hospital' PFI scheme, and therefore likely to have incurred excess costs of finance. Homerton, an old non-PFI hospital, has a much higher MFF than QEH and Bromley, both new hospitals and first wave whole hospital PFI schemes. West Middlesex, a first wave whole hospital PFI scheme, does have a higher MFF value because of its location but it is not as high as the non-PFI Homerton trust.

- Third the variability of the MFF values year-on-year is inexplicable. QEH's MFF has moved from 1.251 in 2004/5 to 1.203 in 2006/7, for no evident reason whatsoever. If QEH's MFF had stayed at the 2004/5 value its income would have been £4.5 million more than it currently receives. Other trusts eg West Middlesex saw no comparable reduction and some eg NW London and Hillingdon saw large increases over the same period.

- Fourth despite the evidence of higher non-controllable costs at QEH its MFF value is significantly lower than the average value for Outer London trusts (1.22). In 2006/7 it had the fifth lowest MFF in Outer London.

There is no evidence to suggest that the excess capital costs identified earlier have been taken into account by setting a higher MFF value for QEH. Nor should this be expected since the basis for setting MFF values ignores this cause of trust specific non-controllable cost variations.

[26] Queen Mary Sidcup is an Outer Fringe London hospital whose London weighting allowance is lower than other Outer London hospitals.

5. QEH OPERATING EFFICIENCY

Another possible cause of QEH's I/E deficit is if its operating efficiency were lower than the national average. As explained in section 2, trusts with operating efficiency lower than the national average will, other things being equal, have unit operating costs higher than the amount that is funded in the tariffs (which are based on national average unit costs) and will as a result incur a deficit. In this section we consider the evidence for whether QEH operating efficiency is above or below the national average.

5.1. Is QEH efficient?

There is surprisingly little information available about the relative operating efficiency of hospital trusts in England. In part this is because of the difficulty of normalising for differences in case mix. There is considerable variation in the type and proportion of services provided, even by apparently quite similar district general hospitals. The best available comparative performance information is produced by Dr Foster Intelligence. Their performance indicators cover most of the key measures of physical operating performance including day case rates, emergency admission rates as a percentage of A&E attendances, activity per staff member and clinical staff member etc.

Dr Foster Intelligence comparative data has been used to benchmark QEH performance relative to all other hospital trusts in England. Table 5.1 shows the quartile and absolute ranking of QEH for 18 key performance indicators.[27] The performance indicators are mostly based on 2004/5 data, the latest available reported data when the work was undertaken, but 2005/6 data has been used when available (specifically for excess bed days, the day case rate for the 25 procedure 'basket' and pre-op bed days). These measures have been selected because they assess performance in most of the key areas where operating efficiency and unit costs are likely to be quite closely correlated.

QEH ranks in the first quartile for 7 of the 18 performance measures, in the second quartile for 6, in the third quartile for 5 and in the lowest fourth quartile for none of the measures. It ranks above the median for 13 of 18 measures (72%) and below the median for 5 (28%). It is first quartile for its ratio of emergency admissions to A&E attendances and percentage of emergency admissions with less than 2 day stays. It is first quartile for outpatient follow-up to first visit ratios. It is first quartile (ranked 2nd in England) for its day case rate. The day case rate for the 25 procedures monitored by the Department of Health is third quartile. This apparent anomaly is probably explained by the fact that QEH does not provide ophthalmology, ENT and orthodontic services, services in which many of the 25 procedures 'basket' lie. QEH's percentage of potential bed days saved (in Q1 06/07) was lower third quartile. Its activity to staffing ratios and agency staffing costs are mostly first or second

[27] The absolute ranking shows best =1 and worst =100.

quartile and one of the indicators which is third quartile (activity to total clinical staff) is only just below the median (ranked 54 out of 100).

Table 5.1: QEH performance across a range of performance indicators (first quartile is best, fourth worst)

Indicator		Rank	Value	QEH Position
A&E				
	Ratio emergency admissions via major A&E Depts/ new A&E attendances	16	16%	First quartile
	% of emergency admissions via A&E with 0-2 days stay	10	45%	First quartile
Outpatients: All specs				
	Outpatient return/new ratio	5	1.43	First quartile
	% new outpatients that did not attend	75	11%	Third quartile
Outpatients: Dermatology				
	Outpatient return/new ratio	16	1.15	First quartile
	% new outpatients that did not attend	75	11%	Third quartile
% day cases				
	Jun-02	3	77%	First quartile
	Jun-05	2	82%	First quartile
Day Case rates for 25 procedures (Quarter 1 2006/07)		57	69.40%	Third Quartile
% Potential bed days saved (Quarter 1 2006/07)		74	13.10%	Third Quartile
Pre-operative bed days (Quarter 1 2006/07)		30	22.30%	Second Quartile
% elective inpatient FCEs with no operation		16	7%	First quartile
Total all-specialty FCEs per consultant wte		41	653	Second quartile
Total all-specialty FCEs per total medical staff wte		54	210	Third quartile
Total all-specialty admissions per consultant wte		34	591	Second quartile
% sickness/absence - all staff		22	3.90%	First quartile
% hours lost to sickness - ward staff		46	6.40%	Second quartile
% Nurse Agency Spend/ Total Nurse Spend (excl FT)		41	1.10%	Second quartile
% All Staff Agency Spend/ Total All Staff Spend (including FT)		30	2.10%	Second quartile

Source: Dr. Foster Intelligence and QEH

There is no evidence from the Dr Foster's performance measures to suggest that QEH's operating performance relative to other NHS hospital trusts in England is below average. This evidence does not support the view that QEH's large I/E deficit is attributable to lower-than-average operating efficiency. In fact it suggests, to the contrary, that QEH operating efficiency is at least as good as the average comparable hospital trust and in some areas better.

The Reference Cost Index (RCI) is supposed to provide a measure of case mix adjusted relative costs of providing hospital services in England. It allocates total costs for each trust across its activity and seeks to derive a measure of the relative costs of providing a case mix adjusted basket of services across all trusts in England. In principle, if the index is computed using robust data and cost allocations reflect actual costs incurred in providing the services, a RCI value of 100 would indicate that a trust has costs equal to the national average and a trust with a RCI greater than 100 would indicate that it has costs higher than the national average. However there are major problems with the data, cost allocation methods and case mix adjustments which make the RCI of limited value in assessing the relative unit costs of a particular trust.[28]

QEH has a RCI value of 104. This is determined by allocating its actual operating and capital costs across its activity. Since we have shown earlier that excess capital costs incurred by QEH amount to about 6% of income, and these costs go into the RCI, a RCI of 104 is consistent with the picture noted above of slightly higher than average efficiency in respect of controllable costs. The 6% excess capital costs could be viewed as being offset in the RCI by better than average unit operating costs which reduce the 'net' RCI to 104.

The conclusion of this section is that there is no evidence to support the view that QEH's large deficit is caused primarily by lower than average operating efficiency.

[28] Palmer, NHS Reform: getting back on track, ibid.

6. STRANDED COSTS

Any proposed investment in a new hospital has to be supported by a business case that shows the expected income to be earned from activity provided over the asset life exceeds the expected operating and capital costs. If actual patient flows turn out to be higher than originally expected then the hospital could have lower unit costs than expected, because capital costs are fixed and the extra income is likely to be greater than the extra costs of providing the additional activity. Similarly if activity turns out to be lower than originally expected then the reduction in income would be greater than the reduction in costs, because capital costs are fixed, and the trust is likely to incur a deficit. The only way the deficit could be avoided would be to reduce controllable operating costs below the previously planned level (with enhanced risk to the quality of patient care) or by finding ways to reduce fixed costs eg by selling some of the now-redundant (stranded) assets. [29]

We have not been able to locate information to indicate how the level of activity envisaged for QEH when the PFI scheme was approved compares to the now envisaged level of activity. However, we are not aware of any evidence to suggest that any part of QEH's current income and expenditure deficit is attributable to lower patient activity than was expected in the late 1990's when the PFI commitment was made. In fact we would speculate that the rapid growth in recent years in emergency attendances and admissions may have generated more activity and income for the trust than was anticipated when the scheme was approved. This would have helped fund part of the £8 million per annum 'gap' between income and costs identified when the PFI scheme was approved.

Looking to the future, the recent decision to locate an Independent Sector Treatment Centre (ISTC) in SE London could give rise to new stranded costs. Current plans are that, from 2008, an alternative provider of elective care will offer services amounting to more than 12% of the total demand for those elective services across SE London. The proposed siting of the ISTC is several miles from QEH. It is very likely that some of QEH's current activity will be diverted to the ISTC. In that event QEH will suffer a loss of income greater than its reduction in costs (because PFI costs are fixed) and it is therefore likely to incur a further increase in its income and expenditure deficit.

The SE London Service Redesign and Sustainability Project envisages a significant shift of urgent care from hospital A&E departments into primary care urgent care centres. It also envisages a greater proportion of minor elective care being provided by GP practices and community care services. If these come about, QEH will see a further reduction in income without a corresponding reduction in fixed costs. The I/E deficit will be more difficult to manage down, as a result.

[29] Ref: Palmer, K (2005). How should we deal with hospital failure? King's Fund.

These observations highlight the fact that hospital trusts with a high share of fixed costs and subject to average cost PbR tariffs are subject to particularly high I/E risks in the event of demand for hospital services falling below the levels that were planned when the fixed costs were incurred. They also highlight the fact that, to reduce projected I/E deficits arising from excess capital costs, the activity provided and the income generated by the trust must be maximised.

7. RESOURCE ACCOUNTING AND BUDGETING (RAB) EFFECTS

The PriceWaterhouseCoopers public interest report in late 2005 noted that by 2008/09 QEH was projected to have a RAB-adjusted deficit of nearly £100 million. This has been widely interpreted in the press as indicating that QEH is 'bust'. In reality as indicated in Section 2 the huge cumulative RAB-adjusted deficit gives an entirely misleading impression of the trust's finances and arises primarily because of the mechanics of RAB accounting.

7.1. RAB accounting

RAB was introduced across the public sector to introduce new controls on public spending. Within the NHS, it introduces the concept of limits on accrued expenditure so as to avoid the problems that had arisen with statutory cash limits: for example, prior to the RAB, a PCT could have overspent but remained within its cash limits by delaying payments. Under RAB, PCTs and Health Authorities (HAs) (including SHAs) cannot exceed their Resource Limits (RLs). RLs are set on an accruals basis and include non-cash items e.g. depreciation.[30]

Under RAB accounting any overspend in a year is deducted from income in the following year **and** the prior year's deficit must be eliminated by creation of an I/E surplus in the following year after deducting income equal to the prior year's I/E deficit. The I/E surplus generated in the following year is then added to the following year's income.

The mechanics of RAB accounting are illustrated in Table 7.1. In year one the trust incurs an I/E deficit of -1. This creates a negative I/E reserve on the balance sheet in that year. In year two income is reduced by the amount of the negative reserve and the trust is required to achieve a surplus, in this case of +1, whereupon the I/E reserve is eliminated. In year three, the trust is 'rewarded' with a one-off increase in income equivalent to the prior year surplus.

Table 7.1: Illustration of RAB accounting (1)

Year	**1**	**2**	**3**	**4**
Recurrent income	100	100	100	100
RAB income effect	--	-1	1	--
Recurrent expenditure	101	98	101	100
Recurrent I/E balance	-1	1	0	0
RAB I/E reserves	-1	0	0	0

[30] RLs are in turn split into capital expenditure resource limits (CRLs) and revenue resource limits (revenue RLs). NHS Trusts may give up part of their CRL and have the revenue RL increased as a stop-gap to avoid a deficit being incurred, although there are limits on such transfers. For a Trust, the CRL is intended to control the level of government funded capital expenditure. RLs are supplemented by cash limits imposed on PCTs which strip out the non-cash element from the revenue RL and CRL. For Trusts, the External Funding Limit (EFL) will remain in place to try to control cash – the EFL being the cash funding limit within the CRL.

Note that to achieve income and expenditure balance in year two the trust must reduce expenditure to the level needed to achieve recurrent I/E balance **plus twice** the amount of the prior year's deficit – once to compensate for the income reduction and once to eliminate the carried-forward negative reserve. Hence, recurrent expenditure has to reduce from 101 in year 1 to 98 in year two. The 'reward' in year three for removing the deficit incurred in year 1 in this example is actually 'giving back' half of the previous year's recurrent surplus.

Table 7.2 illustrates the RAB accounting for a case where, in year one, the trust has a large deficit (5% of recurrent income) and succeeds in all following years to achieve recurrent I/E balance before RAB effects. In year two, despite having reduced expenditure by 5% of income to achieve recurrent I/E balance before RAB effects, the RAB reserve deficit doubles to -10 (10% of income). In years three and four the deficit again doubles. It is impossible for the trust to restore balance after RAB effects without a massive reduction in controllable costs, of a magnitude which would pose serious risks to the quality of patient care provided by the trust.

Table 7.2: Illustration of RAB accounting (2)

Year	**1**	**2**	**3**	**4**
Recurrent income	100	100	100	100
Recurrent expenditure	105	100	100	100
In year I/E balance, pre RAB	-5	0	0	0
RAB income effect	--	-5	-10	-20
In year I/E balance, post RAB	-5	-5	-10	-20
Additions to RAB I/E reserve	-5	-5	-10	-20
RAB I/E reserve brought forward	--	-5	-10	-20
RAB I/E reserves	-5	-10	-20	-40

Table 7.3 illustrates how income/expenditure deficits would be dealt with if they were treated in a similar way to deficits in the private sector. As in Table 5.2, it is assumed that the underlying recurrent I/E position is a deficit of 5 in year one followed by I/E balance (before deficit financing effects) in each following year. Here it is assumed that the year one deficit is financed by borrowing repaid over the three following years. The income effect in the I/E account is an increase in interest payable, in this case 5% of the outstanding borrowing at the start of the period. It is assumed that the new rule is that expenditure must be reduced to the level that would generate a surplus sufficient to finance the interest and repay the loan over three years. Recurrent expenditure needs to be reduced from 100 to 98.75 in year two, 97.8 in year three and 97.9 in year four. Thereafter, the trust may actually show a surplus of about +2.1 because recurrent expenditure has been reduced to be lower than recurrent income.

Table 7.3: Financing of I/E deficits

Year	1	2	3	4
Recurrent income	100	100	100	100
Recurrent expenditure (before financing effects)	105	100	100	100
Recurrent I/E balance	-5	0	0	0
Borrowing to finance deficit	+5	--	--	--
Repayment of financing	--	1	2	2
I/E impact of financing (interest on loan)	--	-0.25	-0.2	-0.1
Recurrent expenditure (after financing effects)	--	98.75	97.8	97.9

In July 2006 the Audit Commission published its 'Review of the NHS financial management and accounting regime'.[31] It's recommendations included 'The RAB regime should not be applied to NHS trusts…. We recommend that any element of the deficit which has resulted from RAB adjustments should be eliminated through provision of cash backed income'.

We strongly agree with the Audit Commission that hospital trusts subject to payment by results should not be subject to the RAB financial regime and that any element of a trust's deficit which has resulted from RAB income adjustments should be unwound through provision of cash backed income.

7.2. RAB accounting and QEH

If the Audit Commission recommendations to scrap RAB accounting for hospital trusts were accepted then QEH would be one of the most affected trusts. For example in 2006/7 the in-year deficit post-RAB effects projected at £42.3 million in Table 2.1 would reduce to an in-year deficit of about £12.3 million before NHS incentive and financing effects and about £15.1 million after these effects. The projected in-year deficit post-RAB effects in 2007/8 would reduce from £63 million to an in-year deficit of about £12.6 million before NHS incentive and financing effects and about £20.3 million after them. In 2009/10 the in year post-RAB deficit of £114.1 million would reduce to about £13.2 million before NHS incentive and financing effects and about £26.7 million after these effects. The projected increase in the accumulated I/E deficit post-RAB effects from 2005/6 to 2009/10 would fall from £306.5 million to about £51 million before NHS incentive and financing effects and about £85 million after these effects.

[31] Audit Commission, 'Review of the NHS financial management and accounting regime', July 2006. Quotes are from page 65.

7.3. Effects of scrapping RAB accounting on QEH

If RAB accounting were to be set aside and QEH achieved the productivity performance assumed in Table 2.1 it would nevertheless continue to incur a sizeable recurrent I/E deficit (of about 8% of income) in part because of its unfunded excess capital costs. Essentially all of the recurrent I/E deficit is also a cash flow deficit - the unitary charge must be paid to the PFI service provider in each year, the trust is required to pay the dividend on PDC in full each year and the estimated depreciation is withdrawn from the External Financing Limit each year.

These ongoing cash flow deficits must be financed if the trust is to be able to continue to provide patient services, pay the staff, the PFI contractor and other suppliers. Currently the deficits are being financed by the SHA as short term advances, soon to accrue interest at 4.5% per annum and (theoretically) to be repaid within several years. We say theoretically, because there is no way in reality that QEH can generate surpluses in the short or medium term sufficient to repay the large outstanding cumulative cash deficit, much less the cumulative RAB-adjusted deficit.

The cash costs to the NHS of moving from RAB accounting to long term debt financing of QEH's cash deficits would in reality be no greater than the cash costs of the current financial regime. QEH must continue to provide services for its patients in Greenwich and Woolwich and it must continue to improve its operating efficiency, as must all trusts. The cash deficit must be funded by the SHA if the trust is to pay its staff and other cash obligations, including PFI contract costs. The RAB income reduction simply increases the recurrent deficit and therefore increases the requirement for cash financing to fund the deficit. Scrapping RAB accounting going forward (as opposed to adjustments for prior income reductions) is only a book operation.

But scrapping RAB accounting is important for QEH for several reasons:

(i) because the huge 'headline' RAB-adjusted deficit has an adverse impact on the perception of the trust by staff, patients and the general public. The invalid presumption, that the trust is grossly inefficient and close to failing and that the staff and management are hopeless, is very damaging;

(ii) the requirement to quickly restore income and expenditure balance post-RAB effects, when the apparent RAB-adjusted deficit is so large and the task clearly impossible, makes it very difficult to recruit, retain and motivate staff because of the strong feeling that services will be starved of the cash needed to provide high quality services in order to rapidly reduce the artificially inflated RAB deficit; and

(iii) the current operating framework requires trusts including QEH to seek to restore I/E financial balance post-RAB effects in the short term. The reduction in costs required to achieve this target would be so large, for QEH and other trusts with large legacy RAB-

adjusted deficits, as to greatly increase the risks to the quality of care available to patients served by the trust.

7.4. DH response to Audit Commission

Recently, in response to the Audit Commission recommendations on RAB accounting for hospital trusts, the DH recognises (in the 2007/8 operating framework) that 'income deductions are inconsistent with the principles underlying PbR' and it 'recognises the rationale behind the Audit Commission's recommendations'.[32] Despite this recognition, 'we cannot commit to implementation of this recommendation [to reverse the impact of past RAB deductions] because 'the resource buffer needs to be created from within the resources available to the NHS' (ie we cannot afford to) and 'we need to demonstrate that NHS trusts have the financial discipline to operate outside the RAB regime.'

The operating framework adds that 'Any change in the application of RAB to NHS trusts cannot lead to any write-off of 'historic debt…. We are introducing … a formal system of loans (to finance deficits) in advance of any potential decision on the application of RAB. In order to finance the repayment and servicing of loans NHS trusts will be required to generate surpluses…'

In summary, the DH has rejected the Audit Commission recommendations about scrapping of RAB accounting and reversing the impact of past RAB income reductions at least for the time being. It has further compounded the problems faced by deficit trusts with excess capital costs by imposing on them additional loan financing costs that relate to historic and future deficits. Rather than replace RAB accounting with a system of interest bearing loans they have retained RAB accounting and added a system of interest bearing loans on top. The implications of these decisions are discussed in section 8.

[32] Department of Health 'The NHS in England: the operating framework for 2007/8', December 2006. Quotes are from page 29.

8. DISCUSSION

The report has argued that QEH is subject to excess capital costs of about £8.5 million per annum that are not funded by PbR tariffs. In section 8.2 we consider how these excess costs should be dealt with. Before doing so we consider whether there are valid counterarguments that could be made to support the view that QEH should stop complaining and be told simply to live with the problem.

8.1. Should QEH simply be told to live with the problem?

Here we consider the arguments that might be made for not dealing with the excess costs – for telling QEH that it must learn to live with the problem.

Argument 1 PFI schemes transfer risk cost effectively to the service provider. QEH signed up voluntarily to the PFI scheme relatively recently and must now learn to manage its affairs within the available resource envelope.

Response There is no argument that the PFI did transfer risk to the private sector. Nor that the trust (and the Department of Health) was content that the scheme represented value for money when the contract was signed. However the rules of the game have changed since contract signature in two key ways. First the public sector discount rate has been reduced (from 6% to 3.5%) and so has the dividend on PDC payable by other publicly funded hospitals (on their past and future investments). Second the newly introduced PbR tariffs fund the capital charges relating to past sunk capital investment at the lower 3.5% cost of finance and 'smoothing monies' are no longer permitted to absorb excess costs. PFI schemes that were agreed to be value for money when the cost of finance was 6% now face funding costs that are significantly higher than the 3.5% that is funded in PbR tariffs. Unless these costs are recognised and dealt with the funding available to QEH to provide clinical services to its patients will be well short of what is available to other trusts even if it operates as efficiently as the average trust.

Argument 2 Part of the excess costs relate to the transfer on-balance sheet of certain land assets. The trust knew when it signed the contract that there was risk in treating these assets as off-balance sheet. It must now accept that the risks have crystallised.

Response The trust knew there were risks but had no choice in the matter. The off-balance sheet treatment of land was based on advice form the external auditors at the time and was in accordance with accounting rules when the scheme was signed-off. In 2002 changes in the accounting treatment of land and buildings in early PFI transactions changed, resulting in the land and buildings being put back on-balance sheet. The result has been additional unplanned I/E and cash costs for the trust which are not funded in tariffs and which can only be paid by reducing funding available for clinical services below what they otherwise

would have been. These unplanned additional 'costs' for the trust are really just transfer payments to DH, not additional resource costs for the NHS. They impose unplanned costs on QEH patients.

Argument 3 A significant proportion of the so-called excess costs relates to a timing difference (additional costs in the first part of the contract are offset in the second part) and do not really reflect additional unfunded costs.

Response It is true that the excess costs of finance arising in the first 30 year period do not recur during the second 30 year period. It is also true that the higher than national average capital cost/income ratio in the first 30 years may become a lower than national average ratio during the second 30 years. However the estimates indicate that a maximum of 40% of the excess costs are recoverable in years 31-60 even if loans to finance the deficits in years 1-30 were interest free. As it is currently intended that the loans bear interest at a rate of 4.5% the portion of the excess costs that are recoverable over 60 years will be much lower than 40%. Moreover, even if there were eventual full recovery of the excess costs over the 60 year contract period the trust would still face unfunded costs and incur I/E and cash flow deficits in each of the first 30 years of the contract, so I/E balance in this period could not be achieved even if it operates efficiently. This truth needs to be recognised and allowed for when setting the trust's financial targets and when providing funding for the trust's operations.

In our view none of these arguments are valid reasons not to acknowledge the reality that QEH incurs unfunded excess capital costs and that it will incur an I/E and cash flow deficit under payment by results even if it operates as efficiently as the average trust in England. We now turn to the question of what could and should be done to deal with the problem.

8.2. Dealing with QEH's I/E deficit

The analysis indicates that the 'excess' capital costs of about £8.5 million per annum over the first 30 years of the PFI contract are made up of three components: the excess cost of finance, the higher capital cost/income ratio than average and the front-end loading of the availability charge. These excess costs make up about two thirds of the projected recurrent or underlying deficit of £12-13 million per annum before NHS incentive and financing effects.

During the second 30 year period there are no additional excess costs and the trust should recover about 40% of the excess costs incurred during the first 30 year period. This 40% figure excludes the cost of interest on loans to finance the deficit in the first 30 year period.

In this section we set out five possible future scenarios for QEH depending on how the excess costs are dealt with. All the scenarios assume that RAB accounting no longer applies in line with the recommendations of the Audit Commission. Later in the section we consider

the implications of the decision to retain RAB and convert cash brokerage to interest bearing loans.

Scenario 1 – QEH is assumed to achieve cost improvement programme savings of £7.4 million in 2006/7. This equates to a reduction in controllable ie non-PFI unit costs of more than 6% of income. These savings amount to achieving the 2.5% efficiency factor in the tariffs plus an additional £4 million, reflecting the portion of the recurrent deficit that is not accounted for by excess capital costs. Thereafter the trust is assumed to achieve an additional 2.5% per annum reduction in unit costs as 'required' by the efficiency factor in the tariffs. No additional planned financial support is made available to deal with QEH's recurrent excess costs or legacy deficits.

Result Despite reducing controllable unit costs by about 6% in 2006/7 and about 15% per annum by 2009/10 the trust would continue to incur a large recurrent I/E deficit of about £8-9 million per annum and a continued net cash outflow. The cash flow deficit would have to be financed by the SHA if bills were to be paid. Interest charged on loans to fund the deficit would increase the debt due to the SHA (or NHS Bank) but could only be paid if additional advances were made to the trust to fund them. The accumulated I/E and cash deficit before RAB effects would increase steadily throughout the first 30 years of the PFI contract. After 30 years, if tariffs were still funded on the same basis, there would be an I/E and cash flow surplus (when the availability payment reduces to close to zero) which could be used to repay a portion of the deficit accumulated over the first 30 year period. If loans to finance the deficit in the first 30 year period were interest free the trust could repay about 40% of the accumulated deficit. If the loans were interest bearing it could repay a significantly lower percentage of the accumulated debt plus interest. The trust would come under strong pressure to further reduce its controllable (ie clinical) costs. Recruitment and retention of staff would be complicated by the persistent impression that services would be starved of cash to reduce the deficit. If this happened there would be increased risks to the quality of patient care.

Scenario 2 – As with scenario 1, QEH is assumed to achieve cost improvement programme savings of £7.4 million per annum (a 6% reduction in controllable unit costs) in 2006/7. Thereafter the trust is assumed to achieve an additional 2.5% per annum. In addition its MFF value is adjusted to fund those components of its excess capital costs that will not be recouped during the second 30 year period of the contract. An increase in QEH's MFF from 120.5 to 123.8 would increase income by about £5 million per annum.

Result The recurrent I/E and cash flow deficits would immediately be reduced by about £5 million per annum to about £3-4 million per annum. This residual recurrent deficit would need to be funded by the SHA or NHS Bank if services were to continue to be provided for patients. The increase in recurrent funding costs for DH/SHA resulting from the MFF increase would be offset by a corresponding reduction in capital funding required to finance the now-smaller deficit. The accumulated I/E deficit would continue to grow over the first 30 years of the contract but much more slowly than would otherwise have been the case.

Scenario 3 – As with scenario 1, QEH is assumed to achieve cost improvement programme savings of £7.4 million per annum (a 6% reduction in controllable unit costs) in 2006/7 and an additional 2.5% per annum reduction in unit costs thereafter. In this scenario there is no adjustment to the MFF. However historic and future deficits are funded by the SHA or NHS Bank by advancing long term interest bearing loans to QEH repayable after the end of the first 30 year period of the PFI contract.

Result The trust would have a recurrent I/E deficit of about £8-9 million per annum. The accumulated I/E and cash deficits would continue to increase steadily throughout the first 30 year contract period. Accrued interest on loans from the SHA or NHS Bank would need to be capitalised and carried forward or funded with additional debt. Principal repayments would become payable only during the second 30 year period of the contract when funding of capital costs in tariffs was greater than QEH's capital charges. However, less than 40% of the debt could be repaid over the second 30 year period and eventually a significant portion of the accumulated debt would need to be written off.

If the cash deficits in this scenario were part-funded with additional Public Dividend Capital (rather than debt) then the dividend on PDC would need to be deferred until the second 30 year period of the contract. Otherwise the borrowing requirement of the trust would increase further to fund the extra dividend on PDC.

Scenario 4 – QEH is required immediately to cut clinical costs to the level at which it achieves recurrent I/E and cash flow balance, and historic deficits are restructured as long term interest bearing loans repayable during the second 30 year period of the contract.

Result This would involve immediately reducing total controllable unit costs by more than 10% and thereafter by 2.5% per annum while increasing activity by 2% per annum. In this scenario clinical spend per patient served by QEH would be well below the average for hospital trusts in England. There would be a significant increase in the risk of deterioration in the quality of patient care. Patients would be paying for the excess costs incurred by the trust that are not funded in the tariffs.

Scenario 5 - As with scenario 1, QEH is assumed to achieve a 6% reduction in controllable unit costs in 2006/7 and 2.5% per annum thereafter. As in scenario 2, QEH's MFF value is adjusted to fund those components of its excess costs that will not be recouped during the second 30 year period of the contract ie about £5 million per annum. In scenario 5, in addition the balance of the excess costs are funded with long term debt whose principal and interest are rolled up and paid during the second 30 year period of the PFI contract.

Result This scenario provides a permanent resolution of QEH's financial difficulties but in a way that requires the trust to continue to deliver demanding (but achievable) efficiency improvements in the short and longer term. The adjustment to the MFF deals with the excess costs of finance that are never recovered. The long term debt funding provides for the recovery of the component of the excess costs during the 1st 30 year period that is recoverable during the 2nd 30 year period.

This analysis assumes that RAB accounting no longer applies, as recommended by the Audit Commission. If RAB accounting is to continue, and RAB income reductions are to apply, then the result will be much larger RAB-adjusted deficits – so large that they cannot possibly be repaid. The projected RAB-adjusted annual deficit in 2007/8 in Table 2.1 is £63 million and the accumulated RAB-adjusted deficit is £ 133 million. Just eliminating the annual RAB-adjusted deficit would require a reduction in controllable unit costs of more than 40%, which clearly could not be achieved while continuing to provide good patient care.

8.3. Implications for other hospital trusts and the Department of Health

The thin end of the wedge? If the Department of Health accepts the analysis for QEH and agrees to the suggested adjustments to deal with QEH's problems, is this the 'thin end of the wedge'? Will all other trusts with PFI schemes start demanding similar adjustments that impose additional costs on the DH budget?

There is no general argument for additional funding for all PFI schemes based on the QEH analysis. The excess costs relating to the change in the cost of public finance from 6% to 3.5% apply only to the relatively small number of early PFI schemes that were approved before the government discount rate was reduced. There is no comparable case for additional funding for PFI schemes that were approved after the announcement that the government discount rate was to be reduced from 6% to 3.5%.

The front-end loading of the QEH PFI scheme is particular to that scheme and may not apply to other PFI schemes. To the extent that other schemes do have front-end loaded availability payments there is a case for allowing a larger planned deficit in the early years funded with interest bearing debt with an obligation to generate a surplus in the later years and use the surplus to repay the debt with interest. This is simply profiling the trust's resource limit to correspond to the profiling of PFI payments that have been approved by the DH.

The one area where there is a general argument for dealing differently with capital costs relates to the component of QEH's excess costs that arise because of the higher than average capital cost/total income ratio. Currently, as the Audit Commission has pointed out, the funding of capital costs – based as it is on average capital costs of all trusts – will tend to under-fund some trusts – mostly those with newer hospitals – and over-fund others – mostly those with older fully depreciated hospitals. The MFF is not currently designed to adjust tariffs to take account of these trust-specific differences in 'sunk' capital costs. In their July 2006 report on NHS finances the Audit Commission highlights some of the problems with funding capital costs in tariffs in this way. The evidence from the QEH analysis is that the way capital costs are currently funded in the tariffs does need to be revised. The current arrangements are inequitable and discriminate unfairly against patients served by trusts with high capital/income ratios. This change in capital funding in tariffs would be cost neutral for the NHS as a whole. It would more closely match the funding of 'sunk' capital costs with trusts' actual capital costs.

It is important to note that none of these adjustments imply a net increase in claims on the NHS budget. Either they involve a shift of claims from capital to current account or a shift in the burden of costs between trusts.

Proof that PFI is not cost effective? Some may choose to argue that the existence of excess costs is evidence that the QEH PFI was not 'value for money' or more generally that PFI is not cost effective. However, it would be wrong to interpret the evidence of excess capital costs in this way. Nothing in our analysis in this report can properly be regarded as evidence that the judgement made at the time, that the QEH scheme represented value for money, was not valid and appropriate when it was made. The analysis simply shows that early PFI schemes have 'locked-in' financing costs that are not fully funded because of subsequent changes in the government discount rate and the introduction of payment by results.

Implications for other trusts of adjusting the MFF for QEH? Any increase in the MFF for one trust is bound to reduce slightly the MFF value of other trusts, because it is a scaling factor. However since the required amount of the proposed increase in the MFF for QEH is small, and since the number of trusts that have a claim for such an adjustment is also small, the adjustment that would be needed to the MFF value of all other trusts would also be very small. Moreover, as noted above, any net increase in the claim on DH recurrent resources would be offset by a compensating reduction in the claim on capital funding.

How to deal with new PFI schemes? The discussion so far has been entirely to do with 'sunk' capital ie capital schemes where the investment has already been made and the capital charges already incurred. The same arguments do not generally apply to new PFI schemes. The value for money test for newer schemes is that they must be cheaper than the public sector comparator using a cost of public finance of 3.5%. If no adjustment were made for the higher capital cost/income ratio of new hospitals then the reality is that few new large schemes are likely to be viable. Either they will not proceed or, if they do, the trusts that proceed with new schemes will have to cut spending on clinical services to pay their unfunded excess costs. However, excess capital costs of new schemes should be much smaller than for 'first wave' schemes because the commitment to proceed will have taken place after the reduction in the cost of public finance.

9. CONCLUSIONS

The QEH PFI contract has a 60 year term. The availability component of the unitary charge is fixed in real terms and indexed for changes in the RPI for the first 30 years of the contract term. The availability payment reduces to zero during the second 30 year period.

QEH incurs 'excess capital costs' of about £8.5 million per annum in each of the first 30 years of the contract. This is the magnitude of the costs incurred by the trust that are not funded in payment by results tariffs. The cause of the excess costs is attributable to three factors: the reduction in the cost of public finance since the contract was signed; the front end loading of the availability payments in the first 30 years; and the higher than national average capital cost/income ratio of QEH. Consequently the trust will incur a recurrent income/expenditure deficit of about this amount over the first 30 years even if it operates as efficiently as the average hospital trust in England.

About 40% of the aggregate excess costs over the first 30 years will be recouped during the second 30 year period of the contract if loans to finance the deficit during the first 30 year period are interest free. This percentage will be lower than 40% if loans are interest bearing. The balance of the accumulated excess costs (more than 60%) will not be recoverable over the life of the contract.

QEH does not receive compensating income support to fund these excess costs in the form of a higher than average Market Forces Factor for Outer London hospitals. In fact the QEH MFF is lower than the average for Outer London hospitals.

A review of latest available data on QEH operational efficiency indicates that it performs at least as well as the average hospital trust in England and in some areas significantly better. There is no evidence to support the view that a significant proportion of the QEH deficit is caused by operational inefficiency or poor management.

The QEH excess capital costs are 'locked-in' for 30 years. The terms of the PFI contract and the fact that the private finance was sourced from the bond market mean that a change in the terms to mitigate excess costs would result in prohibitively expensive breakage costs for QEH and the NHS.

If QEH is required to achieve I/E and cash flow recurrent balance despite having to incur these excess costs then controllable expenditure on patient services will have to be cut by more than 10% immediately and further unit cost reductions of 2.5% per annum will have to be achieved thereafter. This would, in effect, impose the excess costs on local patients and increase the risks of deterioration in the quality of patient care.

RAB accounting artificially exaggerates the apparent magnitude of the trust's deficit. We strongly agree with the Audit Commission that hospital trusts subject to payment by results should not be subject to the RAB financial regime and that any element of a trust's deficit which has resulted from RAB adjustments should be unwound through provision of cash

backed income. Deficits incurred by hospital trusts including QEH should be funded with medium and long term interest bearing loans and/or additional Public Dividend Capital whose dividend can be deferred, and the accounting treatment should reflect this. Adoption of the approach recommended by the Audit Commission would immediately, sharply reduce the reported financial deficit of QEH. Nevertheless a large recurrent deficit will remain even if the trust operates as efficiently as the average trust in England.

In our view there is a clear case for dealing permanently with the portion of QEH's deficit that is attributable to non-controllable excess capital costs. The proposed solution is to allow for the excess costs that are permanent by making a small adjustment to QEH's MFF and to allow for the excess costs that are recoverable in the second 30 year period by funding this portion of the deficit with long term loans repayable during the second 30 year period of the contract. The portion of the deficit that cannot be attributed to these excess costs (about £4 million per annum) should be eliminated by additional cost improvement actions by the trust. The proposed solution would require QEH to reduce controllable unit costs by 6% in 2006/7 and by about 15% by 2009/10. These demanding but achievable performance improvement targets will maintain the pressure on the trust to improve performance without increasing unduly the risks of deterioration in the quality of patient care.

Only a small number of other PFI hospitals are likely to be able to advance valid arguments for similar treatment. The portion of excess capital costs that relates to the reduction in the cost of public finance from 6% to 3.5% will only apply to 'early' PFI schemes. The portion that relates to the front end loading of the availability payments is specific to the profiling of availability payments in the QEH contract. It is important that the valid arguments for addressing the QEH excess costs are not viewed as the 'thin end of the wedge' – an excuse for other trusts to argue for unjustifiable additional funding for expensive PFI schemes.

APPENDIX 1: QEH AND NATIONAL AVERAGE CAPITAL CHARGES

In this Appendix we initially set out how we calculated QEH's capital charges as a percentage of its total revenue expenditure, following which we describe the calculations for arriving at the national average of all NHS Trusts.

A1. QEH capital charges as a % of its total revenue expenditure

Table A2.1 below provides the details of QEH 2005/06 capital charges and its actual total revenue expenditure.

Table A2.1: Total QEH revenue expenditure and capital costs (2005/06)

Item		Value ('000)
Revenue expenditure		
	Total	*£132,983*
Capital charges		
	PFI Meridian availability charge	£13,477
	Residual interest	£173
	Deferred asset	£1,068
	Land	£1,543
	Total	*£16,261*[33]

Source: QEH

Total QEH capital charges, therefore, as a % of its revenue expenditure are 12.2%.[34]

[33] Excluding IM&T and equipment related capital charges.

[34] Total capital charges in respect of land, buildings, furniture and fittings and dwellings but excluding IM&T and equipment.

A2. National NHS capital charges as a % of national revenue expenditure

We have calculated the national NHS capital charges, as per Table A2.2.

Table A2.2: NHS Trusts - Depreciation and PDC charge ('000s)

Tangible fixed assets	**Land**	**Buildings**	**Furniture & fittings**	**Dwellings**	**Total**
Opening bal 1.04.04	5,003,662	17,590,852	4,790,007	467,121	27,851,642
Closing Bal 31.03.05	4,997,795	18,098,640	4,565,247	465,616	28,127,298
Average	*5,000,729*	*17,844,746*	*4,677,627*	*466,369*	*27,989,470*
PDC @ 3.5%	175,025	624,566	163,717	16,323	979,631
Depreciation per year	101	772,608	23,600	17,727	814,036
Total capital charges					**1,793,667**

In addition to the total capital charges, we have also included an estimate of PFI 'hard' facilities management (FM) costs. The total PFI FM costs for the year were £447,000,000, of which we have assumed that 60% are hard FM (Facilities Management) costs.[35] The total FM hard costs were therefore estimated at £268,200,000.

Total capital costs including hard FM costs for all NHS Trusts in England were thus £2.06 billion. The total income for the same year was £35.6 billion. The ratio of capital costs to total turnover for the NHS as a whole was therefore around 5.8%.

[35] The 60% to 40% ratio of FH to other charges was an estimate provided by QEH.

APPENDIX 2 CALCULATION OF QEH EXCESS COST OF FINANCE

(£'000)

	Availability Less MM, Insce, SPV & Mgmnt Fee	Availability	Depreciation	Asset value	Ror=3.5%	Dep +RR	Total Gap	RR=6%	RoR issue
	£0	£0				0.035			
31-Mar-01	2,001	2,366	771		1604.167	2,375	-373	2750	1145.833333
31-Mar-02	12,662	14,156	2,312	137,500	4,813	7,124	5,538	8250	3437.5
31-Mar-03	12,541	14,156	2,312	135,188	4,732	7,043	5,498	8111.3	3379.708333
31-Mar-04	12,459	14,156	2,312	132,877	4,651	6,962	5,496	7972.6	3321.916667
31-Mar-05	12,391	14,156	2,312	130,565	4,570	6,881	5,509	7833.9	3264.125
31-Mar-06	12,279	14,156	2,312	128,253	4,489	6,801	5,479	7695.2	3206.333333
31-Mar-07	12,010	14,156	2,312	125,942	4,408	6,720	5,290	7556.5	3148.541667
31-Mar-08	12,024	14,157	2,312	123,630	4,327	6,639	5,385	7417.8	3090.75
31-Mar-09	11,755	14,156	2,312	121,318	4,246	6,558	5,197	7279.1	3032.958333
31-Mar-10	11,399	14,155	2,312	119,007	4,165	6,477	4,922	7140.4	2975.166667
31-Mar-11	11,764	14,157	2,312	116,695	4,084	6,396	5,368	7001.7	2917.375
31-Mar-12	11,570	14,156	2,312	114,383	4,003	6,315	5,255	6863	2859.583333
31-Mar-13	11,363	14,156	2,312	112,072	3,923	6,234	5,129	6724.3	2801.791667
31-Mar-14	11,701	14,156	2,312	109,760	3,842	6,153	5,548	6585.6	2744
31-Mar-15	11,100	14,156	2,312	107,448	3,761	6,072	5,027	6446.9	2686.208333
31-Mar-16	9,912	14,156	2,312	105,137	3,680	5,991	3,921	6308.2	2628.416667
31-Mar-17	11,584	14,156	2,312	102,825	3,599	5,911	5,674	6169.5	2570.625
31-Mar-18	11,532	14,156	2,312	100,513	3,518	5,830	5,703	6030.8	2512.833333
31-Mar-19	11,060	14,156	2,312	98,202	3,437	5,749	5,311	5892.1	2455.041667
31-Mar-20	11,463	14,156	2,312	95,890	3,356	5,668	5,795	5753.4	2397.25
31-Mar-21	10,946	14,156	2,312	93,578	3,275	5,587	5,359	5614.7	2339.458333
31-Mar-22	11,615	14,155	2,312	91,267	3,194	5,506	6,109	5476	2281.666667
31-Mar-23	11,679	14,156	2,312	88,955	3,113	5,425	6,254	5337.3	2223.875
31-Mar-24	11,443	14,156	2,312	86,643	3,033	5,344	6,099	5198.6	2166.083333
31-Mar-25	10,927	14,156	2,312	84,332	2,952	5,263	5,663	5059.9	2108.291667
31-Mar-26	11,388	14,156	2,312	82,020	2,871	5,182	6,205	4921.2	2050.5
31-Mar-27	11,267	14,156	2,312	79,708	2,790	5,101	6,165	4782.5	1992.708333
31-Mar-28	10,922	14,156	2,312	77,397	2,709	5,021	5,902	4643.8	1934.916667
31-Mar-29	11,522	14,156	2,312	75,085	2,628	4,940	6,582	4505.1	1877.125
31-Mar-30	10,654	14,156	2,312	72,773	2,547	4,859	5,795	4366.4	1819.333333
31-Mar-31	5,211	9,424	1,549	71,225	1,670	3,219	1,992	2863.22557	1193.010654

The appendix calculates the annual difference between the availability payment (less certain costs such as SPV costs and insurance) and the amount that is funded in the tariffs at a 3.5% and 6% cost of public finance. The calculations are made in constant prices (2006/7)