FLEXIBILITY AGAINST EFFICIENCY?
AN INTERNATIONAL STUDY ON VALUE FOR MONEY IN HOSPITAL CONCESSIONS

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'We are an advocate for improvements in women's health and well-being. In developing our services, we seek to understand and integrate the diverse, ever-changing needs, priorities and perspectives of women'.

(Annual report Royal Women's Hospital, Victoria, Australia, 2005-2006)

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Traditionally, the acknowledgements are written as the final part of a thesis and usually under the greatest of time pressures. Of course, I would like to have organized this differently… I was intending to write this component during a reflective moment while climbing Mount Kilimanjaro a few months ago. The climb tempted me to compare the PhD process with ascending a mountain. That, however, would have been unfair on the PhD process. After all, climbing a mountain like Kilimanjaro involves suffering, sweating, and cold sleepless nights. Although handing in a draft thesis does feel a bit like reaching the top of a mountain, the negative aspects of climbing a mountain I would not want to associate with my PhD project. Consequently, I decided against writing the acknowledgements during my vacation and ended up writing this part of the thesis, like many before me, with a looming deadline.
I still see the PhD process as a journey, albeit one that is not relentlessly uphill. To me this was a figurative journey through the world of science, which was an unfamiliar world to me. It has brought me some stressful moments, but in general I really enjoyed the trip. Moreover, the study has taken me to many places in geographical terms. Since traveling is one of my passions, I am grateful to several people for their part in this.

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Anneloes Blanken,
February 2008

SUMMARY

Recently, the mechanisms adopted by governments for the provision of hospitals have changed considerably, with the concession arrangement gaining in popularity. A hospital concession concerns an arrangement between public and private organizations for the provision of a hospital, in which the private sector designs, builds, finances, and maintains it; for which it is reimbursed by the public organization based on the services delivered in the hospital it has provided.

Hospital concessions are seen as a solution to overcome the bottlenecks associated with the conventional approach to hospital provision. However, despite hospital concessions being increasingly implemented, they represent a major, but so far under-evaluated, concept. Little research has been completed on the performances of these hospital concessions. Generally, they are studied based on the preconceptions of the actors involved, rather than on operational and scientific outcomes of the project since adequate assessment methods are absent. Moreover, there is little evidence on how context and project characteristics affect concession performance. The lack of empirical data, especially during the operational stage of concessions, makes a rigorous scrutiny of concessions impossible. It is therefore not surprising to observe that the debate surrounding hospital concessions is dominated by opinions that are largely based on normative assumptions.

This study has tried to progress from these normative standpoints through insights derived from in-depth analyses of projects. It has endeavored to assess the potential of hospital concessions and their empirical performance in addressing the underdeveloped issues described above. The study started with two propositions: (1) while the market for hospital concessions is dominated by legal and financial advisors, the contracts underlying hospital concessions are significant determinants of concession performance; and (2) based on the claim that structure follows strategy, this contract will be tuned to project-specific needs of each concession as well as to the macroeconomic context surrounding it. The central question in this study is formulated as what is the performance of hospital concessions, and what are the determinants that deliver this performance? Providing an answer was structured through the development of two research products: (1) a performance tool which would be appropriate for the empirical assessment of operational hospital concessions; and (2) an empirical assessment of the performance of operational hospital concessions within their individual contexts.

The development of the first research product required several steps. An extensive literature review was conducted to determine appropriate performance indicators that could be used in an empirical assessment. Since policymakers and researchers increasingly encapsulate the reasoning behind concessions by the term 'value for money' (or VFM),

VFM was seen as the logical performance indicator with which to assess concessions. Due to the ambiguity and the overarching nature of the term, VFM was further operationalized to make it suitable for empirical assessment. To date, VFM is assessed primarily through some form of benchmarking, i.e. the Public Sector Comparator (PSC), which has received strong criticisms from both the academic world and from policy evaluators. These criticisms refer to the restricted scope of the method and its inherent deficiencies. Therefore, in this study, a new VFM tool was developed based on insights derived from the literature review. This framework is seen as the operationalization of VFM. Since demand risk (i.e. the uncertainty over future demand for health services in a specific hospital) is seen as a decisive risk factor in determining VFM, this risk factor was selected as a crucial constituent of the VFM tool on which the empirical part of the study was to be based.

The second product of the study was developed by means of a case study in which demand-related VFM and its determinants were assessed. This required an assessment of the extent to which hospital concession arrangements incorporate an ability to respond to changing demand patterns for clinical services, i.e. mechanisms that provide the flexibility to deliver VFM. Three different types of flexibility were distinguished and identified as indicators representing overall flexibility in hospital concessions: design flexibility, service flexibility, and financial flexibility. The overall flexibility of seven hospital concessions in England and in the Australian State of Victoria was analyzed within their contexts. These projects were assessed on three different levels, which enables the researcher to form a rich continuum of evidence on demand-risk related VFM performance: (1) the policy rhetoric, essentially the general guidelines and policy initiatives underlying the decision to implement a hospital concession; (2) the contract, consisting of the structures of exchange that should ensure the accommodation of future contingencies; and (3) the operational outcomes, which involves reflecting on how performance was accomplished in practice, based on project experiences to date.

The outcomes of the case study analysis are summarized in Figure 1, which illustrates the most significant outcomes of demand-risk-related VFM in hospital concessions. Besides these outcomes, the dependencies between the three different types of flexibility, the three levels of evaluation, and the project as well as its macroeconomic context characteristics are reflected upon. The thickness of the arrows represents the relative influence exerted.

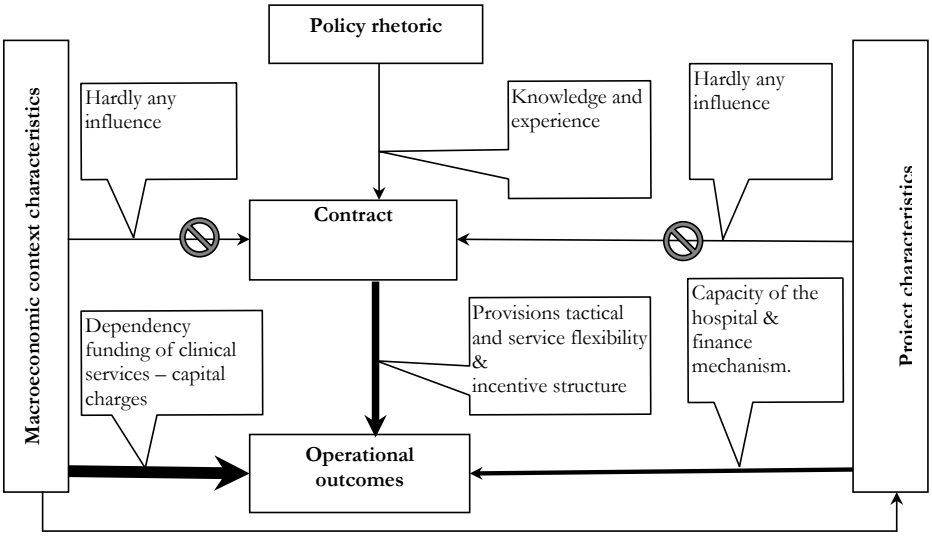

Fig. 1: Dependencies in the realization of demand-risk-related VFM in hospital concessions

The element of the central research question concerning which determinants influence concession performance is answered by considering the dependencies reflected in Figure 1. It was shown that the following determinants influence the operational demand-risk-related VFM performance:

1. The contract; as this generally fails to incorporate tactical design and service flexibility, and incorporates little incentive for the private sector partner to re-optimize the hospital in reaction to a fluctuating demand in the operational phase. Currently, there are hardly any provisions to be found in hospital concession contracts for dealing with adaptability contingencies.
2. Knowledge and expertise; competent management of the arrangement is the health authority's key way of controlling its outputs and their contribution to outcomes. In this context, they need to be cognizant of the potential implications of the concession arrangement. Expectations should change based on a continuous assessment of how concession arrangements are meeting needs from a user-perspective. Upgraded knowledge should be captured in updated guidance and policy documents.
3. The hospital capacity; an unrealistically small hospital capacity accelerates the need for design upgrades and extensions early in the operational phase, which lead to an increase in the unitary charge. An under-utilized capacity has a negative effect on the financial flexibility of the health authority because it leads to expenditures on clinical spaces which are not in use. To achieve a better planned scale, key purchasers of clinical services should be heavily involved in the planning of hospitals and appropriate planning techniques should be adopted.

4. The way the project is financed. Bond financing is not suited to refinancing exercises and can constrain the financial flexibility of health authorities, when compared to other financing mechanisms.
5. Presence of a dependency between the funding for the clinical services and the expenditures of the health authority related to the concession arrangement. A dependency between the funding of clinical services provision and payments for concession arrangements constrains the financial flexibility of the health authority, and might implicitly affect the strategic design flexibility of the concession.

The case study analysis does not generally support the propositions that constituted the starting points of the study as set out above. It is argued, based on the case-study evidence: (1a) that contracts underlying hospital concessions are significant in the performance of concessions only to the extent that they determine the maximum potential flexibility of the hospital, they do not explain the differences found in operational outcomes among different hospital concessions; and (1b) that the macroeconomic context underlying the health sector and the capacity of the hospital are more significant in explaining differences in demand-risk-related VFM. Further, (2) strategy follows structure rather than the other way around; contracts are not tuned to project-specific needs and are copied from earlier projects irrespective of the concession requirements and the macroeconomic context surrounding these arrangements.

This study has provided a foundation for establishing concessions for the long-term provision of hospitals with sufficient flexibility to accommodate a fluctuating demand for clinical services. Health authorities already having, or considering, a hospital concession in their portfolio are urged to address the five determinants identified in order to avoid the development of hospitals that lack the provisions needed to adequately respond to the uncertainties associated with their immediate contexts.

TABLE OF CONTENTS

CHAPTER 1 INTRODUCTION 19

1.1 BACKGROUND 19
1.1.1 Provision of public infrastructure 19
1.1.2 New Public Management (NPM) 19
1.1.3 Public private partnerships 22
1.1.4 Concessions 23
1.1.5 Concessions in the health sector 25
1.2 RESEARCH OBJECTIVE AND QUESTIONS 28
1.2.1 Research objective 28
1.2.2 Research questions 31
1.3 OUTLINE OF THE THESIS 32

CHAPTER 2 RESEARCH DESIGN 33

2.1 RESEARCH PHILOSOPHY 33
2.2 RESEARCH STRATEGY 34
2.3 RESEACH OUTLINE 36
2.3.1 Stage one: literature study 37
2.3.2 Stage two: a framework for analysis 37
2.3.3 Stage three: case selection 38
2.3.4 Stage four: data collection 41
2.3.5 Stage five: data analysis 42
2.4 VALIDITY AND RELIABILITY 44
2.4.1 Construct validity 44
2.4.2 Internal validity 44
2.4.3 External validity 45
2.4.4 Reliability 45

CHAPTER 3 CONCESSION ARRANGEMENTS 47

3.1 HISTORY 47
3.1.1 General history of concessions 48
3.1.2 History of concessions in the United Kingdom 48
3.1.3 History of concessions in Australia 50
3.2 DEFINITIONS 51
3.3 ECONOMIC AND SOCIAL INFRASTRUCTURE CONCESSIONS 54
3.4 ACTORS AND STRUCTURE 55
3.5 MOTIVES FOR CONCESSIONS 57
3.5.1 Political motives 58
3.5.2 Macro-economic motives 60
3.5.3 The state of the infrastructure portfolio 61
3.5.4 Private sector motives 61
3.5.5 Changing motives 61
3.6 CONCLUSIONS 63

CHAPTER 4 VALUE FOR MONEY (VFM) 65

4.1 VFM: AN INTRODUCTION 65
4.2 EX-ANTE VFM ASSESSMENT: THE PUBLIC SECTOR COMPARATOR 67
4.2.1 Calculating the PSC 68
4.2.2 Risks included risks in assessing VFM by the PSC 69
4.3 CRITICISMS OF VFM ASSESSMENT USING THE PSC 71
4.3.1 The restricted measurement scope of the PSC 72
4.3.2 Imperfect assessment methods in PSC benchmarking 73

4.4 PSC BENCHMARKING IN RELATION TO THE CURRENT RESEARCH OBJECTIVES 77
4.5 EX-POST VFM ASSESSMENT METHODS 78
4.5.1 Propositions for ex-post VFM assessment methods 78
4.6 DEFINING AN IMPROVED VFM FRAMEWORK 80
4.6.1 VFM: focus on risks and uncertainties 81
4.6.2 VFM: an overview 84
4.7 CONCLUSIONS 86

CHAPTER 5 A FRAMEWORK FOR EVALUATION 89

5.1 VFM: A FOCUS ON DEMAND RISK 89
5.1.1 Characteristics of the physical assets of hospitals 90
5.1.2 The uncertainties surrounding hospitals 91
5.1.3 The structure of hospital concessions 92
5.2 EFFECTS OF MATERIALIZING DEMAND RISK 93
5.2.1 Unsuitable facilities 93
5.2.2 Lock-in 94
5.2.3 Affordability problems 95
5.3 FLEXIBILITY 95
5.3.1 Design flexibility 96
5.3.2 Service flexibility 96
5.3.3 Financial flexibility 97
5.3.4 An initial model of flexibility in hospital concessions 98
5.4 EMPIRICAL DATA 98
5.5 CONCLUSIONS 100

CHAPTER 6 CASE STUDIES ENGLAND, UNITED KINGDOM 101

6.1 THE HEALTHCARE CONTEXT IN ENGLAND 101
6.1.1 The organization of the health sector 101
6.1.2 Healthcare funding before and after 1991 103
6.1.3 Capital funding within the NHS 103
6.2 CONCESSIONS IN THE ENGLISH HEALTH SECTOR 104
6.3 THE CASE STUDY DESIGN 106
6.4 DARENT VALLEY HOSPITAL 112
6.4.1 Policy rhetoric 112
6.4.2 The contract 115
6.4.3 Operational outcomes 118
6.4.4 Summarized 123
6.5 QUEEN ELIZABETH HOSPITAL 124
6.5.1 Policy rhetoric 125
6.5.2 Contract 127
6.5.3 Operational outcomes 130
6.5.4 Summarized 135
6.6 NORFOLK & NORWICH UNIVERSITY HOSPITAL 136
6.6.1 Policy rhetoric 137
6.6.2 Contract 139
6.6.3 Operational outcomes 142
6.6.4 Summarized 147
6.7 ST. GEORGE HOSPITAL 148
6.7.1 Policy rhetoric 148
6.7.2 Contract 150
6.7.3 Operational outcomes 151
6.7.4 Summarized 156
6.8 CONCLUSIONS 157

CHAPTER 7 CASE STUDIES VICTORIA, AUSTRALIA 161

7.1 THE HEALTHCARE CONTEXT IN VICTORIA 161
7.1.1 The organization of the health sector 161

7.1.2 Healthcare funding over the years ... *162*
7.1.3 Capital funding within the DHS ... *163*
7.2 CONCESSIONS IN VICTORIAN HEALTH ... 165
7.3 THE CASE STUDY DESIGN ... 168
7.4 LATROBE REGIONAL HOSPITAL ... 172
7.4.1 Policy rhetoric ... *173*
7.4.2 Contract ... *175*
7.4.3 Operational outcomes ... *177*
7.4.4 Summarized ... *181*
7.5 CASEY HOSPITAL ... 182
7.5.1 Policy rhetoric ... *183*
7.5.2 Contract ... *184*
7.5.3 Operational outcomes ... *186*
7.5.4 Summarized ... *188*
7.6 ROYAL WOMEN'S HOSPITAL ... 189
7.6.1 Policy rhetoric ... *189*
7.6.2 Contract ... *190*
7.6.3 Operational outcomes ... *193*
7.6.4 Summarized ... *193*
7.7 CONCLUSIONS ... 194

CHAPTER 8 CROSS-CASE ANALYSIS ... 197

8.1 COUNTRY ANALYSIS: ENGLISH HEALTH CONCESSIONS ... 197
8.1.1 Design flexibility ... *199*
8.1.2 Service flexibility ... *200*
8.1.3 Financial flexibility ... *202*
8.1.4 Summarized ... *205*
8.2 COUNTRY ANALYSIS: VICTORIAN HOSPITAL CONCESSIONS ... 206
8.2.1 Design flexibility ... *207*
8.2.2 Service flexibility ... *208*
8.2.3 Financial flexibility ... *210*
8.2.4 Summarized ... *212*
8.3 CROSS-COUNTRY ANALYSIS: ENGLISH AND VICTORIAN HOSPITAL CONCESSIONS ... 212
8.4 DETERMINANTS OF DEMAND-RISK-RELATED VFM ... 215
8.5 CONCLUSIONS ... 217

CHAPTER 9 CONCLUSIONS, LIMITATIONS AND CONTRIBUTIONS ... 221

9.1 CONCLUSIONS ... 222
9.1.1 The definition, structure and motives of concessions ... *222*
9.1.2 The operationalization of performance ... *223*
9.1.3 The empirical performance ... *224*
9.1.4 Project and context characteristics constituting demand-risk-related VFM ... *225*
9.1.5 Summarized ... *227*
9.1.6 Recommendations ... *228*
9.2 LIMITATIONS OF THE STUDY ... 230
9.2.1 Limitations of the outcomes ... *230*
9.2.2 Limitations of the research process ... *232*
9.3 CONTRIBUTIONS ... 235
9.3.1 Contributions for practice ... *235*
9.3.2 Social contributions ... *237*
9.3.3 Contributions to science ... *237*
9.3.4 Implications for further research ... *238*

LIST OF FIGURES

Fig. 1: Dependencies in the realization of demand-risk-related VFM in hospital concessions ..11
Fig. 2: Different private sector involvement levels ..21
Fig. 3: Conventional provision versus concession projects ..24
Fig. 4: Linking research products to the research process ..44
Fig. 5: Concession project structure ..56
Fig. 6: VFM of PSC versus concession bids ..68
Fig. 7: Measuring VFM by means of the PSC..71
Fig. 8: Operationalization VFM ..85
Fig. 9: Demand-risk-related VFM..90
Fig. 10: Relation between building, and core, and ancillary services ..94
Fig. 11: Initial framework for assessing demand-risk-related VFM..98
Fig. 12: The scale of PFI in the NHS ..105
Fig. 13: Time path Darent Valley Hospital..112
Fig. 14: Demand risk-related VFM in the Darent Valley project..124
Fig. 15: Time path QEH Hospital ..124
Fig. 16: Demand risk-related VFM in the Queen Elizabeth Hospital project..136
Fig. 17: Time path NNUH..136
Fig. 18: Demand risk-related VFM in the Norfolk and Norwich Hospital project..147
Fig. 19: Time path St George PFI Wing..148
Fig. 20: Demand risk-related VFM in the St George Hospital project..157
Fig. 21: Annual capital funding..164
Fig. 22: Organization scheme Latrobe Regional Hospital ..172
Fig. 23: Time path Latrobe Regional Hospital..172
Fig. 24: Demand risk-related VFM in the Latrobe Regional Hospital Project..182
Fig. 25: Time path Casey Hospital..182
Fig. 26: Demand risk-related VFM in the Casey Hospital project..188
Fig. 27: Time path: Royal Women's Hospital ..189
Fig. 28: Demand risk-related VFM in the Royal Women's project ..194
Fig. 29: The assessment of demand-risk-related VFM in English hospital concessions..206
Fig. 30: The assessment of demand-risk-related VFM in Victorian hospital concessions..212
Fig. 31: Demand-risk-related VFM of hospital concessions..213
Fig. 32: The influence of context and project characteristics on demand-risk-related VFM..215
Fig. 33: Demand-risk-related VFM of hospital concessions ..225
Fig. 34: The realization of demand-risk-related VFM in hospital concessions..226

LIST OF TABLES

Tab. 1: General case information 40
Tab. 2: Various roles in concessions 54
Tab. 3: Public and private responsibilities in infrastructure concessions 55
Tab. 4: Comparison of costs under PFI and PSC options 74
Tab. 5: UK policy documents relevant to PFI in health 106
Tab. 6: Facility characteristics of the PFI hospitals selected for the case study research 107
Tab. 7: Case study protocol English cases 108
Tab. 8: Pre-PFI versus PFI charges 113
Tab. 9: The financial position of the Trust and PFI 121
Tab. 10: Financial consequences of design and service flexibility on the unitary charge 123
Tab. 11: Pre-PFI versus PFI charges 126
Tab. 12: The financial position of the Trust 133
Tab. 13: Pre-PFI versus PFI charges 138
Tab. 14: Minor works in the NNUH 143
Tab. 15: The financial position of the Trust 145
Tab. 16: Pre-PFI versus PFI charges 149
Tab. 17: The financial position of the Trust 155
Tab. 18: Performance of the English hospital concessions 158
Tab. 19: Victorian policy documents towards concessions 167
Tab. 20: Facility Characteristics of the selected Victorian cases 168
Tab. 21: Case study protocol Victorian cases 169
Tab. 22: Patients admitted to the Latrobe Regional Hospital 178
Tab. 23: Financial performance before and after the concession arrangement 181
Tab. 24: Number of admissions in the operational phase of the Casey Hospital 186
Tab. 25: Financial performance of Southern Health 188
Tab. 26: Performance of the Victorian hospital concessions 195
Tab. 27: Performance of the English hospital concessions 198
Tab. 28: Performance of the Victorian hospital concessions 207

Chapter 1

Introduction

1.1 Background

1.1.1 Provision of public infrastructure

Public facilities, resources, and services, collectively known as public infrastructure are vital to a nation's production and distribution of economic output as well as to its citizens' overall quality of life. Public infrastructure is commonly taken to include roads, transport systems, water and sewerage, utilities, but also schools, prisons, and hospitals (WATIAC, 2004).

One of the most striking characteristics of public infrastructure projects is the far-reaching involvement of the public sector. In the post-Second World War period, the public sector in both developed and developing countries has been responsible for providing a wide and diverse range of infrastructure and accompanying services such as healthcare, education, justice, and defense. Nonetheless, the mechanisms adopted by the public sector to provide infrastructure have seen considerable changes over the past two decades: many functions previously performed by public sector organizations are currently being reviewed[1]. These changes, driven by an ideological consensus, can be put under the principles of New Public Management (NPM).

1.1.2 New Public Management (NPM)

In the context of relations between public and private organizations, the defining themes of NPM are the achievement of objectives through economy and efficiency and an explicit emphasis on the dominance of individual over collective preferences (Minogue et al., 1998). In effect, the emphasis of NPM is on reshaping the boundaries and responsibilities of the public sector, especially through privatization, the restructuring of public services, and the introduction of private market disciplines into public administration.

[1] Over time, different movements within the public-private dichotomy are distinghuished. This study focuses on movements with regard to this dichotomy in Anglo-Saxon countries during the last decades. Traditionally, the United States take a different position in this due to the traditional autonomy of the private sector in this country.

During the last decades of the twentieth century governments have been limiting their tasks in favor of the market. These decades have witnessed a dominance of neo-liberal thinking. The translation of these ideas into practice has led to the adoption of neo-liberal principles in a whole spectrum of reforms that impinge on or directly involve the public sector. The economic outcome of these principles is that the operations of the market have been liberated from the distortions produced by government interventions. This logic was then applied to the public sector itself, with the objective of reducing the size and activities of the public sector. Another consequence of these principles is that the public sector has been assessed in its broad relations with society and the economy rather than from the viewpoint that the public sector should comprise a narrow and specialized set of institutions.
As a result, many governments have recently involved the private sector in the funding and delivery of public infrastructure. This introduction is part of a wider belief that one can improve the public sector through the introduction of private sector methods, management, and expertise under the NPM (Dunleavy & Hood, 1994; Broadbent & Laughlin, 1999).

The adoption of NPM principles has been accompanied by two other key drivers in the involvement of the private sector in infrastructure provision.
First, the increasingly complex tasks and problems in society have intensified the dependency of the public sector upon private sector organizations in order to achieve its objectives and fulfill its tasks. These problems are characterized by a high degree of wickedness (Mason & Midroff, 1981). The admittance of the private sector into infrastructure provision reflects the view of governments that identify infrastructure provision, to an increasing degree, as such a wicked issue (Stewart, 1996). Wicked issues are those complex and irreconcilable issues facing the public sector that require an integrated collaboration of public and private partners. Governments, business, and civil society are unable to tackle these issues individually (Koppenjan & Klijn, 2004).
Second, the decreasing governmental budgets for infrastructure provision have meant that the mobilization of private funding for public infrastructure and services has become critical and even, in some cases, encouraged by national legislation and funding regimes (Bovaird, 2004). Government's ability to provide adequate amounts of capital to fund the investment needs of public infrastructure, tended to deteriorate, for example in the UK (Winch, 2000). Nevertheless, the demand for new infrastructure has increased as economies grow and patterns of economic activity change. Private involvement in the provision of public infrastructure has been the answer in many countries[2].

[2] A more detailed overview of NPM principles on a micro rather than macro level of public infrastructure provision is given in Section 3.5.

The above-described developments have practical implications for the provision of infrastructure around the world. For a long time, the public sector predominantly has had the leading role as the principal in infrastructure projects. In this conventional approach to infrastructure provision, the government takes the initiative, and develops the plans for the execution of work up in some detail. The contractor just has to execute these elaborated plans.
This model, however, was and is often criticized as it would lead to adversarial relations between the actors involved in providing and managing the infrastructure. In the past, and partly as a result of the nature of budgetary allocation processes, governments have addressed maintenance requirements by over-capitalizing design and construction, and under-budgeting for ongoing maintenance. This resulted in communities inheriting expensive, risk-laden infrastructure facilities which, in a number of cases, have progressively been run down (Partnerships Victoria, 2001). The focus on short-term gains is considered inefficient in the total life cycle of infrastructure provision.

The adoption of NPM principles has been a major driver behind an increased role for the private sector in public infrastructure provision in many countries. This has resulted in a change of the roles in infrastructure projects, as responsibilities have to be shared between public and private organizations. Different constitutions can be formed, all with varying degrees of shared responsibilities. Li and Akintoye (2003) distinguished several levels of private sector involvement, which are shown in Figure 2. Other authors, for example Savas (2000), Bennett et al. (2000), and Börzel and Risse (2002), have created comparable spectra to indicate different degrees of private sector involvement in the provision of infrastructure facilities and services.

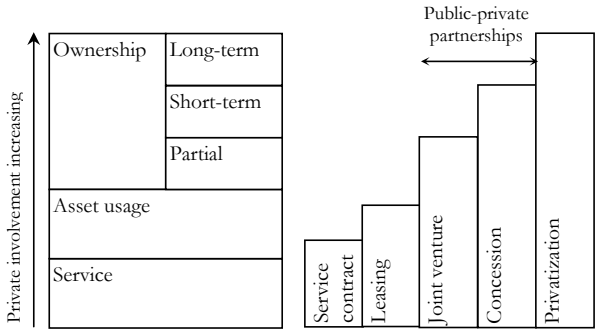

Fig. 2: Different private sector involvement levels (adapted from Li and Akintoye, 2003)

Private sector involvement varies from service contract to privatization, with the degree of sharing responsibilities increasing from left to right. The different levels of private sector involvement all have their own advantages and disadvantages. Certain levels are preferred to others due to their characteristics. Five types of private involvement, namely service contracts, leasing, joint ventures, concessions, and privatization are commonly recognized.

These are all briefly explained below, after which further explanation is given for the most suitable and adopted types of private involvement in infrastructure provision, namely public-private partnership arrangements (see also Figure 2).

Privatization involves the sale of a public-owned facility by auction, public stock offering, private negotiation, or outright grant to a private organization that assumes operating responsibilities. This approach involves the complete transfer of equity to the private sector without time limitations. There are several reasons why the privatization of infrastructure provision is undesirable in the eyes of governments. First, for most governments, it is essential they are able to exercise some ownership rights and control over the nature and pricing of the infrastructure and related public services. Second, infrastructure brings with it a considerable number of negative external effects, such as congestion, environmental and noise pollution, and insecurities. Governments consider it as one of their tasks to restrain these, or at least to take the positive and negative effects of an infrastructure project into consideration. Third, it is often argued that everybody should have access to infrastructure. This comes not only from a social consideration perspective, but also from the perspective that infrastructure is vital to a nation's economy.
Other forms of private involvement, such as service contracts and leasing, also have characteristics making their use in the provision of infrastructure less desirable. These forms of private involvement are relatively simple. A lease arrangement involves a situation where the private sector uses public facilities, and pays a rental fee to provide a service. Usually, the service provider is not responsible for making any new capital investments or for the replacement of the infrastructure asset. As capital investments are essential in infrastructure provision, service contracts and leasing are seen as less appropriate manifestations of private sector involvement in infrastructure provision.
Two other forms of private involvement, joint ventures and concessions, are more appropriate to infrastructure provision. These forms both contain elements considered essential for governments, such as the contingency to exercise ownership rights and control over the infrastructure provisions. Both forms of private involvements are put under the same heading of public-private partnerships (PPPs).

1.1.3 Public private partnerships

The terms 'PPP' and 'privatization' are often used mixed-up, which has resulted in confusion about the denotation of both terms. An important source of this confusion is that sometimes PPP is used as a synonym for privatization. However, significant differences can be distinguished between PPPs and privatization. In PPPs, the public and private sectors share task responsibilities whereas privatization implies the transfer of these from the public to the private sector. In addition, PPPs are limited in time, while privatization does not involve time limitations.
The almost indefinite number of definitions used to explain the concept is also not helpful in clarifying the concept of PPPs. Although the term PPP may be interpreted in different

contexts from country to country, it is essentially a form of collaboration between the public and private sectors (Ahadzi & Bowles, 2004). Broadbent and Laughlin (2003) describe a PPP as an approach to delivering public services that involves the private sector, but one that provides for a more-direct control relationship between the public and private sectors than would be achieved by a simple but legally-protected market-based and arms-length purchase. Most definitions emphasize the point that PPPs are established because they can benefit both the public sector and the private sector (Hodge & Greve, 2005). Following Bult-Spiering and Dewulf (2006), the term is relatively narrowly defined confining PPPs to joint ventures and concession arrangements.

In joint ventures, the government and private companies assume co-responsibility and co-ownership for the delivery of services (Li & Akintoye, 2003). Joint venture PPPs provide a vehicle for 'true' partnerships in which public and private sector organizations, but sometimes also non-government organizations can pool their resources and generate a shared 'return' (Bult-Spiering, 2003). The public and private sector partners can either form a new company or assume joint ownership of an existing company which provides a service. In the joint venture model or alliance, the public and private parties establish a joint corporation to develop, maintain, and operate the infrastructure facility (Klijn & Teisman 2000). Joint venture PPPs are mainly used for inner-city redevelopment projects and integrated area developments (Blanken et al., 2004; Bult-Spiering et al., 2005).

The concession arrangement allows a private organization to develop an infrastructure project and maintain and operate it profitably until a time when it is generally transferred to public sector ownership (Osborne, 2000; Rosenau, 2000). A concession takes the form of a project in which a private party designs, finances and constructs a public sector project. Private maintenance and exploitation are generally also part of the concession arrangement. The concession arrangement is most applied to infrastructure development projects and is therefore a point of focus in this research project.

1.1.4 Concessions

Concessions are used alongside conventional public sector provisions for delivering infrastructure. A conventional public sector provision is characterized by a principal role for the public sector. The public sector typically enters into a contract with a construction company to develop a government-designed infrastructure asset, and then either operates it itself or enters into a second contract for operation and/or maintenance.

In concessions, the principal position of the public sector is transformed into a role in which its responsibilities are restricted to drawing up the output specifications and for following through the procedures. In most concession forms, the private sector is responsible for the design, the realization, the financing and the maintenance of the infrastructure facility based upon specifications determined by the public sector. Under a concession arrangement, the public sector usually makes a stream of revenue payments for the use of the facility over the contract period, which is generally set for fifteen years or longer. Once the contract has expired, ownership of the facility may remain with the

private sector contractor or pass back to the public sector, depending on the terms of the contract.

The concession approach is intended to provide a commercial incentive for synergy, flexibility and efficiency from initial design, through build and operation. Conversely, the conventional provision of infrastructure often results in cost and time overruns as is outlined in the left part of Figure 3. Implementing a concession arrangement is expected to avoid these overruns. The left side of the figure shows that there is a real chance of capital cost and time overruns compared to the estimated budget and planning. This may result in a more expensive facility than was originally planned, and a delayed commencement of the Operation & Maintenance phase. In an NAO report (2003a) it was claimed that conventional provision leads to 70 percent of projects being delivered with time overruns and 73 percent with cost overruns.
Concessions are believed to improve this level of performance because of their finance structure. The public sector only starts paying the stream of revenue payments at the commencement of the Operational & Maintenance phase of the project, thereby creating an incentive for the private sector to fast realize the construction within planning and budget. Initial evaluations of concessions show that concessions do reflect this expectation. In the same NAO report (2003a) it was stated that, of the concession arrangements, 76 percent of the projects were on time and 78 percent on budget. From the NAO data it seems that concessions do provide certain financial benefits over the conventional provision of infrastructure.

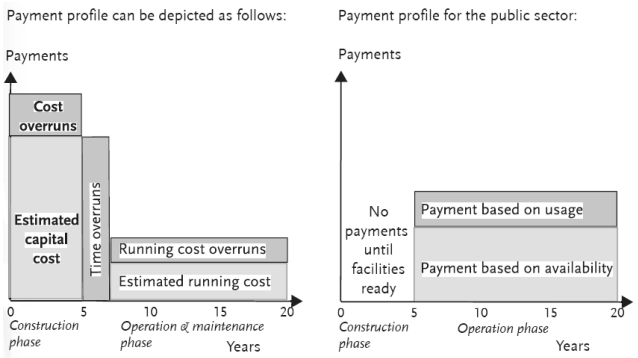

Fig. 3: Conventional provision versus concession projects (PriceWaterhouseCoopers, 2005a)

Concessions also have other non-financial benefits over conventional infrastructure provision. For example they allow the public sector to specialize on so-called core activities, rather than to invest in asset services-related activities. Other benefits are found in synergies obtained from the integration of several project phases into a single arrangement.

Today, concessions are being used or are about to be applied all over the world. Concessions are not yet in the majority in terms of their size or expenditure but they do represent a considerable volume of infrastructure provision. The trend today is for governments to look more and more for these kinds of solution (Atkin & Leiringer, 2000). Italy, France, and Spain have used concessions for building motorways for many years, and Australia, New Zealand and the United States have also been using the private sector in the provision of prisons, roads, and hospital buildings. In the early 1990s, the UK government launched the Private Finance Initiative (PFI), the UK variant of concessions, in an attempt to attract private sector support for a wide range of government projects in such sectors as health, prisons, transport, and defense. The PFI has become so mainstream that it is no longer thought of as 'an initiative', but as part of the government's policy on PPPs. The PFI concept has been adopted widely.

1.1.5 Concessions in the health sector

Public infrastructure is commonly taken to include roads, transport systems, communications, water and sewerage, electricity, gas, and ports. These physical facilities are often collectively termed 'hard infrastructure' or 'economic infrastructure'. Infrastructure is also taken to include what is sometimes called `soft infrastructure' or `social infrastructure' - schools, universities, research facilities, hospitals, libraries, public buildings, and parks (WATIAC, 2004). Economic infrastructure is generally funded by user charges or dedicated taxes while social infrastructure is normally funded from general revenue.

Concessions were initially only applied to economic infrastructure projects and, later, to IT provision and administrative services that had low public visibility. Concessions were slow to get off the ground in frontline social infrastructure sectors such as health and education. In the UK, several reasons were identified for this: the concession policy was deeply unpopular with the public and the trade unions, the projects were complex, and the relatively small scale of the desired refurbishments in social infrastructure sectors was unattractive to the private sector (Shaoul, 2005). In addition, the absence of cash revenue streams that can be used to finance investments makes the use of concessions in social infrastructure sectors more challenging (English & Guthrie, 2003).

Unique problems exist in the health sector. Generally, in contrast to other sectors, no specific national authority is responsible for the provision of the health infrastructure; instead local authorities and hospital boards are usually responsible for awarding new health facilities. The number of potential awarding authorities places a burden on the actors involved in potential concessions.

Another characteristic of hospital concessions is the exclusion of core services from the arrangement (IPPR, 2001). Unlike with economic infrastructure, it is generally impossible for the private sector to integrate thoroughly the design and build of the asset with its operation. The core services related to the infrastructure (the provision of healthcare) are still provided by the clinical staff, usually under strict conditions set by the public sector,

and not transferred to the private sector partner. Ancillary services can include accommodation services arising out of the infrastructure, building-related services such as maintenance, and some support services. This makes it difficult for the private sector to produce gains through the way it manages the single most important aspect in any public service; the workforce. The exclusion of the main labor force from service provision limits the potential gains from greater efficiency. This means that the potential scope for revenue generation from health concessions is relatively small compared to concessions in other sectors.

Further, concessions in the health sector do have a relatively small scale and scope compared to concessions in economic infrastructure sectors: they have a relatively low capital value and therefore experience greater difficulties in generating revenues. However, the procurement process for these projects is of comparable length to that of major capital schemes, and small schemes typically face similar transaction and bid costs as major capital schemes (NAO, 2003b). Therefore, concession arrangements need a specific volume in terms of concession period and revenues to recover these upfront costs. The problem is that, in relation to the level of capital investment undertaken by such schemes, procurement times are disproportionately long, and procurement costs disproportionately high (NAO, 2003b). This makes it difficult for schemes to consistently be advantageous unless projects can be bundled together into one large concession.

Hospitals are considered one of the most complex infrastructure assets due to the technical requirements regarding the implementation of advanced technologies and the organizational requirements regarding the accommodation of different disciplines, all with their own requirements. In addition, in order to attract private investors, concessions need a significant capital value. For other social infrastructure assets, such as schools, the problem of a low capital value can be resolved by bundling various assets into one concession arrangement. Bundling is however difficult with hospital concessions due to their technical and organizational complexities. Further, the authorities responsible for capital decisions regarding hospitals usually only have one hospital in their portfolio, making bundling impracticable.

The health sector is also of interest due to the particular historical relationships between public and private actors in the sector. The dichotomy between public and private has always been blurred in health. In several countries, public and private hospitals have been developed and operated alongside each other. Even within the different types of hospitals, the line of demarcation between the two sectors has not always been clear: in public hospitals, several inputs come from the private sector and private hospitals regulations are set by the public sector. Also clinical staff in public hospitals, many of whom make the vast majority of their income from selling their services privately, is used to working in a very private environment. While full privatization is not desirable due to potential market failure, several attempts have been made to include market-oriented systems in health. The introduction of the purchaser/provider split, case mix funding for public hospitals, and payment by results initiatives are representative examples of this.

It could thus be concluded that the health context is one of the most problematic when it comes to the adoption of concessions. Due to the specific challenges of the health sector, the objects chosen for this particular study are hospitals.

Besides the adoption of concession arrangements, other forms of private involvement have been introduced in health sectors around the world. Franchising is an alternative model, in which a private company takes over the management of an existing public hospital. This approach has been tried in Sweden (including the sale of a public hospital to a private company) and in Italy. A unique model has been developed in the Alzira Hospital, in Spain, which is managed by a private consortium that accepts responsibility for the healthcare of a defined population in return for an annual per capita payment (McKee, 2006). In Germany, another approach was taken to involve the private sector in the health sector. In this approach, formerly non-profit hospitals are exploited by a private organization, Rhön Klinikum, with a profit motive. In this research, however, the subject is specifically restricted to private involvement in hospital provision through concession arrangements.
Around the world, experiences with concession arrangements have been gained in a limited number of, mostly economic, infrastructure projects. Concessions for the provision of hospital infrastructure are being seen. Up to now, however, concessions for the provision and management of health-related assets have received a considerable amount of criticism.
A study on hospital concessions questioned whether economic conviction and affordability were demonstrated during their appraisal processes, thus raising questions about service provision and the conflict between policy promotion and regulation (Froud & Shaoul, 2001). The IPPR's report into PPPs (2001) investigated publicly available evidence on concessions. The results were mixed. Some projects, mainly for economic infrastructure, showed significant benefits above conventional provision in terms of prescribed methodology (Asenova et al., 2003) although less than the public agencies had estimated. Other concession schemes demonstrated greater marginal savings than the conventional alternative (IPPR, 2001). In particular, concerns exist about concessions in the health sector. In health, concessions have been criticized for their complex and non-transparent decision-making during the planning phase, the low standard of physical facilities provided once the project is completed, and the lack of cost effectiveness (Allen, 2003; Asenova et al., 2003).

Usually, concessions are seen as the solution to overcome bottlenecks associated with conventional procurement. However, empirical foundations and insights into their implications are lacking. It is still uncertain and unclear that concessions comply with their intentions.
Recent thinking on the future organization of hospital services seems not to be informed by an objective, balanced assessment of 'what works'. Pollitt (1995) argues that the risk is that reforms and adoption of new procurement systems, such as concessions, will be based 'more on faith and doctrine than on demonstrable track record'. Questions such as 'is the

application of concession arrangements in healthcare as logical as it seems?' 'Does implementation stand in relief against the expectations concessions involve?' are, as yet, unanswered.
Insights therefore need to be gained into the contributions that concessions make to health in meeting up expectations as well as into the conditional statements underlying these. The uncertain relationship between potentialities and practice give cause for this study.

1.2 Research objective and questions

An outline of the motivations behind this research has been given in the preceding sections. The conclusion is that there is a need to develop a better understanding of the performance of concession projects. The implementation of concessions has already proven controversial, while their advocates argue for the benefits, detractors argue that many of these benefits fail to materialize. Further, health concessions have proved controversial amidst claims and counter-claims that it is a form of privatization and makes profit out of a core public good. Although much has occurred at the governmental level and in countries all over the world, concessions represent a major but so far under-evaluated concept, particular in the delivery of hospitals (Thompson & McKee, 2004). Little research has been done on the potential and the empirical performance of these hospital concessions. Generally, they are studied based on the perceptions of involved actors, rather than on operational outcomes of the project. Besides, there is little evidence on how context and project characteristics affect concession performance. The lack of empirical data, especially on the operational stage of concessions, makes a rigorous scrutiny of concessions impossible. It is therefore not surprising to observe that the debate surrounding hospital concessions is dominated by opinions that are mainly based on normative assumptions. There is therefore a need for empirical data on both the way hospital concessions are structured by contracts as well as the operational outcomes of these arrangements.

1.2.1 Research objective

This research aims to generate insights into the background and practice of concession arrangements in health. The main interest is in obtaining knowledge that will enable governments to make sound decisions regarding the adoption of concession arrangements for the provision of hospitals, and to offer suggestions for project characteristics in which concessions could prosper. The underlying interest is in obtaining a deeper understanding of the performance of hospital concessions and the determinants of that performance.
This interest fits the research scope of the department at which this study is conducted[3]. Within the department, research is particularly conducted regarding the interface of

[3] This is the Department of Construction Management & Engineering of the University of Twente, The Netherlands.

technical, social and managerial aspects of the construction industry. The concept of concessions imposes changes in the way the provision of newly constructed facilities is organized. Similarly, it affects the technical, social and managerial aspects of the related construction processes.

The objective of this study is to determine the performance of concessions as applied in the provision of hospitals and to determine the critical conditions underlying this performance, based on an investigation and comparative evaluation of various empirical cases around the world.
The study starts with two propositions: (1) while current efforts are predominantly put into the financial and legal structures of concession arrangements, the contracts underlying hospital concessions are significant determinants of concession performance; and (2) based on the claim that structure follows strategy, this contract will be tuned to project-specific needs of each concession as well as to the context surrounding these projects.

Social contribution

Concessions are an option for hospital provision and other related services that are desired by the public, and can have certain benefits over conventional provision. This is not to suggest that all these advantages are beyond dispute. Indeed, it is argued that some of the benefits are more claimed than real, and that many of the claims are based on an acceptance of prevailing NPM thoughts which itself might be open to challenge (Coghill & Woodward, 2005). However, although there have been numerous adverse press reports in the UK of poor service delivery in hospitals with concession arrangements, including documentary in evidence to the Health Select Committee (DoH, 2002), there have been few deductions on the optimization of concessions projects.
Other works on the health sector (Hodges & Mellett, 1999; Gaffney & Pollock, 1999, Gaffney et al., 1999a, Pollock et al., 1999)[4] show that the high costs of concessions lead to affordability problems. This research will contribute to these issues by providing empirical foundations on whether concessions deliver their perceived expectations and benefits.

Scientific contribution

Private involvement in the provision of public goods is a relatively neglected field in the scientific literature. In the light of governments withdrawing as monopolistic providers of goods and services, it can at least be called 'strange' that academia still has to tackle numerous gaps in the analysis whilst the empirical reality has already embraced the phenomenon. The available assessments of the empirical effectiveness of concessions are mixed and controversial (Hodge & Greve, 2005).
There are some scientific studies on the success factors of concession arrangements (see Li et al., 2005; Qiao et al., 2001; Jefferies et al., 2002). These earlier studies analyze the

[4] Cited in Shaoul (2005)

perceptions of the actors involved in concessions related to success, not whether the factors mentioned actually contribute to the outcomes of the project. Further, earlier studies on hospital concessions do not include a comparison of the operational outcomes of the project with the original intentions in the arrangement, as these are laid down in the contract underlying the arrangement. Another characteristic of these studies is that they do not take into account whether combinations of conditions lead to a specific performance.
In health, a number of studies have questioned both the ability of the methodologies to measure the success of concessions in an unbiased way and the degree to which they demonstrate successful performance (Gaffney & Pollock, 1999; Price et al., 1999, Pollock, 2005). So far, although hospital concessions are implemented for more than a decade, little research has been done on the potential and the performance of concessions. There is, as yet, little in the way of systematic empirical research on how concessions are working in practice, with some of the evidence gleaned as 'snippets' from the process (Edwards et al., 2004). Hodge and Greve (2005) are also of the opinion that insufficient research on concessions has been undertaken thus far to reach an adequate understanding of the outcomes to date. Nisar (2007) argues that although much is known about the need to involve the private sector in the provision of public services, there is much less understanding of the issues that arise once a concession contract has been let. The lack of empirical data, especially on the operational stage of concessions, makes rigorous scrutiny of concessions all but impossible. This research contributes to the scientific debate around concessions by searching for systematically compiled empirical evidence as to how concessions are performing once the contracts have been awarded. In order to do this, appropriate performance indicators must be set, operationalized, measured in practice, and then analyzed, a process which forms a key part of this research.

Practical contribution

In this research, a set of rules and conditions is developed which can be used to discriminate between well and badly performing health concessions. Using this set, judgments can be made as to whether the concession rationale should be adopted. What is needed is a systematic, evidence-based evaluation of outcomes but, surprisingly, such a healthcare specific analysis is notably lacking. Two countries that are more advanced than most in implementing a PPP policy are Australia and the UK. They have adopted models that are different but which have come to represent the two prevailing models of choice for other countries embarking on such initiatives. In this research, initial lessons arising from the provision of hospital facilities by concessions are identified so that they can be taken into consideration in current and future projects.

1.2.2 Research questions

The central research question is formulated as:
What is the performance of concessions adopted for the provision of hospitals, and what are the determinants to that performance?

To guide the research in answering the central question, four derived research questions have been formulated.

1. What are the definitions, structures, and motives of concessions in social infrastructure?

Policy objectives can be diffuse and hard to measure, and while these are changing they often neglect the processes that lead to the outcome. Nevertheless, there is a growing recognition of the importance of evaluation in and around the public sector. Consequently, the investigation into the expectations and objectives of concessions needs to be done thoroughly. The role of power and competing stakeholder views need to be specifically taken into account. The expectations underlying the introduction of concessions will initially be derived from public sector organizations since the public sector has chosen to adopt these arrangements as the solution to the problems involved in traditional procurement. Bottlenecks are also important to assess since these potentially assist the demarcation of the research by separating the relevant from the less-relevant issues.

2. How can the motivations of hospital concessions in terms of performance be operationalized?

Due to the subjective nature of expectations and concessions, performance indicators are difficult to operationalize. However, since the research focuses on finding empirical evidence of performance, this step explicitly has to be taken. Sound constructs are needed to enhance the later analysis of concessions in practice later on.

3. What is the empirical performance of concession projects applied in hospitals?

The answer to this research question will generate insights into the outcomes of concessions on the realization of the objectives given in Research Questions 1 and 2.

4. Which context and project characteristics constitute the performance of hospital concessions?

With this an empirical foundation is made as to the possibilities of using concessions for the provision of hospitals. Differences and similarities in outcomes are linked to elements of concession projects such as the project and context characteristics. Pawson and Tilley (1994) stress the importance of 'underlying mechanisms' that give rise to particular outcomes, and the 'context, which sustains them'. In this view of evaluation, the conditions, context, and process are also seen as integral to any judgment of outcomes. Increasingly, pluralism, competing stakeholder views, issues of differential power, and process concerns have been seen as central to any evaluation in public policy (Vanderplaat,

1995). These underlying mechanisms are considered important and will be also analyzed in the performance assessment.

1.3 Outline of the thesis

In the following Chapter (2), the research design is presented and discussed. In Chapters 3, the first research question, regarding the definitions, structures, and motives of concessions in social infrastructure, is discussed. This is done by reviewing the research literature, official reports and other commentaries as they relate to the evaluation of social infrastructure concessions. Chapter 3 approaches social infrastructure concessions from a broad perspective, discussing the underlying motives and uncovering the key performance indicator. In Chapter 4, the second research question is answered. In this chapter, the performance indicator derived from Chapter 3 is operationalized. Chapter 5 reflects the translation of outcomes from the literature study for use in the empirical part of the study. Chapters 6 and 7 present the empirical information from the case study research as it relates to the way hospital concessions operate and their performance. In Chapter 6, the English projects are presented, while, in Chapter 7, the Victorian cases are discussed. Chapter 8 presents the analysis of the issues involved in determining performance, with which the third (regarding the empirical performance of hospital concessions) and fourth research questions (regarding the project and context characteristics constituting performance) are answered. Finally, in Chapter 9, the conclusions, limitations and contributions resulting from the study are presented.

Chapter 2

Research design

The research design consists of three elements. First, a research philosophy, which guides the way data are gathered and analyzed and conclusions are drawn. Second, a research strategy, which provides an outline of the plan that must be followed to answer the research questions. Third, the data techniques are explained.

2.1 Research philosophy

In doing research, it is important to take cognizance of the assumptions behind the way the researcher studies the social world. To achieve this, the meta-theoretical issues must be addressed by explicating the research philosophy that underlies the research strategy. There are different views on how to obtain scientific results in the social sciences, to which this study can be placed. Some philosophical viewpoints are more appropriate than others in this research as the viewpoint must suit the research objectives and questions.

For a long time, the subdivision of research philosophy viewpoints into paradigms (see Kuhn, 1962), or schools of thought (positivism, post-positivism, constructivism and others) dominated the debate on research philosophy. The choice of a certain paradigm reflected the researcher's ontological assumptions, i.e. assumptions about the ultimately unobservable entities that generate the observable world. It also depended upon epistemology; ideas about how to develop and model knowledge on how the world works (Hall, 2003).

The subdivision into paradigms no longer fits very well with the prevailing emphasis placed by scholars in the social sciences on causal explanation via causal mechanisms, which often cut across these schools of thought. This stylized debate among schools of thought limits the space available for research that is driven by policy-relevant problems and is therefore not discussed further.

Since the concession arrangement is a form of inter-organizational relationship, it involves human agents. This has implications in choosing a research philosophy. Human agents are reflective – that is, they contemplate, anticipate, can work to change their social and material environments, and they have long-term intentions as well as immediate desires or wants. Predictive theories, which are commonly used in the natural sciences, are therefore

far more difficult to justify in the social sciences than in the physical sciences (George & Bennett, 2005). To cope with these difficulties, social scientists should strive to discover mechanisms that can explain processes and outcomes rather than predict them. These causal mechanisms – independent stable factors that, under certain conditions, link causes to effects – are central to causal explanation. Note that these mechanisms operate only under certain conditions and their effects depend on interactions that make up the context.

This research is aimed at generating insights from practice, particularly at identifying and exploring the performance of concession arrangements in the provision of hospitals within their own context[5]. It therefore attempts to generate data and interpretations, which will be used in an explanatory sense. Given the explorative nature of the research, previously formulated hypotheses are absent, and it is expected that propositions will be derived openly from a continuous interplay between the researcher and the data (Strauss & Corbin, 1998). This fits interpretative research better than the approaches used in the natural sciences.
The intricate nature of the subject of the research, as well as the fact that attempts are made to examine the influence of context, both support the choice of a realist view. Accepting this view implies that social facts exist independently of the observer and can be the subject of defensible causal inferences. Accordingly, the production of knowledge occurs by identifying structures and relations, which underlie and reproduce the social world (Panelli, 2004). Accordingly, in choosing a research methodology one must strive for a methodology that explicitly takes context into account.

2.2 Research strategy

Research can be conducted in many different ways. The body of decisions underlying the choice of the way in which the research subject is captured in the research strategy depends, besides the research philosophy, upon the characteristics of the research objectives and questions.

The current research can be characterized as follows:

- Concessions are heavily tied to their contexts;

The research framework can be seen as a fairly open framework with some specific and some generally defined theoretical concepts. The notion that different contexts can influence the performance of concessions is used as the starting point for this exploration.

[5] In general, this type of reflective research fits an empirical cycle (de Groot, 1961) more than a regulative cycle of conducting research (van Strien, 1986). The empirical cycle aims at developing theories, which are used for prediction and explanation of relationships among variables. The regulative cycle aims at intervening into practice by making a plan in which the focus is on solving an individual problem in particular circumstances. Parts of the regulative cycle, however, are applied in Chapter 4.

As concessions are applied in a specific place and therefore associated with, and connected to, the context of that location, in-depth analysis of hospital concessions in their contexts is necessary.

- Concessions and their performance comprehend several aspects and elements that are mutually coherent.

Given that many factors influence the performance of concessions (e.g. economic, political, and cultural factors) it is highly unlikely that there is a single causal relationship between any one factor and the performance of these arrangements since the factors are probably interrelated. Causes are not only multiple, they are also 'conjunctural': they strengthen each other as well as providing a cumulative effect. Because of their complex interplay over time, it is often impossible to do more than say that factors x, y, and z may be important: one may not be able to separate out their exact or unique contributions. Since performance indicators are not clear-cut, while the accomplishment of performance in concessions is a fuzzy and unstructured process, the evaluation requires concession projects to be analyzed in a complex interplay of performance indicators.

Besides the characteristics of the research, the status of the existent academic theories on, and insights into, concessions is seen as crucial as it substantially influences the choice of method. The relationship between the possible different contexts and the actual performance of concessions has, as yet, not been researched in depth. Only fragmentary research is currently available. Economic organizational theories, like for example transaction cost theories, foster the understanding of the coordination mechanisms underpinning cooperation processes in concession arrangementss and their formalization in contracts. However, the principles informing these theories and concession arrangements are flawed (see also Lonsdale, 2005b). Institutional theories provide a more sociological view of organizations, focusing on the way they interact and the way they affect society while taking into account external conditions and context. However, these theories place organizations outside the view of economics and therefore lose touch with the economic motivations present in concession arrangements. Usable theory covering all dimensions of concessions and related hypotheses on the relationship linking concessions, their assumed context and performance appears to be sparse. Greater insight and knowledge is needed in order to replace suggestions and assumptions to facts. Consequently, this study is mostly concerned with exploring and refining existing theory, not with the quantitative testing of predefined hypotheses.

Case study research allows a qualitative and holistic approach to the analysis of single settings. The emphasis in the case study approach on the overall interplay of aspects, and the inclusion of contextual conditions, make it an appropriate strategy for this research. The case study approach involves the detailed examination of an aspect of a historical episode to develop or test historical explanations that may then be generalizable to other

events. Here, instead of a single case study design, a multiple case study design is chosen as this is more appropriate in evaluating policy operations or results, and can be useful for exploratory applications. The goal of multiplicity is to have variety among the cases. Ensuring variation in the cases will avoid bias in the picture that is constructed of the policy.
Case study methods allow for within-case analysis of single cases and comparisons of a small number of cases. The comparative advantages of the method, and the ability to contribute to the development of theories that can accommodate various forms of complex causality, make the case study pre-eminently suitable for this research.
In this research, embedded case study analysis is undertaken with the view that this can support analysis conducted at a more aggregated level. The embedded analysis will thus result in aggregated measures on the main level of analysis. The rationale for this embedded design is the opportunity it provides for multiple data gathering (Brownell, 1995). Semi-structured interviews with project actors (using both structured and open questions in predefined questionnaires) and desk research (serving a role of convergent validation of other data) are used as sources of evidence. For the design of this embedded case study in terms of the case study protocol is referred to Appendix 1.

Different models of case study research can be distinguished, and these all differ in epistematic aims. In methodological terms, they differ in that they use very different kinds of reasoning regarding fundamental issues such as case selection, operationalization of variables, and data analysis. The choices made here are discussed in the explanation of the research outline.

2.3 Reseach outline

There are basically three approaches suitable when conducting case study research. One of these is the grounded theory approach (Glaser & Strauss, 1967; Strauss & Gorbin, 1994). It is based on carrying out extensive fieldwork to discover what is taking place in practice. By using coding principles and comparisons, theory can be developed. It starts from the assumption that the researcher has no prior knowledge on the topic, which would be unrealistic in this research, as the researcher already has certain notions and assumptions. Further, at least some prior knowledge is needed in order to enable the researcher to ask detailed questions on the topic. Grounded theory is therefore not seen as a suitable option.
Another approach to case study research was formulated by Yin (1994). Although Yin states that case study research can be used in developing theory and testing it, he mostly discusses the use of case studies for testing purposes. He argues that theory formulation is necessary prior to conducting the case study research. The advantage of this is that it gives structure to a study, but its disadvantage is that it is relatively less aimed at addressing issues taken from practical situations. Yin's approach to case study research is not feasible here due to the lack of a comprehensive theory explaining the performance of concessions.

A third approach was developed by Eisenhardt (1989). Eisenhardt's progressive case study approach differs from Yin's in that she uses case studies to formulate theory based on practice. She acknowledges that some theoretical knowledge will exist before accessing practice, and accepts that this should be used. This approach can be positioned between the grounded theory approach and the approach formulated by Yin. Theory is necessary in order to be able to specify some potentially important variables, but the approach starts without a pre-defined set of hypotheses derived from theory.
This research applies Eisenhardt's approach rather than Yin's primarily for the reason that the research is explorative in nature. However, to guide the researcher when conducting the case study, a conceptual framework is established before empirical data is gathered. This makes the approach of Eisenhardt preferable when conducting the case study research.

The completion of the research involves five stages and, in line with the basic attributes of the approach chosen, it includes both theoretical and empirical parts.

2.3.1 Stage one: literature study

In conducting the case study research, the first phase will consist of a literature study to provide a framework for analysis as a base for the empirical research. Case study methods and literature study are complementary to each other and jointly contribute to satisfactory analysis outcomes.
The literature study results in a conceptual framework that provides a preliminary answer to the initial research questions. These concern the identification of performance indicators and the variables that influence these indicators. The debate on the introduction of concessions is analyzed in detail, and the expectations associated with these arrangements will be clarified. An empirical evaluation of concessions would logically begin with the objectives set by government in initiating them. However, vaguely defined goals are typical for concessions and therefore a huge potential array of goals is available for possible inclusion in the analysis (Hodge & Greve, 2007). In order to evaluate the extent to which concessions appear to have been successful, the research starts by setting out the objectives of concessions and selecting appropriate performance indicators that can be adopted for analysis in this research.
Next, these performance indicators need to be operationalized, reasoned from the perspective of the public sector. The operationalization involves subdividing these into manageable measures representing part of the overall objectives. Operationalized measures are required in order to 'measure' the extent the desired performance is attained in a concession arrangement.

2.3.2 Stage two: a framework for analysis

This stage comprises the development of a research framework that can be used for the empirical part of the research. In this stage, the insights derived from the literature study are structured in a single framework. The framework is also to an extent based upon

interviews with experts in the field. Next, part of the framework is selected as a base for the empirical analysis. The selection covers the most critical part of the framework, which is then developed into a case study protocol to be applied to the practice of hospital concessions.

2.3.3 Stage three: case selection

In this phase, a multiple case study will be conducted in line with the framework developed in the first two stages of the research. The cases in this study will comprehend hospital concession projects that are being implemented in different contexts. The selected projects to be analyzed will be in the operational phase of the hospital concession arrangement. In this research, more than one case is used in order to gain a better understanding of concessions as used for the provision of hospitals. In other words, a multiple case study will be conducted. All the cases will be described within their context, and consider these processes that lead to the accomplishment of the performance measures identified in answering Research Questions 1 and 2. The research had to be international in character, given the lack of knowledge and expertise with concessions applied to the provision of social infrastructure within the national Dutch context. Besides, as the influence of context can be better assessed in international studies than in national studies, a comparative study is preferred over a single-country study. International comparison provides the opportunity to vary contextual factors such as institutional and economic contexts and in such way generates a better understanding in the complexity of these arrangements. It can thus give us a better understanding of the forces that shape the performance of hospital concessions.

In doing case study research, the selection of cases is crucial. The selection of an appropriate population controls for extraneous variation and helps to define the limits in generalizing the findings (Eisenhardt, 1989). It is an important tool in controlling for context variation (by choosing cases in specific environments), and also for limiting the variations between cases (by specifically choosing countries which are applying concessions in the provision of hospitals).
While context is considered important in this research, a certain amount of intimacy should be created in exploring the concession projects. An in-depth, holistic approach is required to chart all the possible explanations for the performance of each project, with the unit of analysis in this research being the hospital concession arrangement. With in-depth analyses only a limited number of cases can be analyzed as research is constrained in terms of time and money. While only a small number of cases can be analyzed in terms of practical feasibility, it is simply not feasible to include all concession projects being put on the market in the health sector. Therefore, specific choices have to be made as to which projects, sectors, and countries to analyze.

Swanborn (1996) notes several methods of selecting cases and concludes that a selection based on homogeneous independent variables is to be preferred. In this study, cases are

based on hospital concession arrangements, and these must have been in operation for some time and must consider a greenfield or redevelopment project (not small refurbishment projects). All the cases studied fall within this group and thus it can be considered homogeneous. However, there are differences between the concessions and thus they could be considered heterogeneous as well. In the study, cases were selected in such a way that they would increase understanding. Overall, cases have been selected on the basis of the following variables:

- Variation in national context

Variation in national context is considered important in enabling the translation of the generated insights to other countries, such as the Netherlands. In the first instance, two countries were chosen for inclusion in the analysis. Based on a first analysis of existing concessions, it was concluded that both the UK and Australia had concession arrangements in operation in the health sector. Since these countries were both in the forefront in adopting NPM principles, and are now taking the lead in implementing concessions, practices concerning concessions in these countries are internationally relevant. Although similar models have been adopted in Canada, Portugal and Spain, these are being implemented on a smaller scale and are mostly not yet operational. The focus of this research is therefore limited to the UK and Australia.

All the various constituent countries of the UK have their own policies regarding concession arrangements. To facilitate the research process, England was chosen as the area from which concession arrangements would be selected for the case study research. The individual states of Australia similarly apply different types of concessions, which makes it desirable to select one specific state rather than comparing concessions from different states which would influence their performance. As Victoria was most advanced in applying concessions in the health sector, this state was selected for inclusion in the case study research.

- Variation in scale and scope

Concession arrangements differ in scale and scope. Scale is related to the capital value of the project, while scope concerns the length of the contract, and the responsibilities included in the concession itself. Projects need a certain size in order to obtain private investment given the time and expense of bidding for concession arrangements (Gaffney & Pollock, 1999). Investors need a sufficient contract length to raise the money needed for capital investment at favorable rates. When this is not the case, a low capital value results in a low expected profit at any given level of risk (Sussex, 2001). The scope of concessions has been important at the time the first wave of UK health concessions was defined as this determined the balance sheet treatment. Accounting conventions at that time required the concession arrangements to include a sufficiently large set of services from the private sector that they could be treated off-balance sheet (Dawson, 2001). Since both scope and scale are considered important, this study has strived to obtain variation in terms of scale and scope with the cases. This was more successful in the selection of the English cases as the number of implemented hospital concessions in Victoria was rather limited.

- Variation in the moment of implementation

Variation in terms of time is considered important as hospital contexts, specifically regarding policies influencing the implementation of concessions, are subject to change. The Victorian cases were developed over a relatively long period of time (1997 – 2004). The English cases were selected to ensure variation in terms of timing. On one hand it is strived for state-of-the-art projects, while on the other hand, projects need to be in operation for some time to make evaluation feasible. From the above considerations, seven case studies were identified for this research. The selection is given in Table 1.

Tab. 1: General case information

Case study	**Location**	**Capital value**	**Project type**	**Length**	**Date of financial close**
Darent Valley Hospital	England, UK	£94 million	Replacement of three hospitals on one site	Originally 28 years post construction. Currently (after refinancing the project) 35 years post-construction	July 1997
Norfolk and Norwich Hospital	England, UK	£158 million	Relocation of services of two hospitals to Greenfield site	Initial contract period of 30 years, with an option to extend this to 2 15-year periods	January 1998
Queen Elizabeth Hospital	England, UK	£96.1 million	Replacement of multiple hospitals on one site and redevelopment of existing buildings	Originally 30 years post-construction. After refinancing this was extended to 35 years post-construction	July 1998
St. George Hospital	England, UK	£46.1 million	Relocation of two clinical disciplines to one new-build wing	35 years post-construction	March 2000
Latrobe Hospital	Victoria, Australia	$56 million	3 pre-existing campuses + psychiatric services on other location. Upgrades were needed. Greenfield site at Morwell East Victoria, selected in order to ensure that there was no disruption to existing service delivery.	20 years, with scope to extend term with 5 years.	January 1997
Casey Hospital	Victoria, Australia	$115 million	New facility was needed to serve the fast growing communities in Casey and Cardinia local government areas.	25 years post-construction	October 2002
Royal Women's Hospital	Victoria, Australia	$250 million	New facility to be located on the site adjacent to the former RMH. Demolition of the existing facility, construction of an underground car park and new Frances Perry House, medical consulting suites, purchase and installation of new and retained equipment.	25 years post-construction	April 2005

2.3.4 Stage four: data collection

The case studies involve multiple data collection tools and procedures. Even though the intent of the case study is not to literally aggregate information from multiple cases, the frequent need to make statements about concession policies as a whole, or to compare across cases, suggests the need for uniformity in information collection. According to Hodge (2004), many conceptual frameworks are available to assist in achieving a better understanding of concessions. Three main sources are distinguished for the collection of data from concession arrangements: policy rhetoric, the legal contract, and operational outcomes. Hodge (2004) argues that, in evaluating concession arrangements, evaluation discourse may be based primarily on policy rhetoric, on the legal contract or on the historical outcomes of experience. These three sources of evidence form a continuum varying from the weakest proof at the policy rhetoric end, to the strongest proof of success at the historical outcomes end. In this research, it is considered important to acquire all types of proof in terms of the empirical evidence used in assessing performance.

The emphasis is on analyzing how hospital concessions perform within their context based on three levels, namely from the concession-related policy rhetoric, from the legal contract, and also from operational outcomes.
The political rhetoric is broadly described by the general guidelines and the policy initiatives underlying the concession arrangement. The rhetoric concerns the policy and political context of the individual concession arrangements, including the support towards the project from governmental organizations and the public, concerns, problems and legal controversies that arose. The legal contract is analyzed to determine how flexibility is allocated between the public and private sector partners in the specific cases. The operational outcomes reflect on how performance has been accomplished in practice, based on project experience to date.

Swanborn argues that in the social sciences, a distinction can be made between direct and indirect data sources. Direct data are based on observation of the researcher himself, while indirect data are based on data collected by other researchers or agencies and are used once again for a new study. The empirical data to be collected on the three evaluation levels are derived from direct data sources and supported with indirect data. This approach is unique in that access to direct data was gained for all the cases included in the case study, an approach rarely taken in evaluating concessions. Concession arrangements are surrounded by an extensive secrecy, which contributes to the intransparancy on how these arrangements perform. Full business cases are usually not disclosed to the public. It appears that, in England, only in particular instances, these have entered the public domain. There is no legal requirement to disclose information on separate contracts in published financial statements, so both Trusts and their private sector partners typically supply very little information. Since the contracting issues that come with hospital concessions are crucial in the research agenda of concessions (Broadbent et al., 2004), the collection of

these direct data is considered an important step towards more transparency in hospital concessions. The direct data mainly consist of outline business cases, full business cases and project agreements of concession projects. Due to the commercial confidentiality of contracts, only limited, predominantly non-financial, data is made public in these contracts. The intention was to supplement the data derived from contracts with interviews. Interviews were also intended to generate data needed to outline the operational outcomes of the concession arrangement. It appeared, however, impossible to conduct interviews with key stakeholders in all concession projects included in the case study, mainly due to a lack of willingness of these stakeholders to participate in such an interview. Other researchers Nevertheless, a few opportunities emerged to hold semi-open interviews with public and private stakeholders who have practical experience of hospital concessions and who are practically involved in such projects in the health sector. The information derived from these interviews could not directly be used in the empirical analysis due to the required maximized anonymous character of the interviews. Although this was a limitation of the case study, the insights derived from the interviews were used to systematically triangulate direct and indirect data of the projects.

The indirect data consist of documents or other material from field sites and concession arrangements. Different types of indirect data are used, including official publications, public sector annual reports and accounts, government and private sector reports, respected newspaper articles, journal articles and conferences. Other indirect data that are used to outline the operational outcomes were minutes of board meetings of health authorities who awarded the concession arrangement. To preserve commercial confidentiality, these are primarily non-financial data.

Data triangulation using multiple data collection methods provides stronger substantiation of constructs (Eisenhardt, 1989). The objectives of the data collection are to identify the main project performance variables and the project and context characteristics as derived from the literature reviews and considered important.

2.3.5 Stage five: data analysis

Data collection and analysis partly overlap. Data collection is to an extent determined by important issues that arise from initial case analyses during the process of writing the initial case study reports. This corresponds to the exploratory character of the research.

In analyzing the case studies, the main objective is to uncover causalities, processes and rationales underpinning hospital concession performance and project characteristics. This is done using the framework based on literature as a basis. Case study data are analyzed in order to assess whether a hospital concession arrangement includes incentives, remedies and safeguards to ensure acceptable project outcomes. This research therefore searches for those variables that influence the performance of hospital concessions in practice. This is achieved by comparing project performance, project characteristics, and contract provisions in different hospital concessions to uncover variables that affect performance. Further, the research searches for explanations as to why differences exist in the

performance of concession arrangements. According to Eisenhardt (1989), applied case-study research seeks to identify linkages among variables or indicators in a framework model. Thus, given the varying and diverse nature of concessions, a methodology based on comparative case study research seems to be appropriate.
For multiple case study analysis, Eisenhardt gives three techniques:

- Select categories or dimensions, and look for within-group similarities and intergroup differences;
- Select pairs of cases and list similarities and differences between each pair;
- Divide the data by data source.

Mainly the first type of technique will be performed in this research. Through the cross-case analysis, the individual cases will be compared with the framework derived from the first two stages of the case study research, and similarities and differences between cases are noted.
Miles and Huberman (1994) have put forward a range of techniques for presenting data for analysis purposes. The case studies are presented in similar ways to allow easy comparison. The data are presented in a structure, which is derived from the framework drawn up from the first two case study stages, so that not only variables identified (description) but also their influence is shown (explanation).

Finally, conclusions are drawn concerning whether concessions are performing in line with their expectations, the contribution made to the body of knowledge, and the contribution made to an increased understanding of hospital concessions.

Summarized, the overall study is schematized in Figure 4 in which the definite research outcomes are linked to the different phases of the research process[6].

[6] Since some of the choices related to the research process of the study are dependent on the outcomes of the early phases of the study, these choices are elucidated in later chapters of this dissertation.

Phase	Product	Typology research process
Literature study	Mapping motivations of concessions	Descriptive
	Determination performance indicator for further study purposes (VFM)	
	Assessment current measurement tool VFM	Explanatory
Design study	Improved measurement tool VFM in operational hospital concessions	Intervening
	Measurement tool VFM for further research purposes within this study	
Case studies	Assessment of VFM in operational hospital concessions in England and Victoria	Descriptive
Cross case analysis	Determination of the extent in which hospital concessions generate VFM	Explanatory
	Determination of the conditions in the accomplishment of VFM	
Reflection	Determination of interdependencies between context, project characteristics and VFM outcomes	Explanatory, prescriptive

Fig. 4: Linking research products to the research process

2.4 Validity and reliability

2.4.1 Construct validity

Construct validity ensures adequate operational measures for the concepts under investigation (Emory & Cooper, 1991). Case studies allow a researcher to achieve high levels of conceptual validity, or to identify and measure the indicators that best represent the theoretical concepts the researcher intends to measure. However, variables are sometimes difficult to measure as their meanings can differ in different contexts. This requires a detailed consideration of contextual factors, which is common in case studies.

2.4.2 Internal validity

Internal validity is defined as the identification of causal relationships whereby certain variables may influence other variables in the research study (Miles & Huberman, 1994). It is important for a subject such as hospitals concessions where many factors may have an influence on the outcome of a project. To avoid making invalid causal relationships, it is important that the researcher has considered alternative explanations in the research design, and sought out evidence that might disconfirm the link.

In this case study research, internal validity is enhanced by checking for pre-defined factors, which is done by using a conceptual framework derived during the literature review. An open mind should be kept on these contextual factors during the research: cases can

produce conflicting theory, and initial propositions can be re-evaluated. Further, internal validity is established by the triangulation by using different techniques, such as case analysis, cross-case analysis, expert reviews, and the development of data matrices to demonstrate the internal consistency of the information collected.

2.4.3 External validity

External validity is defined as the scope to which the research findings can be replicated beyond the cases under study (Emory & Cooper, 1991). The main criticism of the case study approach is that the external validity of the results is often questionable (Gummeson, 1991). If only a few cases are studied, it can be difficult to declare the results applicable to wider situations or even to similar cases. Multiple case studies can be used to develop generalization through replication logic and/or corroboration of findings to achieve external validity (Eisenhardt, 1989). Other techniques used in this research are the cross-case analysis, the use of an intended interview protocol, and the use of procedures for analysis (Miles & Huberman, 1994).

2.4.4 Reliability

Reliability deals with the ability of other researchers to carry out the same study and achieve similar results. It must be demonstrated that the operations of a case study, such as the data collection procedures can be repeated leading to the same results. The justification for the case study is outlined in Section 2.2, while the justification for the case selection is presented in Section 2.3.3. A data collection protocol has been designed to establish that the case studies and their results are verifiable (see Appendix 1). The protocol is the main instrument used to maximize the reliability of case study research (Yin, 1994). This protocol contains the field procedures, the case questions, and the data sources used. These can be adjusted during the project when relevant variations occur.

Chapter 3

Concession arrangements

The objective of this chapter is to answer the first research question, which was formulated as follows: *What are the definitions, structures, and motives of concessions in social infrastructure?*
Although the origin of concessions with respect to the underlying NPM movement and general PPP principles were explained in the introductory chapter of this thesis, further clarification on the concession arrangement is needed in order to be able to understand its implications. This chapter therefore starts with a general overview of the origin of concession arrangements, reasoned from a historical perspective. In order to assess the implications of these arrangements, further a demarcation is needed for what is meant by the concession arrangement. Therefore, a working definition of concessions is derived from the tangle of definitions which circulate in the academic and policy world. Concessions are further explained by outlining the structure of a concession arrangement. Subsequently, the motives behind the adoption of concessions are assessed and discussed.
The subject in this chapter is explicitly on the concession arrangement for a social infrastructure project. The focus is further narrowed to hospital concessions as the chapter progresses.

3.1 History

Seeking to explain why governments have come to embrace concessions cuts to the heart of government decision-making in general (Coghill & Woodward, 2005). Concessions have been embraced by many countries and applied to various sectors. In general, the main drivers in all these countries derive from the line of the NPM reforms as discussed in Chapter 1. However, the motives do differ slightly from country to country, as discussed by Dewulf et al. (2004) and Bult-Spiering and Dewulf (2006). As concessions build on earlier developments aimed at involving of the private sector in the provision of public infrastructure, the history of concessions is considered. Afterwards, an overview is given of the different public and private sector motives for the introduction and adaptation of concessions around the world.

3.1.1 General history of concessions

The mix of public-private endeavors for the provision of public infrastructure is not a recent social movement without antecedent, but rather a topic with a long history of development. Clear elements of public-private mixing have existed to different degrees and on different levels and have often been deeply embedded in society (Wettenhall, 2005). Examples are numerous: the private railways of the nineteenth century England, the partnering of the commercial company Falck with the Danish government for nearly 100 years, and the contract for the construction of the Suez Canal.

A French concession model was used for the provision of water supply systems internationally, and later for the provision of other economic infrastructure. The origins of this model can be tracked back to the mid-1800s when it was introduced to supply water to large European cities. The model was very similar to the Australian model used at that time by the first European settlers.

In the US, incentives for using the private sector were not a big issue given the existing traditions of favoring the discipline of the market. However, although the private sector is heavily involved in social infrastructure projects, the model used is based on privatization rather than the concession model. Other developed countries have increasingly moved towards the US privatization model. In the early 1990s, this trend reached its peak: in the UK and Australia, most public services were by then privatized and, for the public services left, privatization was neither possible nor desirable (Winch, 2000). The explicit ambition of engaging the private sector, even for those public services that could not be privatized, explains the introduction of concessions. The PFI, the UK concession model, which came out of the concession models already in use in Australia, was introduced during the 1990s and was in line with the prevailing NPM philosophy. This is described in more detail in the section below. Other, especially West-European, countries followed later: by 2007 most countries had implemented concessions in infrastructure provision. In New Zealand, concession projects, probably because political and economic problems underlying the NPM program that was pursued, never got off to a good start (Newberry and Pallot, 2003). While it is arguable whether the adoption of concessions should be seen as a logical successor to the above described developments, the finance element and the tighter organizational linkages between the public and private sectors do seem to mark a departure from previous practice (Coghill & Woodward, 2005).

Given the significance of concessions in the empirical part of this study, it is important to provide background to the UK and the Australian initiatives. Therefore, a specific history of the implementation of concessions in these countries is given below.

3.1.2 History of concessions in the United Kingdom

In 1981, the Ryrie rules, the precursor to the PFI, came into play. In that year, Sir William Ryrie determined conditions for the application of private finance. Under those rules, decisions to provide funding for investment had to be taken on the basis of fair

competition with private sector borrowing. Public and private finance alternatives both had to be assessed and compared in decision-making regarding the provision of public services. No longer could account be taken of the lower level of risk associated with government projects (Ball et al., 2001). Further, the Ryrie rules were aimed at controlling the financial position of the government. Since 1989, the Ryrie rules have been relaxed when these appeared to be difficult to apply and implement in practice. In 1992, the rules were removed with the introduction of the PFI.

The PFI was first launched in the UK Autumn Statement by the Chancellor of the Exchequer Norman Lamont in 1992. Against a background of recession, the Chancellor set out to reorganize the framework of monetary policy, to control fiscal policy, and limit public sector spending while increasing the growth rate of the economy (Romeiros de Lemos, 2002). The PFI was started under a Conservative Government but has been adopted, seemingly with even greater enthusiasm, by the current Labour administration (Broadbent & Laughlin, 2003).

In the first spell that the PFI was in use, little attention was paid to the initiative. In 1993, the Private Finance Panel was convened. This panel acquired responsibility for initiating projects whereby private finance could be introduced in the provision of public services. The role of the panel was constantly subject to change during its early years. In 1996, a knowledge center was established. This center was pushing the same objectives as the Private Finance Panel, with the exception that it had a specific emphasis on local authorities with a focus on extending the initiative to local levels of government.

When the Labour Government took office in 1997, the PFI was favored from the start. Labour could have stopped the initiative, but chose to give the PFI a special treatment under the umbrella now known as the 'third way'. While the Conservative allegiance to the PFI was strongly ideological, driven by a belief in the primacy of the private sector and the need for the public sector to be subjected increasingly to private sector influences, the Labour approach was pragmatic, grounded in perceived realities deriving from economic constraints on public finance (Falconer & McLaughlin, 2000). Immediately after the start of the Labour administration, a study was conducted on how to adapt the initiative in order to spread its principles in practice. In this study, it was decided that the Private Finance Panel needed to be disbanded, as the guidance documents provided failed to meet expectations and were considered too basic (Owen & Merna, 1997). The HM Treasury was then entrusted with the coordination and control of the PFI.

Before 1997, the PFI was mainly applied to economic infrastructure, where it achieved some high profile successes. However, the PFI was in difficulty by the time of the 1997 elections. In social infrastructure, legal problems regarding the status of awarding authorities delayed deals, while more generally, the bidding procedures were widely criticized for being costly and time-consuming (Winch, 2000). After the Labour party had been elected, PFI bidding procedures were overhauled and legislation introduced to clarify the status of awarding authorities. As a result, the PFI was extended to other sectors, in which the application of the PFI was not previously considered possible, including health.

3.1.3 History of concessions in Australia

In Australia, colonial governments awarded the first private tenders for the construction of roads, bridges, drainage systems, and public buildings following a period in which convict labor provided the infrastructure in the first European Settlements. Due to inefficiencies in the workforce, the period up to the Second World War was characterized by alternation between attraction and repulsion of the private sector. In the subsequent period, the Australian public sector had no hesitation in involving the private sector in undertaking design and construction in projects such as the development of Canberra. From the 1980s, the first concessions to come within the definition of this research were established to foster off-balance-sheet financing.

While Australia had enjoyed a large state-owned enterprise sector for a long time, this was not the result of any particular ideology, but rather a pragmatic response to the failure of early market attempts at essential service provision and the need to meet high community expectations for the provision of comprehensive and effective infrastructure for energy, transport, finance and insurance, and telecommunications. This system had worked very well, although over the last two decades this system has appeared to fall apart. Australian infrastructure after the Second World War was dominated by public sector procurement of infrastructure and it was not until the late 1980s that the pressure of a poor balance sheet led to change. Since then, the participation of the private sector in the provision and delivery of public services in Australia has gradually increased. In the 1990s, Australia became one of the OECD's most prolific privatizing countries. Australia was second only to the UK in terms of expenditure and second only to New Zealand if sale proceeds were related to gross domestic product[7].

This transformation was mainly due to a turning to market solutions and private ownership ideas (based on NPM principles), the introduction of competition at the national level (in 1995 the National Competition Policy was adopted which implied competitive neutrality between the public and private sectors), outsourcing, and the service purchasing ethos (Hodge, 2005) all of which took place in the mid-1990s. As in other countries, the demand for modern services in Australia also increased (English & Guthrie, 2003).

The decision by Australian governments to start using PPP arrangements and in particular concessions, was in the line of these developments. However, Maguire and Malinovitch (2004) have indicated three distinct periods of time all characterized by their own policies concerning concessions:

1. *1980-1992: off balance sheet financing*

The key reason behind the use of PPPs was an overriding desire to achieve off-balance-sheet financing which would not fall within the global limits sets by the Australian Loan

[7] Despite being the front-runner in almost every other aspect of public sector reform, New Zealand appears to have been less active in the use of concession arrangements than like-minded countries such as the UK and Australia (Newberry & Pallot, 2003).

Council. The PPPs of that era resulted in financing arrangements using private investment, but with no impact on the nature of service-delivery arrangements. However, the Australian public sector debt was low by international standards (English & Walker, 2005) and, in the under-developed market of the time, the government also provided indemnities and guarantees to private parties and their financiers assuring a rate of return and transferring little risk.

2. 1993-1999: belief in competition and efficiency in the private sector

The role of the private sector was expanded to encompass design, construction, ownership, operation, and service delivery, with a view to achieving significant efficiencies. These PPPs were generally characterized by:

- High level of risk transfer;
- Private sector being responsible for full service provision including clinical services in hospitals;
- The government not guaranteeing returns, as it did in the late-1980s and early-1990s.

3. 2000 to present: 'vale for money' in the public interest and optimal risk transfer

Currently, there is a clear quest to achieve so-called 'value for money' (see also section 3.5.5) in the public interest with a focus on whole-of-life costing and optimal, as opposed to maximum, risk transfer.

At present, concessions are not being implemented on a similar scale as in the UK. This manifests itself in a concession market in which projects are predominantly secured using a model based on the UK PFI arrangement. State governments, each with their own policies on privatization and partnerships, result in developments in the PPP market being different in effect to those experienced in the UK.

3.2 Definitions

Concessions are the dominant form of PPP for providing infrastructure, with the specific purpose of delivering a service of publicly managed assets using private capital (Romeiros de Lemos, 2002).

As described in Chapter 1, the PFI is the UK version of the concession arrangement. Liddle (1996) argues that PFIs are 'basically a hire-purchase scheme that enables the government to buy big-ticket items without paying cash on the nail'. Other authors have presented less normative definitions of the initiative. Allen (2003) described a concession as a form of PPP that marries a public procurement program, where the public sector purchases capital items from the private sector, to an extension of contracting-out, where public services are contracted from the private sector.

Hodge and Greve (2005) argue that there is a challenge in finding an adequate definition of what constitutes a concession. Most definitions of PPPs, including those specifically concerning concessions, emphasize that they are established because they can benefit both the public and private sectors. The line of reasoning seems to be that both the public and

private sectors have specific qualities and, if those qualities are combined, then the end result will be better for all.
Other authors such as Klijn (2002) have argued that the use of the term must be seen in relation to more pejorative terms such as contracting-out and privatization. A number of governments have tried to avoid using the term 'privatization' or 'contracting-out' and prefer to speak of concessions, a point made by Hodge and Greve (2005) in their analysis of PPPs as a language game. In their view, the use of the term 'concession' can be seen as a new expression in the language of public management, one intended to cover older, established procedures involving of private organizations in the delivery of public services (see also Linder, 1999).
The definition of a concession by the IPFA (2000) seems to be one of the most descriptive definitions. It sees it as the financing of long-term infrastructure and public services through a non-recourse or limited recourse financial structure where project debt and the equity used to finance the project are paid back from the cash flow generated by the project. However, other forms of financing, such as bond financing, are also open to finance the project.

Although definitions of concessions differ among policy-makers and scholars, most people agree that the fundamental principle is that the private sector is responsible for the finance, design, build, and operation of the service. Ball et al. (2002) found that concessions could be classified as the provision of services with or without the associated infrastructure. The former is based on a scheme whereby the public authority transfers the design, construction, operation, and financing of the infrastructure to a private concessionaire. The private sector participation transforms the role of the public sector from being an owner of capital assets, and direct provider of services, into a purchaser of services through a long-term agreement. Through a concession, the private sector finances the project and also has full responsibility for its operations and maintenance. The contractual regime used to regulate the relationship between the public authorities and the private investors is the 'concession', a form without direct sales, that is, ownership will mostly revert back to the public sector at the end. A characteristic of all the variants is the long-term duration of the contract and the fact that maintenance and exploitation are outsourced to a private organization.

Within the term concession, a range of variants have been developed (see Walker and Smith, 1995): the Build Own Operate Transfer (BOOT), Build Own Operate (BOO), the Design Build Finance Operate (DBFO), the Build Lease Transfer (BLT), the Lease Renovate Operate Transfer (LROT), the Build Operate Transfer (BOT) and the Design Build Finance Maintain (DBFM).
The choice for a model is based on a function of a range of factors. These include the sector in which the project takes place, the risks associated with that project, whether the infrastructure is capable of generating revenue itself or will always be provided at a net cost

to government, whether there are opportunities for non-government use of the infrastructure, whether there are aspects of the project owned or controlled by government, and whether there is competition as to the infrastructure and the need to regulate access and pricing (Evans & Bowman, 2005). Apart from a project's structural considerations, the legal framework within which a concession operates will also be a determinant of the most appropriate model.

The BOOT model has formed the backbone of Australia's concession experience since the 1980s (Jeffersies et al., 2002). Under this form of procurement, the private entity is responsible for the design, construction, finance, and operation of the asset. The government agrees to allow the private entity to provide the infrastructure facility for a specified time, which may typically extend for a period of 25-30 years. The private sector bears all the commercial risks and maintenance costs associated with the asset for the duration of the concession period. The asset generates revenues solely or at least predominantly on a user-pays basis. At the conclusion of the contract, ownership of the asset reverts to the public sector, usually at no cost or at a negligible cost. The main difference between BOT and BOOT is that the additional 'O' (for ownership) in the latter indicates that property development rights are also conferred on the private sector partner. Walker and Smith (1995) illustrated this with an example of a BOT private sector partner who might only build and collect tolls from a motorway, whereas a BOOT contract may confer additional rights to construct and derive rents/revenues from building at specific locations along the route. A BOO (Build Own Operate) scheme is similar to a BOT scheme except that the building is not transferred to the public sector at the end of the contract period.

The DBFO variant is the most used concession model for social infrastructure projects, including hospitals. Under a DBFO, the private sector finances, designs, constructs, and operates a revenue-generating asset for a predetermined period of time. The government agrees to purchase the services provided by the private entity under a concession contract, commonly for a duration of 25-30 years. Ownership of the infrastructure is retained by the private sector for the duration of the contract but may revert to the public sector at the conclusion of the concession period.

The DBFO is often considered a variant of the BOOT model, with the only significant difference being that the term BOOT is usually used with economic infrastructure projects in which the service is provided direct to the public, whereas DBFOs are characterized by the provision of services to government, predominantly in the social infrastructure context such as hospitals

Based on various elements from definitions given by other researchers this study adopts a compound definition on concessions. A concession is defined as 'an arrangement between a public and private sector organization for the provision of a long-term infrastructure facility, where the private sector designs, builds, finances and maintains (and in some cases

operates it), and is reimbursed by the public sector organization, based on the services, connected to the facility, it provides.' In the eyes of the researcher, this definition reflects an objective approach to the most fundamental elements of the concession.

3.3 Economic and social infrastructure concessions

As mentioned in Chapter 1, the public infrastructure so far implemented under concessions covers a range of industry sectors and includes both social and economic infrastructure. The role which the private sector undertakes differs with the type of infrastructure, as shown in Table 2. The responsibility of the private sector increases in moving from social infrastructure through environmental infrastructure (such as waste water facilities), towards economic infrastructure.

Tab. 2: Various roles in concessions (Adapted from PV, 2006)

Role of the private sector			
Type of infrastructure	**Social infrastructure**	**Environmental**	**Economic**
Private sector role	Infrastructure and ancillary services	Infrastructure and partial private to public service delivery	Infrastructure and full service delivery direct to users
Public sector role	Delivery of core public services	Delivery of core public services	No service delivery
Example of services mix	Hospital facility where the public sector provides healthcare services	Waste water facility where government interfaces with waste water producers providing waste water to private sector plant operators	Toll road where the private sector provides all services direct to users
Type of contract	DBFO	Partial DBFM	Full DBFM

In social infrastructure projects there is a separation of responsibilities for both core and ancillary services. These concessions do not generally include the transfer of responsibilities for core services[8], which in hospitals is the provision of healthcare. Obviously, the core services are the single most important input in any hospital. A total integration of all parts of the provision of services, and therefore a full DBFM contract, is not practicable. The division of responsibilities in various infrastructure sectors is shown in Table 3.

[8] Although PFI prisons do, and also some early Australian health concessions

Tab. 3: Public and private responsibilities in economic and social infrastructure concessions

Responsibilities	**Establishment infrastructure facilities**	**Core services** (health, education, government services)	**Hard facilities management** (maintenance infrastructure)	**Soft facilities management** (ancillary services such as catering and cleaning)
Economic infrastructure	Private sector	Private sector	Private sector	None
Social infrastructure	Private sector	Public sector (putting aside some PFI prisons and Australian hospital schemes)	Private sector	Private sector

3.4 Actors and structure

A number of actors interact within concession arrangements. Their background, interests and the way these actors are interacting constitute an important part of the framework within which the operational outcomes can be clarified. Therefore, the actors and structure of concessions is explained below.

Usually three main actors are distinguished in concessions (Dixon et al., 2005):

1. The awarding authority. The awarding authority is the public sector client responsible for procuring the project (which could be central, local, or government agency). In UK health, this authority is usually an NHS Trust, while in Australia State governments are tasked with the provision of healthcare.
2. The special purpose vehicle (SPV). The SPV is a limited company that is set up for the sole purpose of delivering the concession project. It is a shell company which has no employees but serves as a conduit to channel the payments received from the awarding authority to its subcontractors, typically subsidiaries of the SPV's parent companies. It typically includes a construction contractor, facility management provider, investors and specialist subcontractors. Normally, it passes risks to sub-contractors, thereby limiting risk in the SPV.
3. The funders of the project: the third party lenders. Third-party funding usually comes from equity, bank loans or bonds.

The organization of a standard concession project is shown below in Figure 5.

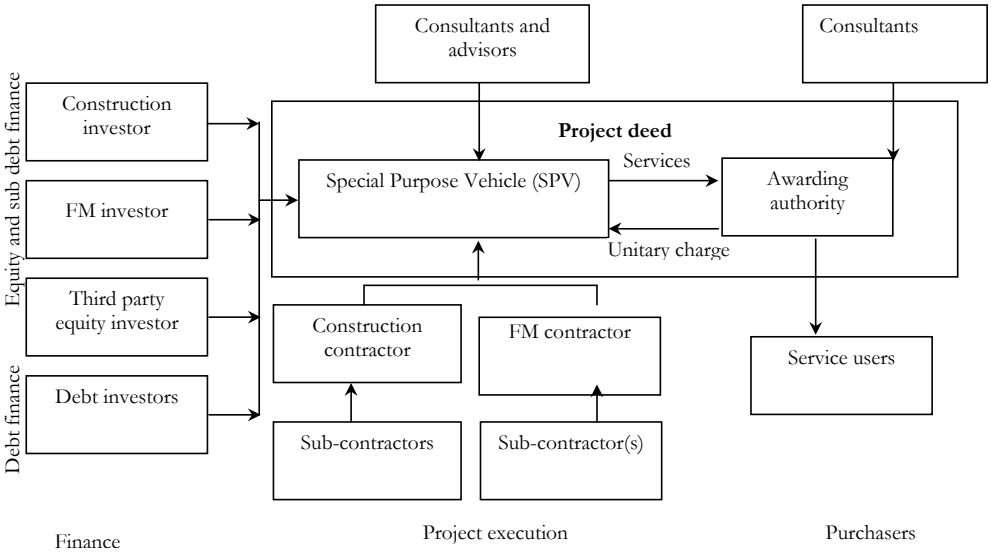

Fig. 5: Concession project structure

The core contract for a concession is the project deed between the awarding authority and the SPV. This agreement sets out the terms under which the SPV must organize the DBFO elements of the project. It also sets out the ownership terms of the contract, the tenure provided over the site of the hospital, the revenue arrangements, and the risk allocation framework for the project. Payments from the awarding authority to the SPV are usually structured so that the awarding authority can stimulate the SPV to perform by making deductions for late completion, poor quality infrastructure, or poor service provision. The risks transferred to the SPV provide a particular incentive for the SPV to perform on time because it not only faces penalties for late completion but also loses income from late delivery. As a result it can be said that the intention of concessions is for both the public and private parties to be driven by a mutual interest in the whole-life performance of an asset described in terms of supply quality and availability; that is, the service is direct, the asset secondary. The specification is based on the stipulation of required service standards, leaving the SPV free to determine how best to reach them. The quality of the facilities provided is linked with the cost of maintenance during their lifetime. This should ensure that the overall costs of an asset are minimized over its lifetime while it is maintained at the required standards. The SPV must ensure the availability of the facility during the contract period and provide related services of an acceptable standard.

The SPV organizes the requisite financing of the concession. The obligation to finance the hospital is usually satisfied through various shareholders' subscription arrangements, third party equity investors, and debt investors. The finance type is determined by the nature of

the asset and the relative costs of the finance (traditionally, equity is more expensive than debt) (Heald & Geaughan, 1997). Project financing is typically on a 'non-recourse or limited recourse' basis, that is, the lenders have no financial recourse for repayment of their loans against either the project sponsors or the awarding authority. Hence, recourse is limited to the SPV and its assets from where lenders most commonly receive external support through bonds and guarantees.

The SPV further satisfies its obligations for the project execution under the project deed through one or more subcontracts with design and construct contractors. These are generally further secured through traditional construction securities, such as bonding and guaranteeing arrangements. The SPV manages the subcontract for the construction of the infrastructure (usually on a fixed fee, turnkey basis) and so transfers much of the design and construction risk to the construction company which, in turn, transfers elements of risk through fixed price subcontracts. The SPV also subcontracts operation and maintenance to a facility management contractor, who may similarly subcontract. The stronger the consortium forming the SPV in terms of technologies, credit history and competitive position the more likely finance will be forthcoming and the less onerous the debt conditions.

The required standards in terms of quality and quantity outputs in the provision of services, defined by the awarding authority, drive the concession contract for the underlying assets. Payment comes from the awarding authority (and in economic infrastructure projects from the users), and is designed to cover the project costs and to provide an equity return, subject to penalty deductions for substandard service delivery, defined in terms of availability and service performance.

3.5 Motives for concessions

Although the concept of private involvement in the provision of public infrastructure is not new, it is only in the last two decades that concessions have become high on many government agendas[9]. This section reviews the factors that influence the decision to start a concession project. We can distinguish three different types of motives:

1. Political motives (based on NPM principles);
2. Macro-economic motives;
3. The state of the infrastructure portfolio.

[9] The claim that when governments spend money through concessions that more money is available for other policy initiatives has been largely discredited and is now seen as false by independent commentators (Hodge & Greve, 2007)

3.5.1 Political motives

As already briefly outlined in Section 1.1.2, from a macro-perspective, concessions were increasingly perceived as a solution that would help to deliver more economical infrastructure and related services. Looking at the involvement and adoption of private sector mechanisms, as suggested in the efficiency claims of NPM reforms, from a micro- rather than a macro-perspective, the following specific benefits of concessions are distinguished:

- *Concentration on core activities*

Contracting an external provider for health-related services is said to allow the awarding authority to specialize in so-called core healthcare activities, rather than invest in asset and ancillary services-related activities. This, it is claimed, will lead to some measure of efficiency. Further, by adopting concessions, the awarding authority will take on the less intensive role of monitoring the performance of the private partner and receiving periodic reports (Bennett, 1998)[10].

- *Efficiencies through competition*

The process, rather than the outcome, of contracting is believed to be an important device in driving down the costs of service provision through the 'discipline' of the market. Competition is seen as the main driver for ensuring continuous improvements in public service delivery, and 'benchmarking' of services generates a measure of relative efficiency. As private companies have to compete with each other in order to win a concession, this is claimed to produce a clear driver for cost-effectiveness compared to conventional public sector procurement. The involvement of the private sector is offered as a more accountable means of enhancing successful performance because it relies on 'healthy competition' in the form of private sector bidding for the right to offer the service in question (HM Treasury, 1997a).

- *Cost reduction through output specifications*

The purchase of activities through a formally-specified contract with a services provider, rather than through conventional construction and operation contracts, is believed to offer greater scope for control and monitoring of both the level and the quality of output. Cost reductions are expected through the specification of outputs to be delivered rather than the detailed specification of how they are to be produced (Glaister, 1999).

A focus on outputs or outcome should increase the scope for innovation in the management and delivery of hospitals. It should also foster entrepreneurship by allowing SPVs the maximum degree of flexibility in determining how to achieve agreed targets. It is claimed that, because the private sector will be financially penalized for cost and time over-runs, and because payments are linked to performance in the operational stage of the project, there will be fewer instances of public sector projects costing more than originally estimated and being delivered years late (RICS, 2005).

[10] In Li et al. (2005)

- *Synergies in integration of project phases*

Linking the operators of a hospital with those responsible for designing and building the facility through a SPV should lead to cost-effective designs (HM Treasury, 1997a). This is because integrating the design, build and operate elements of a concession arrangement should encourage the different parties to make risky 'asset specific investments' in the project that they would not be willing to make if they were contracting in isolation from each other (Akintoye et al., 2003). Since the private sector will 'own' the facilities as well as running and maintaining them they should also be more careful about design and build quality (Broadbent et al., 2003). This should also lead to time saving by accelerating project development and by avoiding delays in project delivery (Li et al., 2005). Thus, the application of concessions and passing control over all the phases may eliminate the inefficiencies believed to be endemic in the public sector (Owen & Merna, 1997; Graves & Rowe, 1999)[11].

The integration of phases also enables a more intensive exploitation of assets, generating additional revenues from shared use of facilities and sale of redundant assets (HM Treasury, 1997a). By involving the private sector at an early phase of the project, it is more inclined to think about intensive exploitation in later stages of the project. Generally, in the early phase of a project, the scope is still capable of adaptation to reflect an optimal context. This might for example permit the development of an integrated solution, such as joining several small projects formerly dealt with under different departments into a single project, thus achieving economies of scale (Li et al., 2005).

The use of a service provider from the private sector is believed to be critical in enhancing the flexible capacity to adapt and respond to new pressures and conditions, as well as for innovation in service provision. Broadbent et al. (2003) are of the opinion that concessions bring forward benefits by introducing innovations in service delivery from the private sector. They offer both the public client and the private contractor more freedom to select innovative methods in the provision of assets and services. According to Edwards and Shaoul (2003), innovative solutions will help to deliver more economical services. It will also avoid 'gold plating', that is the unnecessary use of new materials, and encourage more efficient management including guaranteed maintenance at the appropriate time.

- *Risk transfer*

The benefits of risk transfer are an improved delivery of projects with respect to time, cost and quality; the elimination of over-specification; improved maintenance of public infrastructure; and better delivery of public services (Dixon et al., 2005). In a concession, the construction and exploitation risks are transferred to the SPV, rather than being taken by the awarding authority. The aim is that this new incentive structure will stimulate cost-reducing innovation – either in the construction phase itself, or in the exploitation of the asset (Winch, 2000).

[11] In Dixon et al., (2005)

3.5.2 Macro-economic motives

Macro-economic policies are sometimes also considered in appraising concession arrangements for infrastructure provision. Edwards et al. (2004) suggest that the rationale for concessions seems to have begun with macro-economic concerns in terms of public sector debt levels and the introduction of concession arrangements for the provision of hospitals can be seen as a reaction to the unfavorable financial position faced by governments in several countries. National economies were increasingly facing an in-built incapacity to finance the provision of public services at the end of the twentieth century and there was a downward pressure on public capital budgets during that time (Owen & Merna, 1997).

The Maastricht fiscal policy conditions, the financial criteria for the European monetary union, also played a role in this. These conditions implied that European Union government deficits should not be greater than three percent of Gross Domestic Product, and the total gross government debt should not exceed 60 percent of this Product. As a consequence, restricting both public expenditure and total debt became paramount political objectives. The introduction of concessions has also been suggested as a means of securing greater finance for capital investment in public sector services (IPPR, 2001). The potential off-balance-sheet treatment of concession arrangements was an important motivation for UK governments. When public sector bodies borrow for investment purposes, the full value of the capital raised counts toward the public sector borrowing and other measures of government deficit, and so is on the balance sheet. The off-balance-sheet accounting possibilities offered by concessions were therefore attractive to financial administrators in the public sector (Li et al., 2005). The exclusion of concessions from the public sector borrowing requirements isolates such schemes from centrally-controlled budgetary allocations and the usual cash limits that accompany public sector expenditure. Also Pollock (2005) argues that the motives behind the introduction of concessions in the UK lay in the macro-economic policy field. According to her, concessions prospered partly because of the Labour leadership's anxiety to maintain business support, and their preference for private sector over public sector managers. She also argues that UK governments calculated that the opening up of other countries' public services to private sector provision through the General Agreement on Trade in Services was inevitable and that, by advancing faster and farther in this direction than most other countries, they would give British firms a competitive advantage. In other words, the adoption of concessions was a foreign macro-economic policy as much as a domestic one. This argument is also valid in other countries, as Coghill and Woodward (2005) explain.

Jeffersies et al. (2002) argue that the macro-economic situation in developed countries such as those in Western Europe, North America, Japan, and Australia played an important role in the launch of concessions as these were coming under strain starting in the late-1970s. Within Australia it has almost become conventional wisdom that public sector debt needs to be kept as low as possible (Coghill & Woodward, 2005). Another example can be found in the Netherlands, where the administration that took office in 1998 was confronted with

insufficient public funds to meet the investments needed to improve the infrastructure. As a result, concessions were considered as a possible solution and were put on the political agenda (Koppenjan, 2005).

3.5.3 The state of the infrastructure portfolio

Another factor influencing the use of concessions is the status of the existing infrastructure. Particularly in the UK, concessions have been seen as a method to replace buildings that have been neglected over decades (Broadbent & Laughlin, 1999; Flynn, 2002). They are expected to play a key role in modernizing public infrastructure where under-investment has created a backlog of maintenance. Clark and Root (1999) assessed this backlog of work at £5.5 billion in the education and health sector alone in 1997.
Jefferies et al. (2002) also argue that the existing and limited infrastructure was unable to keep pace with the population growth of the country and, secondly, that the demand for health and welfare was coming under pressure because of an ageing population.
The problems and challenges for 'newly industrialized countries' such as Malaysia, Hong Kong, Taiwan, Mexico, and South Africa are attributed to a population explosion placing heavy demand on an already limited infrastructure (Walker & Smith, 1995).

As concessions have begun to mature, the emphasis has shifted; it is apparent that the macro-economic drivers and the backlog in maintenance in many countries are much less significant than first supposed. Many researchers now argue that concessions should be seen as a manifestation of NPM principles.

3.5.4 Private sector motives

Naturally, the motivations to participate in concession arrangements differ between the private and public sectors. In general, concessions attract the private sector due to their following characteristics (Sussex, 2001):

- Long-term operating contract which might extend the visibility of long-term earnings and lead to the development of long-term customer relationships. Government contracts can be quite lucrative with the private sector benefiting in terms of employment for their workforce, profits, and tax advantages.
- Opportunity to build capability, related to the evolution of larger traditional contracts, leverage on existing intellectual capital, development of investment capability, and a diversification of opportunities.
- Value derived from additional income streams. Generally, a concession contract provides possibilities for sales and profit margins in the operational phase, third party revenue opportunities, investment cash flows and refinancing benefits.

3.5.5 Changing motives

The motivation for adopting concessions from the perspective of the awarding authority is complicated and seems to have changed over the years. Several developments and factors

are identified to explain the launch of concession arrangements for hospital provision around the world and these are discussed below.
It can be said that, in the UK, the main drivers behind concessions have been identified as the pressing infrastructure need alongside the equally pressing requirement to keep public expenditure under control. This, when coupled with an ideological commitment to increase the involvement of the private sector in the public sector, led to their emergence (Broadbent & Laughlin, 1999). However, Edwards et al. (2004) argue that a shift has taken place: the rationale for concessions that begun with broad macro-economic concerns has switched to more-direct 'Value for Money' (VFM) concerns. This implies that the public purpose of adopting concessions must have also changed. Broadbent and Laughlin (2003) have simplified the discussion surrounding this shift by opposing the two suggested extreme major public purposes of concessions. The public purpose of concessions is either 'a means by which to avoid public expenditure controls and thereby achieve investment that could not be afforded otherwise' or 'a public procurement approach that can yield VFM and risk transfer to the benefit of the public'. Even though there is clearly some overlap between these two purposes, they lead to different emphases and performance indicators. The authors argue that, in the early days of UK concessions, the macro-economic argument was preferred but, with a change of government and changing fiscal arrangements, this became a less valid basis on which to justify the adoption of concessions. In this respect they therefore agree with Edwards et al. (2004). The initiatives by the British Office for National Statistics to treat concession investments as new public sector loans also contributed to the decreasing popularity of the macro-economic argument. According to Eurostat guidance, which was signed by the UK in 2004, a risk analysis is required to determine whether a concession can be treated as off- or on-balance.

The drivers behind concession arrangements have many similarities in different sectors and different countries. However, the specific elaboration of the arrangement and the motives for choosing for concessions are quite different (Dewulf et al., 2004). A mix of cultural, historical, economic, and political developments determines the concession concepts. Nonetheless, in all parts of the world, most of the drivers discussed in the previous sections have played some role although differences can be found in the irrelative importance. At least in the Anglo-Saxon world (and increasingly elsewhere) there has been a transformation of public services in line with the NPM that has seen governments adopt private sector practices (Lane, 2000). Flinders (2005) is of the opinion that the search for greater efficiency and creativity in the delivery of public services through the use of private sector managerial and technical skills, and the desire to introduce competition, are increasingly seen as the rationale for concessions around the world.

Among policy-makers and in the academic world, this search for greater efficiency and creativity is increasingly summed up in the term 'value for money' (VFM), which is nowadays seen as the key motive for concessions (Broadbent & Laughlin, 1999; Edwards

& Shaoul, 2003). Several authors have made attempts to define VFM. According to Edwards and Shaoul (2003), the delivery of VFM comes in the form of lower financial costs over the life of a project. This is expected to more than compensate for the additional costs of having recourse to the private sector. Also Dixon et al. (2005) argue that the convincing argument for concessions is increasingly sought in the potential they offer to secure better VFM in the delivery of public services, with a focus on both efficiency and quality.

It is important to stress that the term VFM when applied to concessions has a meaning that is wider than a simple focus on efficiency. It can be defined as the optimum combination of whole life costs and quality to meet the user's requirements (OGC, 2000), so putting the emphasis on quality as well as efficiency in the delivery of public services. However, in studies by the UK National Audit Office, the focus of VFM is on efficiency gains. As VFM is increasingly seen as the main theme in concession arrangements, most governments are operating a policy in which VFM must be demonstrated before pursuing concession projects onto the market. How this works in practice is described in the next chapter.

3.6 Conclusions

Concessions appear to be an emerging feature of infrastructure provision in many parts of the world. In this chapter the background of concessions was discussed. It started with the research question guiding this discussion was formulated: *'What are the definitions, structures, and motives of concessions in social infrastructure'?* In order to answer this question, a literature review was performed. The conclusions of this review are summarized below.

Several definitions on concessions are currently utilized among policy-makers and researchers. As the literature review has shown, different definitions are used to indicate the content of this feature, which reflects the diversity among devotees and opponents of concessions. This challenged the finding of an adequate definition of what constitutes a concession. In this study, the following definition is adopted: a concession is 'an arrangement between a public and private sector organization for the provision of a long-term infrastructure facility, where the private sector designs, builds, finances and maintains (and in some cases operates it), and is, based on the services, connected to the facility, it provides, reimbursed by the public sector organization'.

Concessions can be structured by relating the different involved project actors in an organization scheme, which was summarized in Figure 5. This structure is subdivided in four essential units: the project deed, the financing of the concession arrangement, the project execution and the role and responsibilities of the purchasers. In social infrastructure concessions there is a separation of responsibilities for core and ancillary services. Social infrastructure concessions do not generally include the transfer of responsibilities for core services, such as clinical services, to the SPV.

In the analysis of the motives of concessions in the social infrastructure diversity in views were apparent, since different studies have revealed different drivers. In the early days, macro-economic policies combined with the aim of government to find investments to meet constantly increasing demand for infrastructure were considered as the main drivers behind the introduction of concessions. However, this standpoint has been changing. The transition of governments around the world towards neo-liberal paradigms is increasingly seen as the explanation for the adoption of concession arrangements. This transition, commonly known as a transition to NPM principles, is partly aimed at achieving of objectives through economy and efficiency. Policy-makers and researchers increasingly encapsulate the search for greater efficiency in concession increasingly in the term 'value for money' (VFM), which is nowadays seen as the key motive for concessions. As there are effectively no alternative views to this rationale, it seems logical that VFM has been chosen as the key rationale for concession contracts. Besides, governments currently using concession arrangements for the provision of their infrastructure consider the demonstration of the VFM of individual projects a prerequisite. As VFM is increasingly labeled as the rationale for concession arrangements, it is only logical that VFM should be chosen as a measure on which concession arrangements are evaluated.

With these insights the first research question is answered. The question as to how performance in terms of VFM can be operationalized is considered in the next chapter.

Chapter 4

Value for money (VFM)

In evaluating concessions several normative issues are at stake, and this makes it difficult to dispassionately assess whether concessions are a success in hospital development and provision. In order to thoroughly assess concession projects, one needs to analyze whether the initiative delivers the benefits it promised to produce. The central issue is related to whether the ex-ante benefits of concessions materialize ex-post the sign of the project agreement. As described in the previous chapter, these benefits are primarily expressed in terms of VFM, which is the main motivation, and therefore the principal objective, for implementing concession arrangements.

In this chapter, the second research question is answered. This question was formulated: *how can the motivations of hospital concessions in terms of performance be operationalized?* Although it is believed that other motivations might still affect decision-making processes regarding concessions, the attention of this study is merely focused on VFM. The emphasis is on how VFM is used and measured within the context of concession arrangements. The objective of the chapter is to analyze how these insights can be used to operationalize the concept of VFM to empirically assess hospital concessions afterwards in the case study research.

4.1 VFM: an introduction

Many authors, including Heald (2003) and Broadbent et al. (2004) argue that the term VFM has an intuitive appeal, but could have multiple substantive meanings and is therefore ambiguous. Actors use the term in different settings, but are mostly driven by performances and objectives within the political context. According to Guthrie and Parker (1999), VFM is not a unitary concept but a social construct, which they call a 'malleable masque'.

Demirag et al. (2004) have found that the first explicit UK policy requiring VFM was passed as part of the Local Government Finance Act of 1982. Within this Act, a future direction for using the concept of VFM as a stimulant for improved performance was clarified, although its initial application by local authorities was based on the assumption that it was merely another way to ensure that they were not abusing or exceeding their

spending authority (Neilson, 1986). The transformation of VFM auditing into a mechanism for use in performance settings and improvements would eventually become more prominent during the global NPM movement of the 1980s and 1990s (see Chapter 1). Nowadays, VFM is frequently used within the ex-ante discourse of setting policy objectives and performance standards. This seems to contradict the original NPM principles given that VFM auditing was developed within progressive public administrations (Hood, 1995). However, the empirical literature indicates that the use of VFM has been strengthened by public sector reform rather than eliminated by it (Guthrie & Parker, 1999).
Various authors have analyzed the use of VFM in a number of countries. From a study into the use of VFM in Australia it appears that although individual Auditor-Generals do have a tremendous influence over the development and direction of VFM performance audits, the changed institutional context also seems to have played a role in this.

With respect to ex-post discourses on VFM, many researchers view the term as meaning an investigation to determine how resources have been utilized (Demirag et al., 2004). Parker (1986) and Jacobs (1998) define VFM as an examination to determine whether an organization is performing economically, efficiently, and effectively in its use of resources, operations, procedures, and in pursuit of objectives. According to Glynn (1985), economy is 'acquiring resources of an appropriate quality for the minimum cost'. Efficiency is about ensuring that the maximum output is obtained from a given amount of resources, or, conversely, that a minimum level of resources is devoted to a given level of output. Effectiveness is about ensuring 'that the output from any given activity is achieving the desired results'.
In New Zealand, the Audit Office was legally mandated to carry out VFM auditing in 1977. This allowed the Office to inquire whether resources were applied 'effectively and efficiently', although the Auditor-General did not have the power to question the merits of executive policy (Jacobs, 1998). When compared to other countries, the mandate given was remarkably broad in including of the ability to question policy effectiveness. Many public auditors, including those in Australia and the UK, were explicitly restricted by their mandate to questions of economy and efficiency (Glynn, 1985).

Although the economic aspects of VFM are relatively easy to quantify, assessing policy efficiency and effectiveness is more difficult. This is primarily because of the difficulties involved in measuring output (to assess efficiency) and outcome (to assess effectiveness). It is therefore not surprising that the use of VFM is related to concepts of efficiency and effectiveness in ways that are rarely precise. Its meaning has become institutionalized in terms of what public auditors, such as the NAO and the Audit Commission in the UK, do in its name. Most current public auditors take a narrow view, in which VFM is restricted to only the 'economy' dimension (Demirag et al, 2004). Analysis of the use of VFM in New Zealand further shows that, between 1977 and 1992, VFM reports tended to focus on programs rather than issues or departments, and were concerned with the adequacy of the

systems in place to ensure efficiency and effectiveness rather than measuring the efficiency and effectiveness of the programs reviewed (Glynn, 1985). At the end of the 20th century a new role for VFM assessments was developed. VFM was seen as an independent review and consulting service, marketed to the management of government departments and ministries.
In the UK, the NAO's VFM auditing concerns an 'analytical framework', and VFM reports are dedicated to 'examining projects as they are agreed' at the contract negotiation stage (NAO, 1999a). Shaoul (2005) concurs by stating that the NAO's VFM audits have 'for a variety of conceptual reasons focused on economy rather efficiency and effectiveness'.

Applying VFM audits in the context of concession arrangements further complicates the issue. The diversity of concession arrangements and the potential they offer in terms of VFM are themselves challenges. Outcomes and outputs are mostly defined on the project level, which makes VFM comparisons between projects difficult. Further, concession arrangements are not uniform, and given the various manifestations of the arrangement, it is not surprising that there is great diversity of opinion as to how to assess its performance. This creates tensions in finding credible and transparent procedures for assessing VFM.

Although authors and organizations concerned with performance measurement in concessions argue that there is no one best way of establishing VFM, and the conceptual and methodological complexities surrounding VFM, in practice a standard VFM assessment method has been developed which dominates in VFM assessments of concessions around the world. The Public Sector Comparator is the ex-ante benchmark for determining value for money from private sector bids and is described in the next section.

4.2 Ex-ante VFM assessment: the Public Sector Comparator

In several countries, a Public Sector Comparator (PSC) is used as a quantitative benchmark against which to establish VFM. The UK Treasury (1997b) states that 'VFM is needed to be demonstrated by comparison of private sector concession bids with a detailed PSC'. This PSC is developed to a preliminary stage in the business case phase, developed in detail in the project development phase, and should be finalized before the completion of the project brief.
The PSC is a hypothetical reference project, based on the most efficient and likely public sector alternative, and describes in detail all the cost to the public sector if the project was developed in a traditional way (Akintoye et al., 2003). It thus is the public procured way of facility and service delivery that could be employed to satisfy all elements of the output specification. In the PSC, the awarding authority implements the facility under conventional procurement, i.e. including all costs for the awarding authority associated with constructing, owning, maintaining and delivering the service or asset over the same period as the concession bid. A comparison is then made between the concession option and the

'best' alternative that might be provided by the public sector if conventional public funding were available. To gain approval for the concession to proceed, the public agencies must demonstrate that it has lower costs than the PSC and must meet affordability requirements.

4.2.1 Calculating the PSC

The way the PSC is calculated is shown in Figure 6.

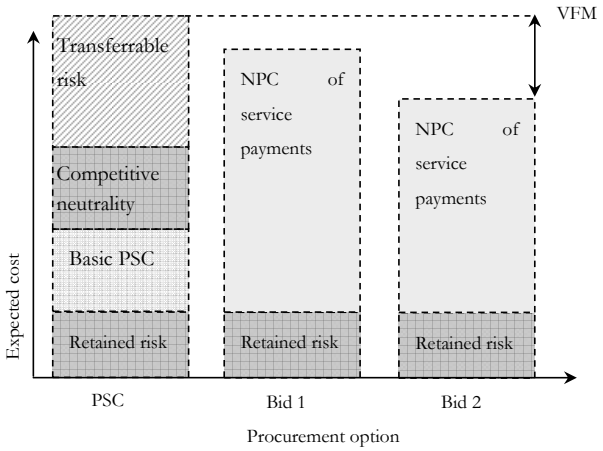

Fig. 6: VFM of PSC versus concession bids (adapted from Partnerships Victoria, 2006)

The basis of the PSC is the base cost of the public alternative, the so-called basic PSC. This base costing includes all capital and operating costs (both direct and indirect) associated with the government constructing, owning, maintaining, and delivering the service or asset over the same period as the PPP proposal. The basic PSC excludes any independent contingencies or valuation of risks (Maguire & Malinovitch, 2004).

The value of risks transferred to the private sector in the concession alternative is added to the public variant to obtain the 'risk adjusted PSC'. Further, a discount rate is included in the PSC to establish competitive neutrality by removing the net competitive advantages that accrue to public procurement, such as the time path of cash flows and exemption from land tax.

The PSC is then compared with the concession bids received from the private sector, to which the value or the retained risks of the public sector are added. These being the risks that the government proposes to bear itself under the concession arrangement. Both the PSC and the concession alternatives are expressed in net present costs using a discounted cash flow analysis, which adjusts for the future value of expected cash flows.

The difference between the risk adjusted PSC and the concession bids, measured in present value cost, is the VFM, see also Figure 6). The scheme with the lowest present value cost constitutes the best VFM. In academic literature, net present value is seen as the discounted value of benefits minus costs, and used to denote present value cost. One is

therefore looking for positive values and a scheme with a higher net present value is better than a scheme with a lower net present value (Heald, 2003).

A PSC is always prepared in the development of a concession project, whether public funding is an option or not (RICS, 2005). In both the UK and Australia and in some other countries, proof of VFM by means of benchmarking the concession option against a PSC is required before proceeding with a concession arrangement project.

4.2.2 Risks included risks in assessing VFM by the PSC

Literature has identified a core of risks that are covered in VFM assessments. The value of the risks transferred is added to the transferable risks in the PSC, while the total value of the risks that remain the responsibility of the awarding authority constitute the remaining risks category in the PSC benchmarking process. The following risk categories are included in the benchmarking process (PV, 2001):

- Site risk (including environmental and approval risk). Site risk is the collection of risks that flow from the project land. It includes site suitability issues that may arise in site acquisition, environmental liabilities arising form site features, requirements related to planning and other approval issues. Environmental and planning risks, if they materialize, can have significant consequences for a project's viability. This factor, together with the lack of control over these risks, is the main reason that private parties and their financiers often either misprice these risks or are unwilling to take them.
- Design, construction and commissioning risk. The basis for this risk category is an unanticipated increase in the design and construction cost, compared with the estimates made up-front, on execution, whether through delay or otherwise, which may have a significant impact on the financial outcome of the project. Design and construction risk embraces the extent of design adaptation that may be necessary to meet service delivery specifications, particularly where these are set by reference to external benchmarks.
- Sponsor and financial risk. This type of risk stems from the complex structure of the SPV with its external equity contributions, debt or equity finance, and sponsors. Financial risk refers to the fact that financiers may not provide or continue to provide funding to the project, the risk that financial parameters will change prior to the private party fully committing to the project potentially adversely affecting price, and the risk that the financial structure is not sufficiently robust to provide fair returns to debt and equity over the life of the project.
- Operating risk. This is the risk that the process for delivering the contracted services or an element of that process (including the inputs used within or as part of that process) will be affected in a way as to prevent the private party delivering the contracted services according to the agreed specification and/or within the projected costs. Operating costs may vary from those original budgeted or the performance standards may deteriorate below specifications or may not be maintained.

- Market risk. Wherever payment for service is volume-based, and thus depends on the level of usage, the project is exposed to market forces and their accompanying risks. Events with the potential for market risk materialization include: a general economic downturn, change in policy, a change in target-market composition, technical obsolescence or innovation, and an introduction of new competitors.
- Interface and network risk. Interface risk is the risk that the method or standard of delivery of the contracted services will prevent or in some way frustrate the delivery of the core services or vice versa. Network risk is the risk that the network(s) needed for the private sector partner to deliver the contracted service are removed, are not adequately maintained, or otherwise changed. Network risk also comprehends the risk of the network being extended to include additional infrastructure or services not foreseen at the date of the contract in a way that prevents or frustrates the delivery of the contracted services, affects the quality of the specified outputs, or in some other way affects the viability of the project.
- Industrial relations risk. Industrial relations risk is the risk of any form of industrial action including strikes, lockouts, work bans, work-to-rules, blockades, picketing, go-slow action, and stoppages occurring in a way which, directly or indirectly, adversely affects commissioning, service delivery, or the viability of the project.
- Legislative and government policy risk (including a change in the law). Changes in legislation, changes in government policy, or the election of a new government are often viewed by the private sector partner as critical risk factors when contracting with government. Partners are mostly fearful that government will exercise its powers and immunities in a way that negatively impacts on, or disadvantages, the project.
- Force majeure risk. Force majeure risk is the risk that a specified event, entirely outside the control of either party will occur and will result in a delay or default by the private party, in the performance of its contractual obligations.
- Asset ownership risk. This is the risk that events such as losses, technological change, construction of competing facilities, or premature obsolescence will occur, with the result that the economic value of the asset may fall, either during or at the end of the contract term, from the value upon which the financial structure of the project was based.

In concession arrangements, the risks listed above are allocated to either the awarding authority or the SPV during the negotiation of the contract, and are therefore generally also reflected in the PSC. In allocating these, an optimal risk allocation is striven for. Optimal risk allocation seeks to minimize both project costs and the risks to the project by allocating particular risks to the party in the best position to control them. This is based on the theory that the party in the best position with respect to a particular risk has the greatest opportunity to reduce the likelihood of the risk occurring and to control the consequences of the risk should it materialize. In concessions, risk should therefore be allocated to whoever is best able to manage it at least cost, taking into account public

interest considerations. Several options are available: transfer, share or retain the risks. The awarding authority should determine, on a VFM basis, which risks it should retain to optimize risk allocation.

Little research has been conducted on how risks change over the duration of a concession, in the ex-post phase of the arrangement, which makes it difficult to produce an overall risk management structure for risk coordination during all stages of a project. For each risk category, the awarding authority makes choices about its optimal allocation and mitigation strategy. Using a technical approach, these risks are quantified and included in the net present value calculation. The NPV costs of the retained risks are added to the private sector bids, whereas the NPV costs of the transferred risks are added to the PSC in order to come to a fair basis for comparison. The costs allocated to particular risks are not disclosed to the private sector bidders. The VFM assessment process is schematized in Figure 7 below.

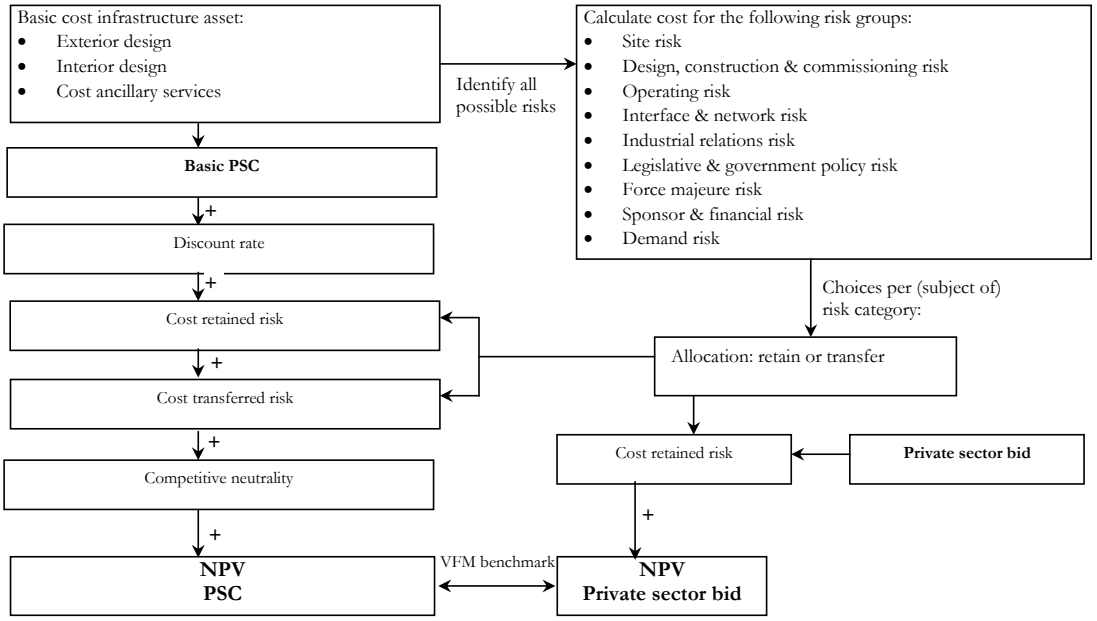

Fig. 7: Measuring VFM by means of the PSC

4.3 Criticisms of VFM assessment using the PSC

Some authors raise concerns about the use of the PSC and are of the opinion that its benefits are overestimated. Froud and Shaoul (2001) raised concerns about the reliance that can be placed on the complex financial modeling required for VFM appraisals. Other commentators have disputed many of the underlying assumptions and calculations linked

to the various concession arrangements. Not all the risks apparent in hospital concession projects are taken into account in assessing VFM by the PSC.
Both academic and policy evaluators have observed deficiencies in VFM assessments made using the PSC as these currently take place in many countries. These deficiencies can be categorized into two groups: those related to the measuring scope of the PSC, and those related to the assessment method in PSC benchmarking.

4.3.1 The restricted measurement scope of the PSC

It is argued that the VFM assessment method using the PSC insufficiently evaluates concessions on their merits. Several authors argue that the restriction on NPC/NPV measures, as applied in benchmarking the concession option with the PSC, creates an incomplete basis on which to assess the superiority of concessions. This is mainly due to the fact that assessing a VFM by the PSC is a form of ex-ante VFM measurement, i.e. a measurement on the basis of prognoses and expectations. That is, the VFM assessment by the PSC is a comparative analysis at the design and procurement stage of the concession arrangement. The PSC is therefore necessarily based on estimates of future costs and operates only at the point of procurement. As a consequence, long-term VFM effects of concession projects are not taken into account.
In order to measure actual VFM it would be necessary to make a comparison of the concession's wholelife costs against a fair comparator. However, because the project lifetime of a concession is so long (decades), and so many changes are made to the initial project specifications set out in the full business case (FBC), there is unlikely to be any meaningful comparator against which to judge VFM in any holistic sense. Benchmarking of project elements is possible but at present this is not, and cannot be, done in any systematic way.
Thus, the PSC does not provide any possibilities for accurate estimates for costs in the ex-post project stages. Spackman (2002) notes in his analysis of VFM that subsequent work by the NAO (2001), found that in a sample of about 100 PFI projects in the UK most of those that were rated 'excellent' ex-ante, and a third of those rated 'good', fell below expectations in their early ex-post years, and none exceeded expectations (the expectations of those rated 'satisfactory' or 'marginal' were generally fulfilled). Thus, ex-ante comparisons of private sector bids with PSC may tend to be optimistic. Ex-post monitoring mechanisms such as parliamentary scrutiny are seen as also important for achieving VFM (English & Guthrie, 2003).

Furthermore, the measurement scope of the PSC is limited by its focus on financial measures, while concessions, as described in Section 1.1.4, are also introduced from expectations of qualitative improvements relative to the conventional alternative.
This view is shared by Froud and Shaoul (2001) who argue that benchmarking on the basis of financial measures alone is too narrow to be seen as any approximation to rational resource allocation. Confining oneself to only financial measures is an incomplete basis on

which to assess a procurement system's superiority. An adequate evaluation framework, both for ex-ante and ex-post phases, is needed to justify the use of these arrangements. The inclusion of only costs occurs excludes other non-quantifiable factors.

4.3.2 Imperfect assessment methods in PSC benchmarking

Besides the restrictions in terms of VFM assessment scope of the PSC, both academics and policy evaluators have observed other deficiencies in the assessment method (Akintoye et al., 1998; Froud & Shaoul 2001; Broadbent & Laughlin, 2003; Edwards et al., 2004). These are outlined below.

One deficiency is related to the quality of the information on which offers are compared with the PSC (Broadbent & Laughlin, 2003). Often, the information provided is incomplete and inconsistent, and the data needed for comparison are frequently missing. Mackie and Preston (1998) argue that estimating benefits and costs is difficult and open to manipulation.

The process by which the VFM assessment is determined has, in many cases, also been problematic and lacking in transparency. Researchers evaluating concessions in general found it difficult to gain access to the FBC, which is needed to evaluate the VFM assessment process. Due to commercial confidentialities, documentation is not widely available resulting in only parts of the FBC being accessible to the public. Even when researchers have access to all the information, they find that due to negotiations during the appraisal process, a number of revisions are carried out, but the PSC is not updated in line with these new insights. This makes comparative judgments between concession bids and the PSC very tenuous.

Another criticism is related to the way risks are quantified and used in measuring the NPC/NPV in the concession alternative. By allocating risks associated with the construction and management of infrastructure to the concessionaire, the public sector is expected to enjoy greater VFM than under a publicly financed alternative where, it is assumed, the public sector bears all the risk (Froud & Shaoul, 2001). Risk allocation therefore lies at the heart of the concession arrangement. There is, however, a lack of comparative historical data to assess probability and risk exposure (Akintoye et al., 1998), and this hampers the process of allocating risks. As a result, the anticipation, definition and attachment of risk probabilities are not well founded. Much depends upon professional judgment on matters such as the differential risk of construction cost overruns and the robustness of risk transfer for the private sector. Research has found that in some concessions that the probability of a risk was the same for each year of the concession period, which is clearly not the case as, for example, risk patterns change when the facility transfers from the realization to the operational stage. Significantly, there is no requirement to assess to what extent new risks are created by the use of concessions, such as those that

may arise as a consequence of being locked into a long term contract where changes must be negotiated (Froud & Shaoul, 2001).

Although most concession arrangements in the health sector seem to value risk transfer at around 30-35% of construction costs, there is a wide variation in the discounted value of the risk transfer, ranging from 17% to nearly 70% of construction costs (Edwards et al., 2004). The public sector is free to devise its own methodology for quantifying risks. Since risk transfer is the main constituent of VFM, there should be a consistent reporting methodology that clearly identifies and presents all the project risks and attended costs. Even when a clear methodology does exist, it is not always strictly adhered to. Demirag et al. (2004) argue that, as VFM related to risk transfer, is subjective. In most cases, the net present cost provided by the PSC is lower than the net present cost of the concession option prior to risk being included in the analysis. As a result, the margin of difference between the PSC and the concession option is often small (Pollock et al., 2002). The IPPR (2001) showed the importance of risk transfer in PSC benchmarking exercises by drawing up a table in which the risk adjusted schemes of several health concessions were compared with their PSCs. This table is included below and shows the importance of risk transfer in VFM calculations.

Tab. 4: Comparison of costs under PFI and PSC options (£m) (IPPR, 2000)[12]

NHS Trust	**Capital value of scheme**	**NPV PSC**	**NPV of implemented PFI option**	**Difference private sector bid - PSC**	**Net risk added to PSC**
South Manchester	65.6	2,126	2,124	2	20
Norfolk & Norwich	143.5	1,682	1,642	40	76
Greenwich Healthcare	93	1,427	1,410	17	46
Calderdale Healthcare	64.6	1,362	1,342	20	37
Bromley Hospitals	117.9	1,179	1,166	13	30
Worcester Royal	86.6	1,098	1,095	3	10
Dartford & Gravesham	94	944	928	16	42
Barnet & Chase Farm	54	198.2	193.2	5	15.5
Carlisle Hospitals	64.7	174.3	173.1	5.9	21.8
South Buckinghamshire	45.1	169.2	162.1	7.1	9.3
North Durham	61	180.9	177.0	3.9	20.4

[12] Investment appraisal convetions allow different approaches to evaluating and comparing costs. The methods used msut be consistent within each scheme but calculations can differ between schemes. Hence, the wide range of estimates of net present cost does not reflect the different sizes of schemes (IPPR, 2000).

As the table shows, in all the schemes, risk transfer is the critical element in proving VFM. There is considerable variation between schemes in both the absolute and relative value of risk transferred. What is striking, however, is that in all cases risk transfer exceeds the amount required to bridge the gap between the PSC and the lowest private sector bid (Pollock et al., 2002).

The quantification of this transfer of risk in PSC benchmarking has thus usually been the factor that has tipped the balance in favor of pursuing concession projects (Pollock et al., 2002). Some authors, including Froud (2003), argue that the real function of the risk adjustment is to disguise the true costs of the concession and make it look a more efficient procurement route. This raises doubts on the objectivity of the risk transfer methodology used. The analysis reflected in the table makes clear that the correct valuation of risk transfer is crucial in VFM appraisal.

Other authors also comment on the existence of risks created in concessions, which might be overlooked as these are not included in the current VFM benchmarking process. Concession-related risks are quite different from those found with traditional procurement. The following examples are found in the literature:

- Financial risks. The sufficiency and sensitivity of cash flows to various potential risks is crucial in establishing how debt will be serviced. Structural protective and financial mechanisms are often used to manage financial risks.
- Political risks are related to operating risks and are a key issue for government in ensuring the continuity of the service. There might be a loss of face for the awarding authority if the private sector underperforms. Since the awarding authority continues to be the entity responsible for the core public services performed in the facility, there remains a risk of losses due to unavailability of facilities and ancillary services. The government must ensure that facilities are constructed in accordance with legislation and codes of practice to ensure the well being of workers and consumers. Step-in rights and replacement regimes are particularly important in considering political risks.
- Credit risk of the awarding authority (affordability risk). Since the SPV relies on a payment stream from the government's counterparty to satisfy its debt service obligations, there is a significant risk associated with the counterparty's creditworthiness.
- The risk of increased insurance cost. Generally, an SPV takes out liability and building insurance, whereas, due to their scale, public organizations rarely take out insurance. Since 9/11 the cost for liability and building insurance has increased enormously, making some risks hardly insurable, and it is simply not possible for a private sector partner to guarantee insurance for all aspects of the concession arrangement.
- Asset risk can arise if the life of a facility proves to be shorter than anticipated, for example due to a force majeure event.
- Refinancing risk. Once the construction phase of a concession project is completed there are often opportunities to refinance the deal on more favorable terms as a major risk element of the project has been completed. This gives the private sector the

opportunity to reduce the risk premium on its interest rate charges, to extend the repayment of its borrowings over a longer period, and to negotiate other relaxations in terms specifying how debt should be repaid. Through a sharing of refinancing gains, refinancing has the potential to benefit both the public and private sectors.

A third source of deficiencies in the assessment method is related to comparing performances between the concession and the PSC. This is difficult because the different procurement alternatives are differently funded, the variability in demand of users in different categories, and the way these are measured and the different targets these are set (Nisar, 2007). Information about the quality of performance prior to the implementation of concessions, against which to measure the quality of the new service, is almost non-existent. The service components of the unitary charge correspond to services that used to be provided by the awarding authority. The services transferred to the SPV should logically be compared with the awarding authority's 'normal' service provision. It is, however, difficult to establish a proper comparison with what a public sector alternative would deliver since there is hardly any information available on public sector services provision. Without such information, it is difficult to evaluate the assumptions and calculations to ensure that the PSC is a reasonable basis for comparison. Projects also typically experience re-negotiations, which mean that the original contract, and hence the PSC, become out of date. As Edwards and Shaoul (2003) have argued, it is difficult to compare the costs of a PFI and thus its VFM against the original PSC as the PSC quickly becomes out of date due to negotiation processes. PSCs are also not updated following contract amendments.

Fourthly, deficiencies are linked to the objectivity in assessing VFM by means of the PSC. Specifically, criticism is made of the neutrality of the assessment method. Concessions are sometimes the only option available to public agencies (the only show in town), particularly in the UK. If alternative public sources of funds are not readily available, then VFM tests against a PSC become less real, with the public sector being pushed towards accepting the concession variant as the 'best and only' alternative (Mayston, 1999). Many project managers know that they will only get permission to build their infrastructure if the concession scheme comes out cheaper, regardless of how marginal the supposed savings are (IPPR, 2001). This encourages a biased assessment of VFM.

The sources of professional advice available to awarding authorities are not neutral in the choice between concessions and public sector alternatives. Not only do financial advisers secure more business from concessions, but also the institutions promoting concessions are the regulators of their own accounting and VFM analysis (Heald, 2003). Heald also raised concerns about the fact that some concessions became 'flagship' projects of the UK Treasury Taskforce. The label 'flagship' restricts the stoppability of projects, whatever the analytical findings may be, once political commitment has been given.

A final difficulty is in choosing the discount rate. The various economic costs and time preferences of the alternative procurement systems are expressed in a single rate known as the discount rate. This rate is economically significant in assessing VFM. The rate used as a basis to compare procurement alternatives has been subject to sustained criticisms as being unrealistic (Pollock et al, 2002). The UK Treasury Taskforce Guidance (HM Treasury, 1999) explicitly demanded the use of a real discount rate of 6 percent. This was in line with the rate prescribed by the Treasury for use in a wide range of public sector contexts. However, in 2003, the Greenbook (HM Treasury, 2003) prescribed a new discount rate of 3.5 percent which, according to researchers and policy-makers, better reflects the real price of money within the public sector context.

Summarizing, it can be said that assessing VFM by means of a PSC is not an objective process and that the methods used embrace different inaccuracies: overall, it systematically reduces the comparative advantage of PSC and disguises the basis of private sector bids.

4.4 PSC benchmarking in relation to the current research objectives

As PSC benchmarking resulted in criticisms on both the measurement scope, as well as on the methodology, it does not seen as an optimal operationalization of VFM in general terms. Considering the criticisms outlined above, it is argued that, although VFM assessment by PSC benchmarking is needed for decision-making regarding the pursuit of concession arrangements in the ex-ante phase, there is a need for a more comprehensive assessment method that gives emphasis to a broader definition of VFM.

As the research objective is defined in terms of ex-post assessing concession arrangements such a broader-defined VFM framework would be more appropriate than an assessment method involving PSC benchmarking.

There is an important short and long-term question as to whether concessions do generate benefits over time, not only in financial terms but also according to wider criteria (Broadbent & Laughlin, 2003). Therefore, an alternative ex-post VFM method should obtain insights into the long-term VFM delivered by concessions.

Auditing offices also need to focus on both ex-ante as well as ex-post assessments of concession arrangements. Ex-post assessment is needed to determine whether or not concessions actually produce the benefits promised and thus in practice, deliver VFM (Edwards & Shaoul, 2003). The UK Public Accounts Committee also draws the conclusion that there is a need for improved evaluation of concession arrangements in progress (Edwards & Shaoul, 2003). Nisar (2007) further argues that one can use other indicators to examine the extent to which VFM has been achieved.

It is often stated that the use of VFM as the key criterion in assessing concession arrangements is legitimate and achievable in practice. However, as the current ex-ante VFM assessment methods are subject to many criticisms, an appropriate ex-post VFM assessment framework is extra needed.

4.5 Ex-post VFM assessment methods

Various governmental organizations are engaged in developing an ex-post VFM assessment method. However, an appropriate ex-post assessment method for hospital concessions is not yet available. Here, it is argued that the development and implementation of such a method will contribute to the discussions on the merits and transparency of concessions for the development and provision of hospitals, and that this might also have a positive effect through adaptations to the pre-contract VFM framework. The contributions the various governmental organizations and researchers have made to ex-post VFM assessment methods so far are outlined in the below sections.

4.5.1 Propositions for ex-post VFM assessment methods

Many policy-makers and researchers argue that there is a need for a more comprehensive assessment method. This method should give emphasis to a broader definition of VFM rather than the quantitative approach taken by the PSC and access whether concessions do generate non-financial benefits over time. This will enable judgments on whether or not concessions actually produce the benefits promised and thus, in practice, deliver VFM. Since the UK Public Accounts Committee also draws the conclusion that there is a need for improved evaluation of concession arrangements in progress, such an evaluation could analyze the extent to which the operational project deviates from the bid offered in the FBC. In other words, the ongoing performance of the infrastructure facilities and related management services should be compared to the proposed implementation on which the VFM assessment is based. This so-called post-contract VFM assessment method will be dependent on the possibility of specifying outputs up-front clearly, and observing these during the contract (Deakin & Walsh, 1996), given that the public agency will have to 'manage' the infrastructure project at a distance. Contract outputs are currently formulated in general terms and this could cause problems during the monitoring of the project and result in extra costs. Further, since information will have to be provided by the SPV in order to organize an efficient and effective monitoring process, the diverse interests of public and private partners could result in information asymmetries. Such a method has not yet been developed, although some bodies and researchers attempted to do so.

The UK National Audit Office tried to set up a post-decision VFM framework shortly after the introduction of PFI in social infrastructure (NAO, 1999a). It drew up a framework based on four pillars that should generate insights as to whether the PFI project had delivered VFM. The focus, however, was more-or-less on the procurement phase of the project rather than on aspects arising during the life of a contract. It is therefore not suitable for assessing VFM in operational concession arrangements.
In its report on VFM, based on the Darent Valley Hospital (1999b), the NAO however took another focus. This report was mainly based on whether the cost estimates given up-front were accurate and achieved in practice using a mainly quantitative perspective. In the absence of subsequent monitoring of contractor performance and contract payments

against the assumptions made at the time the PSC was compiled, a definitive view could not be taken as to whether VFM was being delivered in practice. Further, the time was not yet ripe for a fair evaluation given the limited time that had expired since the facility opened. A few years later, the VFM evaluation approach of the NAO to evaluate another hospital PFI scheme was completely different. When evaluating the Middlesex Hospital PFI scheme, the NAO (2002) adopted another basis in relation to evaluating the scheme. It tried to analyze in which way the scheme had achieved the objectives expressed in qualitative pillars that it had recently developed. Recently, the NAO has stated that it will take a more qualitative approach when it comes to VFM evaluation in concession projects.
Whilst the Audit Commission is also active in VFM studies of concessions, its focus, not surprisingly given their direct concern, has concentrated on the local government level. Their work on PFI in schools is particularly relevant (Audit Commission, 2003). It attempted to capture the benefits of PFI for schools by mainly focusing on how users were experiencing the schools that the PFI had delivered by the end of 2001, in comparison to their experiences with conventional procurement. Although this reveals some interesting insights into the PFI in relation to traditional procurement, it does not explicitly state what VMF is and how it can be measured in practice.
In 2004, the Treasury issued a publication 'VFM Assessment Guidance' (2006), in which VFM is related to the procurement of PFI, and so ignores the operational phases of a project. The lack of an explicit inclusion of post-contract VFM variables makes it inappropriate for further consideration within this research project.

Also Broadbent and Laughlin (2003) have also suggested a framework for an evaluation system to assess long-term VFM. Broadbent et al. (2004) argue that a single characteristic approach to concession evaluation is inappropriate. Similarly, the NAO and HM Treasury recognize that this approach is likely to lead to spurious judgments. According to Broadbent et al. (2004), a future post-contract VFM appraisal method should consider the following characteristics:

1. A future assessment method should link the output specifications as defined in the full business case to the allocation of risks between the parties in practice (Dixon et al., 2005). Considering risk allocation, it is argued that a number of dimensions should be taken into account. According to Broadbent and Laughlin (2003), the emphasis on future post-contract VFM appraisal should be on whether risk assessment and allocation is as agreed upon in the contract of the project (which is framed immediately after the FBC). An issue to be analyzed is whether the financial consequences of the risk allocation have been as expected (Broadbent & Laughlin, 2003). Many have questioned whether risk does, in reality, get transferred to the concessionaire. These commentators point to instances where clear breaches of contract were not followed up by termination or even the imposition of contractually-agreed penalties (Lonsdale, 2005a). Researchers argue that assessments of risk transfer were, at best, assessed post-

contract, and that some FBC assessments have proved to be disastrously wrong (English & Walker, 2005). In some cases, the public sector even became asymmetrically locked-in to the private sector. In other words, the public agency became dependent on the concessionaire and this empowered the concessionaire to engage in the relationship on terms of its own choosing (Lonsdale, 2005a).

2. A focus on facilities management is important in a post-contract VFM appraisal, since this provides insights into the operational effects of the concession project. An assessment as to whether the facilities provided through the concession arrangement achieve the standards intended for the payment is essential. Specifically, this involves ensuring that the ongoing performance of the facilities management services, and the infrastructure, are properly reviewed and that any variations are appropriately managed (Broadbent & Laughlin, 2003).
3. A non-financial benefit analysis should also be conducted in order to generate insights into how concessions are progressing to highlight any problems encountered. The non-financial measures should concentrate on those aspects which are typical for concession arrangements and ignore all the issues which are found in both public and private procurement systems.

To summarize, in assessing VFM, officers and evaluators should focus specifically on operational aspects of concessions, such as risk transfer, facilities management in operation, and other non-financial issues. Placing emphasis on both value- (non-financial) and money- (financial) related aspects is needed to assess the significance of the VFM philosophy.

4.6 Defining an improved VFM framework

The above-described points produce a more detailed overview of the desired elements of VFM in operational projects. These provide a good direction for an evaluation tool for concession projects in the future. All the aspects seem to be relevant in judging whether VFM is being achieved in concession projects.

However, the method fails to pay attention to the heart of any procurement system in hospitals: enabling the infrastructure facility to function. Further, the extent to which core services will change over time is unpredictable. Whether the building and the ancillary services are supportive of changing core services delivery in the future might also be seen as a risk factor. The proposals for ex-post VFM appraisals suggested by other researchers, however, do not pay attention to this aspect.

The three pillars of an ex-post VFM framework developed by Broadbent et al. (2003), namely risk transfer, facilities management in operation, and other non-financial issues could be adapted to the perspective adopted in this research. The mentioned non-financial concession issues, such as the social relations between the awarding authority and the SPV, are considered a subordinate condition in facilitating positive project performance. Good

working relations between the awarding authority and the SPV contribute to the way the hospital is managed and the way problems are solved. Thus, well-developed social relations are a means to better service performance and could be a subordinate measure of performance. However, assessing these non-financial aspects separately from project performance is beyond the scope of this research.

Facility management aspects could be treated as a risk factor within the category of operational risk that is included in VFM assessment by the PSC. Facility management aspects are therefore seen as a subgroup of the risk allocation and management system of the concession arrangement. The three pillars are therefore reduced to the common denominator of the risk system of the concession arrangement.

The same applies to the aspect concerning the link between core services within the facility itself and the ancillary services provided by the SPV, which are subordinate to the core services in the hospital. The support given to core service delivery appears especially important for social infrastructure projects in which there is a separation in responsibilities for core and ancillary services, as here where concessions in social infrastructure do not include the transfer of responsibilities for clinical services[13]. The building itself and the services provided under the concession should support the clinical services for which the building is designed at all times. This might be difficult given that future changes in clinical services in hospitals are inevitable (Froud, 2003). Therefore, the delivery of healthcare should incorporate a high degree of flexibility. The hospital is, par excellence, a venue of diversity of activities and complexity, and is embedded in a wide social network of universities, direct care and social care. The hospital is also subject to many technological and social changes and operates under intense public and political scrutiny. The concession design should be an optimal fit with the awarding authority's clinical requirements and continue to deliver an optimal outcome during the lifetime of the concession. The unpredictability and insecurities of the future require a high level of flexibility in the contract, or the way in which the hospital design and services can be aligned with the dynamic context of providing healthcare. The potentially changing clinical services should lead the way in which the facility and ancillary services are designed. Therefore, the VFM assessment should not only take account of past and current performance, but also take into account the mechanisms to provide future VFM.

4.6.1 VFM: focus on risks and uncertainties

The relevant pillars of the VFM assessment framework, namely risk transfer, facilities management in operation, and non-financial issues, can thus be expressed or linked to the concept of risk. In the context of infrastructure projects, risk has been defined as 'the chance of an event occurring which would cause actual project circumstances to differ from those assumed when forecasting project benefit and costs' (Furnell, 2000[14]). Risk is at the core of project profitability (for the SPV) and efficiency (in delivering public sector

[13] Although PFI prisons do, and also some early Australian health concessions.
[14] In PV (2001)

objectives). As explained in Section 4.2.2, the current ex-ante VFM assessment method includes various categories of risks. Researchers argue, however, that these are only part of the risks that actually play a role in concession projects. In this method, a technical approach is applied in quantifying the risks in NPC/NPV terms, as is explained by Froud (2003). Insurance companies first introduced this approach. In it, one assumes that risk can be quantified as well as an optimally allocated. Risk is often considered as the multiplication of the consequence of a risk and the chance that this occurs[15]. As a result, most private organizations express risk in monetary terms such as cost reductions or net present values. Nowadays, this approach is also adopted by public organizations. The PSC used in concession arrangements works with the same principles of risk (see also Deakin & Walsh, 1996).

In the technical approach, no room is left for uncertainty, or, in other words, to deal with anything that lies beyond a probability distribution. Uncertainty exists when: a) there are many known alternative outcomes; or b) when there are known to be many unimaginable possibilities (Lonsdale, 2005b). Keynes (1973) argues that uncertainty is not the difference between what is known for certain and what probably happens. Uncertainty exists with matters for which no scientific basis is available to constitute a calculable probability. Many concession arrangements contain both types of uncertainty. The assessment of risk, as part of the process of developing concession projects, can therefore be classed as a technical approach to risk and uncertainty (Froud, 2003). Risk allocation is dictated by optimization motivations, and the contract is seen as a mechanism to ensure that risks are managed 'rationally'. Only those risks that can be identified and quantified are dealt with in this way.

In the radical approach to risks, the concept of uncertainty is applied differently. Froud (2003) argues that this approach, which discriminates between risks and uncertainties, would be more appropriate for concession arrangements. Not only do many concession arrangements contain both types of uncertainty, concessions are further complicated by the bundling of assets and service together into a package to be delivered over a period of often more than 25 years (Froud & Shaoul, 2001). In cases where there are no observable data, uncertainty rather than risk becomes the relevant category, as outcomes are not readily amenable to probability distributions. In the eyes of Froud (2003), this is also the case in hospital concessions. She argues that not only the outcomes of hospital concessions are indeterminate, but also the future is transmutable so that the decision to implement a concession made now will in itself change outcomes. This could imply that the implementation of a concession arrangement can be seen as a way of influencing the future of these arrangements. However, in concession projects, uncertainty is generally not identified as an analytical category, nor is it acknowledged that the uncertain future is partly shaped by earlier decisions and actions made.

[15] Although this is the base assumption in the technical approach, and still commonly used, it is increasingly argued that it should be changed according to new insights that improve the actuality of outcomes.

Given that the future of hospitals is uncertain and therefore cannot be quantitatively expressed in probabilities, uncertainties are not explicitly part of the risk allocation process in the risk approach taken in hospital concessions. Not incorporating uncertainties in risk allocation, however, does not imply that uncertainties will not start playing a role in these arrangements. Concession projects should allow adequate flexibility to require, and reward, changes in the nature or volume of services to be delivered over time. This is related to the usage patterns that neither party can accurately predict at the time of the contract – in other words related to the uncertainties surrounding the contract.
There are many uncertainties in the context of hospital concessions. Yun (2007) notes that some uncertainties are related to variations in the catchment's population, including natural demographic change and migration pattern change. Medical technology has rapidly advanced over the years and similar progress can be anticipated over the lifetime of a concession project. As a result, the pattern of hospital activity may change dramatically. There is also a distinct possibility that government policy on healthcare could change over the concession period and that this could subsequently affect future provision of clinical services. As changes during the term of a concession arrangement are inevitable, especially in the health context, issues of flexibility, adaptability, and uncertainty are important. The management of changes in output specification, assessment of changes in clinical service requirements, and the technologies that impact on project service delivery should be paramount in any hospital concession.
It is, however, not clear to what extent concession arrangements undermine the ability to respond to a changing consensus about the desired configuration of clinical services in the future. In order to allow adequate flexibility in requiring, and rewarding, changes in the nature or volume of clinical services to be delivered over time, an effective contract management system is needed.

Effective contract management incorporates identifying, monitoring, and managing all the risks and opportunities over the life of the hospital concession in order to achieve project objectives and VFM outcomes. Including all risks apparent in hospital concessions implies that the range of risks that must be considered for effective contract management purposes is broader than the range of risks considered in the PSC benchmarking exercise. Also the risks mentioned in Section 4.3.2. should therefore be considered in effective contract management. The awarding authority should clarify all the project risks allocated under the concession, including contract execution risks that arise from issues not resolved at contract execution, from ineffective public sector management, and risks associated with proposed changes to the contractual arrangement (PV, 2003). After clarification, these should be included in the contract management system of the concession arrangement.
In such a system, inefficiencies can arise from confused responsibility for monitoring and responding to risks (Ng & Loosemore, 2007). In order to avoid the result in which risks are transferring back to awarding authority in the form of higher risks, risk premiums and project problems, the risk system underlying the arrangement must be optimized. This

must prevent the awarding authority of taking-back risks. Take-back can occur where the contract allocates risks associated with an aspect of a project to the SPV, but the awarding authority assumes that aspect as part of the change process. The awarding authority should therefore organize its management of changes in output specifications, but also automate contractual changes such as indexation of payments and assessment of changes in service requirements and technology that impact on project service delivery.

Both Edwards et al. (2004) and the NAO (2006) stressed the importance of concession contracts having adequate incentives, remedies and safeguards to ensure that the services would be delivered to a satisfactory standard throughout the concession period. They argue that, in effect, this could be underpinned by adequate arrangements to manage the contract, suitable incentives for good performance backed up by contract sanctions to deter poor performance by the SPV, and suitable arrangements for dealing with change. The NAO has also suggested that, when assessing VFM, it is important to examine the mechanisms and procedures for monitoring the contract, to identify and analyze the risks to be transferred, and to examine contingency planning.

4.6.2 VFM: an overview

Risk allocation and transfer is one of the main themes whenever pronouncing upon VFM. Ex ante risk transfer is a measure of success, through the PSC benchmarking, while ex-post it is achieved by making it an important part of the post-project evaluation framework. The elements of an effective risk allocation and transfer system, in compliance with effective contract management principles, which are outlined in the above section, is considered important in the realization and preservation of VFM in operational concessions. These elements could be combined in one framework, which is outlined in Figure 8 on the next page.

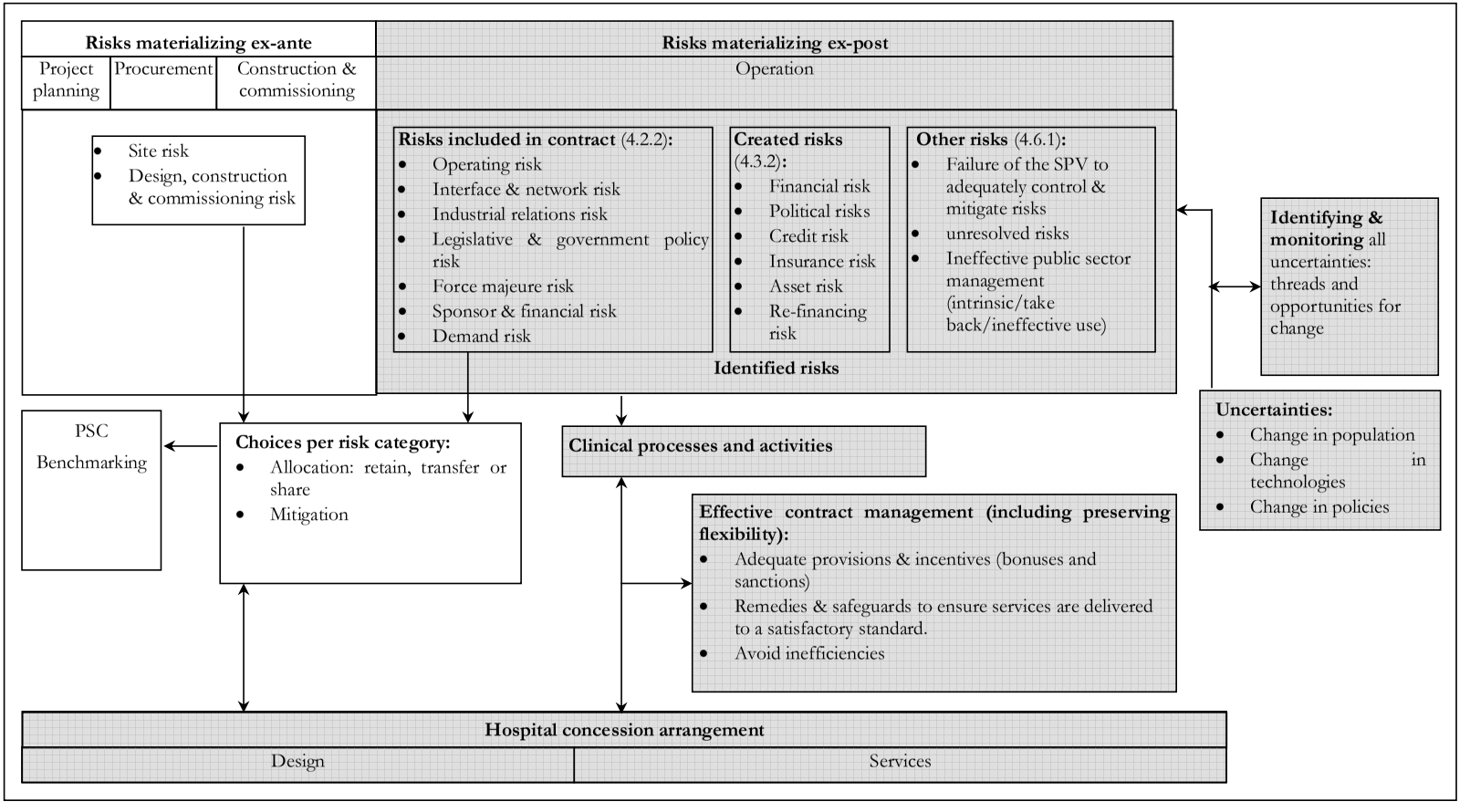

Fig. 8: Operationalization VFM

The framework starts from the viewpoint that a separation can be made between the risks that materialize before, and those that materialize after the start of the operational phase. The former category is considered to be of relatively little relevance in the ex-post VFM framework, and is therefore not included in the ex-post VFM framework which is reflected in grey.
Some of the risks falling in the category of ex-post risks are included in the ex-ante VFM benchmarking method. With these risks it is known whether these are retained by the awarding authority, shared with, or transferred to the SPV and therefore contribute to the calculation of the NPV. However, these risks should also be managed effectively in the operational phase of the concession arrangement. This is also valid for the categories of 'created risks', which are explained in Section 4.3.2., and 'other risks', which are discussed in Section 4.6.1. All the identified risks, when materializing, could influence the clinical processes in the hospital and implicitly the concession arrangement, as described earlier in this chapter. These should therefore effectively be managed.
All the mentioned risks should be resolved to the clinical services performed in the hospital at all times. Therefore, it is seen as important that the awarding authority identifies and monitors all threats and opportunities for change in the context of a hospital project on a regular basis. In particular, contextual uncertainties related to changes in population, technology, and policy could affect the materialization of risks linked to the clinical services in the hospital. As the revenue of the awarding authority is determined by the way and the extent to which clinical services are performed, identifying changes in the probability that a risk materializes or the possible consequence of that risk materializing could affect the financial position of the awarding authority. This could have serious consequences on the ability of the awarding authority to comply with its financial duties, regarding payment of the unitary charges related to the concession arrangement. Flexibility in the concession arrangements is therefore essential. This means that the design of a provided hospital should be flexible enough to meet these changing requirements.

4.7 Conclusions

This chapter started with the second research question, which was formulated: *how can the motivations of hospital concessions in terms of performance be operationalized?*
VFM is seen as the success measure for concession arrangements in most countries which are currently implementing these arrangements in the provision of their infrastructure. In order to operationalize the VFM concept, an analysis of how VFM is measured in practice was conducted.
As yet, VFM is assessed solely in the ex-ante stage of the arrangement by means of a PSC benchmarking process. This PSC was reviewed from a broad perspective, mainly focused on what was actually measured by this benchmarking process. From analysis, it appears that the measurement of VFM by means of a PSC is open to severe criticisms from both the academic world and from policy evaluators. These criticisms broadly fall into two

categories. In the first category, criticisms refer to the restricted scope of the PSC in two ways. This restricted scope is first expressed in the domination of quantitative measures, leading to invisibility of qualitative aspects. Second, the exclusion of relevant ex-post indicators is considered a shortcoming of the current measurement method. In the second category, criticisms relate to the deficiencies in the assessment method itself. The most important concerns with the current assessment method have been outlined in this chapter. These criticisms lead to an understanding that, although some form of ex-ante assessment is needed in order to give the green light to implementing concession arrangements, this type of ex-ante VFM assessment does not result in solid judgments as to whether a concession project is successful. Therefore, an alternative, more solid, VFM framework should be designed. Such a framework needs to monitor ex-post concession arrangements and pass judgment on whether the arrangements are working in practice. Further, it is expected that such a framework will also promote more rigorous ex-ante VFM assessments. Although auditing organizations in several countries are currently updating their VFM frameworks, these processes have not yet resulted in appropriate VFM frameworks.

In this chapter, such an ex-post framework has been developed by integrating elements raised by other researchers. The framework, which includes both qualitative as well as quantitative measures, is a result of a process combining all the raised elements and, is shown in the last part of the chapter. The emphasis in pronouncing on VFM in this ex-post VFM framework is on the risk allocation and management system underlying the concession project. Critical to the framework is agreement, at the ex-ante stage of concessions, on how all future perhaps unknown possibilities will be dealt with, and this effectively introduces a new element of risk into concession arrangements. Effective contract management is therefore crucial in successful concession arrangements. This framework is seen as the operationalization of VFM, which can be applied in the empirical analysis of concessions in practice. With these insights, the second research question is answered.

The next chapter forms a transition between the part of the study based on a literature review and the empirical part of the study. In this chapter, an essential risk category of the developed VFM framework, namely demand risk, will be discussed and analyzed in more detail in order to draw up a framework for evaluation of hospital concession projects.

Chapter 5

A framework for evaluation

In the previous chapter an ex-post VFM assessment framework was developed. In this chapter, the translation from a theoretical position towards a practical framework is described. For practical reasons, the empirical part of this research concerns only a section of the framework. This selection is made and explained in the first section of the chapter. The emphasis in the empirical part of the research is on an essential element of the VFM framework, namely demand risk-related VFM. This part of the VFM frameworks is related to the contingency of the concession arrangement in meeting fluctuating demands for clinical activities.

5.1 VFM: a focus on demand risk

Demand can be highly fluctuating in a hospital concession project due to the characteristics of the capital investments and the uncertainties surrounding them. Therefore, the emphasis in the empirical part of this research is on demand risk and how this is dealt with in a concession arrangement. This is visualized in Figure 9 below. As can be seen, this framework is comparable with the VFM framework given in Chapter 4, but with all risks apart from demand risk excluded.

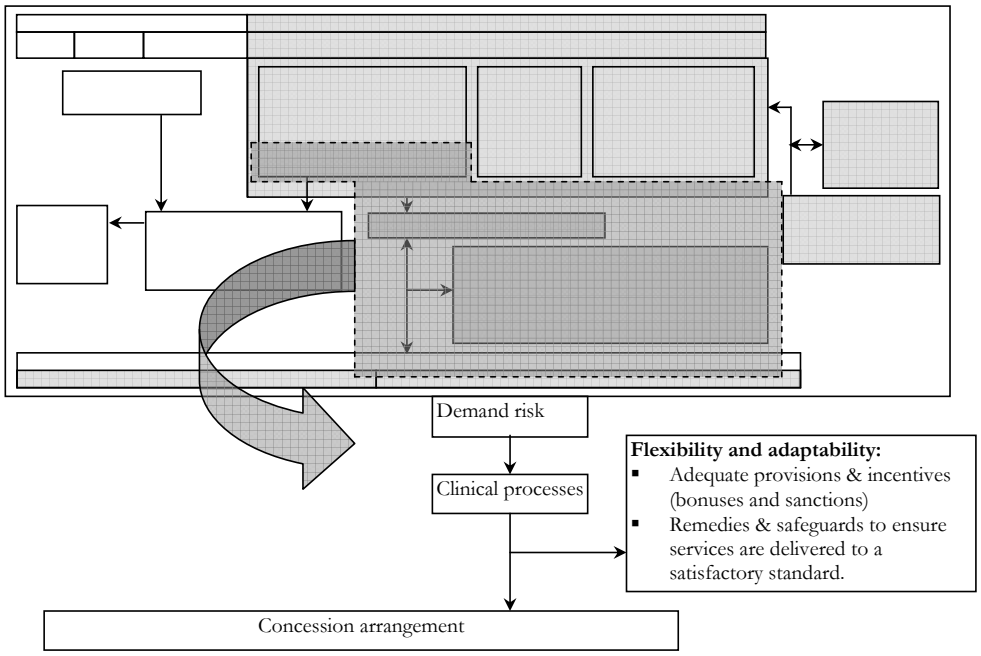

Fig. 9: Demand-risk-related VFM

In the subsections below, the foundations on which demand risk is considered essential are further explained. Three distinct grounds are described: the characteristics of the physical hospital asset, the uncertainties surrounding hospitals, and the way concessions are structured.

5.1.1 Characteristics of the physical assets of hospitals

Hospitals involve complex, long-term capital investments. Once created, hospitals are difficult to change, whether in terms of geography, culture (as they often face entrenched professional attitudes), or in their scope (the conditions treated in them) (Thompson & McKee, 2004).

Despite the complexities surrounding hospital capital investments, there is growing recognition of the need for continuing investment. Investment is first necessary to prevent the decline in the quality of the infrastructure. Second, the long-established process of adapting existing facilities, and some European hospitals still operate in late-medieval buildings, is increasingly seen as both inappropriate and often more expensive in the long run than building new facilities. Despite the enormous developments in the scope and nature of healthcare, the hospital buildings in which it is provided have often remained remarkably unchanged. In the UK, a large proportion of the buildings still being used as hospitals were built during the nineteenth century.

In order to make an investment in a new hospital, several aspects have to be considered. Nisar (2007) found that, in order to create and maintain an environment that is conducive to patient care, a hospital needs to explicitly take its context into account. Capital investments require collaboration with the financiers and strategy settlers of the hospital, health authorities, but also with the service providers. Collaborative arrangements are a prerequisite in ensuring the delivery of efficient and effective clinical services and to monitor performance and initiate changes where improvements are required. As collaborations in the health environment are subject to change, the complexities surrounding hospital investments are further exacerbated.

5.1.2 The uncertainties surrounding hospitals

Many authors, including Thompson and McKee (2004), argue that changes in future health provision in hospitals are inevitable due to changes in the market and contexts of hospitals. This includes the advent of new diseases, demographical change, and technology improvements. The uncertainties can be divided into three subgroups.

Changes in catchment's population

Demand is very sensitive to variations in the hospital's catchment population, including natural demographic changes and migration pattern change. Infrastructure investment is distinguished from other types of investment by its long economic life, often lasting several decades. Not surprisingly, dynamic and growing economies make very different demands on hospitals from static economies, both in terms of the quantity and the type of use at the beginning of a hospital's operation and the demand at the end of operation. Therefore, hospitals face the challenge of absorbing new services within a complex mix of people and requirements compounded by the escalating expectations of people regarding the quality of that service (IPA, 2007).

There are two main components of demographic patterns which affect patient activities: demographic ageing and immigration patterns. As the population aged 65 and over is increasing, the number of patients, and the length of stay, are both expected to rise in the future. In contrast, increased immigration of middle-aged people into the catchment area could decrease the in-patient length of stay but increase the number of potential patients.

Changes in medical technologies

Medical technologies have rapidly advanced over the past 30 years and thus have influenced the demand for clinical activities. The developments in medical technology have dramatically improved productivity and substantially increased hospital capacity for treating patients and providing interventions. Diseases that would have almost certainly killed in the immediate post-war period are now treatable, and in many instances curable (Jennings, 2000). The improved medical technology has increased the number of treated in-

patients/day cases and outpatients, and has reduced the in-patient length of stay (Hensher & Edwards, 1999).
Similar progress, possibly at even faster rates, is anticipated in the future. As a result, the pattern of hospital activity may change dramatically. Changes in medical technology also have a significant impact on the demand for clinical services and a similar pattern is expected in the future. As medical technology changes, surgical procedures can often be done on an out-patient basis, and consequently fewer hospital beds are needed for convalescence and a greater percentage can be used and need to be equipped for intensive and acute care (de Neufville & Scholtes, 2006)[16].

Changes in policies
Government policy in the health sector can also affect the demand for clinical services. For instance, the UK government recently committed itself to increasing the volume of elective work undertaken in the independent sector, which may result in a reduction of out-patient activities at 'public' hospitals. IPPR (2001) also enumerates a number of policy changes in the nature of healthcare that have an effect on demand. For example, the move towards care closer to home; the emphasis on linking professionals and specialists in networks that cut across health institutions and provide a pathway of care for patients; and an awareness of the evolving relationship between district general hospitals, regional centers, community hospitals and primary care providers. There is thus every chance that the government policy on healthcare will change over the period of a hospital concession arrangement and subsequently affect demand.

5.1.3 The structure of hospital concessions

While demand risk is seen as a decisive risk factor in all hospital projects, irrespective of the selected procurement system, it is more determinative in concessions than in other forms of procurement. Certain characteristics of concessions explain why they are exposed to greater demand risks (Yun, 2007):

The first reason is the long contract period, which can last up to 60 years. Many public sector organizations are only certain of their sources of income on a short-term basis, and cannot anticipate what their demand will be in 20 to 30 years time (Froud, 2003) due to changes in demographics, medical technology, and government policies, which can all be highly volatile. The fact that hospitals need to win short-term contracts to ensure demand for their health services and the long-term nature of concessions makes the transfer of risk even more hazardous.
A second reason is the risk allocation policy towards demand risk in concession arrangements. In almost all hospital concession arrangements, demand risk is allocated to the awarding authority, while the lion's share of the remaining risks is allocated to the SPV.

[16] In Yun (2007)

Further, there is a separation in responsibilities for core (clinical) and ancillary services. A complete integration of all parts of the provision of services is therefore not seen as possible. According to Froud (2003), the fact that the SPV has limited control over the demand and price of the clinical services partly explains the difficulty in translating risk transfer on paper into genuine risk transfer in practice. Within traditional public investment projects, the awarding health authority has control over the assets as well as the provision of service and hence, it is relatively easy to make changes either temporarily or on a long-term basis (Froud, 2003). In concessions this is not the case. To help ensure continuity of core services, the awarding health authority must have appropriate access to the facility at all times during the contract period and must be able to depend on those services transferred to the SPV which are essential in underpinning the clinical services. The awarding health authority must explicitly spell out the scenarios under which the transferred services are be exercised in the contract. Otherwise, it will be difficult to negotiate contractual changes and, more importantly, penalties will be levied for even minor changes. The main reason for this is that, under PFI, it is the private consortium which owns the asset and therefore the awarding authority does not have the right to change the asset in response to demand without agreement from the SPV.

5.2 Effects of materializing demand risk

It is not clear to what extent concession arrangements incorporate the ability to respond to changing demand patterns for clinical services in the future. Little research has been conducted into the effect of concession arrangements on this ability, neither in the way demand risk is managed in concession-like arrangements. There are, however, a few studies that have researched the effects of the issue of demand risk materializing. It appears that these effects can become apparent in different ways. First, demand risk materializing in hospital concessions might result in unsuitable hospital facilities. Second, it can be effectuated in terms of locked-in services. Third, the effects of materializing demand risk may become apparent in financial ways, bringing forward affordability problems for the awarding health authority. These potential effects are discussed in more detail below.

5.2.1 Unsuitable facilities

The demand for clinical services will clearly change over the lifetime of a hospital concession arrangement. Irrespective of this, ensuring that hospitals created today can retain their relevance and value in the future is a profound challenge. Providing healthcare goes beyond the physical asset, but the physical asset is the starting point in the delivery of sustainable and high-grade clinical services to the public. The right service, at the right place and at the right time, must be secured. This means that the design of a provided hospital should be sufficiently flexible to meet these requirements. This is especially the case for changing demand levels.

A point of concern is that the concession arrangement needs to guarantee future profitability as all the technical, legal, and environmental changes may cause the awarding authority to revise its output specifications. This is a potential problem of the contract itself, since this links actors pursuing different goals over a long timeframe. Agreeing to a concession arrangement may in itself limit alternative health facilities that are likely to be available in the future. Further, the likelihood of transferring demand elsewhere within the sector is small (Mayston, 1999).

5.2.2 Lock-in

Lonsdale (2005a) argues that, in the analysis of VFM, special attention should be paid to the flexibility effects of the contract and management system. There is a danger that the awarding authority will be 'locked-in' to a SPV over the duration of the contract, and this should be avoided at all times. The concept of lock-in, introduced by Williamson (1975), refers to a situation in which the awarding authority has to persevere with the private sector partner even if the relationship is not progressing well, or the private sector partner is threatening to increase the agreed prices. This may lead to a lack of pressure for improvements in quality, and the possibility that a service provider can get away with minimal performance delivery rather than striving for continual improvement (Lonsdale, 2005a). As with conventional outsourcing of service delivery, the awarding authority is able to propose additions, changes, and reductions to the ancillary services or building provided by the SPV. However, in concession arrangements, most adjustments to services or buildings require changes in contract terms and pricing changes. There is a risk that the financial penalties due to contract changes or event whether the proposed change in service is negotiable with the SPV, becomes more significant than the need for a changed service itself.

Clearly, the clinical services are the single most important input in any hospital building. The building itself, and the services provided under the concession should therefore support this core public service at all times. The extent to which core services will change in the future is unpredictable, but what can be controlled is the adaptability of the building and ancillary services; see Figure 10.

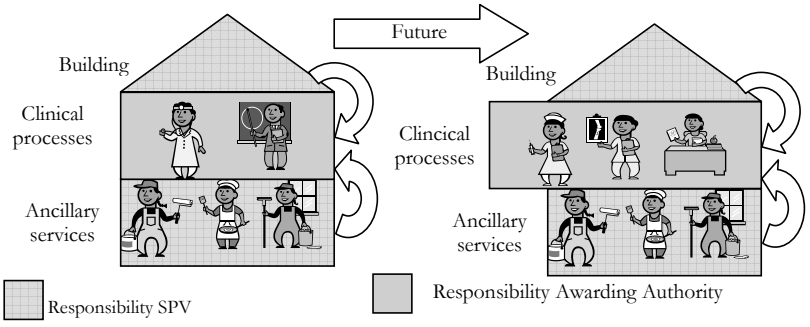

Fig. 10: Relation between building, and core, and ancillary services

5.2.3 Affordability problems

Since the SPV relies on a payment stream from the government counterparty to satisfy its debt service obligations there is a significant risk in the counterparty's creditworthiness. Mayston (1999) notes the issue of affordability in his work. In doing so he focuses on the risk that the awarding authority does not have the means to meet the unitary charges over the whole term of the project. This is especially the case in the health sector, where the awarding authority itself is dependent upon the demand for clinical activities through the use of short-term income generation contracts, which are becoming the norm in many developed countries. As a result, affordability issues are evolving. Changes in the financial position of the awarding authority might have disastrous consequences as awarding authorities have to keep paying the unitary charge to the SPV. Demand risk could thus change the financial position of awarding authorities, and therefore have an effect on their creditworthiness.

Hospitals require complicated and long-term investments and so need a continuous flow of financial streams in order to finance these investments. The demand for clinical activities determines the revenue of a hospital in an increasing number of countries. Demand risk, therefore is a decisive risk factor in hospital projects. Demand for clinical activities will fluctuate during the lifetime of a hospital due to uncertainties in the health context.

5.3 Flexibility

Because of the combination of a high demand risk in hospital concessions due to the characteristics of hospital facilities and their dynamic context, and the characteristics of concessions; and the negative effects should demand risk materialize, hospital concessions require flexibility. Assuming many events related to hospital facilities or their environment cannot be predicted from the start brings flexibility to the core of ensuring VFM. The concession arrangement design should attempt to be an optimal fit with the awarding authority's clinical requirements and continue to deliver an optimal outcome over time.

However, specifically for concessions, there exists a tension between the creation of contract securities related to service provision in the future and, on the other hand, the unpredictability and insecurities of those services in the future. While both the awarding authority and the SPV must agree upon an effective risk allocation and management system ex-ante, adequate provisions are also needed to accommodate future ex-post change. It is in the interests of the awarding authority to retain the freedom to plan the clinical processes of the hospital and to be able to adapt these to a fluctuating demand. Therefore, the provisions in concession arrangements should include mechanisms that provide the flexibility to drive VFM.

Little research has been done on flexibility in concession arrangements although various authors and political leaders have expressed concerns as to whether concession arrangements are able to provide the flexibility these need in order to secure optimal qualitative facilities and services in the future. The King's Fund (an independent

foundation working for improved health services in the London area) has claimed that concessions are in danger of becoming a white elephant, lacking the flexibility needed to keep up with changing policies and technological progress. The degree to which concession arrangements accommodate flexibility in practice will be analyzed in the empirical part of this research. Here, a distinction will be made between various types of flexibility, all of which have bearings on the performance of concessions, namely design, service, and financial flexibility.

5.3.1 Design flexibility

Yun (2007) argues that two types of design flexibility are required to accommodate changing demand levels for clinical activities.

First, strategic flexibility is needed for long-term changes that require alteration to the size or the usage of the hospital. It will enable future expansion and downsizing of the hospital to meet changes in demand, diagnostics, technology, and staffing trends. For instance, a hospital can be designed in a way that an expansion of the hospital can take place incrementally, by leaving sufficient space on the site to meet possible needs. A hospital can also be increased in height if sufficiently strong structural elements are included in the original design. In contrast to increasing demand scenarios, concession hospitals may face affordability problems if the demand is less than anticipated. In this case, a part of a hospital could be turned into space for secondary uses, such as office facilities, pharmaceutical production, pharmaceutical trials, or plastic surgery, possibly by subletting it to the SPV. The design could also include side wings, which can be easily demolished if demand falls.

Second, tactical flexibility is needed. On a tactical level, future uncertainties can be accommodated by flexibility in the design of the proposed facilities, but without altering the overall size and the functionality of a hospital building. Tactical flexibility can enable easy modification of the facilities and changes made can be in effect for some time but not necessarily permanently. Examples of tactical flexibility include the flexible design of the built facility area, including operating theatres, and the use of demountable blocks (Yun, 2007).

5.3.2 Service flexibility

Service flexibility is related to the possibility of adjusting the ancillary services, for which the responsibility is transferred to the SPV, to changing clinical services. The ancillary services should incorporate spare capacity and should be expandable to meet future clinical demand levels and needs. Given the terms of the contract, the service standards should take account not only of present service delivery needs but also, where practical, future service demands. However, as forecasting future service delivery may be difficult, there may also be a need for a mechanism for health authority to request changes to service standards during the contract term, or for the SPV to propose changes. Service flexibility has two levels:

Strategic service flexibility is related to the system designed to review ancillary services in the medium- and long-term. The adaptability of this system to changing demand, or changing circumstances, can be achieved by market-testing these services. Benchmarking is the process by which a SPV compares either its own costs or the costs of its subcontractors to the market price of equivalent services. If the costs are higher than market prices, a reduction in the price charged to the public sector should be made on an agreed cost-sharing basis to reflect the differential. If costs are lower than market prices, the SPV should justify any price increase (Treasury, 2007a). Market testing, on the other hand, means the re-tendering by the SPV of the relevant soft service so that the authority can test the VFM of that service in the market. Any increase or decrease in the cost of such a service following market testing should be reflected by an adjustment in the price charged to the authority (NAO, 2007a).
Tactical service flexibility is the ability to adjust service levels to a fluctuating demand on an ad-hoc basis. This must be reflected in the price the awarding authority pays through the unitary charge of the concession contract.

5.3.3 Financial flexibility

Another important factor related to the issue of flexibility and apparent in the operational phase of concession arrangements, is creditworthiness, or the affordability of the project, which partly determines the financial flexibility of the concession arrangement. Financial flexibility is a concept that relates both to the ability to satisfy current demand and meet financial obligations, as well as to the ability to respond to future demand and longer-term obligations (VAG, 2007).
In most countries, the key financial target set by the awarding authority of hospitals that has to be met each year is the achievement of income and expenditure balance. The income–expenditure balance target requires these awarding authorities to ensure that total income equals total expenditure in each year.

Payments for the provision of hospital assets through the concession arrangement are expressed as a unitary charge. This payment consists of two components: one for the assets and one for the services provided under the concession. The first is called the availability charge, while the payment for the provision of services is called the service charge[17].
The availability charge is a fixed cost, which varies only if new requirements beyond the terms of the contract arise, or if the consortium is penalized for failing to meet performance standards (Hellowell & Pollock, 2006). The availability charge component of concession projects can be compared with the costs of capital in conventionally-procured hospital projects. It is possible for any scheme to compare the cost of capital to the hospital before and after approval of the concession project. Capital cost is defined as the cost of capital assets incurred in the year (Palmer, 2006a). It is argued that, because capital

[17] This is surprising while the UK Treasury adduces the argument that the PFI is an integral fee in which the costs for the facility are incorporated to get the project off balance sheet.

costs in concession schemes are considerably higher than those in conventional procurement projects, that the affordability to the awarding authority of concessions is questionable. The price of which flexibility comes could further undermine the financial position of the awarding authority. The way the awarding authority deals with unitary payments, the price of flexibility, and obligations to pay other expenses therefore deserves attention.

5.3.4 An initial model of flexibility in hospital concessions

In light of the above, three different types of flexibility are distinguished in concession projects: design flexibility, service flexibility, and financial flexibility. How the above-mentioned issues interact is shown in Figure 11.

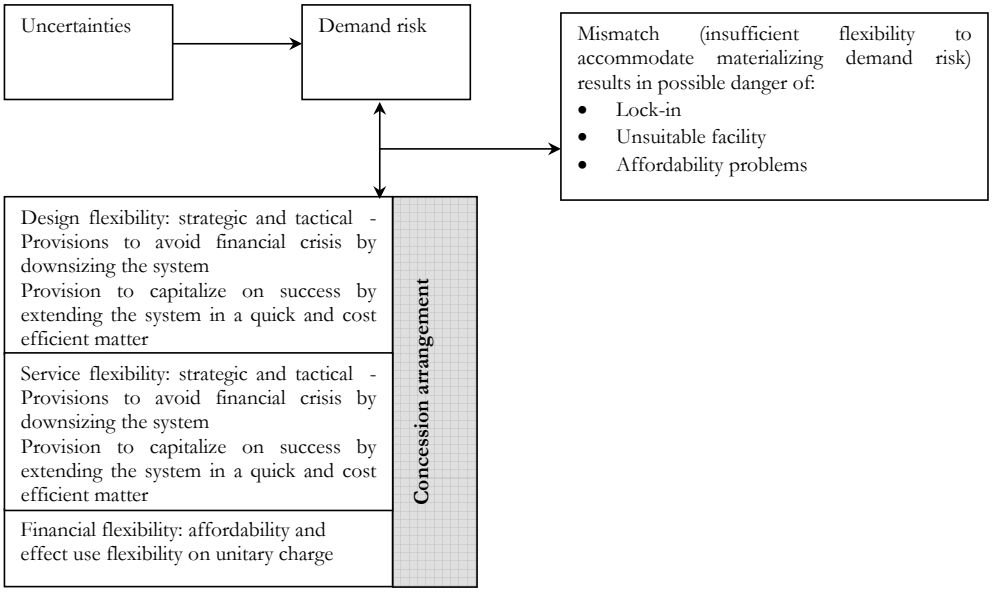

Fig. 11: Initial framework for assessing demand-risk-related VFM

How the above-mentioned issues precisely interact will be analyzed in the empirical part of the research. This is achieved through conducting case study research.

5.4 Empirical data

The objective of the case study research is to assess the performance of different types of flexibility in hospital concessions. Flexibility performance of a hospital concession is judged upon whether the arrangement provides the ability to respond to changing demand levels for clinical activities, and also to a different configuration or desired quality level of these

activities. In other words, it is analyzed whether concessions have adequate strategic and tactic flexibility provisions to respond to changing demand levels, and whether the provisions in the concession arrangement limit the financial flexibility of the awarding health authority.
The assessment as to what extent concessions embrace the ability to accommodate flexibility in practice is based on empirical evidence on three levels: the political rhetoric level, the contract level, and level of the operational outcomes. The assumption is that these three levels all affect flexibility performance. In the case study research, the flexibility of concessions on these three levels and their dependencies will be assessed. The outcome will determine whether the initial framework shown in Figure 11 represents practice. It will be tested in the UK and Australian contexts to identify the deficiencies in the model in order to further develop the model to a more-detailed level. As mentioned in Chapter 2, Australia and the UK have been selected as the national contexts for this research as it is in these countries that concessions have been implemented over recent years The UK and Australian cases can be found respectively in Chapter 6 and 7.

The politic rhetoric is broadly described for each case study project considered. Uncertainties seem to play a relatively large role in the outcomes of concession arrangements. Since uncertainties are interwoven with the context of these arrangements, the policy rhetoric, including the institutional framework, must be analyzed when judging VFM in concession arrangements. This will be done for the two national contexts in which the studied projects operate, as well for the immediate contexts of each individual project. In the policy rhetoric, the policy and the political context is given, including the decisions that were made in the initial stages of the project regarding design and service flexibility. The financial contexts of the hospital concession projects will also be described.
The legal contract will be analyzed to determine how flexibility is allocated between the public and private sector partners in the specific cases. Flexibility-related issues are established in the contract specifications between the awarding authority and the SPV. In the risk allocation matrices, established in contracts, it becomes clear who is responsible for dealing with change.
Finally, the operational outcomes are about whether flexibility has also been an essential issue in practice, based on experience to date. Did the risk-shifting specified in the contract occur in practice? This means analyzing whether the flexibility risks allocated to the parties in the operational outcomes of the concession arrangement are largely as agreed through the contract.

Flexibility will be analyzed on a project-by-project basis. The assumption is that each project will have a different provision regarding flexibility issues which needs to be thoroughly analyzed and understood. It is also important to recognize that the appropriate distribution of demand risk is dependent on the resources and the capabilities of the parties to a contract, and that this can vary considerably. Given the above problems, and the

underlying structure of concessions, flexibility is analyzed in several case studies. The overall objective of the case study research is to assess the process and the rationale underpinning the distribution of flexibility as it is related to demand risk. Cases will be judged upon their ability to adapt to changing clinical demand since flexibility depends on an uncertain context.

5.5 Conclusions

This chapter constitutes the transition of the first part of the study which was based on a literature review outlined in the previous chapter and the empirical part of the study, which is outlined in the subsequent chapters. It was aimed at a further operationalization of the VFM framework presented in Chapter 4 and therefore is supportive to the answer given to the second research question that was formulated: *how can the motivations of hospital concessions in terms of performance be operationalized?*

Hospital concession arrangements should consider demand risks due to the characteristics of the facility assets, their dynamic contexts, and the structure of concession arrangements in general. The effects of demand risks materializing are however significant. The hospital facility could become outdated, the awarding health authority could become locked-in to the SPV, and its creditworthiness could be endangered. Flexibility in the hospital concession arrangement is therefore considered essential.

Three different types of flexibility are distinguished and identified as indicators representing overall flexibility of the concession arrangement: design flexibility, service flexibility, and financial flexibility. These types have been modeled in an initial process model, based on literature, which is shown in Figure 11.

It is not clear to what extent concession arrangements undermine the ability to respond to a changing consensus about the configuration or desired level and quality of services in the future. Whether the building and the ancillary services are supportive of clinical services delivery in the future is uncertain. This will be analyzed through case study research in the next phase of the overall research.

Chapter 6

Case studies England, United Kingdom

The first phase of this research consisted of a literature review that was needed to develop a framework to assess VFM in hospital concessions. This framework was developed and discussed in Chapter 4. In the previous chapter, parts of this framework were selected for further empirical analysis.
In this chapter, the first part of the empirical study towards the performance of hospital concessions in practice is presented. As such, the chapter concerns the description of the result of the fourth research stage: the data collection. The research question guiding the empirical study of the current chapter is: *What is the empirical performance of concession projects applied in hospitals?*
As the empirical field chosen for this study is hospital concessions, the empirical study is conducted in this particular field. Based on the fact that England is the front running in adopting these arrangements, the English health context is selected as the first context from which hospital concession projects are derived that form the basis for the empirical research.

6.1 The healthcare context in England

6.1.1 The organization of the health sector

In England, healthcare is primarily provided by the public sector. This is different from many other developed countries where systems have been adopted in which the private sector plays a greater role (Akintoye & Chinyio, 2005). The National Health Services (NHS), which is responsible for approximately 85 per cent of healthcare expenditure in England, is the body through which public sector healthcare is provided. Private healthcare providers in England, for which people pay either through insurance or when they use their services, capture the other 15 percent. Healthcare provided within the NHS is free at the point of need. The NHS is funded through general taxation and is run by the Department of Health (DoH).

Health services in England are divided into 'primary' and 'secondary' care. Both forms are provided by local NHS organizations called 'Trusts'. Primary care refers to the activities of health providers who act as a first point of consultation for patients and is provided by Primary Care Trusts (PCTs). There are currently about 150 PCTs in England, which are responsible for providing primary care in their own specific area. PCTs receive about 75 per cent of the total NHS budget. They decide what health services their area needs and have responsibility for ensuring these are delivered efficiently. Nowadays, PCTs also control funding for secondary care as they 'purchase' secondary care services for their area. Secondary care refers to specialized services such as hospitals, ambulances and mental health provision. Such care is delivered by 275 NHS Trusts in England. These Trusts run most hospitals and are responsible for specialized patient care and services. The responsibility of these NHS Trusts is to ensure that hospitals provide high quality healthcare efficiently. They employ most of the NHS workforce. The various types of NHS trusts include:

- Acute Trusts that look after hospitals that provide short-term care, such as accident and emergency, maternity, surgery, and x-ray services;
- Care Trusts that work in both health and social care and can provide a variety of services, such as mental healthcare. They are generally set up when the NHS and a local authority decide to work closely together;
- Mental health Trusts, providing care such as psychological therapy and specialist medical and training services for people with severe mental health problems;
- Ambulance Trusts, which are responsible for providing transport to get patients to hospital for treatment;
- Foundation Trusts, which are politically viewed as high-achieving NHS Trusts with hospitals that can effectively run themselves. Although they are part of the NHS and patients receive free healthcare, Foundation Trusts have more freedom, financial flexibility and less central control and monitoring than other NHS Trusts. They are owned by their community, local residents, employees and patients and have the power to manage their own budgets and shape their healthcare provision according to local needs and priorities. The government hopes that by 2008 all NHS trusts will be able to become Foundation Trusts.

PCTs and NHS Trusts are directly accountable to the Strategic Health Authorities. There are currently ten Strategic Health Authorities, which replaced district health authorities in 2002, and are responsible for monitoring whether or not Trusts are meeting their targets. The Strategic Health Authorities are answerable to four Directorates of Health. These directorates in turn report to the board of the DoH. The Secretary of State for Health assumes overall responsibility for the DoH.

6.1.2 Healthcare funding before and after 1991

Until 1991, the district health authorities set the planning for hospitals and their services. Every year these health authorities received a block of funding, which was allocated on the basis of bed capacity estimates using population-based measures. From this they had to allocate funds to all healthcare providers in their area on the basis of the needs of the public. Primary and secondary care providers likewise received their funding in the form of an annual lump sum. There was no invoicing or contracting, although all expenditure was published in detailed annual accounts (Pollock, 2005). Primary care providers had freedom to refer patients to those secondary care providers they judged most appropriate.

In 1991, the internal market was introduced, also known as the purchaser–provider market. This implied that the link between the allocation of funding and meeting residents' needs and service priorities was broken. Instead of the system described above, hospitals became financially independent corporations and were required to generate sufficient income to break even. Assessments of clinical need by the district health authorities were replaced by the Trusts' own assessments; and spending was justified in financial and economic terms, not in terms of service need (Broadbent et al., 2004). Block funding was abandoned and the hospitals' main source of income became contracts placed by PCTs; the rest came from private patients and income generation activities. These contracts had to be negotiated with health authorities and PCTs, in competition with other hospitals. Patients could only go to facilities where PCTs held contracts for healthcare. Some health authorities have placed strict limits on what care would be provided, and their hospitals had to seek authorization before proceeding to treat certain categories of patients.

6.1.3 Capital funding within the NHS

In 1948, on its founding, the NHS inherited a large stock of capital assets reflecting the uncoordinated development of hospital services before the Second World War (IPPR, 2000). In 1962, the first steps were taken towards the development of hospital building plans that fitted the role of the hospital as it had emerged in the post-war period. The central concept in the plans was the establishment of general district hospitals that could meet nearly all the needs of the local population. As a result, existing hospitals became redundant or were converted into other health uses.

The process of establishing a network of appropriate hospital buildings was seriously affected by the reduction in hospital capital spending during the economic crises of the mid 1970s. It became apparent that, in many areas, the merger of hospitals onto one site would have to be delayed. The emphasis was placed on incremental change. As a result, the typical hospital site in that period was a clutter of ad hoc developments. Furthermore, because the process of obtaining capital was slow, schemes were sometimes out-dated before they were commissioned. The process itself was inefficient: cost over-runs were common and were, to an extent, encouraged by the process itself (IPPR, 2000). Proposed capital investments tended to underestimate the costs of the developments in order to increase the chance of

getting accepted as part of the capital program. Once schemes had been accepted, there was every incentive to press for changes to the original design.

Even though capital was 'scarce' within the NHS, until 1991 it was effectively 'free' to the hospitals and community services employing it. There was no incentive in these arrangements to make good use of existing assets by selling off obsolete sites or to design schemes based on their long-term costs. From 1991 onwards, a system of capital charging was introduced: every NHS hospital has to pay the Treasury an annual charge based on the value of their stock (land, building and equipment). This capital charge includes a charge for depreciation, equal to a 3.5 percent (formerly 6 percent) return on their assets valued at current replacement cost (Edwards et al., 2004). To make these capital charges to be affordable to Trusts, funding to health authorities was increased by an amount reflecting the average level of capital charges in England. When a Trust is efficient, it gains a surplus, but Trusts that are less efficient are penalized by the system. The trouble is that trusts have inherited widely differing amounts and quality of capital assets. Valuable inner-city sites, with high market values, acquire a relative high capital charge, but this charge cannot be recovered by charging the local health authority or other purchasers correspondingly more for its services. The introduction of capital charging means that Trusts have an incentive to move to concession arrangements, since this moves assets off the balance sheet and hence reduces capital charges.

6.2 Concessions in the English health sector

Before 1997, concessions were mainly applied to economic infrastructure in England. In areas such as health and schools, legal problems regarding the status of health trusts and local authorities delayed deals while, more generally, the bidding procedures were widely criticized as costly and time-consuming (Winch, 2000). The main reason being that the financiers of such deals were not confident that the operational legal framework then in force provided the certainty they needed. There was much uncertainty about the legality of NHS Trusts entering into concession contracts, and concerns as to which organizations would cover debt charges if the Trusts became insolvent. At the time of the general elections in May 1997, hospital concessions were in difficulty. There was a change after the Labour party had been elected: bidding procedures for PFI were overhauled and legislation was introduced to clarify the status of health Trusts, PFI in health then started to emerge.
In 1997, the first wave of hospital projects which proceeded to financial agreement concerned 14 PFI hospital projects, worth an estimated £1.3 billion. Initially, more projects were submitted for approval, but it was decided to limit the number of projects in the first wave of hospital PFIs. In 1999, Gaffney et al. (1999b) coined the expression that PFI was 'the only game in town'[18] for Hospital Trusts wishing to access capital for the purpose of hospital rebuilding and replacement. It is thus no coincidence that the NHS is now by far

[18] This is a term commonly used by all involved in concessions in the UK to suggest that it is the only means of guaranteeing the provision of major property-based services (Broadbent et al., 2004)

the leading exponent of PFI. It is the largest hospital building program in the history of the NHS: since 1997, 126 PFI hospital building projects worth more than £15 billion have been approved, 85 of which have reached financial agreement (Hellowell & Pollock, 2006). In contrast, between 1980 and 1997 only seven major health projects were realized (Gaffney & Pollock, 1999). In the figure below, an overview is given of the scale of PFI in the English healthcare system.

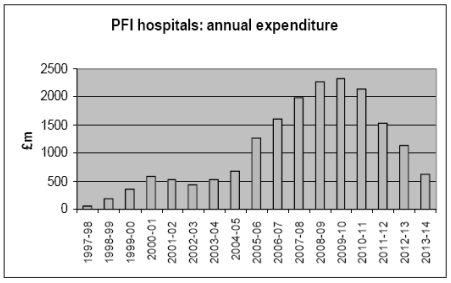

Fig. 12: The scale of PFI in the NHS (Barlow, 2006)

PFI is currently being used in the health sector to deliver projects (new hospitals, homes for the elderly, staff accommodation, residences, office blocks, community hospitals, primary healthcare schemes), services (energy management schemes, IT systems, catering, integrated management systems, radio control systems) and equipment (generators, boiler plants, magnetic resonance imagers). PFI health facility provision includes new build, conversions, redevelopment, site rationalization, centralization, and modernization works to meet project demands (Akintoye & Chinyio, 2005).
In the last ten years, 87 percent of English hospital projects have been delivered through PFI (Hellowel & Pollock, 2007). Further growth is signaled in the 2007 Budget report.

The procurement process for concessions in the NHS is structured in two stages. The first stage involves the preparation, and submission to the DoH, of the Outline Business Case (OBC). In this document, the NHS trust makes the case for the proposed investment and gives an estimate of the capital cost based on standard NHS costing. The OBC thus provides a benchmark for the proposed investment under traditional procurement. If the DoH approves the proposal, the Trust is required to seek a private finance partner. This is the beginning of PFI procurement process. The Full Business Case (FBC), which has to be approved by both the DoH and the Treasury, presents the design offered by the private sector and compares its costs with those of traditional procurement, based on the estimates in the OBC (Gaffney & Pollock, 1999).

In recent years, various policy documents have been introduced to foster the use of PFI in health. An overview is given in Table 5.

Tab. 5: UK policy documents relevant to PFI in health (adopted from NAO, 2007b)

Year	Policy document/event	Underlying rationale of policy	Thrust of reforms
1994	NHS Executive Capital Investment Manual	Reflection and reinforcement of previous developments in the NHS concerning capital investments. Without these capital arrangements no capital investment would be approved	Provides guidance for all stages of capital investments Provides a framework for establishing management arrangements
1999	Standardization of contracts (SoPC)	Treasury guidance	Provides a commentary on the issues to be considered when drafting a PFI contract but excluding required clauses so as not be too prescriptive
2003	HM Treasury: Meeting the investment challenge	Sets out the evolving role of PFI in delivering cost-effective investment in public services.	New limits on its appropriate use. Proposed improvements both to the process of assessing VFM and to the systems for delivering projects
2005	DoH: PPP in NHS: the PFI	DoH's own guidance for the NHS on implementing the Treasury's updated value for money guidance (2004)	Revised accounting treatment of PFI schemes The appointment of a preferred bidder has replaced FBC as the key formal approval stage New guidance on the treatment of equipment in PFI projects
2006	Strengthening long-term partnerships	Sets out the Government's approach to its PFI investment program and strengthening partnerships with the private sector for the long-term.	Re-affirmation that projects needed to be properly developed before going to the market. Greater scrutiny of projects before preferred bidder selection Improving procurement skills through better training
2006	Treasury new guidance		Best practice to be adopted during a benchmarking/market test.

6.3 The case study design

As described in Chapter 2, four hospital concessions are selected for inclusion in the case study research. These projects vary in scale, scope, and in the date of implementation as can be seen in Table 6. Other facility characteristics of these projects are also summarized in the same table.

Tab. 6: Facility characteristics of the PFI hospitals selected for the case study research

Facility Characteristics	Darent Valley hospital	Queen Elizabeth Hospital	Norfolk & Norwich hospital	St George Hospital
Project summary	Relocation of three old hospitals onto one new site	Replacement of old hospital sites on existing hospital site	Relocation of two major hospital sites to a greenfield site	Relocation of two clinical departments previously provided on several sites to new wing of existing hospital.
Type of contract	PFI (DBFO)	PFI (DBFO)	PFI (DBFO)	PFI (DBFO)
Capital value	£ 94 million	£ 96 million	£ 158 million	£ 46 million
Date of financial close	July 1997	July 1998	January 1998	March 2000
Contract period	Originally 28 years. Currently (after refinancing the project) 35 years post-construction	Initial period of 30 years, with an option to extend by two 15-year periods	Originally 30 years post-construction. After refinancing 35 years post-construction	35 years after construction period
Awarding authority	The Dartford & Gravesham NHS Trust	Queen Elizabeth Hospital NHS Trust	Norfolk & Norwich University Hospital NHS Trust	St. George's Healthcare NHS Trust
Consortium	The Hospital Company (THC) owned by Barclays UK infrastructure, Innisfree, and United Medical Enterprises Investment. DC contract awarded to subcontractor Carillion (formerly known as Tarmac)	Meridian Hospital Company (MHC), owned by Innisfree Fund and Laing Investments. Management services are contracted to Healthcare Projects. Technical services to Equion	Octagon Healthcare, owned by Laing Investment Limited and General Health Care Group plc (now Serco). Serco are the facilities managers for Octagon. The builder is Laing, now Laing O'Rourke (DC contract)	Blackshaw Healthcare Services (BHS). The consortium is led by the Canmore group and construction by MJ Gleeson (DC contract), and financed by Lloyds TSB plc combined with equity funds from Edison Capital. Both hard and soft FM subcontracted to Johnson Workplace Management Limited

The emphasis is the English case study is on analyzing the demand-risk-related performance in hospital concessions from three levels: the policy rhetoric, the legal contract, and also from operational outcomes. The projects are therefore investigated on these three levels. The political rhetoric is broadly described by the general guidelines and the policy initiatives underlying the concession arrangement. The rhetoric concerns the policy and political context of the individual concession arrangements, including the decision-making regarding the extent of flexibility accommodated in the concession arrangement. The legal contract is analyzed to determine how flexibility is allocated between the Trust and the SPV in the specific cases. The operational outcomes reflect how performance has been accomplished in practice, based on project experience to date.

The data needed to outline concession performance from the three levels stem from different sources, as can be seen in Table 7.

Tab. 7: Case study protocol English cases

Design flexibility			
Policy rhetoric	**Type**	**Case study question**	**Data source**
	Strategic /tactical design flexibility	How was the capacity of the hospital set?	Indirect data: official policy documents (National Audit Office, memoranda to the health committee), data triangulation with scientific articles.
	Financial flexibility	Is the capacity completely driven by patient activity?	Indirect data: official policy documents (a.o. National Audit Office)
Contract	Strategic design flexibility	What is the capacity of the hospital?	Direct data: outline and full business case of the project. Indirect sources: scientific articles, magazine articles (a.o. Hospital Development)
	Strategic design flexibility	Does the design addresses long term department issues (e.g. space for future development in a good functionality to the new facility)?	Direct data: outline and full business case of the project. Indirect sources: scientific articles, magazine articles (a.o. Hospital Development)
	Strategic design flexibility	Which of such provisions are incorporated?	Direct data: outline and full business case of the project. Indirect sources: scientific articles, magazine articles (Hospital Development)
	Tactical design flexibility	Does the building offer temporal provisions to be able to respond to changes in demand for clinical services?	Direct data: outline and full business case of the project. Indirect sources: scientific articles, magazine articles (a.o. hospital Development)
	Tactical design flexibility	Which of such provisions are incorporated?	Direct data: outline and full business case of the project. Indirect sources: scientific articles, magazine articles (a.o. hospital Development)
	Tactical design flexibility	Are there any sanction or bonus agreements to incentivize the private sector partner to improve quality of services or building over the lifetime of the project?	Direct data: outline and full business case of the project. Indirect sources (for data triangulation purposes): scientific articles
	Strategic and tactical design flexibility	What is the contractual mechanism to effectuate design change?	Direct data: outline and full business case of the project. Indirect sources (for data triangulation purposes): scientific articles, evaluation reports of accounting offices.
Operational outcomes	Strategic and tactical design flexibility	Are both parties working together to identify improvements in the design?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices, scientific articles. Board meeting minutes (whenever available from start operational phase – 2006).
	Strategic and tactical design flexibility	Is the facility able to cope with the demand? Are the projections of demand of users well determined in relation to the catchment's area?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices. Evaluation reviews of independent bodies (King's fund), scientific articles, board meeting minutes (whenever available from start operational phase – 2006).
	Strategic /tactical design flexibility	Has design flexibility been an issue in practice yet? And if so, were there any problems dealing with changes while keeping the facility operational?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices, board meeting minutes (whenever available from start operational phase – 2006).
Service flexibility			
Policy	**Type**	**Case study question**	**Data source**

rhetoric	Strategic service flexibility	Were there any considerations concerning the scope of services that would be included in the concession?	Indirect data: evaluation reports, policy documents. Data triangulations with Internet sources, magazine and newspaper articles.
Contract	Strategic service flexibility	What is the scope of the ancillary services under the concession arrangement?	Direct data: outline and full business case of the. Indirect sources (for data triangulation purposes): scientific articles, evaluation reports of accounting offices.
	Strategic service flexibility	What is the contractual mechanism for changing the service scope of the contract?	Direct data: outline and full business case of the project. Indirect sources (for data triangulation purposes): scientific articles, evaluation reports of accounting offices.
	Tactical service flexibility	Are there adequate processes to temporally change the availability fee ancillary services (and their payments) in response to changes in the market?	Direct data: outline and full business case of the project. Indirect sources (for data triangulation purposes): scientific articles, evaluation reports of accounting offices.
Operational outcomes	Strategic service flexibility	Has the awarding authority established the process and timing of market-tested yet?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices, board meeting minutes (whenever available from start operational phase – 2006).
	Strategic service flexibility	What are the outcomes?	Indirect data: annual reports of health authorities (NAO), board meeting minutes (whenever available from start operational phase – 2006).
	Strategic service flexibility	Has the health authority yet changed the scope of services transferred to the SPV during the period studied in this analysis? How?	Indirect data: annual reports of health authorities (NAO), board meeting minutes (whenever available from start operational phase – 2006).
	Tactical service flexibility	Has tactical service flexibility been an issue in practice yet? And if so, were there any problems dealing with changes while keeping the facility operational?	Indirect data: annual reports of health authorities (NAO), board meeting minutes (whenever available from start operational phase – 2006).
Financial flexibility			
Policy rhetoric	**Type**	**Case study question**	**Data source**
	Affordability	What were the financial implications of implementation of the concession arrangement at the time the business case/project agreement was signed?	Indirect data: Evaluation reports of official accounting offices (Health select committee, HM Treasury, House of Commission questions). Data triangulation with scientific articles.
	Affordability	Was the concession affordable at the time the business case/project agreement was signed?	Indirect data: Evaluation reports of official accounting offices (Health select committee). Data triangulation with scientific articles.
	Affordability	What was done, if necessary, to increase the affordability of the concession?	Indirect data: Evaluation reports of official accounting offices (Health select committee, House of Commission questions). Data triangulation with scientific articles.
	Affordability	How is the concession arrangement been financed by the SPV?	Indirect data: Evaluation reports of official accounting offices (Health select committee, House of Commission questions). Data triangulation with scientific articles.
Contract	Affordability	What is the clause on sharing refinancing gains?	Direct data: outline and full business case of the project.
Operational outcomes	Affordability	What is the percentage of the health authorities' income that has to be paid to capital charges/concession arrangement?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (Health select committee), board meeting minutes (whenever available from start operational phase – 2006).

	Affordability	How much did this percentage change before and after the implementation of the concession arrangement?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (Health select committee), board meeting minutes (whenever available from start operational phase – 2006).
	Affordability	Has the health authority the necessary resources to meet the unitary charge to the SPV?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (Health select committee), board meeting minutes (whenever available from start operational phase – 2006).
	Affordability	Is it likely that the project is affordable over the duration of the contract? Or:	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (Health select committee), board meeting minutes (whenever available from start operational phase – 2006).
	Affordability	How is the flow of financial resources within this project organized?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (Health select committee, NAO), board meeting minutes (whenever available from start operational phase – 2006).
	Affordability	Has there been any additional financial support to make the scheme affordable to the health authority?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (Health select committee, NAO), board meeting minutes (whenever available from start operational phase – 2006).
	Affordability	If so, are the financial consequences allocated according to contract specifications?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (Health select committee, NAO), board meeting minutes (whenever available from start operational phase – 2006).
	Effect use flexibility on unitary charge	Has the unitary charge been changed due to design or service variations?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (a.o. NAO), board meeting minutes (whenever available from start operational phase – 2006).
	Effect flexibility unitary charge/ affordability	Has a refinancing, with a relevant share of gains, taken place where possible?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (a.o. NAO), board meeting minutes (whenever available from start operational phase – 2006).

The data collected for describing the policy rhetoric are mainly a mix of direct and indirect data. The direct sources used were mostly business cases developed for the projects. Data were also derived from indirect sources, in particular annual reports of Trusts, but also evaluation reports of the National Audit Office (NAO).

The data needed for reviewing the contract level, mainly stem from direct data consisting of outline and full business cases. These extensive business cases consist of many volumes, count hundreds of pages, and are difficult to fathom due to juridical language and a quest of the contract arrangers to preserve from claims that might arise in the unexpected future. In Appendix II, an example of an English hospital concession contract is represented. A concession contract is unraveled for research objectives by analyzing specifically the sections that are related to demand-risk-related VFM. These sections are in particular

found in Parts 3 and 4 of the FBC and Appendices A, L, M, N, P, O, Q and R. These sections include provisions representing the way the awarding authority and SPV have allocated demand risk and the way they should act upon materialization of demand risk and related issues. These provisions were analyzed and used to describe the intended accomplishment of demand-risk VFM in an English hospital concession. Outline and full business cases are predecessors of the ultimate project agreements, and are mostly not disclosed to the public. In this research access to these business cases was granted by another researcher who has made tremendous efforts to obtain possession of these business cases. Due to the commercial confidentiality, only limited, predominantly non-financial, data are made public in these business cases.

The data collected to describe the operational outcomes of the project mainly stem from indirect data, including official evaluation publications, annual reports and accounts of NHS Trusts, government and private sector reports, respected newspaper articles, journal articles and conference papers. Further, all publicly available Trust board meeting minutes starting from the beginning of the operational phase (whenever available) up to the end of the financial year 2005-2006 are analyzed in order to find empirical data on flexibility related issues.

In some cases, direct and indirect data have been supplemented with semi-open interviews with key project stakeholders from the public and private sectors with practical experience of hospital concessions and practically involved in the selected hospital concessions projects. It appeared, however, unfeasible to conduct interviews with key stakeholders in all concession projects included in the case study, mainly due to a lack of willingness of stakeholders to participate in such an interview. The information derived from the few semi-open interviews that were held could not directly be used in the empirical analysis due to the requirement of stakeholders to maximize their anonymity. Although this was a limitation of the study, the insights derived from the interviews could be used to systematically for triangulation purposes: these have been used to supplement the direct and indirect data of projects.

6.4 Darent Valley Hospital

The time path of the Darent Valley Hospital is shown in Figure 13 below as on overview of the project.

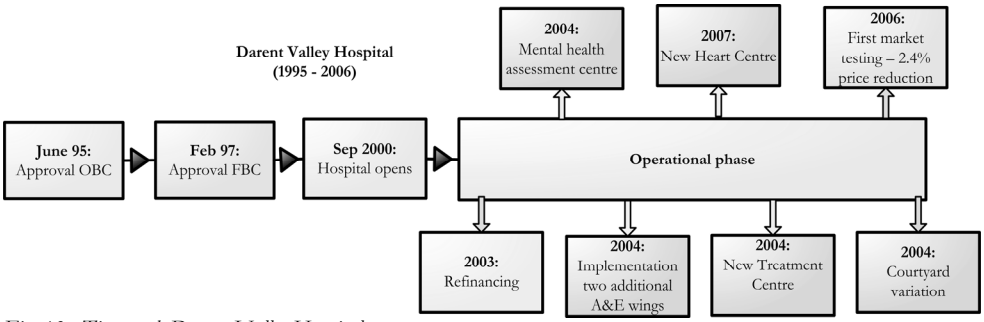

Fig. 13: Time path Darent Valley Hospital

6.4.1 Policy rhetoric

Over a period of 25 years, the Dartford and Gravesham NHS Trust had made several attempts to find the resources to build a new hospital. The new hospital was to replace services previously provided on three relatively old sites, which were all in need of major maintenance. These three hospitals also represented a poor use of resources because of their locations on different sites. All attempts were unsuccessful (Broadbent et al., 2005). As the public sector procurement route was perceived as unrealistic due to a lack of available NHS funding, a PFI project was seen as the only feasible alternative in realizing a new hospital. The PFI option was approved in 1997, and became the first PFI hospital awarded within the first wave of hospital concessions. Apart from the Gravesend Community Hospital, the Darent Valley Hospital is the only hospital within the responsibility of the Trust.

The Trust started paying for the hospital in September 2000 when the hospital became fully operational. The PFI planning process enabled the hospital to be built in 44 months, which is fast for this type of hospital project. The Trust estimated that being able to make early use of the hospital, two months before it was obliged to make payments, produced a benefit of around £2 million. The constructor, sub-contractor Carillon, made a loss on the medical and engineering work and it only broke even on the project as a whole (NAO, 2005a).

Design and service flexibility

Design flexibility was a big issue from the beginning of the project. A point of concern was the necessary capacity of the new hospital. At the time the OBC was developed, the West Kent Health Authority[19], which was the principal purchaser of the Trust's clinical services,

[19] West Kent Health Authority and East Kent Health Authority merged on 1 April 2002 to create the Kent and Medway Strategic Health Authority. NHS South East Coast was formed on 1 July 2006 following the merger of Kent and Medway Strategic Health Authority with Surrey and Sussex Strategic Health Authority.

had only recently been formed (in 1994) and had not yet developed a detailed strategy for health services in the area. It was only after the decision for PFI had been taken (in 1997) that the health authority finalized its strategy for the area. Its view was that the new hospital should not have more than 400 in-patient beds, taking into account the cost and demand for services (NAO, 1999b). The available capacity in the Trust's area before the implementation of the PFI project was more than 500 beds (Gaffney & Pollock, 1999).
However, the PCTs in the immediate environment of the hospital were of the opinion that they were not adequately equipped to accommodate the growing demand for hospital services. The GPs in the area had supported the need for a new hospital, but raised concerns over the likely capacity of the new hospital. Almost 60 percent considered that the size of the new hospital would be inadequate. They expressed concerns that there would not be enough beds in the new hospital and that the new hospital might be too small if the area's population increased given the long-term (at least 25 years) contract.

Financial flexibility

The implementation of the PFI project implied a decline in financial flexibility for the Trust. This was essentially due to the capital cost of the PFI. The total capital cost of the PFI hospital during the OBC stage (March 1995) was given as £96 million (DGT, 1995). In the FBC (approved January 1997) it was stated that the cost was estimated at £94 million (DGT, 1998). The Trust had further estimated that the discounted cost of the contract would be £177 million (in 1996 prices) over the first 25 years that the hospital is in operation. The discounted cost had to be covered by the SPV, while the Trust would repay the total debt over 30 years. It was assumed that this would be revenue neutral for the Trust. The financial implications of the PFI implementation at the time of signing the contract with the SPV are summarized in Table 8.

Tab. 8: Pre-PFI versus PFI charges

	1998/99* Pre-PFI	**Post-PFI (expected for first fully operational year)***
PFI charges expected in FBC (£m) (House of Commons written answer, 19 April 2002)	Non-existent	16.6
Capital charge + depreciation and PFI availability fee in real (£m)	Depreciation = 2.49 Dividend on PDC = 1.48 Total = 3.97	PFI availability = 11.07* Depreciation = 2.55 Dividend on PDC = 4.33 Total = 17.95
Income (£m)	59.11	57.78
Pre PFI charges/income compared with post PFI charges/income	6.7 %	31.07%

** Source: DoH (2000)*

Before the application of the PFI, the Trust had to pay a total of £3.97 million for its capital assets, which consisted of a PDC charge and depreciation charges. Implementation of the PFI scheme would involve an increase in capital charges to £17.95 million. Instead of only paying capital charges for the new PFI hospital to the DoH, also a PFI availability charge would have to be paid to the SPV. During the FBC, this availability charge was estimated at £11.07 million. As the remaining capital assets on the balance sheet of the Trust are not excluded from the capital charge system, depreciation and PDC charges still have to be paid as well. Using the actual changes in the PDC and depreciation charges in the first full operational year of the PFI, the total capital-related charges come to £17.95 million. Considering the increase in income during the implementation period of the PFI, the resulting increase in capital charge, related to income, is significant: from 6.7 percent pre-PFI to 31.07 percent post-PFI. As a greater part of the Trust's income would be spent meeting capital charges, the financial flexibility of the Trust would be reduced.

When approving the FBC, the West Kent Health Authority calculated that the hospital would at least be revenue neutral for the authority and the Trust. During the tendering process, it became evident that additional finances would be needed to meet the costs of the new hospital. The proposed annual capital charge of £17.95 million was more than the Trust could afford to pay, which resulted in an 'affordability gap'. According to West Kent Health Authority, this gap was partly the result of additional costs after the FBC stage as well as inaccurate estimates of the Trust's income. These arose mainly as a result of the following factors (NAO, 1999b):

- The profile of the payments under the PFI contract is greater over the first 25 years of the 60-year project than the charges that the Trust would have to bear under conventional hospital provision;
- The NHS Executive determined that the value of the land used in the PFI scheme should be charged to the Trust's accounts at £1 million a year over the first 25 years of the contract. A key component of the concession arrangement was the inclusion of £21.9 million in the PFI deal, generated through the disposal of three surplus land sites (the two redundant hospital sites and surplus land on the Darent Valley site). Both the Trust and the SPV are of the opinion that without this revenue they would not have been able to proceed with the project.
- The FBC had not initially reflected the transfer of some specialist services, which resulted in a reduction in Trust income of £1.2 million.

To close the affordability gap, the Trust and the SPV agreed to make annual savings under the so-called 'smoothing mechanism' of £0.7 million in the unitary charge and, as a consequence, the additional financial support needed to meet revenue costs was ultimately assessed at £4 million a year. This was provided by the West Kent Health Authority (£2 million), the NHS Executive (£1.0 million) and the Trust itself from its allocation for capital maintenance (£1.0 million). The West Kent Health Authority and the NHS

executive were still satisfied that the new hospital provided good VFM and offered significant health benefits (NAO, 1999b).

6.4.2 The contract[20]

As this was the first health concession arrangement, and best practice on contractual terms had not been established, both parties to the contract had to develop and negotiate terms on how flexibility should be incorporated in the contract.

Design flexibility

Strategic design flexibility

In the contract between the Trust and the SPV, agreements on the design of the hospital were established. The design involved a reduction in the total space available compared with the total of the former hospital facilities of the Trust, which allied with building standards of the NHS.

The hospital was designed for 400 beds on a site of 200 acres. To accommodate changes, the whole hospital is designed as a two/three storey flexible matrix, served from a large central atrium and hospital streets. The repetitive frame structure, concentration of plant rooms on the roof, and the regular pattern of courtyards allow the hospital to adapt to change (Nightingale, 1999). The structure of the hospital allows future horizontal extensions.

If the hospital needs to be converted into a lower tech community hospital in the future, this could be done by using one side of the building as a smaller hospital and the other either as an acute diagnostic center or a research facility. The more-likely scenario of evolution into a specialist referral center would mean less beds and ambulatory care, and more specialized facilities (Nightingale, 1999).

Tactical design flexibility

The hospital design also includes a degree of tactical design flexibility, as the hospital is able to accommodate change without altering the overall size. The hospital is designed to fit the Trust's service concept for a facility, which minimizes the requirement for inpatient beds and maximizes the role of ambulatory care. The design reflects the prevailing 50:50 ratio of inpatient and day care treatment. However, it was projected that, over the first twenty years of the arrangement, that this ratio would change to 20 percent inpatient and 80 percent day-care treatment.

Further, patient hotel facilities promote the efficient use of inpatient beds. The layout can be adapted to cater for future requirements and expansion. For example, the hospital currently has 'soft' areas, such as offices, located next to high-tech facilities like endoscopy, so that the latter could expand into the former if required.

[20] This section is mainly based on the analysis of the FBC of the Darent Valley Hospital (DGT, 1998).

Procedures to effect design flexibility

The procedure to affect design flexibility is composed of several steps and is embedded in the contract. At any time, the Trust can change the scope of the facility or the size of the hospital. However, in this event, the Trust has to agree a cost impact. For Trust changes, the SPV needs to reach an agreement regarding compensation, and the Trust has to demonstrate sufficient financial resources to fund any proposals. If this cannot be shown, the SPV can refuse to implement the changes.

If the Trust wishes to commission additional building facilities then it has the flexibility to choose the method of procurement, although SPV approval is needed if the work is to be contracted outside the arrangement between the Trust and SPV, except where it relates to a proposed free-standing building on the site. Where the Trust wishes to consider commissioning additional building work under the contract, it can invite the SPV to submit proposals. The Trust can take steps to test whether the proposed pricing for the building work provides VFM, for example by requiring the SPV to obtain alternative quotations for the building work. If the SPV cannot obtain funding for the work on reasonable commercial terms, the Trust may pay for the additional work using funding mechanisms other than the PFI. These arrangements are designed so that, in theory, the terms for additional work should not be less favorable than under conventional procurement approaches where the Trust could tender for competitive quotes for any additional facilities (NAO, 2005a).

Service flexibility

Strategic service flexibility

In the contract it is stated that, besides the building management and maintenance services, the SPV is responsible for the provision of the following ancillary services: catering, switchboard, domestic services, portering, internal security, linen and laundry, and pest control. The Trust is allowed to propose additions, changes, and reductions to these soft services. If any additional service is needed, and the Trust and SPV cannot agree on the terms, the Trust can ask the SPV to tender in competition with others for the right to provide the additional service. If a new service provider is appointed, the Trust has to indemnify the SPV against any reasonable costs it may suffer as a result of the new arrangement.

In order to check whether the services transferred to the SPV are reasonable at all times, the contract has mechanisms to ensure comparability. At five-year intervals, the SPV must propose a new figure for the performance-related payments for all services except those relating to building management and maintenance. The Trust has the option to require the SPV to carry out a benchmarking exercise to compare the proposed price with comparable services within or outside the NHS. Whenever the views of the two parties cannot be aligned, the Trust can demand the SPV to undertake market-testing to identify new sub-contractors to provide the services at competitive prices. If no agreement is reached, then the disagreement can be referred to the contract's dispute resolution procedure.

Tactical service flexibility

During the minimum contract period (covering the first 32 years of payments) the availability payment is fixed in real terms. Payments to the SPV can only be reduced if areas of the hospital are not used because the SPV has failed to make them available. If the size of the hospital, or the scope of the service, is reduced, which the Trust considers as highly unlikely given the current pressures, the availability payment cannot be reduced. Originally, the contract contained a provision saying that if the Trust reduced their usage of the hospital it would receive a cost reduction to the extent that the SPV is able to avoid expenditure. In a later stage this provision was changed (NAO, 1999b). The SPV is now only prepared to accept reductions in the availability payment if there is a corresponding relaxation in the standard the building has to be in when the SPV hands it back to the Trust at the end of the contract period. The SPV has also given an explicit undertaking to its bondholders that there will be no reduction in the availability payment if the size of the hospital is reduced. The availability fee can however be adjusted if the Trust asks the SPV to increase the level of facilities provided.

The contract further reveals that the risk of the demand falling to such an extent that the hospital closes is shared between the Trust and the SPV. However, the Trust bears this risk for the first 25 years of the hospital's operation. After 25 years, and in every fifth year thereafter, the Trust can terminate the contract if both partners agree to close the hospital. In that event, the SPV will receive no compensation and will remain responsible for the building for the remainder of the lease of the site.

After the first 32 years, the availability payment will be renegotiated every five years in line with the SPV's expected costs for operating and maintaining the facility. If the Trust is unable to agree with the SPV's prices at these renegotiation reviews, the parties may use the contract's disputes resolution procedure.

In principle, the Trust thus has to pay for a fully maintained contract for the first 32 years, even if the demand for the SPV services declines in this period. The cost of terminating the contract would be a major consideration for the Trust in deciding whether to do so. In the contract, it is stated that the termination payment would include the capital cost of building the hospital (to the extent that the related borrowings are still outstanding). The amount payable also provides some level of compensation to both the SPV's bankers and their equity investors, and may also include part of the additional finance obtained by the SPV to effect the refinancing.

If the performance of the SPV in making the hospital available for clinical use is seriously deficient, or the SPV fails significantly to meet the specified performance standard, the Trust may terminate the contract, although the Trust still has to pay compensation in that case. The Trust may initially require the SPV to appoint a new sub-contractor if their

performance is any service area is assessed at less than 70 percent of the at required for al least two months, or between 70 and 75 per cent for a longer period. The Trust may then terminate the contract with the SPV if it has had to ask it to replace four sub-contractors within a three-year period.

6.4.3 Operational outcomes

During the first six years of the operational phase of the hospital (2000–2006), several changes occurred within and beyond the hospital context.

First, the demand for clinical services increased. For example, the demand for Accident & Emergency services in the hospital grew by 15 percent per annum between 2002 and 2006 (NAO, 2006). This contributed to the increase in waiting lists, which currently exist for several services.

Second, a Payment by Results (PbR) policy was introduced in 2005. This primarily had consequences for the financial flexibility of the Trust.

Design flexibility

Strategic design flexibility

The Clinical Governance Review (CHI, 2002), formerly known as the Commission for Health Improvement, responded favorably on the design of the new hospital. It considered the design to have the flexibility to accommodate additional facilities. After the PFI hospital became operational, the design also appeared to be flexible in practice. Several adaptations have been made since the opening in 2000.

These adaptations were mainly implemented to deal with the capacity pressures resulting from increased demand. In particular, intermediate care struggled to cope with the effects of the reduction in bed numbers (compared with the pre-PFI situation) from the very beginning of the operational stage, as other local health facilities had not been sufficiently built up to cope with the reduction in beds. The increased demand for clinical activities further increased capacity pressures.

Due to these pressures, the Trust added two small wings to the Accident & Emergency unit of the facility in 2004, which brought the total number of beds to 420. The extension of this unit was needed to help the Trust deal with higher than expected usage due to changes in GP out-of –service-hour services. The construction cost between £0.6 and 0.7 million (NAO, 2005a). These additions came within a conventionally-funded variation to the project, and were partly financed through a bond variation and partly through conventional NHS funding. After a competitive testing of prices, Carillion (which was also the builder under the PFI arrangement) was selected to realize these wings.

Another variation concerned the Courtyard conversion. This was the conversion of an internal courtyard into clinical rooms as an extension to a day-care unit. It involved erecting a scaffold over the exterior of the three-storey building to gain access to the courtyard. The conversion was completed without disruption to the Trust's activities. The contractor was Carillion, who completed the conversion in October 2004 at a cost of £0.24 million.

In 2004, the hospital also started to build a new Treatment Center. The center was designed to free beds in the main hospital for emergency care, which would reduce waiting times in Accident & Emergency and reduce the number of pre-planned operations that have to be cancelled because of emergency cases. This expansion involved the provision of another 40 beds and the ability to treat 3,400 extra patients a year. The construction and subsequent maintenance services involved were arranged by the SPV as a contract variation. The SPV awarded the construction work to Carillion after independent surveyors assessed the proposed costs by the SPV as reasonable. The estimated capital cost of the extension was £8 million. The SPV funded this from a variation bond raised as part of the refinancing. In response, the Trust agreed to increase the unitary charge by £0.9 million a year.

A further building project concerned the realization of a mental health assessment center for older people and a renal dialysis unit in 2004, which brought the total number of beds in the hospital to 460. The unit includes a 20-person inpatient assessment center for older people and a 10-place day care center. The design is clustered around two courtyards that provide secure external therapy spaces. The West Kent NHS & Social Care Trust and the King's College Hospital NHS Trust use these facilities to provide relevant services. The construction is part of a contract variation within the PFI contract, and was carried out by Carillion following competitive testing. The capital cost involved was estimated at £5 million. Under the terms of the PFI contract, the Trust was required to be contractually liable to the SPV for the cost of this work by way of a variation to the PFI contract since this was work being carried out on the Trust's site. The Trust's unitary charge will however not increase since the work was funded by the Trusts which provide the services in the center and unit. The SPV therefore recovers the cost from the two involved Trusts, although any maintenance services that the two NHS Trusts may require are initially charged to the Trust under the PFI contract.

The number of inpatient beds was further increased with the opening of a new Heart Center in January 2007. In 2004, the SHA approved the business case for this center but required an additional funding source. The involved cost was estimated at £4.4 million. The Heart Team would allocate £3 million, and the SHA and the Trust would each provide 50 percent of the balance (DGT, 2005). A temporary laboratory would be used to enable people to be treated locally during construction. Carillion, who cooperated with the Trust in designing the Heart Center, undertook the work. There would be a leaseback to the Trust and the SPV would accept the life cycle responsibility for the Center.

Tactical design flexibility

In 2006, the Trust took a decision, as part of its clinical strategy, to close a number of beds. This change occurred at the time of benchmarking its soft services, and was an opportunity to reduce the price of services accordingly. This was part of an NHS-wide policy to increase efficiency, but it did not result in a change in the availability fee. The Trust had planned this change in conjunction with the local PCTs in order to improve efficiency and

effectiveness within the hospital as part of an NHS-wide policy to increase efficiency (Roumeliotis, 2007). The Trust did not expect the bed reductions to negatively affect patient care as this would be balanced by improving day case rates and reducing the length of patient stay in line with current NHS practice.

Service flexibility

Strategic service flexibility

In October 2006, Darent Valley became the first PFI hospital to go market test its ancillary services. In accordance with contract provisions, the testing referred to all ancillary services transferred to the SPV. This was done by a benchmarking exercise, performed by the SPV. The annual cost of services before market testing was £5.1 million and, as a result of the market testing, this was reduced by 2.4 percent (NAO, 2007a). The time taken for the benchmarking exercise was twelve months.

The reduction in service price was partly attributable to changes in operational requirements since the contract was let. During market testing, the Trust identified that office-cleaning standards could be met with a reduced cleaning regime, and that it was not necessary to have two dedicated porters for the operating theatres (Roumeliotis, 2007). The contract has been adapted to these insights. Further, the Trust took the decision, as part of its clinical strategy, to close a number of beds at the time of benchmarking (see section above), and this also contributed to the decrease in service costs.

In 2001, the Trust decided to take back the SPV's responsibility for the network infrastructure of IT equipment. Due to insufficient confidence in the timing of work and in the skills of the network staff, the Trust decided it could better directly manage IT upgrades. The removal of the IT contract resulted in a decrease in the unitary charge of £2.2 million annually (NAO, 2005a). The termination cost of removing the IT component from the contract was not disclosed.

Tactical service flexibility

In some cases, the SPV has been able to adjust its service delivery without this constituting a formal contractual change, but others have required changes to be negotiated to the contract terms and pricing. Following negotiations with the SPV, the Trust has paid around £0.8 million for variations to the FM services. These changes included the change of a ward use and additional services needed during winter periods, which led to a disproportionately high level of patients.

Financial flexibility

In Table 9, the financial position of the Trust, as well as the total of PFI payments it has made to the SPV during the first six years of operation, are summarized[21].

Tab. 9: The financial position of the Trust and PFI

	2000/01	**2001/02**	**2002/03**	**2003/04**	**2004/05**	**2005/06**
Actual unitary charge (£m)*	11.03	20.28	20.47	19.06	19.54	20.02
Availability fee[22]	7.39	13.59	13.71	12.77	13.07	13.41
Dividend paid on PDC (£m)**	3.29	2.72	1.52	0.85	0.75	0.81
Depreciation/ amortization (£m)**	0.95	0.88	0.98	1.05	1.28	1.51
Total capital charges	**11.63**	**17.19**	**16.21**	**14.67**	**15.1**	**15.73**
Income (£m)**	72.38	79.18	83.75	89.51	98.51	101.93
Operating surplus/deficit (£m)**	2.51	-0.19	-1.24	0.83	-0.48	-4.06
Capital charges/ income	**16.1%**	**21.7%**	**19.4%**	**16.4%**	**15.3%**	**15.4%**

** (HM Treasury, 2007b)*

*** Several annual reports of the Trust*

As can be seen in the table, the capital cost of the Trust in 2005-06 was 15.4 percent of its income. The capital cost applies to both the Darent Valley Hospital and the Gravesend Community Hospital. This is comparable to other Trusts with PFI projects, and considerably less than the percentage expected during the FBC stage (31 percent). This is in part due to an increase in the income of the Trust.

[21] Palmer (2006a): The annual capital charge is the sum of depreciation and the cost of finance in that year. The cost of finance is the sum of interest on debt and the dividend on public dividend capital. The term public dividend capital (PDC) refers to the public sector capital invested in a Trust. Hospital trusts are required to pay an annual payment to the Department of Health, called the dividend on PDC, calculated as a fixed percentage of the value of the PDC provided to them. 'Sunk' fixed costs are costs incurred on capital assets in previous periods that are irreversible. The annual capital charge relating to 'sunk' fixed assets in the income–expenditure account (*see* opposite) will continue unchanged, regardless of how efficient or inefficient the hospital might be for the remaining life of the assets.

[22] The total cash cost over the contract period is expected to be £450 million. The expected total service charge for the contract is £150 million, while the expected total availability charge for contract is estimated at £300 million. For further research purposes, the availability fee is therefore taken to be 67% of the unitary charge.

The total capital charges are, however, higher than the general level of capital costs of NHS Trusts. Palmer (2006b) indicated that the average capital charge for all NHS trusts in England, in 2004-05, was 5.8 percent of their annual revenue. This is particularly important as a new reimbursement system for NHS trusts was introduced under the Payment by Results (PbR) initiative. From 2005, NHS Trusts are reimbursed based on the clinical activities they perform. The reimbursement payment is based on the average cost of these activities, including their capital cost. As the capital cost for this Trust is significantly higher than the average capital cost which is included in the PbR tariffs, the Trust is only partially compensated for the capital cost it has to pay. As a result, the Trust incurs recurrent cash flow deficits even if it operates as efficiently as the average hospital trust in England.

The Trust and the SPV agreed to reduce the unitary charge, to some extent to close the affordability gap when signing the contract. It however appears that the unitary charge in the operational phase is even higher than originally estimated. A clear reason for this could not be found from document analysis. Some explanation was found in the structure of the concession arrangement itself:

First, as described in Section 6.4.1, the value of the land was brought into this project in order to make the arrangement more affordable to both partners. This was based on the assumption that the land in PFI deals could be reverted to a 'free good' and therefore that the Trust did not need to amortize the economic benefit gained from the land disposal. However, in a later stage of the project, it appeared that this was not the case, and that the Trust was obliged to amortize its economic benefit (Gaffney & Pollock, 1999). The Trust was therefore obliged to introduce an amortization charge of £0.9 million into its financial accounts and hence the capital charge increased. The charge was later reduced to £0.4 million by extending the amortization period to 60 years (during the refinancing of the concession arrangement).

Second, the 'smoothing mechanism' in general was criticized and subsequently discontinued. The Trust had received financial support under this mechanism, as was explained in Section 6.4.1. The £1 million that the NHS Executive had promised to contribute was reduced to £0.4 million as a result of the change in the amortization period. DoH funding was available for the first years, but was soon phased out.

Third, the project was refinanced in March 2003. This is reflected in a decrease in the unitary charge from that moment in time. The financial gain from refinancing was large as the PFI had matured from 1997 to 2003. As part of the refinancing deal, the Trust received an immediate lump sum of £1.5 million and a reduction of £2 million in its unitary charge over the remainder of the contract as a result of sharing the refinancing benefits and agreeing to extend the contract period. The Trust has received 30 percent of the gains, reflecting the voluntary code relating to the refinancing of early PFI deals. The NAO has indicated that it expects public sector organizations to apply the code, even though the code is voluntary (Edwards et al., 2004).

Fourth, the unitary charged was also modified due to the financial consequences of implementing changes to the building and service provision, as described in earlier sections. The financial consequences on the unitary charge are reflected in Table 10.

Tab. 10: Financial consequences of design and service flexibility on the unitary charge

Changes	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Other charges for capital works, minor works and additional works*	0	0.2	0.2	0.4**	0.9	N.A.
Other charges for additional FM services*	0.1	0.3	0.2	0.2	N.A.	N.A.

** Source: (NAO, 2005)*
*** This includes payments for the building works on the A&E extension, the staff common room and the day care pre-assessment.*

The high unitary charge has contributed to the Trust's operational deficit in recent years. In its annual reports, the Trust states that this deficit also arose due to the impact of increases in activity, losses of funding, and higher than expected costs arising from running the hospital. With the current PbR tariffs, the Trust however needs to perform above the NHS average to recover its relatively high capital costs.

When refinancing the arrangement, the Trust accepted additional risks. It agreed to extend the duration of the contract from 28 to 35 years to bring it more into line with other PFI deals in the health context. It extended the contract term in order to share in a higher refinancing gain and to improve affordability. In doing so, the Trust also considered that other benefits were worth agreeing to a longer period. Alongside decreasing the unitary charge, the Trust improved the affordability of the concession arrangement by using the refinancing gains to offset its financial deficits.

6.4.4 Summarized

The VFM performance related to demand risk of the Darent Valley Hospital project is reflected in Figure 14.

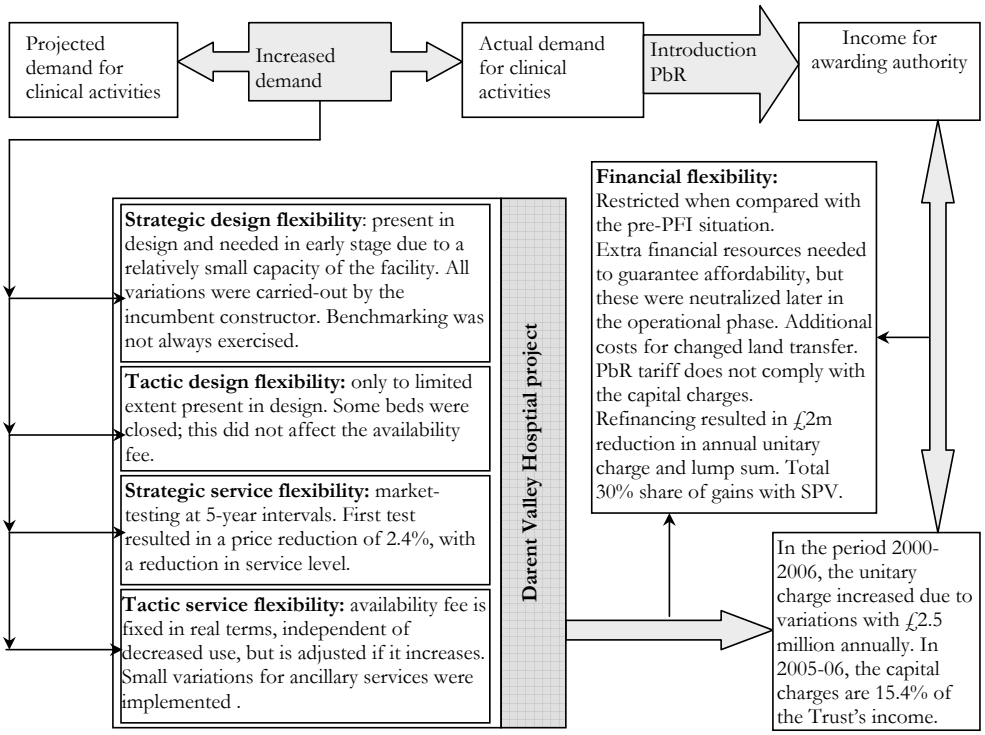

Fig. 14: Demand risk-related VFM in the Darent Valley project

6.5 Queen Elizabeth Hospital

The time path of the Queen Elizabeth Hospital (QEH) is given in Figure 15 as on overview of the project.

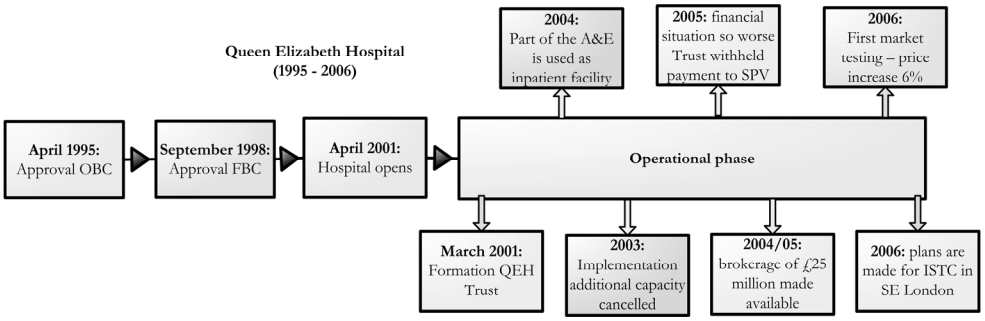

Fig. 15: Time path QEH Hospital

6.5.1 Policy rhetoric

The QEH NHS Trust was formed in March 2001 when services from three sites were relocated to a new site at Woolwich in southeast London. The three hospitals had a large backlog of maintenance, very limited flexibility for future developments, and were inefficient due to providing services from multiple sites. Moreover, the Trust could not meet the financial implications of providing services in the existing configuration. Under the PFI, a new hospital in Woolwich was created by a major refurbishment of a former military hospital located on the site. This old hospital was extended with some new-build accommodation for x-ray services, theatres and Accident & Emergency.

The QEH is a first-wave hospital PFI scheme. Approval and signature of the concession contract took place in 1998. The Trust entered into a 60-year agreement with the SPV for the provision of buildings and facilities management services necessary for the operation of the hospital. This term is made up of an initial 30-year contract plus options to extend it for tow further fifteen year periods on different terms. The hospital currently provides approximately 550 beds and has been operational since April 2001.

The Trust also has a much smaller facilities management concession arrangement with Toshiba Medical Systems Ltd. This is a fifteen-year contract for the maintenance and replacement of medical equipment.

Design and service flexibility

The QEH is located strategically in the center of the Trust's catchment area. The Trust provides clinical services to the people of Greenwich and Bexley, each with a population of approximately 220,000 inhabitants. The Greenwich population was expected to grow at 3 percent between 2002 and 2006 (QEH, 2003). The demand for clinical services in 2001 were estimated to be around 77,000 Accident & Emergency admissions, 155,000 outpatient attendances, and 3,000 births. The design would be geared to this growth rate.

During the OBC stage, several options for the project were developed and assessed. The preferred option was to redevelop the Queen Elizabeth Military Hospital because this had the highest economic benefits. A greenfield site would have been preferred based on the non-financial score relating to quality and flexibility.

The hospital design used for PSC benchmarking was different from the PFI option. The PFI scheme was larger and would take 10 months longer to construct. The explanation given for this was that 'the capital cost of this PSC scheme was limited to the public sector fund thought to be available at the time, and therefore, although this option meets service needs, the design solution contains some areas of compromise' (GHT, 1998b). The PFI offered additional functional content, a greater proportion of purpose built accommodation and improvements in the positioning of departments over the conventionally-funded option. The layout of the PSC option was considered to be sub-optimal for a number of financial and non-financial reasons. The design used for the PFI option addressed a number of the key weaknesses in the PSC. Outpatients would be centrally located within the main body of the QEH in a purpose built department instead

of some way from the main hospital. The PFI design consisted of 26 wards, which would provide an improved layout and staffing economies over the 39 ward layout under conventional provision. Further, a new-build self-contained 87-bed Mental Health Unit would be developed whereas, in the PSC option, this would be provided in a refurbished barrack-style block.

Financial flexibility

The implementation of the PFI project implied a reduction in the financial flexibility of the Trust compared with the old situation. This was mainly due to the high cost of the concession arrangement. The capital cost of the project at the OBC stage was estimated at £57.1 million (Hellowell & Pollock, 2006). These capital costs had increased to £96.1 million at the FBC stage. The increase in costs was due to changing the scheme from refurbishing old buildings to a complete redevelopment of the old buildings into a modern hospital. The capital cost as built, however, is estimated at £117 million. This increase relative to the FBC has not been explained in the documents analyzed. The NPV of the concession over the complete duration of the contract is £191 million.

The financial implications, in terms of expected unitary charges of the PFI, at the time of signing the contract are summarized in the table below.

Tab. 11: Pre-PFI versus PFI charges

	1998/99* Pre-PFI	**Post-PFI (expected for first fully operational year)***
PFI charges expected in FBC (£m)	Non-existent	18.03
Capital charge + depreciation and PFI availability fee in real (£m)	Depreciation = 1.94 Dividend PDC = 0.14 Total = 2.08	PFI availability = 11.91 (66% of the unitary charge*) Depreciation = 2.00 Dividend PDC = 2.70 Total = 16.61
Income (£m)	97.16	103.34
Charges/income	2.1%	16.1 %

** Source: DoH (2000)*

Before making use of the PFI, the Trust had to pay a total of £2.08 million annually for its capital assets, which consisted of PDC and depreciation charges. Implementation of the PFI scheme led to an increase in capital charges to £4.7 million. Instead of just paying capital charges for the new PFI hospital to the DoH, a PFI availability charge also had to be paid to the SPV. During the FBC, this availability charge was estimated at £11.91 million. As the remaining capital assets on the balance sheet of the Trust are not excluded from the capital charge system, depreciation and PDC charges also had to be paid. Using the actual PDC and depreciation charges in the first full operational year of the PFI, the total of capital-related charges come to £16.61 million. Given the increase in income during the implementation period of the PFI, the resulting increase in capital charge, related to income, is relatively large: from 2.1 percent pre-PFI to 16.1 percent post-PFI.

At the time the PFI scheme was approved, the scheme only represented VFM if unidentified cost savings of £8 million per annum would be achieved, and the contract life would be extended to 60 years once the SPV had provided the initial thirty years of services. To close the affordability gap it was agreed to apply 'smoothing mechanisms' (see also the previous case study) and funding for certain deferred assets.
In this project it was decided to treat the capital assets as off-balance sheet and to transfer the land to the SPV as part of the deal. The old Brook Hospital was transferred to the SPV on signing the concession for subsequent disposal. The other hospital would transfer to the SPV on completion of the new QEH for subsequent disposal. The SPV would thus sell surplus land as it became available from the Trust. The Trust would receive a minimum guaranteed value of £13 million for two the redundant hospitals (KPMG, 1998).

The PFI debt was mainly financed through a bond issue (£93 million). The bond market offers a source of long-dated debt as an alternative to the banking sector. Bonds are a form of negotiated debt insurance that pay the bondholder interest in exchange for the bondholder paying the principal amount of the bond to the issuer of the insurance (Cartlidge, 2006). The cost of debt in this project is relatively high (4.9 percent in real terms) and effectively fixed for the life of the debt issue as there are prohibitively expensive 'breakage' costs on early termination. Thus, refinancing or re-profiling of the availability payments would not be a viable option in this concession arrangement.
Although the government did not guarantee the payments from the awarding authority to the SPV, as it does for some economic infrastructure projects, it did issue a letter of support to investors in the QEH, which was considered as good as a formal government guarantee of Trust affordability, and had a positive impact on the credit ratings of the project.

6.5.2 Contract[23]

Design flexibility
Strategic design flexibility
In the contract it was stated that one of the objectives for the private sector partner was to provide a flexible design. The performance indicator chosen to measure flexible facilities was bed numbers. The new hospital resulted in reduction in bed capacity. The old hospitals provided a total of 880 beds (including 192 for mental health/regional specialty services), while the new hospital was planned for a total of 574 beds (including 87 mental health beds). This amounts to a reduction of 35 percent in capacity and does not seem to comply with the flexibility requirement at a first glance.
The hospital has 487 beds plus a free standing 87-bed mental health unit. Its conic design style has a floor area of 82,000 square meters. It is an accessible facility with a low-level building in white and blue, surrounded by an open area of mainly grassland. The hospital

[23] This section is mainly based on the analysis of the FBC of the Queen Elizabeth Hospital (GHT, 1998b).

was constructed using a new technology, which enabled the hospital to be completed more quickly than would be the case with normal construction methods. The QEH was an unusual case in that it included 60 percent refurbishment and so retained the basic shape of the old facility.

Tactical design flexibility

The Trust bears the risk that the facility is inadequate or too big for the demand. From the analyzed documents it was not clear that the implemented structures could be easily adapted to an increasing or decreasing demand for clinical activities. The only possibility for tactical design flexibility mentioned is that the ward configuration offers the option to close 26 beds at some point in time and so achieve real step reductions.

Procedures to effect design flexibility

During the contract period, the Trust may request changes to the hospital as specified in the design or any additional work requiring capital expenditure (a variation) at any time. During the design and construction period, the Trust could request the SPV to pay any costs in relation to a variation up to an aggregate of £5 million through an adjustment to the availability payment and the SPV is obliged to use all reasonable endeavors to obtain funding on terms which the Trust can accept or reject. Any other expenditure resulting from a variation requested by the Trust during this period would be met by the Trust by way of monthly payments reflecting the work performed. Any savings arising as a consequence of complying with a variation are to be used by the SPV towards, at the Trust's option, the cost of implementing further variation or the acquisition of equipment specified by the Trust.

Service flexibility

Strategic service flexibility

The following ancillary services are provided by the SPV as part of the concession arrangement: general estate services, energy management, domestic services, catering, linen/laundry, waste management, portering, reception, switchboard, non-patient transport, and residential accommodation services and security. All these services are subject to market testing every five to seven years. Some of these services were already outsourced to private organizations before the implementation of the concession arrangement. The contract for market testing of the services has a specific clause not found in the other projects. The Trust has included the 'right to match', whereby the incumbent provider has the right to match terms of the preferred supplier of the market test. The result of the market testing process cannot give rise to a change in the concession arrangement, only in its price or sub-contract operator.

As mentioned before, the initial contract period is 30 years. The Trust is entitled to extend the contract to 60 years following a re-tendering process at the break point.

The availability element of the unitary fee is structured such that, in effect, the Trust pays in full for the assets over the first 30-year period. Therefore the availability element is 'front-end loaded'. It is significantly higher during the first 30-year period, and significantly lower during the second 30 year period (should the Trust decide to extend the initial contract period), than would have been the case if a constant real availability charge had been levied over the life of the PFI contract.

The Trust is allowed to terminate the concession arrangement early in the event of the SPV's operational deficiencies, insolvency, or other events which have a material adverse effect on its ability to carry out its obligations. The compensation the Trust has to pay in such an event is the lower of:

- Outstanding senior debt plus interest; and
- Monthly availability payments over the remaining period, less the cost incurred by the Trust in ensuring that the properties meet building standards, as defined by NHS requirements, and less the estimated additional costs of hard and soft FM services up to the next market testing date. Alternatively, the Trust may commute these monthly payments into a lump sum.

On termination for Trust default, the Trust will pay the aggregate of the:

- Outstanding debt, including subordinated debt and interest on outstanding debt;
- Predetermined equity rate of return; and
- Other costs incurred by the SPV on termination.

The PFI contract was agreed in mid-1998. As one of the early PFI schemes, the contract terms do not include adequate mechanisms for early termination. Whenever the hospital cannot be used for the activities intended due to negligence by the SPV, but the Trust continues to use the facilities, even though deemed unavailable, there is a maximum deduction of 50 percent of one month's availability charge.
Due to the financial structure, based on bonds, the contract does have any provisions that allow the Trust to benefit from refinancing the concession arrangement.

Tactical service flexibility

The unitary charge is subject to performance deductions under the service performance regime, RPI indexation, and to some degree to deductions for the availability element of the charge. The contract also enables step cost reductions to be achieved through ancillary service reductions and facilities closed or withdrawn. If the Trust decides to cut services, it may recover the variable costs, but it would not get the fixed costs of repair and replacement, nor the availability fee for that element of the hospital.

Some soft FM services, such as waste disposal, laundry and linen and catering are measured in volumes. If the actual volume is more or less than the volume element in the contract (outside the set thresholds), an increase or deduction in the service payment follows. The

other services have a rate per annum and only adjusted for RPI. The variable element to the contract is considered by the Trust to be more expensive than the equivalent cost for a non-PFI Trust.
The upfront expenditure required in relation to a service variation may, if agreed with the SPV, lead to an increase in the service fee. If not agreed, the Trust is obliged to fund such expenditure as soon as reasonably practicable following the expenditure being incurred. Any payments received by the SPV which represent a recovery of any previous expenditure made by the Trust or the SPV in relation to the provision of a service, and arising as a consequence of a service variation, is paid to the Trust by the SPV as soon as reasonably practicable after receipt.

6.5.3 Operational outcomes

Since moving to the PFI hospital the Trust has experienced significant increases in its activities (Pricewaterhouse Coopers, 2005b). In the period between the start of the operational period and 2006, the accident and emergency attendances increased by 27 percent, non-elective admissions by 31 percent; elective admissions by 33 percent and births by 39 percent. This is considerably more than would be expected under the clinical services forecasts made in 2001. This growth may have led to more activity and income for the Trust than was anticipated when the scheme was approved, although precise income expectations were not disclosed in the FBC.
A second important development was the change in the NHS financial system resulting form the introduction of the PbR policy in 2005. This has contributed to the financial deficit the Trust is increasingly incurring in recent years.

Design flexibility
Strategic design flexibility
The Trust has so far not encountered anything that was not covered by the contract during the initial years of the operational phase. There have been very few adaptations or variations in the hospital design during the start-up phase of the hospital. In conventional hospital provisions, small adaptations are easily implemented, but under the PFI consultations have to take place for every small revision. The number of minor variations implemented during the early operational phase in this hospital was considerably lower than usually is the case.
Subsequently, in the operational phase, capacity pressures due to the unexpected increase in demand for clinical services have become a problem for the Trust. In response, the Trust has considered establishing additional capacity to meet the demand for clinical activities from its catchment population. The Trust planned to develop a business case for increased capacity at the hospital, which would have to be operational in time to make a contribution to meeting the 2005-06 access and waiting targets (QEH, 2003). This plan, however, was cancelled due to financial constraints.

No major design changes were implemented in the first five years of operation. In its latest annual report, the Trust revealed that its capital expenditure needs are lower than for similar-sized hospitals that have been conventionally provided, and this is reflected in its capital resources. In 2006, the Trust was granted planning permission for additional car parking on the site (QEH, 2005). This expansion will be financed from the income which it will generate. The project is likely to be delivered either with the SPV or through a joint venture route. There have also been long-standing problems with excess heat and poor ventilation in parts of the hospital, which have not been addressed as expected. In its 2006 plans for investment and disposal, the Trust reveals that this problem should be rectified in 2007-08. It will also submit a business case for the enhancement of its electrical capacity, which will be partly funded by both the Trust and SPV. The Trust's share in funding the latter variation would probably be sought by the SPV and then recovered through an increase in the unitary charge.

The Trust is also considering expanding the maternity capacity since the facility was originally built to handle around 3000 births per year and currently there are more than 4000 patients annually. This development can be facilitated by relocating the gynecology services to a female surgical ward. This frees up existing capacity to provide scope for the maternity facility to expand to cope with changes in the way maternity care is most effectively delivered.

The Trust also states in its annual report (2006-07) that, in the near future, no borrowings will be available for capital investments due to its financial situation, and that the Trust will be restricted to investing the sum set aside for depreciation. This will inevitably limit its investment aspirations and requires the Trust to prioritize carefully all capital expenditure proposals.

Tactical design flexibility

However, although strategic service flexibility has not yet been an issue, the Trust has had to close a ward to save money towards its financial deficit only four years after the hospital was built. This form of tactical design flexibility added 600 more patients to the waiting list (Revill, 2004). Tactical flexibility was also employed when the hospital was performing beyond its capacity due to the unexpected increase in demand for accident & emergency wards. At times, parts of these wards were used as an inpatient facility. This was, however, changed to meet clinical priority targets (QEH, 2003).

Service flexibility

Strategic service flexibility

The first market test took place in 2006 and referred to portering, catering, domestic window cleaning, pest control, security, car parking and waste and grounds maintenance. The market testing was performed by means of a benchmarking exercise. The annual cost of the selected ancillary services at the time of benchmarking in 2005-06 was £5.7 million. After the benchmarking exercise, the incumbent service provider was re-appointed to be

the services supplier for these services for the next term at a cost which had increased by 6 percent (NAO, 2007a).
The incumbent service provider won the market testing based on a better quality bid that was marginally cheaper than the next best alternative. In this deal, the incumbent had a 'right to match' clause whereby it was given the opportunity to match best market test bid. Despite this, for other competitors unattractive contractual clause, three alternative suppliers bid.
After market testing, the monitoring scores for the Patient Environment Action Team, which assesses the patient environment such as cleanliness and hospital food, improved from 80 to 86 percent.

Tactical service flexibility

It appears that the QEH has operated at full capacity over the years. Possible deductions linked to the availability part of the unitary charge were therefore no issue. The Trust realized that it had to ensure that it got the maximum use out of the hospital facility, so that the availability payment was actually being put to work, but it did not have to be pro-active since the demand for clinical services was greater than expected. The QEH, however, did have to close a ward in 2004 to reduce its financial deficit, even though this added hundreds of patients to its waiting lists. This took place because the performed clinical activities would otherwise exceed the budget of the local PCTs available to fund these activities. Closing a ward would limit the overrun.
It was further stated that, in 2003-04, improvements were sought in the security services transferred to the SPV (through increasing patrols by security staff, staff training, and improved electronic systems). This however had no influence on the unitary charge. In the same year, the Trust also made explicit plans to improve its catering and cleaning standards, with the aim of securing higher scores in the next round of Patient Environment Action Team assessments. This was achieved in 2006.

Financial flexibility

The increased demand for clinical services would be expected to help fund part of the £8 million annual 'gap' between income and costs identified when the PFI scheme was approved. However, in its 2005 annual report, the Trust stated that the VFM and affordability of the concession had progressively deteriorated since the opening of the hospital, worsening the financial position each year. The financial details are shown below in Table 12[24].

[24] The total cash cost over the contract period is estimated at £523 million. Of this, £174 million is the expected total service charge of the contract, while £349 million is its expected total availability charge. From this it is calculated that the availability fee corresponds to 66.7 percent of the unitary charge.

Tab. 12: The financial position of the Trust

	2000/01	**2001/02**	**2002/03**	**2003/04**	**2004/05**	**2005/06**
Actual unitary charge (£m)	18..2	18.7	19.1	19.6	20.1	20.6
Availability fee	12.1	12.4	12.7	13.1	13.4	13.7
Dividend paid on PDC**(£m)	2.06	2.39	2.46	1.82	1.77	PDC = 1.89
Depreciation/ Amortization **(£m)	0.77	0.12***	0.12***	0.14***	0.17***	1.24
Total capital related charges	**14.93**	**14.91**	**15.28**	**15.06**	**15.34**	**16.83**
Income (£m)	119.36	107.19	125.70	125.44	130.09	132.98
Operating surplus/deficit (£m)	-1.6	-12	7.2	0.9	-9.2	-19.3
Total capital charges /income	12.51%	13.91%	12.15%	12.01%	11.79%	12.66%

** HM Treasury (2007)*
*** Palmer (2006b)*
**** Amortization figures not mentioned in annual report*

The most significant factor affecting the financial performance of the Trust has been the growth in clinical activities beyond the expected demand levels. An impact of this was that the Trust had to open extra beds and work with extremely high levels of occupancy. This was beyond the local PCTs' ability to fund. In 2002-03, the Trust had an ongoing requirement to borrow around £30 million to maintain liquidity. In 2004-05, the surplus on the disposal of one of the former hospitals was apparently smaller than expected. In that year, cash brokerage of £25 million was made available through the Trust's external financing limit, and £16.5m was received from the NHS Bank through the issue of permanent PDC to deal with previous deficits.

In 2005-06, the total capital costs were 14 percent of total income, which is similar to that expected in the FBC. However, the fact that the Trust is carrying an accumulated operating deficit can be considered a result of underlying deficits that have persisted for a number of years, due in large part to the excessive costs of the concession arrangement. Trust managers have estimated that £9m of its £19m deficit is down to PFI (Guardian, 2006). The financial position was so bad in October 2005 that the unitary charge payment to the SPV had to be withheld. A consequence of non-payment to the SPV was the Secretary of State being petitioned for payment. There is a risk that the entire bond of £140 million could become payable.

An external report (Pricewaterhouse Coopers, 2005b) noted that the accumulated deficit would approach £100 million by 2008-09. It drew attention to the high level of fixed PFI costs which made reducing the Trust's costs particularly difficult, and noted that this was exacerbated by the gradual phasing out of PFI support funding by the DoH.

The Trust stated that the VFM and the affordability of the concession has progressively deteriorated due to both the structure of the concession arrangement as well as to changes in the context of concessions.

In terms of the structure of the concession arrangement, the contract period is considered important. The PFI contract is for 60 years, but the availability element of the unitary payment is structured such that, in effect, QEH pays almost in full for the assets over the first 30 years. Therefore, the availability element of the payment is 'front-end loaded'. During the second 30 year term, the availability charge reduces dramatically. It is therefore significantly higher during the first 30 year period, and significantly lower during the second 30 year period, than if a constant real availability charge had been levied over the life of the PFI contract (Palmer, 2006b).
Another factor contributing to the high capital cost of the arrangement is the financial structure of the concession using bonds. This form of finance means that early termination, refinancing, or re-profiling of the availability payments is not a viable option.

Several context changes that contributed to the financial position of the Trust are also seen. First, a combination of long-term interest rate reductions, changes in accounting rules, and the unplanned withdrawal of certain funding streams have played a role. During the operational phase of the QEH, there have been major changes in the NHS. The reduction in the cost of public capital from 6 to 3.5 percent resulted in a reduction in the dividend on the PDC payable by non-PFI trusts. A corresponding reduction in funding for capital costs in the newly introduced PbR tariffs left non-PFI hospitals unaffected by the change. However, the first wave of PFI hospitals, including QEH, has been 'locked in' to a higher cost of finance in their PFI availability payments than is funded in the tariffs (Palmer, 2006b).
In 2002, the accounting treatment of land and buildings in early PFI arrangements changed, resulting in the land and buildings being put back on the balance sheet from 2000-01. The valuation of the land prior to the project agreement was £4.17 million. However, its valuation in 2005-06 was £45.15 million. This unanticipated treatment resulted in an additional capital cost of £1.54 million per annum to this Trust (Palmer, 2006b).
Various non-medical assets have been transferred to the SPV post-contract close. The deferred asset value of £21.8 million in 2005-06 creates an additional operating charge of £1.18 million each year.
The result of the changes described above has been additional unplanned operating costs for the Trust. These are not funded in the current PbR tariff, and can only be met by reducing the funding available for clinical services. The Trust's auditors have made clear that the hospital has increased its efficiency over the past five years and, when the excessive costs of the PFI are removed, it actually outperforms the NHS average.

It can thus be concluded that the £8 million savings estimated upfront of signing the deal, which were needed to make the concession arrangement affordable to the Trust, were not realized in practice. Its future plans do not enable the Trust to breakeven in the short-term. Reducing the cost of the hospital is difficult as the Trust has a high level of fixed costs under the PFI scheme. To enable the Trust to move towards breaking even, and beginning to repay historic deficits, a strategy has been developed. Challenging savings programs are being sought, with an annual cost improvement program designed to absorb the excess PFI overheads and bring the Trust back into financial balance. To repay the historic deficits, the Trust believes that significant growth in activities is necessary, alongside meeting challenging productivity and efficiency targets.

In 2006, a new business case was made for the rationalization of services in southeast London, in which the sector's service redesign and sustainability project is represented. It is expected that a new Independent Sector Treatment Center[25] (ISTC) in the area will meet more that 12 percent of the total demand for these elective services across London from 2008. The proposed site for the ISTC is some miles from QEH, and 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 the availability fee is fixed) and it is therefore likely to incur a further increase in its financial deficit (Palmer, 2006b).

6.5.4 Summarized

The VFM performance related to demand risk of the Queen Elizabeth Hospital project is reflected in Figure 16.

[25] ISTCs are private-sector owned treatment centres contracted within the NHS. Typically they undertake 'bulk' surgery such as hip replacements, cataract operations or MRI scans rather than more complex operations. ISTCs work on pre-arranged central government bulk contracts nominally at or below the national tariff

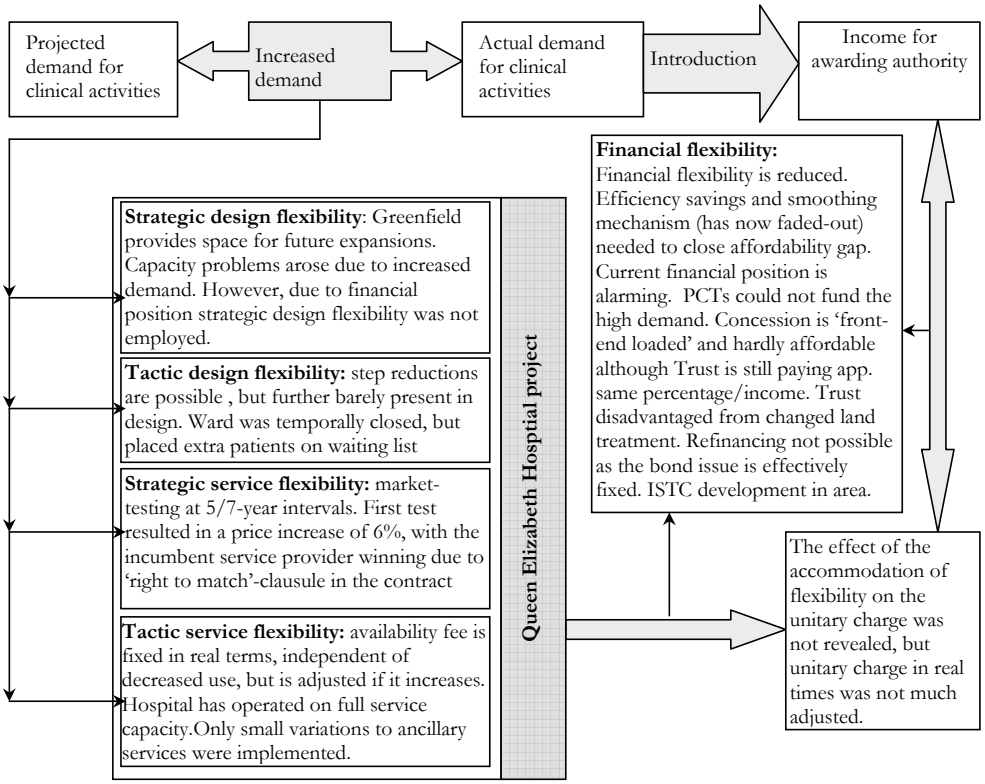

Fig. 16: Demand risk-related VFM in the Queen Elizabeth Hospital project

6.6 Norfolk & Norwich University Hospital

The time path of the development of the Norfolk & Norwich University Hospital (NNUH) is given in Figure 17 as on overview of the project.

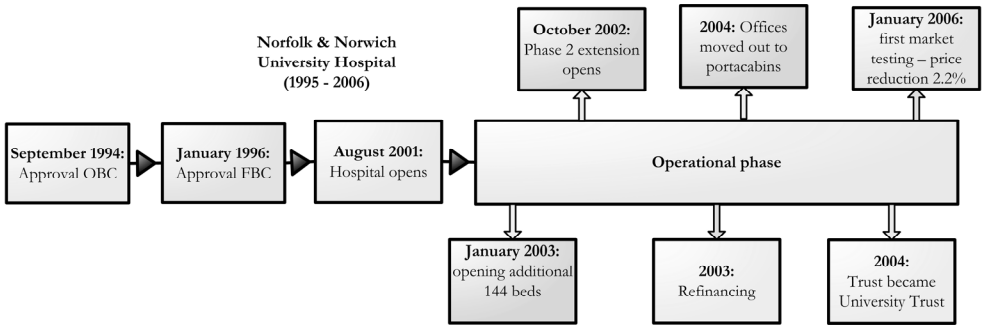

Fig. 17: Time path NNUH

6.6.1 Policy rhetoric

Given that the existing two hospital buildings within the Norfolk & Norwich Trust were old, worn-out, and their backlog maintenance was in excess of £20 million, the need for a modernized hospital facility was urgent at the end of last century. Rationalization of the two sites was not an option as there was no room for expansion and both sites were unsuitable for development. As it was extremely difficult to obtain Treasury capital for a new hospital, a concession was considered as an option and appeared to offer VFM using PSC benchmarking. After sixteen years of planning for the new hospital, an FBC was signed in 1998. The selected SPV developed a new hospital on an out-of-town greenfield site. It subcontracted the design and construction, which was realized using a fixed price and time contract. The main hospital was completed in August 2001 (five months ahead of schedule) and an extension in October 2002. The minimum contract period, including the construction phase, had initially been set at 34 years.

Design and service flexibility

The strategy used to predict activity levels taken with this project was relatively conservative. When the Trust had to project the demand for clinical activities within the new hospital, a fall in the inpatient caseload during the first operational phase of the project was assumed. This was based on using 'deaths and discharges' as an output indicator, rather than 'finished consultant episodes' which is more commonly taken to project clinical demand. The OBC was developed on the basis of expected demand based on the number of admissions in 1994. However, admissions across all specialties rose by 4.1 percent annually during the period from OBC to FBC (1998), and day case admissions rose by more than 14 percent annually in this period. The projected number of discharges and deaths expected in 2003-04 had already been exceeded in 1996-97. The Trust therefore had to revise its clinical demand estimates and increased bed numbers to 809 during the tendering phase. This new number was also based on a conservative prediction of future demand levels, and with the objective of developing a hospital with maximum operational efficiency. Consequently, the Trust had to increase the capacity still further as demand for clinical services appeared to grow during the construction phase. This was the basis for the Trust preparing a second business case for an additional 144 beds (Pollock et al., 1999). The recurrent pattern of conservative planning strategies raises concerns as to whether the Trust will operate with a new facility that is appropriately sized and sufficiently flexible for future use.

Financial flexibility

This concession arrangement also led to a decrease in the financial flexibility of the Trust compared with the previous situation. This was mainly due to the high capital cost involved in the new hospital. The capital cost amounted £122.9 million at the OBC stage (September 1994), but this was based on a bed compliment of 709 (House of Commons, 2001). The capital cost at the FBC stage was estimated at £158 million, based on 809 beds.

The final capital cost of the concession arrangement as built is estimated at £229 million, which is subdivided into £213 million for the first phase, and an additional £17 million for the realization of the work in the second business case. The reason behind the increase from the FBC to the final estimate for the first phase was not found in the document analysis.
This capital cost had to be financed by the SPV, and the Trust would repay the total debt over the duration of the concession. The financial implications of the PFI at the time of signing the FBC are summarized in Table 13 below.

Tab. 13: Pre-PFI versus PFI charges

	Pre-PFI* (1998/99)	**Post-PFI*** (first fully operational year of PFI)
PFI charges expected in FBC (£m)**	N.A.	34.9
Capital charge + depreciation and PFI availability fee (£m)	Depreciation = 3.85 PDC = 0.42 Total = 4.27	PFI availability = 25.36 (72% of the unitary charge)* Depreciation = 3.57 PDC = 0.76 Total = 29.69
Income (£m)	132.9	143
Charges/income	3.2%	20.8%

** DoH (2000)*
*** House of Commons Commission (2002)*

Before making use of the PFI, the Trust had to pay a total of £4.27 million annually for its capital assets, which consisted of a PDC charge plus depreciation charges. Now, instead of just paying capital charges for the new PFI wing to the DoH, a PFI availability charge has also to be paid to the SPV. In the FBC, this availability charge was estimated at £34.9 million. As the remaining capital assets on the balance sheet of the Trust are not excluded from the capital charge system, depreciation and PDC charges still have to be paid. Based on the actual charges in the PDC and depreciation charges in the first full operational year of the PFI, the total capital-related charges comes to £29.69 million. Considering the increase in income during the implementation period of the PFI, the resulting increase in capital charge relative to income is large: from 3.2 percent pre-PFI to 20.8 percent post-PFI.

The concession was financed through a structure of senior debt, subordinated debt, and equity stakes. The Trust chose not to encourage the SPV to consider bond finance, although this was subsequently used for a number of other concession hospitals, because the Trust did not want to delay finalizing the deal, and it was not certain that suitable bond finance would be available (NAO, 2005b).
The Trust contributed the land to the deal as 'bullet payments' to offset the annual charges; these are seen as prepayments (that will reduce over the contract period) and attract capital charges at the appropriate rate (House of Commons Commission, 2006). At the end of the contract period (i.e. 60 years from the start date) the title to the buildings will pass into

public ownership. There are also break clauses in the contract at which point the Trust can assume ownership of the buildings if it so wishes.

6.6.2 Contract[26]

Design flexibility

Strategic design flexibility

The building was designed to be internally adaptable, as well as being configured and serviced to accommodate further sizeable increases in bed numbers, ambulatory care, and clinical support services. The strategically placed 'soft spaces' allow future internal and outward expansion. The master plan also identifies potential sites for research institutes, a nursing school, staff accommodation and other facilities. Flexibility exists in as much as the internal structure is moveable without major structural works. The hospital is built around generic wards which almost only specialty could occupy because all the services are there. The functionality goal in the design was to be able to meet the functional requirements laid down by the Trust agents and demonstrate that the hospital could be expanded to cater for future clinical need.

Further, in the vicinity of the hospital, there are 60 acres of land which are marked for future healthcare use. The Trust has an option on this, and so that in the future it could use it for alternative provision of clinical services.

According to the Trust, the design of the hospital is far more flexible than its former hospitals. The hospital is designed in such way that it can grow and adapt to the changing needs of the local community. It allows changes through strategically placed 'soft spaces' that enable future internal and outward expansion.

Tactical design flexibility

Several strategies are in place to accommodate tactical flexibility in the design. This includes the structure of the hospital, which is composed of three zones (outpatient, inpatient, and diagnostic/treatment services). The clinical services cross these zones in order to physically integrate all functions within a particular service. Further, the majority of wards have the same layout in the hospital. Only the pediatric and maternity wards are slightly different in this respect. This facilitates transfers between specialist divisions with relatively little additional work. The building is such is that it can be rearranged fairly regularly with column spacing appropriate for internal changes.

The Trust had considered and rejected several of the more obvious modular systems, such as large panel exterior wall systems and demountable partitioning systems. Most of these did not deliver VFM over the life of the building. The project did, however, benefit from the highly repetitive structural systems in the wards which aided construction efficiency. Also the fact that certain parts of the main mechanical distribution system were

[26] This section is mainly based on the analysis of the FBC of the Norwich and Norfolk University Hospital (NNHT, 1996).

prefabricated off-site and installed as modular elements benefits the flexibility of the facility.
The Trust is able to function with 20 percent fewer in-patients by closing down parts of the hospital, scaling down the maintenance services, and trying to let out the redundant areas the Trust does not need in the short-term. If the Trust, or the SPV, sees that performance changes, or the method of service delivery can be changed, then any financial advantages should flow to both partners.

Procedures to effect design flexibility
The Trust is entitled to request a variation at any time and this should be affected by the SPV. Theoretically, every variation should go through a set pattern of approvals by the SPV. The SPV's response to a variation request must state the opinion of the SPV as to whether the variation should be effected and, if not, the reasons for that opinion, any anticipated adverse effects of the variation on the operation, and the cost of complying with the variation. The variation is put into a package of work, which is part out to tender in the open market place. Cost-increasing service variations requested by the SPV are not permitted (except if required pursuant to a change in law). The obligations of the SPV to effect any service variation is subject to the SPV obtaining the consent of funders, and all other necessary consents to effect the service variation in a form, which is satisfactory to both parties.
All variations required by the Trust in the design and construction phase must be undertaken by the SPV. The Trust shall not appoint a third party supplier to undertake such variation work, save where the Trust is obliged to do so by any procurement laws, or where the SPV is unable to obtain such consent. Any variation work must first be offered to the SPV, the only exception being for the provision of residential accommodation. The obligation of the SPV to effect any variation is subject to obtaining all the necessary consents of funders to the variation. The Trust is entitled to elect the method of payment (lump sum, usage fee adjustment).

Service flexibility

Strategic service flexibility
The ancillary services integrated in the contract cover catering, domestic services, portering, security, laundry, waste disposal, and grounds maintenance. The charges for these services are re-negotiated every five to seven years during a market-testing procedure. No later than eight months before the testing date, the SPV should prepare and deliver to the Trust a draft market-testing proposal. The SPV manages the market-testing tendering process and the bidder that represents the best VFM is preferred. If the aggregate of the market-tested prices exceeds the fee prior to the first market-testing, but not the service gap, the fees are adjusted for that market-tested service. Whenever the tested price exceeds the service gap, the fee is adjusted by an amount equal to the service gap for that service. During market-

testing, the Trust may choose from three different methods: benchmarking, tender, or a combination of both.
The SPV proposed that savings as a result of market testing will be shared, with the Trust receiving the first 2.5% of savings, the Trust and the SPV sharing the next 2.5% of savings equally, and any remaining savings accruing to the Trust. Relevant service fees would be adjusted accordingly. If market-testing produces led to cost increases rather than savings, these would be borne entirely by the SPV.
Subject to certain conditions, both the Trust and the SPV may, at any time, request that a service variation be implemented by the SPV. The SPV is required to use its reasonable endeavors to identify potential service variations which would be beneficial to both parties.

Tactical service flexibility
The Trust may also request the SPV to provide additional services. Where the Trust wishes to receive an additional service, and whether or not it proposes to ask the SPV to provide that service, the Trust should liaise with the SPV. The obligations of the SPV to provide any additional service are subject to the Trust obtaining any necessary approval from the NHS Executive. The Trust is required, if the provision of such services will impact in any way on any service, to seek an agreement with the SPV before engaging another service supplier. The SPV has the right to object to any party as a third-party supplier.
Extensions for catering, portering and cleaning are financed on a pro-rata basis. For example, if the hospital is extended by 140 beds, the SPV receives 140/935 more payment for cleaning. Whenever a price is seen as not reasonable by one of the parties, a disputes resolution procedure is open for consideration. The Trust further pays a charge for the availability of the hospital facility based on the numbers of in-patients and out-patients using the hospital.
The contract cannot be terminated by the Trust before the first break point in January 2037 except on the grounds of default by the SPV (including bad performance by, or insolvency of, the SPV and force majeure). The Trust is also entitled to terminate the provision of any soft service by giving the SPV twelve-month written notice. The provision of such service then terminates automatically on the expiry of the twelve-month notice period.

If part of the hospital is not available, a proportioned rate reduction will be made to the availability charge to reflect the percentage of the hospital that not is available. If the Trust or the SPV sees that performance changes or the method of delivery of services can be improved, then any financial advantage should flow to both parties. This is supposed to incentivize the SPV to develop and improve. The income of the SPV is partly based on the number of people that visit the hospital and the number of in-patients. This is based on the fact that, when more patients use the services more intensively, the building will require greater maintenance. The unitary charge is not a rent and there is no fixed amount. This means that if there are no patients, the SPV gets nothing. However, in case the activity level increases the contractual normal level, the PFI payment rises dramatically.

6.6.3 Operational outcomes

After the letting of the concession arrangement, several changes have occurred within the context of the hospital. First, the demand for clinical services in the area grew faster than was planned for. Second, at the beginning of 2004, the Trust changed from an NHS Trust to a University Trust, which meant that even more facilities would be needed at the hospital. Third, the PbR policy was introduced, and other policy documents concerning concession arrangements were updated.

Design flexibility

The hospital design does appear to be flexible since the Trust has carried out several changes during the first years of operation.

Strategic design flexibility

Despite the adaptable design of the hospital facility, flexibility has been limited by the high occupancy rate of the hospital. The facility was designed for 85 percent occupancy rate, but in 2006, the hospital was already running at over a 90 percent occupation rate. Since the opening in 2001, the need for clinical services has steadily grown. The PFI scheme had already changed from 791 to 809 beds prior to construction commencing and expanded again to 953 beds later in the operational phase. An extension was approved in July 2000 (a year before the opening of the hospital) through adding a second phase to the PFI project. This extension was developed at the front of the hospital and completed in January 2003. The extension was funded through increases in activity payments and was relatively easily accommodated given the building design.

The steady increase in demand for clinical services has resulted in employment of the strategic flexibility in several ways. An extension of two semi-permanent portacabins was added, and used for administration and management offices. These cabins were not planned for in the original hospital specifications, but proved a solution at a later stage. The created space within the hospital itself, as the administration and management offices were displaced, is partly used as ward space. As capacity pressures will probably further increase in the future, the portacabins are now considered a permanent provision. In the eyes of the Trust, having a clinical facility apart from the main building is less desirable than placing offices outside the hospital. It is also cheaper because the clinical infrastructure is already in place within the hospital itself.

All the performed variations, including the second business case expansion with additional bed capacity, took place in a non-competitive situation. As building works were underway, inviting competitors was not an appropriate strategy, and inviting other bidders would have delayed the hospital. The Trust, however, took steps to ensure, through benchmarking, that the SPV's price changes for implementing the second business case were reasonable. The Trust's professional advisers benchmarked, and technically reviewed, the SPVs proposed capital costs.

Besides the variations described above, some other design changes have been executed in the operational phase. The number of minor works is set out in Table 14 below.

Tab. 14: Minor works in the NNUH (Fenton, 2005)

	Number of minor works	**Total cost of works**
Year 1	963	£997,000.00
Year 2	665	£238,000.00
Year 3	744	£300,000.00
Year 4	467	£96,000.00
Total minor works	**2839**	**£1,631,000.00**

All these design variations were requested by the Trust and paid for by them.

Tactical design flexibility

The recent expansion to 989 beds means that much of the tactical design capacity is already employed, and that there is limited scope for further change. According to the Trust, however, the hospital will grow rather than shrink in the future, as critical care demand is expected to increase. The utilities and their infrastructure are adaptable to meet this increase, but the agreed overcapacity has already been exceeded, a variation of the contract is needed in order to implement such upgrades.

Towards the end of 2005, the first ward refurbishments were executed. Each ward refurbishment took around eight weeks and involved testing of all systems, redecoration and some new flooring, plus a deep clean of all fixtures and fittings.

In some cases, the Trust proposed additions to the design, but these were refused by the SPV due to attendant inefficiencies since the building has limitations. This shows that, when the SPV gets a request for additions it is assessed on economic grounds and whether the additional work has implications for the operational processes in the hospital.

The SPV has to maintain the building for the period of the contract, which incentivized it to design a flexible building. The functionality demand was to be able to meet the functional requirements laid down by the Trust and its agents, and demonstrate that the hospital could be expanded to cater for future clinical need. To a large extent the Trust has proved this, because it has already occupied new space to build new facilities.

Service flexibility

Strategic service flexibility

Thus far, the mechanism has worked and enabled the few minor changes that have been required. In 2006, the first market-testing took place. The first market-test procedures commenced in March 2005, and as the testing had to be completed before the fifth anniversary of the operational hospital. The first testing applied to all ancillary services. The annual cost of these services at the time of market-testing was £9.8 million. Tendering was selected as the testing method, and the incumbent service provider was awarded the contract to execute the ancillary services for the next five-year period. There were initially

sixteen expressions of interest by suppliers; after checks, these were reduced to six, and then to three for the final stages of the market test. The annual cost of services in 2005-06 was estimated at £8.9 million. In the market testing, this figure was reduced by 2.2 percent. The NAO (2007a) commented favorably on the result of the benchmarking exercise. Any increase in price of the ancillary services in the market-testing exercise was limited by a contract clause, which capped any price increase. It is, however, unknown what additional price the Trust paid in the original PFI deal to include the price cap.

In the original contract, IT works were also transferred to the SPV. However, in 2005, it was decided to move these back to the responsibility of the Trust. The IT services are currently provided under separate contractual arrangements. The involved termination cost has not been disclosed to the public.

Tactical service flexibility

According to Edwards et al. (2004), the shortage of capacity adversely affected the Trust's performance. The hospital operating at above desirable capacity levels had several interrelated implications for its services: their quality levels fell, and waiting lists lengthened. The availability payment has been paid in full during the operational phase to date as decreasing the capacity of the hospital has not been an issue.

Financial flexibility

According to Edwards et al. (2004), operating the hospital above the desired capacity level has had financial consequences: income for the Trust has fallen as the local PCTs sent patients elsewhere, and costs rose sharply because of additional PFI payments when activity rises above the contractual norm. It could thus be concluded that the PFI has the potential to destabilize the Trust financially.

The main financial indicators representing the position of the Trust are given in Table 15.

Tab. 15: The financial position of the Trust

	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Actual unitary charge (£m)	0	27.1	38.7	39.7	40.7	41.7
Availability fee[27]	0	19.43	27.75	28.46	29.18	29.89
Dividend paid on PDC*(£m)	0.92	1.94	1.75	1.01	1.06	1.48
Depreciation/ amortization *(£m)	3.6	3.2	4.42	5.17	4.57	5.15
Total capital related charges	**4.52**	**24.57**	**33.92**	**34.64**	**34.81**	**36.52**
Income (£m)	156.36	191.62	230.37	244.56	278.00	300.03
Operating surplus/deficit (£m)	0.76	1.97	1.60	1.06	0.71	1.47
Capital charges/ income	2.9%	12.8%	14.7%	14.2%	12.5%	12.2%

* House of Commons Commission (2006)

The paid unitary charge compared with the expected unitary charge at the time of the FBC, rose due to variations in the contract. In the design and operational phase, the main changes were related to the requested additional bed capacity, which resulted in an increase in the unitary charge of £2.8 million annually. The additional 144 beds requested during construction and implemented through adding a second stage to the PFI project, resulted in a further yearly increase in the unitary charge of £3.4 million. The refinancing of the arrangement in 2003, on the other hand, decreased this charge by £3.6 million. The removal of the IT contract decreased the unitary charge by £2.2 million. All the other contract variations in the period between the FBC and 2005 led to a unitary charge increase of £1.8 million (NAO, 2005b)[28].

Due to the deteriorating financial position of the Trust, it received payments under the 'smoothing mechanism' initiative starting in 2003-04. The payments received within this framework are all included in the financial data shown in Table 15. The amount was a fixed £3.8 million, to be paid annually up to 2005-06. This was approved to reduce the effect on affordability arising from the divergence between the length of the primary contract period, which was originally 30 years post-construction and the expected life of the asset generated under the project, which is assumed to be 60 years (UK Parliament, 2006). However, through the introduction of the PbR, policy makers made the smoothing mechanisms for

[27] The total cash cost over the contract period are estimated at £1,163 million. Of this, £ 329 million is expected to meet the total service charge of the contract and £834 million for its total availability charge. The availability therefore is calculated as 71.7% of the unitary charge.
[28] March 2005 prices

early PFI deals open to debate. In 2003, the Department's Finance and Investment Sub-Committee advised that central revenue support for PFI schemes could not be justified in the long term and, in principle, should stop immediately. However, Parliament agreed with the Strategic Health Authorities that the mechanism should be phased out over a number of years to give Trusts time to adjust. Funding was due to cease in 2006-07 (Committee of Public Accounts, 2006).

From 2002-03, the Trust has also received support for the capital charges on the land it contributed to the deal. Prior to the publication of the guidance 'Land and Buildings in PFI Schemes' (1999), there was uncertainty as to whether there would be a requirement to fund the then 6 percent capital charges on land and buildings transferred to SPVs as part of PFI projects. The guidance confirmed that this was required and so it was decided that schemes which had not previously funded this charge should be reimbursed through direct funding. The capital charge rate was changed to 3.5 percent for financial year 2003-04, which reduced the capital charges payable (Committee of Public Accounts, 2006).

The refinancing in December 2003 provided an opportunity for the SPV to extract a refinancing gain of £115.5 million in NPV terms. Bond finance was used in the refinancing to maximize the refinancing benefits. This refinancing gain arose because, having successfully delivered the new hospital, the SPV was able to obtain better financing terms than were available when the FBC was signed as a result of the maturing market for concession arrangements as well as the reduction in general interest rates since 1998 (NAO, 2005b). In common with other early PFI deals, the contract terms had placed no obligation on the SPV to share any refinancing gains. A subsequent agreement by the SPV, to share with the Trust refinancing gains on the debt that funded the second business case, stated that the Trust would receive 10 percent of the refinancing gains. However, in accordance with the voluntary code for sharing refinancing gains on early PFI deals, which the Treasury had negotiated with the private sector in 2002, the SPV gave approximately 29 percent of its total refinancing gain to the Trust.

The Trust, however, took on new risks following the refinancing. To improve the affordability of the project, the Trust agreed to extend the minimum contract period by five years (from 30 years post-construction to 35 years) in return for a reduction in its annual payments of £1.8 million over the initial minimum contract period, and an extra £0.1 million a year share of the refinancing benefit. By agreeing to extend the minimum period of the contract by five years, to 2037, the Trust was accepting the risk that it would be committed to paying for services under the contract over a longer period. It should be noted that, when this project was benchmarked against the PSC, the project only appeared to give VFM because the annual unitary charge would fall sharply after the initial contract period of 30 years. This effect is reduced as a result of the refinancing exercise as the usage fee remains the same over the whole lifetime of the contract. In refinancing the deal, the Trust also accepted the risk of higher liabilities in the event of early contract termination. The Trust now has to pay up to £257 million more if it chooses to terminate the concession arrangement early. It, however, is of the opinion that, based on conservative

assumptions of the likelihood of the contract being terminated early, that the refinancing delivers VFM.

6.6.4 Summarized

The VFM performance related to demand risk of the Norwich and Norfolk University Hospital project is reflected in Figure 18.

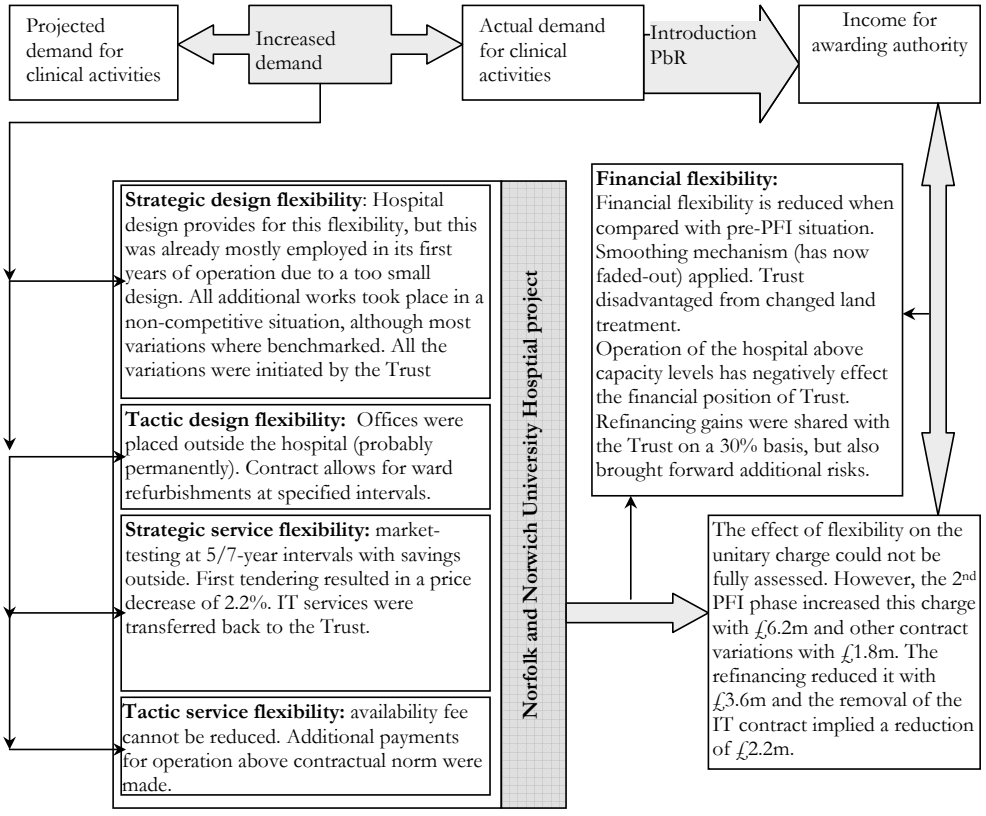

Fig. 18: Demand risk-related VFM in the Norfolk and Norwich Hospital project

6.7 St. George Hospital

The time path of the St. George Hospital concession is given in Figure 19 as an overview of the project.

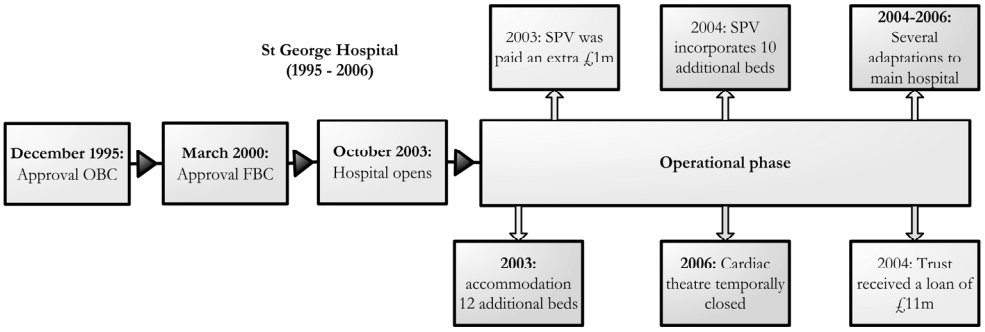

Fig. 19: Time path St George PFI Wing

6.7.1 Policy rhetoric

The St. George Healthcare NHS Trust is a major acute service provider based in southwest London, and had been providing clinical services from three bases. Of these, St George's Hospital had been the base for the Trust's acute general clinical services.

In early 1994, the Trust put forward a proposal to the NHS for redeveloping its cardiac services that were being provided in accommodation on the St George's site. It was recognized that the accommodation was no longer suitable for providing specialist cardiac services. The idea was that, in order to provide modern state-of-the-art cardiac facilities without making a call on scarce NHS capital funding, the Atkinson Morley's Hospital should be sold.

In May 1995, the Review of Neurosciences Services recommended that St George's Hospital should become a center for neurosurgery. This resulted in the conviction that neurosciences services should be combined with cardiac services in a new building on the St George's site. The proposal was elaborated in a PFI proposal, in which both services would be provided in a new Atkinson Morley Wing, adjacent to St George's Hospital

In March 2000, the Secretary of State for Health approved the PFI, which was followed by the signing of the contract between the Trust and the SPV. In two phases, the new wing was fully occupied by the end of October 2003. The Trust is using the wing to provide cardiac and neurosciences services for 35 years.

Design and service flexibility

As distinct from the other concession arrangements included in the case study research, the St George concession arrangement is a partial hospital project. The PFI scheme was intended to achieve the strategic plans of the South-West London, Surrey and West-Sussex health authorities in collaboration with the hospital Trust, and to rationalize neuroscience services in the London and South East Region, whilst addressing the need to upgrade the

poor quality of the cardiothoracic accommodation on the St George's site. The fact that this new building was needed was underlined in the Commission for Health Improvement's report on the heart and lung transplant service at St George's. In the plans, the Trust requested a building which was flexible and adaptable.

Financial flexibility

Implementation of the concession arrangement led to a small reduction in the financial flexibility of the Trust as the capital charges would increase from 6 to 11 percent of the Trusts income. This increase is mainly due to the capital cost of the new hospital wing, which was, at the OBC stage (1995) of the project, £31.4 million. The increase in cost to £46.1 million during the process of establishing the FBC (2000) was due to adjustments for inflation between the two business case approvals and extensions to the scheme. These extensions included additional clinical accommodation, two operating theatres and two additional beds. The financial implications of the concession arrangement at the time of signing the FBC are summarized in the table below.

Tab. 16: Pre-PFI versus PFI charges

	Pre-PFI (1998-99)*	**Post-PFI*** (First fully operational year PFI)
PFI charges expected in FBC (£m)	N.A.	6.8
Capital charge + depreciation and PFI availability fee (£m)	Depreciation = 7,55 PDC = 3,67 Total = 11,22	PFI availability = 5.51 (81% of the unitary charge)* Depreciation = 9.79 PDC = 7.05 Total = 22.35
Income (£m)	185.93	205.12
Charges/income	6.0%	10.9%

** Source: DoH (2000)*

Before adopting the PFI, the Trust had to pay a total of £11.22 million annually for its capital assets, which consisted of a PDC charge plus depreciation charges. Implementing the PFI scheme would increase capital charges: instead of just paying capital charges for the new PFI wing to the DoH, a PFI availability charge would also have to be paid to the SPV. During the FBC, the annual availability charge was estimated at £5.51 million. As the remaining capital assets on the balance sheet of the Trust are not excluded from the capital charge system, depreciation and PDC charges still have to be paid. Using the actual charges in the PDC and depreciation charges in the first full operational year of the PFI, the total of capital-related charges come to £22.35 million. Taking into account the increase in income during the implementation period of the PFI, the resulting increase in capital charge related to income is relatively small: from 6.03 percent pre-PFI to 10.9 percent post-PFI.

This increase in capital charges was supported by the Trust during the signing of the PFI contract. However, an additional revenue stream of £1.7 million had been identified necessary to support the increase in cardiac services which would be required beyond 2002,

in light of the national policy for coronary heart disease which had become an NHS priority. Again, this had the support of the Trust.

6.7.2 Contract[29]

Design flexibility

The FBC for the Atkinson Morley Wing was based on a design containing 227 beds, eight operating theatres, and a range of the most up-to-date diagnostic and treatment facilities.

Strategic design flexibility

The design of the hospital wing considered both technical environmental aspects of flexibility to facilitate future changes, and also movement and replacement of capital equipment. To provide flexibility, the SPV based its design on modules, which were designed to provide flexibility through internal partitions. This philosophy has proven successful as twelve additional beds have been accommodated during the construction phase of the project. The external terraces have also been designed to allow for future extensions to the ward areas. Further, the clinical block to the rear can be extended towards to provide additional theatres and diagnostic areas (Halpin, 2003).

Tactical design flexibility

Within the clinical areas, the floor has been designed to take additional loading from future equipment and the replacement of the existing facilities. The structure on one side is designed to allow for a link to future hospital developments.

In the FBC (SGH, 2000a), it is mentioned that there is flexibility in the PFI scheme due to the additional clinical accommodation provided by the SPV, and therefore the Trust has accepted the risk that this might not be needed. Conversely, should the Trust require additional accommodation, this can be provided more economically by contracting from the SPV than building extra provision at a later stage.

Service flexibility

Strategic service flexibility

Besides the maintenance of the new hospital wing, the SPV provides the following ancillary services in the new wing: domestic services, laundry, and pest control. The Trust is responsible for the provision of security, porters, catering and post room services. These are integrated with similar services provided in the other part of the hospital. At the end of the 35-year concession period, ownership of the building will revert to the Trust.

A performance element in the unitary charge covers the following services: estates, domestic services, pest control, and the management element of the laundry service. Subject to indexation, there is a predetermined sum for all services for at least the first

[29] This section is mainly based on the analysis of the FBC of the St George Hospital (SGH, 2000a; 2000b).

seven years of the operational period. Thereafter, the services may be market tested every fifth year.
Market testing is at the discretion of the Trust and is to be carried out by, and at the cost of, the SPV. Market testing will offer an opportunity for the Trust to redefine its specifications for services to meet current circumstances. Laundry and linen services are to be market tested three years after the date of service availability when, with the benefit of an established pattern of use, the Trust may be able to obtain better VFM from a fixed or capped quotation for this service (rather than the cost per item price agreed for the first three years).

Tactical service flexibility
The risks that are fully or partially retained by the Trust are generally those involving changes in its requirements, external changes e.g. in demand, and specific legislation. The risk of termination of the contract is considered negligible in the FBC. Similarly, no cost has been associated with control risk or residual risk. The management of significant risk, retained by the Trust, includes the availability of the hospital, risks due to changes in Trust requirements, energy inefficiency, or changing technology and changes in the law.
Subject to indexation, and any eligible changes, the availability element is a fixed amount for the 35 year operating period. The maintenance services were fixed in the pre-financial phase of the project. The contract does, however, enable stepped reductions in unitary charge for closed or withdrawn facilities. The unitary fee also contains a volume element with a calculation based on a price per item of laundry and linen used by the Trust.

6.7.3 Operational outcomes

After the signing of the PFI contract for the Atkinson Morley Wing, the Trust decided to develop another PFI project: the Picture Archiving and Communication System (PACS). This analysis, however, focuses solely on flexibility related to financial issues in the Atkinson Morley Wing PFI project.
After the Atkinson Morley Wing became operational, several changes in the context of the St George Hospital arose. One of these was the introduction of the PbR in the NHS. In 2003-04, PCTs introduced PbR by setting up some cost and volume service level agreements. In 2005-06, 30 percent of the Trust's income was generated through PbR. In 2006-07 this rose to 70 percent.

Design flexibility
Strategic design flexibility
The scheme received some bad press, chiefly due to one neurologist's complaints about temperature and clinical inadequacies (Halpin, 2003). From an analysis of the board meeting minutes it appears that only a few adaptations to the PFI project have so far been made. Strategic design flexibility in the new wing has not yet been an issue.

As the concession arrangements concern only a part of St George's Hospital, flexibility of the hospital as a whole needs to be assessed as this might have implications for the wing itself. Outside the Atkinson Morley Wing, but within St George's Hospital, there was a need to re-develop endoscopy provision on one site as the service was spread across a number of areas in the Trust. A FBC was developed and identified cost of £4.7 million related to this redevelopment project. Both the SHA and the Board approved the FBC. The Endoscopy Unit, a state of the art center that treats bowel and lung cancer, opened at the end of 2004.

The Trust also agreed to sign a partnering agreement for the development of a new South West London Elective Orthopedic Center, together with three other trusts.

It also developed a clinical research unit with the medical school, with funding from the London Development Agency. Funding was subject to achieving of agreed objectives.

In 2005, it also established a well-appointed residence for families of children admitted to St George's.

In 2006, plans were initiated to establish an Independent Sector Treatment Center (ISTC) on the St George's site. ISTCs are a DoH initiative in support of central government policy. St George's had been approached by a range of bidders, and some had selected St George's as their preferred site. Clinicenta was selected by the DoH as the preferred bidder and the DoH requested St George's Hospital to work with Clinicenta to agree on how the surgical hub might be provided on the site to enable financial agreement by March 2007 and operational implementation by April 2008. The Director of Estate and Facilities sought the Board's approval to work with Clinicenta in a way that would manage capacity on the St George's site while minimizing the impact on the Trust's services, and maintain the Trust's independence from Clinicenta while developing close working relationships. ISTC would be an independent center that provided care for NHS patients. Locating the ISTC at St George's would provide NHS patients with access to high quality support if required. This would not impact on the capacity available to treat St George's patients. St George's Hospital would be able to sub-contract some of these services, such as diagnostics and provision of consultant time. It would also provide a benefit to the Trust if junior doctor training could be provided within the ISTC. Financial risks to the Trust would be minimal since the main contractual arrangement would be between Clinicenta and the DoH. The risk would lay with the independent service provider as there as no guaranteed volumes of work against which tariffs have to be paid.

In July 2006, it was further recognized that there are estate and facility areas in which improvements were required. The improvements that did not require additional resources had been actioned, but those that required capital investment were prioritized and would be taken forward through the Trust's capital program group. This shows that financial measures, rather than needs, dominate when capital improvement decisions are taken.

The White Paper published in 2006[30] concluded that the scale of the impact of the mentioned changes in the provision of care on the position of the Trust was unclear. This has led to the conviction that one should implement modest modular developments rather than major developments. A new concession arrangement therefore would seem unlikely on the St George's site.

Tactical design flexibility

The SPV based its planning on specific modules, which were designed to provide flexibility through internal partitions. This philosophy has proven successful as twelve additional beds have been accommodated during the construction phase of the project (Halpin, 2003).

In the operational phase of the project, flexibility has also become as issue. The SPV incorporated, at its own expense and risk, ten additional beds: eight general ward neuroscience beds and two neuroscience beds. These are fitted out and equipped in all respects to the same standards as the equivalent beds, and available to the Trust as additional facilities on a variety of contract options. The Trust may either pay on a daily or weekly basis for the time these beds are occupied by patients, or the Trust may agree to purchase the use of beds in advance for a year or a number of years. The cost to the Trust reduces the greater the duration of its advance commitment, reflecting the greater risk assumed by the Trust for the beds possibility lying vacant. There is also a reduction in the tariff if the level of occupancy rises above 40 percent in a month, with an annual reconciliation to even out any short-term fluctuations. However, the exact cost of using these additional facilities is not made public.

Service flexibility

As only cardiac and neurosciences services are being provided in the Atkinson Morley Wing, service flexibility is related to these specialties. The Trust, as a whole, has undergone a significant transformation in terms of the types of services it provides and the way in which it provides them. The 2006 White Paper indicated that some care would be moved outside the hospital into primary care. Other changes had also been taking place in the operational phase of the concession arrangement. St George closed its heart transplantation program at the end of 2006, meaning that patients would have to be transferred to another hospital.

As a result of these changes, the Trust has had some difficulties in ensuring the level of service activities required to meet targets. This has also had an impact on the concession arrangement.

[30] See DoH (2006)

Strategic service flexibility

Market-testing had not conducted prior to the end of the 2005-06 financial year.

In November 2003, the Trust was in the process of defining a range of services that it would like to develop in the following five years. In terms of cardiac services, other hospitals in the area were opening local catheter laboratories in 2006. This created a £1.2 million risk for the Trust associated with PCTs changing referral patterns. To limit the risk, the cardiac surgeons and cardiologists within the Trust were consulted and, accordingly, a plan was implemented that was expected to improve efficiency and attract additional work from other areas.

In September 2006, an action plan aimed at efficiencies was being developed in neurosurgery to reverse the overspend in that specialty.

Tactical service flexibility

In 2004, it was noted that activity levels were lower than expected at St George's Hospital (SGH, 2004). In cardiac services, specifically, this reflected the lower levels of activity performed after services were transferred to the new Atkinson Morley Wing, which were significantly below the levels of activity agreed in the FBC. The Trust therefore sought to agree increased activity levels with both current and additional commissioners to ensure that the capacity was fully utilized.

Also in the operational phase, fewer cardiac activities were implemented than had been planned for. However, as the paid unitary fee for these years confirms, the Trust did not have the option of reducing this fee.

In January 2006, clarification was sought regarding the decreasing demand for the cardiothoracic service. It appeared that the role of the surgeon had been reduced, with service delivery to some patients with ischemic heart disease changing, and interventional cardiology increasing. Due to this fall in activity, one cardiothoracic theatre was closed in 2006. This is not reflected by a decrease in the unitary charge, which demonstrates that the provisions regarding the availability charge do not accommodate tactical service flexibility.

Financial flexibility

The financial situation has deteriorated since the opening of the Atkinson Morley Wing in 2003, as can be seen from the financial position of the Trust shown in Table 17. In 2006, St George's annual health check on the use of resources was considered 'weak'.

Tab. 17: The financial position of the Trust

	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Actual unitary charge (£m)**	None	None	None	7.3	7.6	7.8
Availability fee[31]	None	None	None	5.8	6.0	6.2
Dividend paid on PDC**(£m)	7.9	7.5	8.3	5.8	5.9	6.6
Depreciation/ amortization **(£m)	9.0	8.8	9.8	11.8	11.4	13.0
Total capital related charges	**16.9**	**16.3**	**18.1**	**23.4**	**23.3**	**25.8**
Income (£m)	224.6	251.5	287.2	317.0	329.4	336.9
Operating surplus/deficit (£m)	0	-0.6	4.3	-0.7*	-21.7*	-33.6
Capital charges/income	7.5%	6.5%	6.3%	7.4%	7.1%	7.7%

**Written evidence: House of Commons Commission (2006)*
*** HM Treasury (2007)*

The current capital value of the concession arrangement is estimated at £50 million. Compared with the £46.1 million mentioned in the FBC this amounts to an increase of 8.5 percent. An explanation of why the capital value of the scheme has increased has not been found in the analyzed documents concerning the Trust.

In 2003, the Trust paid an extra £1 million to the contractors building the new Atkinson Morley wing, despite it being six months behind schedule. In the minutes of the Trust's board meetings (SGH, 2003), it was stated that the payment was part of the PFI Compromise Agreement that secured joint commissioning of the new wing and to avoid any delay in the opening of the wing arising from the variations to the original specification. As the FBC in the public domain says noting about any compromise agreement, nothing can be said about the reasonableness of the agreement.
At the start of the operational phase it appeared that the Trust needed to recover income to finance the Atkinson Morley Wing. Activity levels in practice were lower than expected in several clinical departments, including the cardiac and neurosciences, and this had an impact on the Trust's income. Income from private patients had also been lower than anticipated. In addition, the neurosciences budget had been reduced to reflect the transfer of costs from the Atkinson Morley Hospital to the St George's site.
In 2003, it appeared that, for the first time, the Trust had incurred a financial deficit. This was partly due to an income shortfall related to the funding of the increased costs of the

[31] The table does not provide separate availability and service charge components since this information cannot be found in the annual reports of the Trust. However, from the Trust's 2004-05 annual report, it is concluded that the availability charge corresponds to (6.240/7.881)=79.2 percent of the unitary charge. This percentage is used to calculate the availability charges for the financial years given in Table 17.

Atkinson Morley Wing (SGT BM, November 2003). The levels of activity in the neurosurgery and elsewhere had been also lower than estimated originally. There was, however, some scope for the Trust to reduce costs by restricting activity generated by the PCTs. It appeared that the costs associated with the new wing were greater than originally agreed with the PCTs, but the PCTs were reluctant to fund the additional costs. The Trust sought alternative commissioners of cardiac work to ensure that the available capacity was fully utilized.

The strategy of the Trust to recover from its financial deficit was to reduce expenditure, whilst aiming to maintain performance in terms of the delivery of health. Additional financial resources were requested in order to break even in the longer term. In 2004, the Trust secured a loan of £11 million to support its cash flow position under a temporary borrowing mechanism arranged by the SHA. The Trust also agreed to an additional cost reduction program of more than £4 million. Discussions took place with the SW London SHA and the local PCTs in an attempt to obtain support in addressing cash flow problems across the sector. The Trust also applied to two major private healthcare organizations for accreditation so that their private patients could be treated at St George's.
The Trust succeeded in meeting the cardiology income target of an additional £2.8 million in 2004. To meet overall expenditure targets the decision was taken in December 2004 to remove a hundred established posts from the Trust. In addition, capacity was reduced with the closure of 24 beds in January 2005. Some of these beds were re-opened shortly after their closures. According to the Trust Board, part of the problem is the concession arrangement, for which the capital allocation is ring-fenced.

In SGH (2005), steps were identified that would take the Trust back to an acceptable financial position. The plan showed a potential of £10.2 million identified savings that could be achieved in 2005-06. These savings would be made enabled by cutting back on agency nursing staff, the closing of 60 beds made possible by reducing the amount of time patients spent in hospital, and the development of a private patient service at St George's.
However, in 2006, the income position further deteriorated due to the reduction in ward capacity being followed by additional costs due to a virus outbreak. All non-clinical and non-pay expenditure had to be stopped until the end of that financial year.
From this, it can be concluded that changes are not primarily driven by changing clinical needs, but rather by the financial deficits of the Trust.

6.7.4 Summarized

The VFM performance related to demand risk of the St George Hospital project is reflected in Figure 20.

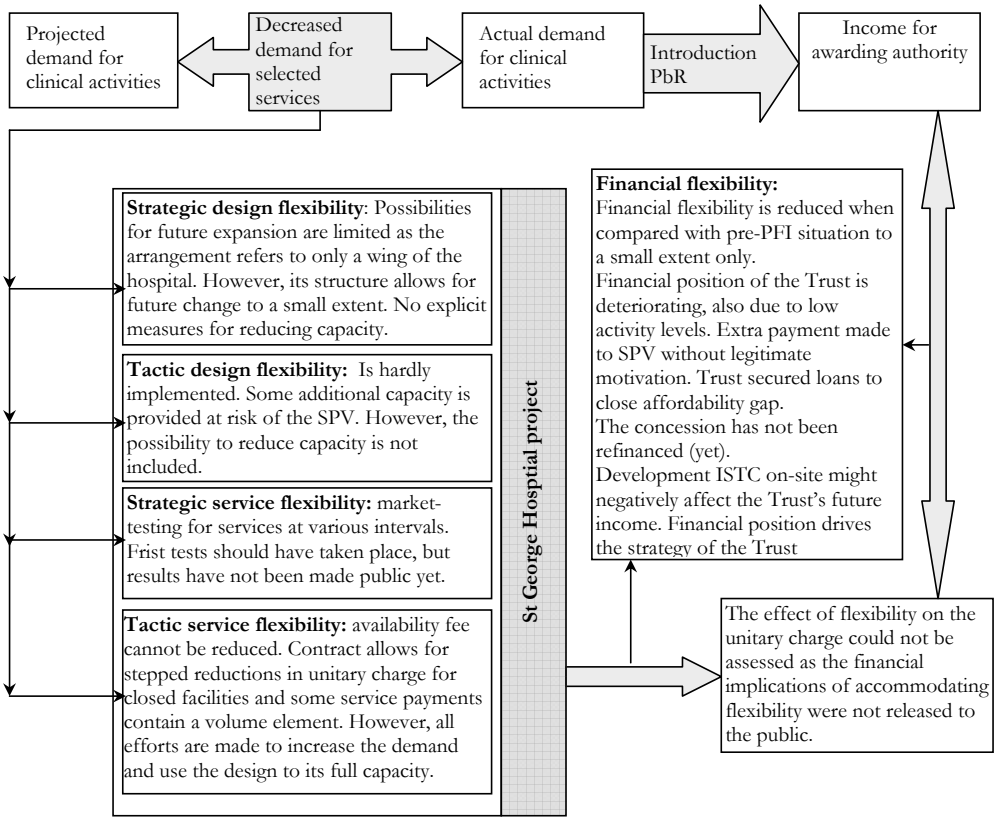

Fig. 20: Demand risk-related VFM in the St George Hospital project

6.8 Conclusions

In this chapter the evaluation of the English hospital concession was presented. The research question guiding this evaluation was formulated: *What is the empirical performance of concession projects applied to hospitals?* In Chapter 5, the performance was operationalized in a demand-related VFM framework, which consisted of three forms of flexibility: design flexibility, service flexibility and financial flexibility. The model, as it was presented in Chapter 5, appeared appropriate in describing the performance of the hospital concession projects included in the English context. The fit with practice was assessed by confronting the model with examples of operational hospital concessions in England. The performance of the individual projects is given in Table 18. In this table the issue of financial flexibility is subdivided in two aspects: the financial effect of the implemented design and service variations and the affordability of the concession arrangement. These two interrelate in some cases, but a structural causal relation is not necessarily found. Therefore, a subdivision allows a better-structured insight into the issue of flexibility.

In Chapter 8, the cross-case analysis is presented, in which the insights derived from the English case studies are compared to each other.

Tab. 18: Performance of the English hospital concessions

	Darent Valley	**Queen Elizabeth Hospital**	**Norfolk & Norwich Hospital**	**St George Hospital**
Strategic design flexibility	Present in design and needed in early stage due to a relatively small capacity of the facility. All variations were carried-out by the incumbent constructor. Benchmarking was not always exercised.	Greenfield site provides space for future expansions. Capacity problems appeared due to increased demand. Due to unfavorable financial position the potentials of design flexibility was not employed.	Design provides for this flexibility. Most of this was already employed in its first years of operation due to a too small design. All additional works took place in a non-competitive situation, although most variations where benchmarked. All the variations were initiated by the Trust	Possibilities for future expansion are limited as the arrangement refers to only a wing of the hospital. However, its structure allows for future change to a small extent. No explicit measures for reducing capacity.
Tactical design flexibility	Only to limited extend present in design. Some beds were closed. This did not affect the availability fee.	step reductions are possible , but further barely present in design. Ward was temporally closed, but placed extra patients on waiting list	Offices were placed outside the hospital (probably permanently). Contract allows for ward refurbishments at specified intervals.	Is hardly implemented. Some additional capacity is provided at risk of the SPV. However, the possibility to reduce capacity is not included.
Strategic service flexibility	Market-testing at 5-year intervals. First test resulted in a price reduction of 2.4% with a reduction in service level.	Market-testing at 5/7-year intervals. First test resulted in a price increase of 6%, with the incumbent service provider winning due to 'right to match'-clausule in the contract	Market-testing at 5/7-year intervals with set caps to avoid exaggerated price increases. First tendering resulted in a price decrease of 2.2%. 'IT services were transferred back to the Trust.	Market-testing for services at various intervals. First tests should have taken place, but are not in the public domain.
Tactical service flexibility	Availability fee is fixed in real terms, independent of decreased use, but is adjusted if it increases. Small variations for ancillary services were implemented.	Availability fee is fixed in real terms, independent of decreased use, but is adjusted if it increases. Hospital has operated on full service capacity. Only small variations to ancillary services were implemented.	Availability fee cannot be reduced. Additional payments for operation above contractual norm were made.	Availability fee cannot be reduced. Contract allows for stepped reductions in unitary charge for closed facilities and some service payments contain a volume element. However, all efforts are made to increase the

				demand and use the design to its full capacity.
Financial effect implementation flexibility	In the period 2000-2006, the unitary charge increased due to variation with 2.5m annually. In 2005-06, the capital charges are 15.4% of the Trust's income.	The effect of the accommodation of flexibility on the unitary charge was not revealed, but unitary charge in real times was not much adjusted.	The effect of flexibility on the unitary charge could not be fully assessed. However, the 2nd PFI phase increased this charge with £6.2m and other contract variations with £1.8m. The refinancing reduced it with £3.6m and the removal of the IT contract implied a reduction of £2.2m.	The effect of flexibility on the unitary charge could not be assessed as the financial implications of accommodating flexibility were net released to the public.
Affordability	Restricted when compared with the pre-PFI situation. Extra financial resources needed to guarantee affordability, but these were neutralized later in the operational phase. Additional costs for changed land transfer. PbR tariff does not comply with the capital charges. Refinancing resulted in £2m reduction in annual unitary charge and lump sum. Total 30% share of gains with SPV.	Financial flexibility is reduced. Efficiency savings and smoothing mechanism (has now faded-out) needed to close affordability gap. Current financial position is alarming. PCTs could not fund the high demand. Concession is 'front-end loaded' and hardly affordable although Trust is still paying app. same percentage/income. Trust disadvantaged from changed land treatment. Refinancing not possible as the bond issue is effectively fixed. ISTC development in area.	Financial flexibility is reduced when compared with pre-PFI situation. Smoothing mechanism (has now faded-out) applied. Trust disadvantaged from changed land treatment. Operation of the hospital above capacity levels has negatively effect the financial position of Trust. Refinancing gains were shared with the Trust on a 30% basis, but also brought forward additional risks.	Financial flexibility is reduced when compared with pre-PFI situation to a small extent only. Financial position of the Trust is deteriorating, also due to low activity levels. Extra payment made to SPV without legitimate motivation. Trust secured loans to close affordability gap. The concession has not been refinanced (yet). Development ISTC on-site might negatively affect the Trust's future income. Financial position drives the strategy of the Trust.

Chapter 7

Case studies Victoria, Australia

In the previous chapter an in-depth reproduction of the demand-related VFM of four English hospital concessions was outlined. This chapter focuses on the demand-related VFM of hospital concessions in Victoria. This is coherent with the third research question, which was formulated: *What is the empirical performance of concession projects applied in hospitals?* As this performance is assessed internationally, a second country has to be included in the cases study research. After the UK, Australia is the country which implemented most concession arrangements in the health sector. In global terms, it has a relatively small economy and currently it has about five percent of the global public-private partnerships market (Cartlidge, 2006). Duffield (2001) undertook a study of Australian concessions, and established that the majority of these projects were undertaken in NSW, Victoria and Queensland. He also noted that Victoria had been the frontrunner in adopting concession arrangements in the delivery of health. Australia, and more specifically the state of Victoria, is therefore selected to be included in the case study research.
This chapter investigates three Victorian hospital concessions. Before these projects are described in detail, first the healthcare sector in this state is clarified. After that, an overview is given of the history of the implementation of concessions in this sector. In the subsequent section, a case study overview is given. This is then followed by the detailed description three case studies. The chapter is concluded with giving an overview of the outcomes of the Victorian case studies.

7.1 The healthcare context in Victoria

In order to understand the operation of hospital concessions, knowledge is needed on the organization of the health sector, the funding of the healthcare system, and more particularly on the funding of capital investments of hospitals. In the following sections these issues are discussed.

7.1.1 The organization of the health sector

Victoria has a complex healthcare system with many types of services, public and private providers, and a range of funding and regulatory mechanisms. It has a mainly tax-funded healthcare system financed through general taxation and an additional compulsory tax-based health insurance contribution. Currently, about 70 percent of the total health budget

in Victoria comes from taxation, with the remaining 30 percent being derived from private insurance (AIHW, 2005). The taxes the national government receives are employed to fund the bulk of the health system through federal universal benefit schemes, such as Medicare (Australia's universal system of health insurance). However, the national government is little involved in providing the health services. Rather, the six state governments are primarily responsible for organizing healthcare provision in their states.
In Victoria, the Department of Human Services (DHS), which takes about 32 percent of the total state budget (with 17 percent of the total state budget destined for hospitals), is responsible for the health system. The DHS has become a purchaser, rather than a provider, of health services over the last decade, and purchasing healthcare from public hospitals currently takes half of the DHS's budget.

There are 144 public hospitals in Victoria, with the largest hospitals in metropolitan Melbourne. Public hospital services are delivered by twelve metropolitan and five regional Health Services (State Service Authorities, 2005). Public Victorian hospitals have evolved as self-managed autonomous organizations. Hospital boards were abolished in the mid-1990s and hospitals were then grouped into administrative networks each with a management board.
Private medical specialists provide most ambulatory secondary healthcare, and may contract their services to public and private hospitals. Private medics are key stakeholders in the health sector and have a major influence on healthcare policies.
Historically, not-for-profit charities have also played a significant role in delivering public hospital services in Victoria. These organizations have their own hospital infrastructure and are nowadays directly funded by the government to provide an array of clinical and non-clinical public hospital services.

7.1.2 Healthcare funding over the years

Improving efficiency in health delivery has been a long-term aim of the DHS. Over several government periods at the end of the last century, it sought to improve the efficiency and effectiveness, and the State's financial position. In the 1990s, a 'purchaser–provider' model was introduced in Victoria, which radically changed the health service system. From that moment on, hospitals became service providers, and became dependent upon the DHS which purchased their health services under case mix arrangements. Using case mix, hospitals are funded on the basis of the numbers and types of patients they treat. This is calculated based on the diagnosis of a patient and the length of stay in hospital. Victoria was one of the most committed States during the 1990s to strengthening efficiency incentives for hospitals through the application of case mix funding (Stoelwinder & Viney, 2000). Approximately two-thirds of Victorian public hospital funding is now derived in this way. The objective of case mix was to incentivize inefficient hospitals to perform better, and to obtain budget savings as the State had budget deficits. A separate pool of funding was established for which hospitals could compete by increasing their throughput. This was

designed to meet the third objective of case mix funding: to decrease the waiting list for hospital admissions, and payments from this pool were made subject to hospitals reducing the numbers of people on their lists (English, 2005). Under case mix, each Victorian public hospital is expected to make a 1.5 percent productivity improvement annually, meaning that public funding will fall in real terms for a given level of activity each year. The only way Victorian public hospitals can receive an increase in funding in real value is to significantly improve their performance in terms of the number and type of patients they treat annually.
Case mix payments are currently allocated strategically to specific health programs, such as primary care, acute services, mental health, and elderly care. Tariff prices are paid for baseline volumes of hospital care, and a lower marginal price is paid for volumes in excess of the baseline. This enables hospitals to manage demand risk.

Efficiency targets have been further advanced over the last decade with an increase in the involvement of the private sector in health through a range of strategies, including selling public facilities to private providers. The Kennett Government (1992-1999) introduced the use of private capital to build and operate public hospitals through concession arrangements in which also the responsibility for the clinical services provision was transferred to the private sector. Health requirements have been rapidly changing in Victoria due to a changing population pattern, and extra hospital capacity has been provided over this period. The Victorian government has increased its funding for hospitals accordingly. The total budgeted increase for hospitals, from 1999-2000 to 2005-06, was $2,420 million[32] or 71 percent. Commonwealth funds have grown by 45 percent over the same period.

7.1.3 Capital funding within the DHS

The national government funds very few capital health investments. Individual states are responsible for finding ways to raise resources for such investments. The national government allows states considerable flexibility over resource allocation to hospitals but is, however, actively involved in setting a number of conditions and performance indicators (Duckett, 2000). The states are limited in their ability to raise taxes or increase public borrowing for capital investments. The State of Victoria covers depreciation costs using capital payments in response to submissions by the health services. The capital of the individual hospitals is funded by the DHS via a block grant determined through the budget economic review committee process, and divided up absolutely at the DHS's discretion. To a limited extent, hospitals do have other forms to fund their capital investments.

It has been estimated that as much as 10 percent of the capital investments made in health facilities in Australia are wasted due to poor facilities which create huge maintenance

[32] All dollar amounts in this chapter refer to Australian dollars.

liabilities (Forbes, 2000)[33]. By involving the private sector in capital projects in the health sector, the Government hoped to reduce this waste.
Victoria had some experience with private sector involvement in health before the early-1990s. In public hospitals, private organizations were often used in the provision of car parking services and linen supply. The number and responsibility of private organizations in health increased under the Kennett government during the 1990s.

In Victoria, about 25 percent of hospital capital in the period 1997 - 2001 came from the private sector (Stoelwinder & Viney, 2000). Many initiatives to strengthen the role of the private sector in the health sector were motivated by the need to obtain capital funds to renovate or extend old public hospitals and to build new hospitals in population growth areas. One popular Victorian initiative is co-location. Although medics working in most large public hospitals already treat private inpatients in public facilities, co-location involves the establishment of a privately-owned hospital within, or adjacent to, a public hospital (Bloom, 2000).
The introduction of private financing to health capital in Victoria was designed to procure asset-based goods and services in the most efficient, cost-effective, and timely manner; to take advantage of new technologies and innovations, private sector management skills and a wide range of financing techniques; and to promote growth and strengthen the State's economy (English, 2005). However, unlike in the UK, private finance is not a requirement for implementing capital developments. In Figure 21, the annual allocation of capital health funding by the DHS over recent years is given. It allocated a total of $1,898 million to rebuild, upgrade, or refurbish Victoria's public hospitals in the period 1999-2006. Of this amount, $64 million has been provided by the national government, and $440 million allocated for concession arrangements. These projects accounted for approximately ten percent of the total State infrastructure investment.

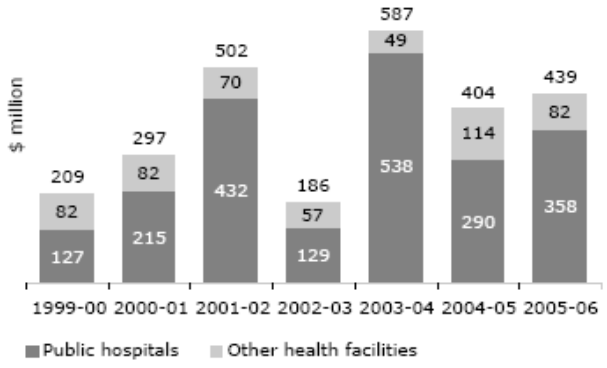

Fig. 21: Annual capital funding (DHS, 2005)[34]

[33] In Ng and Loosemore (2007)

7.2 Concessions in Victorian health

English (2005) argues that the first concession arrangements in Victorian health services can be seen as a means to control the financial implications of the rapid expansion in the private hospital sector and to reduce restrictive controls on public hospitals. Other authors are of the opinion that these arrangements fitted the general NPM conviction and this led to the rapid adoption of the concession option for hospital developments across the State. The overall motivation underlying the adoption of hospital concessions is most probably a combination of funding related and NPM-related considerations.

The willingness to implement concessions was endorsed in the '1998-2003 Australian Care Agreements' which allowed public hospital services to be provided in any appropriate environment, provided that the patient continues to receive care free of charge on the basis of clinical need and within a clinically appropriate time. The overall circumstances have been favorable for the commencement of the implementation of concession arrangements in health. According to a report by Dowdeswell and Heasman (2004), the following contextual characteristics in the Victorian health sector have worked in favor of concessions:

- The need for rapid expansion of hospital facilities to match growing populations and replace outmoded facilities;
- A mixed public-private hospital system;
- A robust private sector marketplace;
- A risk-amenable banking sector;
- A relatively 'mobile' clinical workforce with a large percentage of self-employed consultant staff working under contracts to public and private hospitals;
- An established 'Payment by Results' system for public hospitals (see also Chapter 6) based on a combination of case-mix and block funding.

In order to provide the legislative framework for service concessions, the Health Service Act included clarification of the step-in rights of the Minister of Health. Hospitals were also encouraged to look into the possibility of external (i.e. private) provision of non-clinical services.

During the period 1997-2006, the DHS committed itself to proceeding with six hospital concession arrangements in which it has utilized a variety of different arrangements.

The earliest arrangement is the Latrobe Regional Hospital project (contract signed in 1997). Subsequently, the Mildura Base Hospital (contract signed in 1999) concession was implemented. Both are full service concessions that included the transfer of responsibility for both clinical and non-clinical services from the public to the private sector. Both involved the construction of a new hospital in conjunction with the renovation and refurbishment of an existing hospital to consolidate the redevelopment of local hospitals

[34] The allocation of $587 million in 2003-04, of which $538 million was for hospitals, included $250 million for the new Royal Women's hospital, which would later proceed as a PV project.

onto one site (Ducket et al., 1999)[35]. The Kennett government also started the process of implementing similar arrangements in the Austin Repatriation Medical Center and Knox Hospital, but these arrangements were discontinued by the subsequent Bracks government which had other ideas on private sector involvement in the health sector.

In 2001, the Bracks government redefined the purpose of concession arrangements within the Partnership Victoria (PV) method. This PV method later became the basis on which all other Australian jurisdictions developed their own policy documents for governing the identification, establishment, and operation of concession arrangements. The PV method was a change in the Victorian position towards concessions arrangements. It amounted to a change in focus that was accompanied by a shift towards allocating risk in order to achieve VFM, and was underpinned by several technical policy documents and the formalization of the PSC. Further, it restricted the role of the private sector to non-core (i.e. ancillary) services provision. Responsibilities for clinical services were no longer to be transferred to a private sector partner as part of a concession arrangement. Generally, Victorians see economic infrastructure as existing to support social infrastructure, as well as the general quality of life and social harmony of the nation. This is why the involvement of the private sector in 'essential services' has been so controversial, especially when introduced under the broader strategy of 'reforming' the public sector by increasing competition (Crump & Slee, 2005).

In Victoria, the PV method is becoming an increasingly important tool for hospital provision. To date, there have been three hospital projects utilizing the PV method: the Casey Hospital (a newly built hospital), the Royal Women's Hospital (a redevelopment project) and the Royal Children's Hospital (a redevelopment project). Hospitals are transferred back to the State and will be included in the DHS balance sheet.

Two other, slightly different, 'Design, Build and Finance' schemes have been agreed as well: St. Vincent's, and Austin and Mercy Hospitals. The St. Vincent's redevelopment is being financed by a government issue of indexed annuity bonds and equity finance provided by two banks. The ownership of the redeveloped hospital initially resides with the banks, which then lease the hospital facility to the hospital management. All repayments to bondholders are guaranteed by the DHS. In the case of the Austin and Mercy hospitals' redevelopment project, the DHS paid the actual cost of construction to an agreed maximum, thereby limiting the downside risk. A project performance pool arrangement was set up to share capital cost savings with the constructor. As these 'Design, Build and Finance' schemes do not include the transfer of operation and maintenance responsibilities to the private sector, these arrangements are not covered by the definition of concessions adopted in this research project. The IPFA (2000) defines a concession as the financing of long-term infrastructure and public services based upon a non-recourse, or limited

[35] In October 2000, Latrobe Regional Hospital was transferred back to the Victorian Government after the AHCL had reported a loss of $6.2 m in 1999 for the hospital. The Victorian Minister for Health stated that the losses incurred by the Australian Hospital Care meant it 'could no longer guarantee the hospital's standard of care' (Pollock & Shaoul, 2001).

recourse, financial structure where project debt and equity used to finance the project are paid back from the cash flow generated by the project. This is clearly not the case for the St. Vincent's and Austin and Mercy Hospitals projects.

From the discussion above, it is concluded that the policy towards concessions has been changed over the years. In Table 19, some of the most important Victorian policy documents regarding concession arrangements are outlined.

Tab. 19: Victorian policy documents towards concessions (adopted from English, 2005)

Year	Policy document	Underlying rationales of policy	Thrust of reforms
1994	Infrastructure investment policy for Victoria	Demonstrated the Government's commitment to strengthening its partnership with the private sector	• Delivery of core and non-core services based on savings to government from private service provision
1996	Investment evaluation policy and guidelines	Establishes policy for all government bodies when assessing infrastructure investment proposals over $5 million	• Underlying principles: cost benefit and cost effectiveness analyses. • Impact analysis employed for non-monetary and non-quantifiable impacts, distributional impacts, and weighting the importance and magnitude of projects
2001	Partnerships Victoria: risk allocation and contractual issues	First of three documents to assist in implementing Partnerships Victoria (PV) 2000 policy framework	• Increase understanding of risk allocation. • Identify all major risks and indicate preferred government position on risk allocation. • Guidance (to government) as to how risks should be addressed to lower transaction costs
2001	Practioner's guide	Sets out the fundamentals of PV projects, the approach to key commercial issues and public process issues	• Clarification of VFM and public interest principles • Identification of the processes related to developing concessions
2003	Partnerships Victoria: Contract management guide	To help achieve project objectives incorporating VFM outcomes. To enable procurement team to address and support principles of effective contract management	• Guidance for government management of PV contracts through out lifecycle of projects • Direction for procurement team
2004	Fitzgerald Report	Recommendations to realign the strategic direction, scope, and operation of the PV policy in terms of the projects and processes involved	• Strategic direction to be informed by empirical evaluation of the performance of project delivery • Reform of the PSC following UK example • Streamlining of bidding and contractual processes • Exploration of new financial and partnership structures

7.3 The case study design

Following the choices made regarding the case study research in Chapter 2, the selection of concession projects in Victoria differs from the English situation as the number of concession arrangements implemented is considerably smaller. So far, only three 'true' concessions (i.e. are covered by the definition given in Chapter 3) are being implemented in the State. Of these, one (the Casey Hospital) is already operational, one (Royal Women's Hospital) is near the end of the realization phase and one (the Royal Children's Hospital) is about to start the realization phase. As the last of these is at a too-early stage to be analyzed in terms of VFM, only the Casey Hospital and the Royal Women's Hospital are included in the case study research. The research is enhanced by the inclusion of the Latrobe Regional Hospital project. This project is of particular interest due to its specific characteristics and its failure after only two years of hospital operation. The characteristics of the selected facilities are given in Table 20 below.

Tab. 20: Facility Characteristics of the selected Victorian cases

Facility Characteristics	Latrobe Regional Hospital	Casey Hospital (formerly known as Berwick)	Royal Women's Hospital
Project summary	3 pre-existing campuses + psychiatric services at another location. Upgrades were needed. greenfield site was selected in order to ensure that there was no disruption to existing service delivery	New facility was needed to serve the fast growing communities in Casey and Cardinia local government areas	New facility to be relocated to a site adjacent to the former RMH. Demolition of the facility, construction of an underground car park and new Frances Perry House, medical consulting suites, purchase and installation of new and retained equipment.
Type of contract	BOO (DBFOO), including clinical care transferred to private sector	BOOT (DBFO).	BOOT (DBFO)
Capital value	$56 million	$100 million	$190 million
Date of financial close	January 1997.	October 2002	April 2005
Contract period	20 years, with scope to extend by 5 years	25 years, post construction.	25 years, post construction
Awarding authority	DHS	DHS	DHS, Women's health services
Consortium	Latrobe Regional Hospital Pty Ltd is the SPV that owned the hospital. The Operator is Australian Hospital Care (subsidiary)	Progress Health SPV (ABN AMRO, Multiplex constructions, architects Silver Thomas Hanley Daryl Jackson and FM Multiplex Asset Management)	RW Health partnership (RWHP) (Bilfinger Berger BOT, Baulderstonde Hornibrook, United KG, ANZ and Macquarie Bank)

The emphasis is on analyzing how performance in these hospital concessions is stimulated in the policy rhetoric, from the legal contract, and also from operational outcomes. The projects are therefore, if possible, investigated on these three levels. The political rhetoric is broadly described by the general guidelines and the policy initiatives underlying the concession arrangement. The rhetoric concerns the policy and political context of the individual hospital concessions, including setting the scope for flexibility measures. The legal contract is analyzed to determine how flexibility is allocated between the DHS and the private sector partner. The operational outcomes reflect how performance has been accomplished in practice, based on project experience to date.

The data collected to describe the operational outcomes of the project mainly stem from indirect data, including official evaluation publications, annual reports and accounts of the DHS and Auditor-General, respected newspaper articles, journal articles and conference papers. Further, all publicly available annual reports of the clinical service provider in the hospital starting from the beginning of the operational phase up to the end of the financial year 2005-2006 have been analyzed in order to find empirical data on flexibility related issues.

Tab. 21: Case study protocol Victorian cases

Design flexibility			
Policy rhetoric	**Type**	**Case study question**	**Data source**
	Strategic/ tactical design flexibility	How was the capacity of the hospital set?	Indirect data: official policy evaluation documents (a.o. Fitzgerald report), data triangulation with scientific articles, internet sources (a.o. IPP).
	Financial flexibility	Is the capacity completely driven by patient activity?	Indirect data: official policy documents.
Contract	Strategic design flexibility	What is the capacity of the hospital?	Direct data: Project Agreement of the project. Indirect sources: scientific articles, magazine articles (a.o. Hospital Development)
	Strategic design flexibility	Does the design addresses long term department issues (e.g. space for future development in a good functionality to the new facility)?	Direct data: Project Agreement of the project. Indirect sources: scientific articles, magazine articles.
	Strategic design flexibility	Which of such provisions are incorporated?	Direct data: Project Agreement of the project. Indirect sources: scientific articles, magazine articles (Hospital Development)
	Tactical design flexibility	Does the building offer temporal provisions to be able to respond to changes in demand for clinical services?	Direct data: Project Agreement of the project. Indirect sources: scientific articles, magazine articles.
	Tactical design flexibility	Which of such provisions are incorporated?	Direct data: Project Agreement of the project (Victoria). Indirect sources: scientific articles, magazine articles.
	Tactical design flexibility	Are there any sanction or bonus agreements to incentivize the private sector partner to improve quality of services or building over the lifetime of the project?	Direct data: Project Agreement of the project (Victoria). Indirect sources (for data triangulation purposes): scientific articles
	Strategic and tactical design flexibility	What is the contractual mechanism to effectuate design change?	Direct data: Project Agreement of the project. Indirect sources (for data triangulation purposes): scientific articles, evaluation reports of accounting offices.
Operational outcomes	Strategic and tactical design flexibility	Are both parties working together to identify improvements in the design?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices, scientific articles.
	Strategic and tactical design flexibility	Is the facility able to cope with the demand? Are the projections of demand of users well determined in relation to the catchment's area?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices, scientific articles,
	Strategic/tactical design flexibility	Has design flexibility been an issue in practice yet? And if so, were there any problems dealing with changes while keeping the facility operational?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices.

Service flexibility			
Policy rhetoric	**Type**	**Case study question**	**Data source**
	Strategic service flexibility	Were there any considerations concerning the scope of services that would be included in the concession?	Indirect data: evaluation reports, policy documents. Data triangulations with Internet sources, magazine and newspaper articles.
Contract	Strategic service flexibility	What is the scope of the ancillary services under the concession arrangement?	Direct data: Project Agreement of the project. Indirect data (for data triangulation purposes): scientific articles, evaluation reports of accounting offices.
	Strategic service flexibility	What is the contractual mechanism for changing the service scope of the contract?	Direct data: Project Agreement of the project. Indirect data (for data triangulation purposes): scientific articles, evaluation reports of accounting offices.
	Tactical service flexibility	Are there adequate processes to temporally change the availability fee ancillary services (and their payments) in response to changes in the market?	Direct data: Project Agreement. Indirect data (for data triangulation purposes): scientific articles, evaluation reports of accounting offices.
Operational outcomes	Strategic service flexibility	Has the awarding authority established the process and timing of market-tested yet?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices.
	Strategic service flexibility	What are the outcomes of this market testing?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (VAG).
	Strategic service flexibility	Has the health authority yet changed the scope of services transferred to the SPV during the period studied in this analysis? How?	Indirect data: annual reports of health authorities (VAG)
	Tactical service flexibility	Has tactical service flexibility been an issue in practice yet? And if so, were there any problems dealing with changes while keeping the facility operational?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (VAG)
Financial flexibility			
Policy rhetoric	**Type**	**Case study question**	**Data source**
	Affordability	What were the financial implications of implementation of the concession arrangement at the time the business case/project agreement was signed?	Indirect data: Evaluation reports of official accounting offices (VAG). Data triangulation with scientific articles.
	Affordability	Was the concession affordable at the time the business case/project agreement was signed?	Indirect data: Evaluation reports of official accounting offices (VAG). Data triangulation with scientific articles.
	Affordability	What was done, if necessary, to increase the affordability of the concession?	Indirect data: Evaluation reports of official accounting offices (VAG). Data triangulation with scientific articles, news paper articles, internet sources.
	Affordability	How is the concession arrangement been financed by the SPV?	Indirect data: Evaluation reports of official accounting offices (VAG). Data triangulation with scientific articles.
Contract	Affordability	What is the clause on sharing refinancing gains?	Direct data: Project Agreement of the project (Victoria)
Operational outcomes	Affordability	What is the percentage of the health authorities' income that has to be paid to capital charges/concession arrangement?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (VAG, DHS).
	Affordability	How much did this percentage change before and after the implementation of the concession arrangement?	Several indirect data were checked: annual reports of health authorities, evaluation reports of official accounting offices (VAG). The data were however not available.

	Affordability	Has the health authority the necessary resources to meet the unitary charge to the SPV?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (VAG, DHS). Data triangulation with scientific articles, news paper articles, internet sources.
	Affordability	Is it likely that the project is affordable over the duration of the contract? Or:	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (VAG, DHS). Data triangulation with scientific articles, news paper articles, internet sources.
	Affordability	How is the flow of financial resources within this project organized?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (VAG, DHS).
	Affordability	Has there been any additional financial support to make the scheme affordable to the health authority?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (VAG, DHS. Data triangulation with scientific articles, news paper articles, internet sources.
	Affordability	If so, are the financial consequences allocated according to contract specifications?	Several indirect data were checked: annual reports of health authorities, evaluation reports of official accounting offices (VAG). The data were however not available.
	Effect use flexibility on unitary charge	Has the unitary charge been changed due to design or service variations?	Several indirect data were checked: annual reports of health authorities, evaluation reports of official accounting offices (VAG). The data were however not available.
	Effect use flexibility on unitary charge/affordability	Has a refinancing, with a relevant share of gains, taken place where possible?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (VAG, DHS).

In Victoria, the data collected for describing the policy rhetoric are mainly a mix of direct and indirect data. The direct sources used were project agreement from which to some extent insights in the policy rhetoric could be derived. Data were also derived from indirect sources, in particular annual reports of the clinical service providers, but also evaluation reports, such as the Fitzgerald report (2004).

The data needed for reviewing the contract level, mainly consist of direct data consisting of project agreements. A project agreement consists of mostly several volumes, counts hundreds of pages, and is difficult to fathom due to juridical language and a quest of the contract arrangers to preserve from claims that might arise in the unexpected future. In Appendix III, an example of a Victorian hospital concession project agreement is presented. A concession contract is unraveled for research objectives by analyzing specifically the sections that are related to demand-risk-related VFM. These sections are in particular, Parts 5, 6, 7, and 8 of the project agreement and appendices I, II, III, IV, V, VII, IX, and XXIX. These sections include provisions representing the way the awarding health authority and private sector partner have allocated demand risk and the way they should act upon materialization of demand risk and related issues. These provisions were analyzed and used to describe the accomplishment of demand-risk VFM in Victorian hospital

concessions. Due to the commercial confidentiality of contracts, only limited non-financial data are made public in these project agreements.
The data collected to describe the operational outcomes of the project mainly stem from indirect data, including official evaluation publications, annual reports and accounts of clinical service providers, government and private sector reports, respected newspaper articles, journal articles and conference papers.

7.4 Latrobe Regional Hospital

The Latrobe Regional Hospital project is special in this study as it concerns a full-service concession project. Unlike the other hospital concession projects included in the study, the concession arrangement embraces besides the transfer of the responsibility of the facility-related and ancillary services, also responsibility for the clinical services to the private sector. As a result, the organization structure of this project is considerably different from the structure chosen in other hospital concession projects, which was schematized in Figure 5. Due to its discrete structure, the organization of the project is outlined in the figure below.

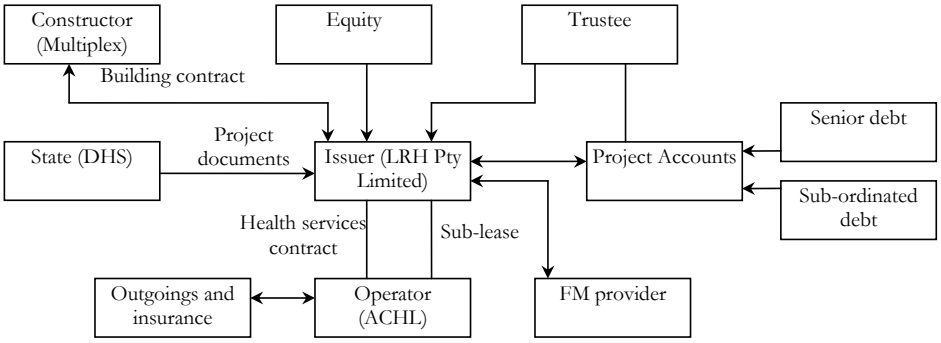

Fig. 22: Organization scheme Latrobe Regional Hospital (adapted from IPP,2003)

The time path of the project is given in Figure 23 as on overview of the project.

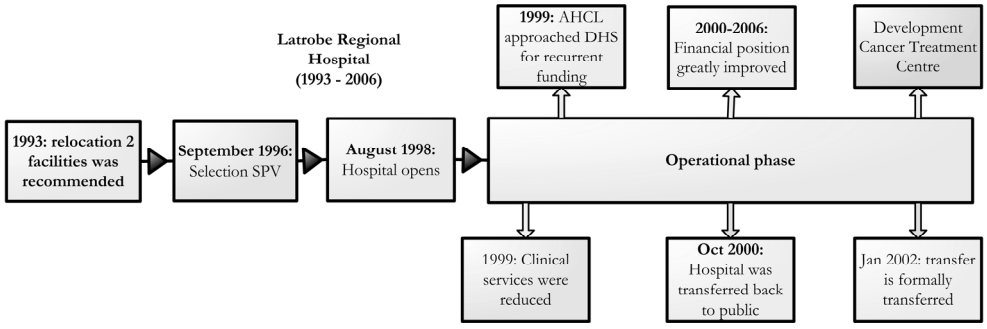

Fig. 23: Time path Latrobe Regional Hospital

7.4.1 Policy rhetoric

In the Latrobe Regional Hospital Project, the DHS wished to demonstrate its commitment to improving access to quality healthcare through greater private sector involvement in the provision of public healthcare services (IPP, 2003). This project was designed to provide the people in the Latrobe area with a new hospital, at an efficient price, through a concession arrangement.

In July 1991, three hospitals in the Latrobe area were merged into a single management structure creating the Latrobe Regional Hospital which operated across the three pre-existing campuses. Two of the hospital sites were in need of significant upgrades to meet the clinical requirements and future demands of the region. In 1993, a review was undertaken to assess healthcare provision from the ageing hospital facilities. The conclusion was that the existing facilities were not appropriate to accommodate future clinical requirements, and that the hospital sites were unsuitable. Recommendations were made to merge the two facilities into a new hospital on a greenfield site. With the preference of implementing a full service concession arrangement, the Minister for Health announced the selection of Australian Hospital Care Limited (AHCL) in September 1996 as the partner to build, own, and operate the new hospital, including the provision of clinical services. AHCL was one of the largest private hospital operators in Australia at that time, and had experience in the development and management of a full range of health facilities. Opposition parties, as well as the Latrobe community, were strongly opposed (Martin, 2007). They both saw the full service concession as an unwelcome step towards a privatized health system.

Design and service flexibility

The objective of the hospital project was to ensure the delivery of a cost-efficient and improved health service to publicly-funded patients in the Latrobe region. ACHL would provide clinical services on exactly the same basis as was available at that time in publicly-managed hospitals. ACHL was also expected to make a significant contribution to the education and training of healthcare professionals in cooperation with Monash University. The hospital commenced operations in September 1998.

ACHL was required to provide at least the same range and scope of services as provided within the two previous facilities, with specified additional services also to be provided. The option for a BOOT development was also considered in the development phase, but appeared to be less attractive due to potential adverse taxation implications and the desire of the government to transfer the risks associated with the ownership of the facility to the private sector.

In January 1997, the New Latrobe Regional Hospital Agreement was executed between Latrobe Regional Hospital Pty Ltd (an SPV established by the AHCL consortium), Australian Hospital Care (Latrobe) Pty Ltd (the operator), and the Minister of Health on behalf of the State. The SPV agreed to develop and construct the new hospital at its own cost. It also assumed responsibility for sub-contracting its obligations for clinical service

provision to the operator for a period of twenty years, with the scope to extend this period by a further five years subject to mutual agreement between the partners in the project.
It was further stipulated that not less than 85 percent of the people in the catchment area requiring treatment would be treated in the Latrobe Regional Hospital. The plans were based on the volume of services set for the case mix situation in the old facilities in 1994-95. The number would be modified each year during case mix negotiations with the DHS.

Financial flexibility
Not all the financial estimates produced by the Latrobe Regional Hospital project were disclosed to the public. The hospital was off the balance sheet. The capital cost of the project was $56 million, which was to be borne by the SPV. To finance the construction of the hospital facility, the SPV part-financed this debt by issuing an annuity bond (IPP, 2003). The SPV also contributed subordinated debt, a private investor contributed equity, and Monash University contributed by way of prepaid rental for 20 years. Standard and Poor awarded the bonds an 'A' long-term credit rating on the basis of 'exclusive rights to the provision of essential hospital and public health services' and the experience of the operator.
AHCL agreed to provide services at 96 per cent of what the DHS's costs would be for an equivalent publicly-owned institution. It would recover its costs by revenues generated through providing clinical services plus payments from the DHS for allocated facilities. Just as in agreements with other Victorian public hospitals, the DHS agreed to purchase acute inpatient services from Latrobe Hospital by way of a case mix target, which would be reviewed on an annual basis. The DHS guaranteed a minimum level of funding for acute inpatient services, and was entitled to reimbursement for any amount in excess of budgeted revenue receipts (English, 2005).
The charge is based on the services delivered which includes provision of the following clinical services: accident and emergency, outpatients, community rehabilitation, and community health. The other clinical services such as ambulatory care, outpatients, aged care, and mental health would be paid in accordance with an annual budget to be competitively negotiated. These charges also include a capital component for the utilization of the facility, equipment and technology (LRH, 1997). Most of the figures used for the estimation of the unitary charge were not been disclosed to the public.
The allocated facilities component was around $4.5 million per annum (with indexation) and was applied to service the debt and other costs such as insurance and maintenance (VAG, 2002). The government stated that the running costs of the hospital would not be lower that conventionally-operated hospitals, but claimed that it would make substantial savings on the capital cost of the building (National Radio November 1, 1998)[36].

[36] In Martin (2007)

As part of the deal, the SPV was required to purchase the land on which the hospital was to be constructed, and to transfer ownership of that land to the State after a 99-year lease granted to the SPV. While the DHS had a commitment to purchase services from the hospital for a minimum of 20 years, at the end of this term the government had no obligation to purchase or continue to utilize the facilities, and the SPV could use the site for other purposes.

7.4.2 Contract[37]

Design flexibility

The new Latrobe Regional Hospital was designed for 257 beds. A requirement was that both the design development and the construction documentation should fit the objectives of the project. In the project agreement, nothing is said about the number of patients for which the hospital should be designed, or about projected future clinical demand. In the contract, however, provisions were made for future refurbishments of the hospital including the amount of furniture, fittings, and equipment that would be used during the contract period. The refurbishment costs are pre-determined and payable over the term of the contract at various stages. In predetermined years, payments are reserved for refurbishments. The total payment envisaged in the draft refurbishment plan is $0.9 million over the term of the contract.

The private operator could, with the prior consent of the DHS, make material alterations, additions, improvements or modifications to the hospital. If it wished to change the facility, the private operator would need to submit a proposal to an 'independent certifier'. If this certifier agreed that the amendment or variation would have no adverse material effect on the use of the hospital for providing clinical services to the set quality standards, then the SPV could submit the amendment to the contract administrator. The DHS then had to decide whether or not the variation would be implemented. If the implementation of any modification resulted in a decrease in the cost of the works by more than 2 percent, the new figure for the cost of the works had to be factored into the service charge. At any time during the development period, the DHS could request a variation to the construction works, with any costs associated with such variation to be met by the State where such costs exceeded $50.000.

Service flexibility

Strategic service flexibility

Case mix targets were to be reset annually and the ancillary service component would be renegotiated every five years. If the SPV was entitled, and wished, to replace a service contract, it had to obtain the written consent of the DHS to the replacement operator.

[37] This section is mainly based on the analysis of the Project Agreement of the Latrobe Regional Hospital (LRH, 1997).

While the DHS, ACHL, and the SPV were allowed to agree a change, in the absence of such an agreement the State could decide to change the services for the ensuing contract year (including the elimination of any service, a change in the service level, a reduction in the bed-day number, or an addition of a new service). If a change implied a need for additional capital equipment or facilities, the SPV was obliged to use all reasonable endeavors to secure funding for such capital costs.
The DHS also agreed not to enter into any agreement to purchase clinical services from any other hospital in the Latrobe area, or construct a new health facility in the region for the term of the concession arrangement. During the term of the arrangement, the DHS had also agreed not to impose any laws or taxes which would discriminate against the SPV and AHCL in relation to the hospital and other health facilities within the DHS over the provision of clinical services.
The DHS had the right to terminate the agreement if certain specified defaults were not remedied within the prescribed period provided a replacement operator could not be found under the same provisions as the then current concession arrangement.

In the event of an operating default, including any threat to public health and safety, which was resolved by the ACHL to the satisfaction of the State, the DHS could exercise all or any of the following remedies.

- Demand compensation from the company and the operator;
- Appoint a replacement operator;
- Assume the management of the hospital; and
- Terminate the agreement if a suitable replacement operator cannot be found at the same price.

Tactical service flexibility

The DHS is not obliged to make any payment to ACHL if services are not provided in accordance with the health services agreement. Neither is it obliged to make payments in excess of the amounts specified in the business plan, which have been determined in accordance with the health services agreement. Nevertheless, if the DHS requires additional services to be provided or increased service levels be met, the service charge paid to the SPV would increase accordingly. There is a maximum service budget, which comprises the aggregate of the maximum, or budgeted, specific payments for stated clinical activities. Only in the event of an exceptional demand for a service due to a natural disaster, large accident, epidemic or other similar occurrence, the DHS would meet any additional payments. ACHL thus bears most of the demand risk associated with the non-realization of case mix activity projections over the life of the service agreement. However, the revenue stream would to an extent be guaranteed. ACHL would be reimbursed for some services within the budget, and would receive payments from the State for treatments in excess of the budget. The DHS guaranteed a minimum level of funding for acute inpatient

services, and was entitled to be reimbursed for any amount in excess of budgeted revenue treatments.
ACHL was required to use its best endeavors to meet the annual hospital revenue budgets. However, if a revenue budget for acute inpatient services was not met, or was exceeded, the DHS would provide funding for any revenue deficiency or, alternatively, ACHL would reimburse the DHS for any amount in excess of the budget. This system was applied in the same manner as in existing public hospitals.

The DHS enjoys step-in rights, which can be employed if a default by ACHL endangers the health or safety of patients. The step-in rights include the temporary assumption of total or partial operation of the hospital. In exercising these rights, the DHS is entitled to withhold a sufficient amount of the service charge to meet its reasonable operating costs. Notwithstanding these provisions, the DHS could potentially face contingent liabilities if it was forced to operate the hospital in circumstances in which ACHL had defaulted and become insolvent. Further, disputes and liability could arise from a provision in the contract that, in the event of changes in the law or government policy adversely affecting the ability of the contractor or the operator to perform their obligations, the parties will consult with a view to resolving any hardships.

7.4.3 Operational outcomes

At the commencement of the operational phase, the concession seemed to be considered a success for the DHS as this arrangement was the model for change at other State-run institutions, including the Mildura hospital. However, as it would quickly become clear, ACHL was not earning a profit from the concession arrangement. As a result, the concession was dissolved in 2000. The aspects of this related to flexibility are described below.

Design flexibility
The design was not changed during the period the ACHL was operating the hospital (August 1998 – October 2000). After the hospital was transferred back into public ownership, the design did appear to be substantially flexible. Some examples of the design flexibility in this hospital, after it was handed back to the State, are the Cancer Treatment Center being allocated to the hospital at a cost of $21 million, and several equipment and infrastructure investments totaling $1 million.

Service flexibility
The service provision, or at least the payments for this, appeared to be less flexible than ACHL had anticipated on. Although positive predictions were made, in 1998 it became quickly apparent that the concession arrangement was to be a failure, both from the perspective of the community not receiving qualitative healthcare, and from the perspective of the private sector as no profit was made. The private facility lost the whole-hearted

support of the community (Martin, 2007). After the implementation of the concession arrangement, volunteer health networks disappeared and donations from community groups and businesses stopped. This had financial consequences, especially for ACHL.
AHCL had limited flexibility in generating efficiency gains since the bulk of their operating costs were for payments of staff wages and salaries. It was confronted with higher than expected costs associated with operating a hospital in a rural setting (Martin, 2007). ACHL tried to contain the huge losses at Latrobe by reducing services leading to patients have to wait for treatment. Reports suggested that care was compromised, although AHCL strongly denied that this was happening. However, in the Herald Sun[38] it was stated that 'leaked documents reveal bed shortages and cancelled surgery lists'. Services were lost, for example, in ear, nose and throat and ophthalmology services. Also pediatric services were reduced. The hospital fell short in financial performance due to 'higher costs in meeting an unexpectedly high level of demand for its services[39] and 'the hospital operator severely underestimated the patient load provision of services with their tender'[40]. However, when the number of acute inpatients treated in the early operation phase of the hospital is compared with the number of patients admitted to the old facilities (see Table 22), no such significant change is apparent.

Tab. 22: Patients admitted to the Latrobe Regional Hospital (DHS, 1997-2004; 2004-2006)

Financial year	**Total number of acute inpatient treated**
Latrobe Regional Hospital	
1997-1998	19,535
1998-1999	2,704
New Latrobe Regional Hospital	
1998-1999	19,485
1999-2000	19,959
2000-2001	21,009
2001-2002	21,949
2002-2003	22,741
2003-2004	23,377
2004-2005	25,657
2005-2006	25,502

After six months of operation, AHCL approached the DHS and asked for an increase in recurrent funding to ease an apparent operating loss at the hospital. This request was refused as ACHL was not able to satisfactorily demonstrate that the operating losses were really occurring (IPP, 2003). The government also did not want to create a precedent for other privatization contracts (VAG, 2002).
When, in September 1999, the Bracks Government was elected for four years, ACHL again sought financial assistance at the State level, and again this was refused. In the first full year of operation, the DHS managed the relationship with the operator in line with the

[38] Herald Sun, 30 October 1999, cited from Martin (2007)
[39] Your Money Weekly September 16, 1999, cited from Martin (2007)
[40] In Martin (2007)

agreement and refrained from entering into any discussion regarding renegotiating elements of the agreement. As the matters were not resolved, ACHL instituted legal action against the State on the grounds that the Latrobe Regional Hospital was being discriminated against relative to other Victorian public hospitals (VAG, 2002). One of the arguments of ACHL was that no grants were given to the Latrobe Regional Hospitals, whereas financial grants were given to similar hospitals. ACHL's claims were disputed, and ACHL was left no other possibility than to try and fulfill its contractual duties. By July 2000, the DHS concluded that, as a result of financial problems and the inability of the operator to make efficiency gains, it was only a matter of time before it would need to consider either renegotiating the contract or terminating the concession arrangement. The DHS ultimately decided to step in, although no operator default had occurred (IPP, 2003). This was inconsistent with the contract which stated that such a default should be a precursor to the government stepping in. The Minister for Health stated that 'the losses incurred by ACLH meant it could no longer guarantee the hospital's standard of care' (Pollock, 2001b).
The essence of the problem was that the operator was unable to make a profit from the delivery of services at the performance levels required (English, 2005). AHCL was ultimately released from its contract in return for dropping legal action against the DHS. On 31 October 2000, the hospital was transferred back to the State. In November 2001, the staff of Latrobe hospital transferred back to State employment and, in 2002, the financing structure was unwound, and ownership of the building reverted to the State.

Afterwards the reasons of loss for the SPV losing money were analyzed. It appeared that the SPV's bid was based on a staff level that was lower than that needed in practice. The SPV also assumed the hospital would be treated as a public hospital, and therefore be exempted from payroll and fringe benefit taxes, and would be beyond the control of the State government. It also failed to adequately take into account the cost of equity. This was a clear disadvantage of the arrangement vis-à-vis other DHS hospitals, since these were not required to meet such costs. This disadvantage was, however, enunciated in the project brief published to attract private sector bids.
The SPV also failed to understand case mix principles, i.e. that the case mix is adjusted each year and based on diagnostic groups and the average daily inpatient cost of all Victorian public hospitals over the preceding year. It rewards efficient hospitals and encourages non-performing hospitals to improve. Further, all Victorian public hospitals were expected to make a 1.5 percent productivity improvement each year. The SPV may have assumed that the DHS would be willing to revise the contract once initiated if justifiable reasons existed.

Financial flexibility
This concession arrangement appeared to be insufficiently financially flexible from the private sector point of view. Due to incorrect assumptions by the SPV and ACHL in the tendering phase, the operator was unable to deliver a healthy profit. The operator was

making money from its other private hospital operations and so could have coped with the losses from Latrobe Regional Hospital but choose not to.
ACLH reported a loss of $6.2 million in 1999 from operating the hospital, and forecast it would lose another $2.7 million in the subsequent year (Pollock et al., 2001). When the DHS decided to terminate the concession arrangement in July 2000, ACLH had effectively written off its $17 million investment in the hospital.
In March 2002, an 'in principle agreement' was reached between the DHS and the owner of the hospital building to wind-up the financial structure of the hospital. In accordance with the step-in provisions of the new Latrobe Regional Hospital Agreement, and with the acceptance of the SPV, a public sector agency, established under the Health Services Act 1988, became the temporary operator of the hospital, assuming all operational and financial risks from November 2000. The transfer of the hospital's operations to the public sector was formally completed in January 2002. The formal completion took place on the basis that all the SPV's outstanding claims were withdrawn. The terms of settlement required the SPV to pay the State around $2 million, representing the balance of assets and liabilities assumed by the State from the SPV. The March 2002 agreement provided for the transfer of all shares in Latrobe Regional Hospital Pty Ltd (and, therefore, ownership of the hospital including property, plant and equipment valued at $51.5 million) to the State for a nominal amount of $1.
An amount of $44.4 million was paid by the State representing payment in full of all bond debt owed by the former private organization. This payment also released the State from future obligations to the company relating to an 'allocated facilities charge' which the State was contracted to pay for a further eleven years.
Latrobe Regional Hospital also cancelled the subordinated debt and associated interest obligations by the SPV and ACHL of $16.6 million. The new Latrobe Regional Hospital had previously purchased these, and other rights associated with the hospital facilities and equipment, from the private sector provider for $6.6 million.

It is interesting to compare the financial performance of Latrobe Regional Hospital prior to and after the implementation of the concession arrangement. This involves comparison of the financial figures prior to the financial year 1998-99 with the performance of the new hospital in the first years of operating again under public management, for which the figures are in Table 23. It seems from this that the hospital can be operated without making financial losses.
The Latrobe Regional Hospital now serves a catchment area of over 70,000 people in the Latrobe Valley and nearly 230,000 across Gippsland.

*Tab. 23: Financial performance before and after the concession arrangement**

Financial year	Financial performance ($million)**
1996/1997	3,432
1997/1998	17,553
2000/2001	-542
2001/2002	10,176
2002/2003	31,683
2003/2004	-1,694
2004/2005	3,471
2005/2006	9,781

**Figures for the concession period are not available due to commercial confidentiality*
*** Net results. Source: various annual reports of the Latrobe Regional Hospital*

During the period of private operation of the Latrobe Regional Hospital, the VAG's reports (2001 & 2002) confirm problems for public hospitals arising from the case mix model. It seems that the DHS was forced to make additional 'one-off grants' to many government-run hospitals in response to deteriorating technical performance indicators resulting from under-funding. By 2003, there were fifteen Victorian hospitals showing signs of financial difficulties with unfavorable results on all four performance indicators, and an additional 22 with unfavorable results on at least two of the indicators (English, 2005). The option of receiving 'one-off grants' was not open to the SPV or to ACHL and this left them at a financial disadvantage relative to public hospitals (Ducket et al., 1999). This also contributed to the decision to terminate the arrangement.

7.4.4 Summarized

The VFM performance related to demand risk of the Latrobe Regional Hospital project is reflected in Figure 24.

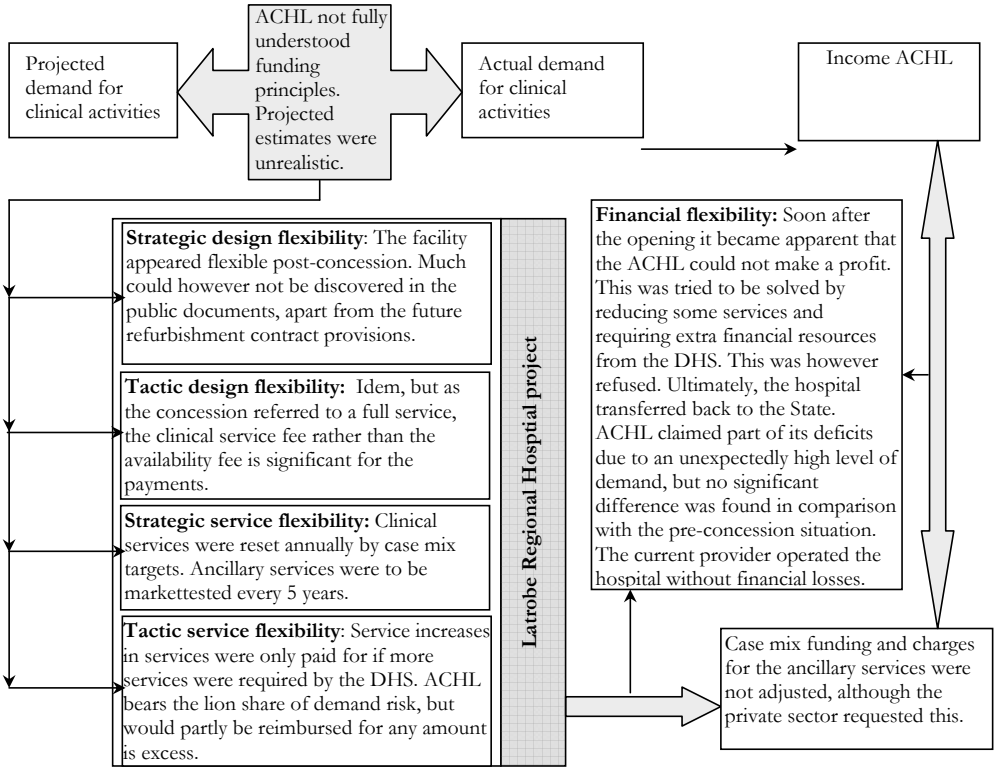

Fig. 24: Demand risk-related VFM in the Latrobe Regional Hospital Project

7.5 Casey Hospital

The time path of the Casey hospital arrangement is given in Figure 25 as on overview of the project.

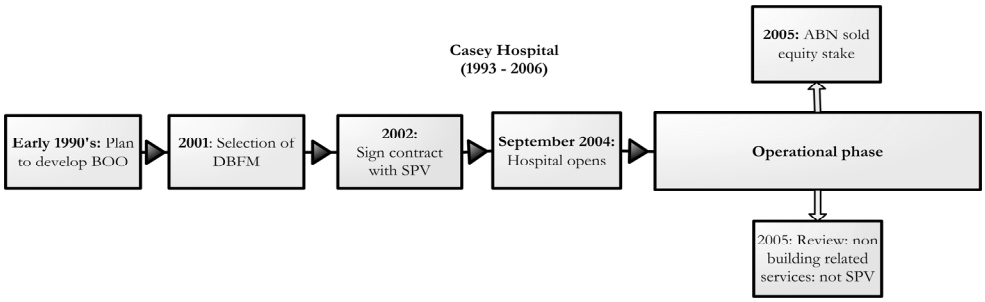

Fig. 25: Time path Casey Hospital

7.5.1 Policy rhetoric

The Casey Hospital, formerly known as the Berwick Hospital, is located in Berwick in the area serviced by Southern Health, the largest health service provider in Victoria. Berwick is at the heart of one of the State's fastest growing areas. The need for a new hospital was recognized in the early 1990s but financial resources were not available to meet this need. Therefore, plans were directed at designing the project as a full service concession along the lines of the Latrobe Regional Hospital project. However, the willingness of the private sector to be involved in this project appeared insufficient after several lengthy negotiation processes. By the time decisions had to be taken, the private sector had come to realize that the DHS was not going to provide sufficient funds to make a large profit, and that the community was also distrustful.

A strategy for a concession, without the transfer of responsibility for clinical services, was consequently developed and approved in 2001. This followed the PV method, implying that core services would continue to be provided directly by the government.

After the tendering process, Progress Health was selected as the SPV. The concession arrangement for the provision of a new hospital was the first completely new hospital facility developed within the Victorian health system. Casey Hospital offers a full range of inpatient services, pre- and post-acute care, and outpatient services. After the delivery of the facility on time and on budget, the facility was opened in September 2004.

Design and service flexibility

One of the objectives of the project was to improve access to healthcare services across the whole of the catchment area, and to increase the provision of healthcare and hospital services by the Southern Health. Another objective was to assist operators to achieve best practice in effective clinical services, ensuring better patient outcomes and enhanced efficiency, both in the use of facilities and equipment and in operating costs. It was also pronounced that the SPV should provide sufficient capacity in the infrastructure facilities and services to facilitate changing hospital functions if community healthcare needs varied over time (CH, 2003a).

The new Casey Hospital was required to have a flexible infrastructure capable of adapting to future needs and changes. Therefore, the SPV was asked to provide an operationally efficient facility that would be capable of meeting service specifications, and which would assist Southern Health to operate within budgets that are annually allocated by the DHS. It was also required to include flexibility by providing an infrastructure capable of adapting to future infrastructure needs, new technologies and clinical practice changes. The contract was for a period of 25 years (post construction). On completion of the contract ownership will transfer back to the State.

Financial flexibility

The financial arrangement was defined as a lease on the basis that the key risks associated with the project were to be borne by the State. Accordingly, the hospital was recorded as a

State asset on the State's balance sheet, reflecting the government's obligations to finance the capital cost and maintenance of the facility, and estimated at $378 million (DTF, 2005). The associated payment stream was equivalent to a NPV of $120 million (discounted at 8.65 per cent) at June 2002 (Fitzgerald, 2004), representing a 9 percent saving against the PSC.

The project was financed by senior debt (CPI-linked annuity bonds) and equity. During the construction phase, the senior bondholders were not liable for any completion risks on the construction of the facility. The ABN-AMRO bank led the SPV and adopted a specific approach in this project. One of the subsidiaries (the Plenary Group) of the SPV assumed 100 percent of the equity, thereby underwriting capital market issues. Subsequently, the bank negotiated fixed price contracts with the construction and FM operation companies to carry out the work. The Plenary Group, as the owner of Casey Hospital, is responsible for the maintenance of the facility. The hospital will be transferred back to the government for zero consideration at the end of the concession arrangement (CH, 2003a).

The first quarterly service payment in the operational phase was set at $2.2 million (CH, 2003a). As the Casey is a new hospital, the financial consequences of the concessions arrangement cannot be compared with the previous situation in terms of for capital cost.

As with all types of DBFO contract, the unitary charge can be reduced if the services are not delivered to the required standard. The unitary charge includes payments for security services (the amount has not been disclosed) and facility services which include accommodation services, mechanical services, utility services, emergency services, car parking services, external cleaning services, ground maintenance, and training.

7.5.2 Contract[41]

Design flexibility

Strategic design flexibility

The hospital contains 229 beds, is constructed on a greenfield site, and has a floor plan area of approximately 229 square meters. The hospital is capable of treating up to 30,000 patients, 25,000 emergency cases and delivering 2,000 babies, and performing 3,000 operations in its four surgery theatres each year. The hospital is located on a 10-hectare site and so future expansions can be readily facilitated should they be required.

The DHS is entitled to seek modifications or extensions to the facility or, alternatively, may engage third parties to carry out such work. After consultation with the operator, the SPV must respond to a request by giving an overview of the proposed structural changes to the facility needed to satisfy the request. The SPV must explain the structural improvements it suggests, the capital expenditure involved, the change in insurance costs, other estimated costs, time plan, method of funding, and the proposed variation (if any) in the quarterly

[41] This section is mainly based on the analysis of the project agreement of the Casey Hospital (CH, 2003a; 2003b).

service payment. Unless the government elects to fund the capital expenditure itself, the SPV must use all reasonable endeavors to obtain funding for the capital expenditure.
As variations to the contract could lead to a price variation, that would make the contract uncompetitive, only government-initiated changes can result in a change to the unitary charge. This means that the SPV is allowed to make variations, but these must not result in an increase in the unitary charge. It is itself responsible for all the costs and expenses, and insurance, of the proposed variation.
Under the arrangement, the final design of the facility cannot be changed without the approval of the DHS. Some changes to the scope of the project, requested by the consortium, were negotiated as part of the settlement deed.

Tactical design flexibility
The amount for refurbishment is pre-determined for the term of the concession arrangement. This amount is payable over the term of the contract, although is some years there is no payment. The total payment envisaged in the draft refurbishment plan is $25.7 million over the term of the contract. The SPV bears the risk that refurbishment costs exceed the amount paid. It also remains liable for all repairs, maintenance, and refurbishment, even if hospital demand exceeds forecasts.

Service flexibility
Strategic service flexibility
Apart from the design-related responsibilities related to the hospital, the SPV provides the following ancillary services: security, external cleaning, information management and technology cabling, help desk, and car parking. Further, the SPV bears the responsibility for procuring, installing and commissioning selected medical equipment. Services linked to patient care, such as the cleaning of facilities used by patients and food provision were specifically excluded from the concession arrangement. The parties agreed to consult and agree every three months on the best method of integrating the facility services and the hospital functions.

The ancillary services are subject to market testing. The SPV may, not later than nine months prior to the expiry of the current five-year service term, submit an offer to the government for the provision of security services for the subsequent term. The DHS in theory will meet the potential costs associated with a renegotiated scope of the security contract. The DHS may reject the SPV's proposal and, if so, the DHS may require the SPV to call for tenders (not less than three) for the provision of security services. If the DHS rejects the proposals from the SPV, it has the option of deleting that security service, in response to which the SPV must issue a modification to the recurrent costs.

Tactical service flexibility

The DHS is obliged to fund the quarterly service payments due under the concession arrangement. These payments are not dependent upon the number of patients serviced. The demand risk of the hospital is the responsibility of the DHS. This means that if the DHS decides not to use parts of the hospital facility, it is still obliged to pay the SPV the availability component of the unitary charge.

The contract includes extensive provisions relating to default situations. If a termination default event is not sufficiently resolved, the DHS may terminate the agreement and the termination payment would be zero. The DHS may also terminate the contract if a force majeure event occurs. In that case, the DHS is required to pay the SPV the market value of the project at the termination date. The DHS may also choose to assume debt obligations that would otherwise be payable by the SPV.

The payment structure is chosen so as to be sufficiently flexible to accommodate future change to the contract without the requirement to negotiate a separate arrangement. Additional requirements should be met on a commercial basis, which is defined as 'without the risks that dealing with a monopoly provider would bring'. One of the possibilities is to do so by benchmarking design variations.

The concession arrangement includes a quarterly service payment which reflects overall service performance (single charge approach). This reduces the potential, and the incentive, for the SPV to cut back on profitable services. The quarterly service payment is adjusted for changes in interest rates. Demand risk is further underwritten by the DHS's commitment to pay an availability payment for the facility. Therefore, the demand level had to be optimized. If the level of demand is set too high, the DHS jeopardizes the VFM of the project.

7.5.3 Operational outcomes

Design flexibility

In the first full operational year (2004-05), over 30,000 people arriving at to the accident and emergency department were treated, 1,000 babies were born, more than 3,000 elective surgery procedures were performed, and the waiting list for elective surgery was reduced (Southern Health, 2006). The number of patients treated in the hospital is given in Table 24.

Tab. 24: Number of admissions in the operational phase of the Casey Hospital

Period of time	**Total number of admissions***
Jul – Dec 2004:	Not available
Jan – June 2005	6,118
July 2005 – Dec 2005	9,998
Jan 2006 – June 2006	11,762
July 2006 – Dec 2006	12.624

**Source: DHS (2004 – 2006)*

The hospital is capable of treating up to 30,000 patients, 25,000 emergency arrivals, and delivering of 2,000 babies each year (PV, 2007a). The use of the facility, so far, is well below the maximum capacity of the hospital and, therefore, it is unlikely that variations or extensions to increase this capacity will be implemented in the short-term.

Service flexibility

Facility management services have been provided according to specification, and individual services have not so far been subject to curtailment. The SPV commenced wit a limited range of services in October 2004, progressively extending as staff were recruited and orientated (Southern Health, 2005b). The hospital directly recruited staff and in-house managers to deliver services that have a direct link to patients, such as catering services. Other hospitals under the responsibility of Southern Health are not operated through concession arrangements and this provides Southern Health with in-house sites against which to benchmark the services provided by the SPV.

Financial flexibility

The hospital opened its clinical services in stages and, accordingly, Southern Health's income from activities has been increased over time. Southern Health has used the new hospital since the 2004-05 financial year. In that first year of operation, Casey Hospital's emergency department saw 5,358 patients (Southern Health, 2005a). In 2005-06, it completed commissioning all of the planned services at the hospital. In that year, over 30,000 patients arrived at the emergency department, 1,000 babies were born, and more than 3,000 elective surgery procedures were performed. In 2006, the Casey Hospital had a lease asset value of almost $80 million on Southern Health's balance sheet (Southern Health, 2006).

The DHS has provided Southern Health with a guarantee that it will fund all future payments to the SPV under the terms of the concession arrangement. The payments to the SPV are, however, not being disclosed to the public.

In May 2004, during the construction phase of the project, a change in ownership of the SPV was proposed. ABN AMRO wanted to transfer its interest in the SPV to another party. This party would then obtain a significant degree of influence over the SPV, which might create a risk for the government. The DHS undertook a study of the proposed change of ownership, and eventually approved the withdrawal of ABN AMRO from the project. The concession arrangement has not yet been refinanced. The DHS is entitled to a 50 percent share of any refinancing gain by the SPV. The financial performance of the hospital in its start-up period is shown in Table 25.

Tab. 25: Financial performance of Southern Health (Southern Health, 2004; 2005; 2006)

	2003/04	2004/05	2005/06
Actual unitary charge ($m)	--	N.A.	N.A.
Availability fee[42]($m)	--	6.5	10.1
Depreciation ($m)[43]		2,4	3,3
Capital related charges ($m)[44]		N.A.	N.A.
Income from activities ($m)	644.9	728.1	825.9
Operating surplus/deficit ($m)	-25.8	-9.5	2.4
Total capital charges /income	--	--	--

7.5.4 Summarized

The VFM performance related to demand risk of the Casey Hospital project is reflected in Figure 26.

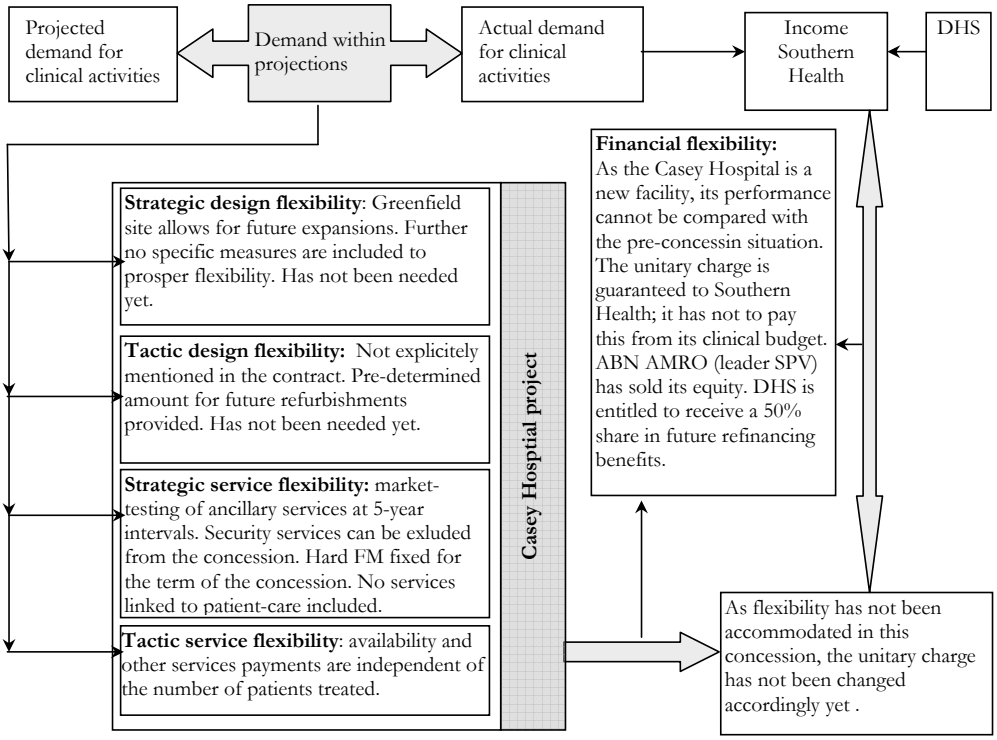

Fig. 26: Demand risk-related VFM in the Casey Hospital project

[42] This is the capital grant Southern Health receives from the state. Payments for the (anicallary) services are not disclosed (Southern Health, 2006).

[43] Assets are capitalized and depreciation is calculated on depreciable assets. The depreciation charge is based on expected usedful lifetimes. The estimate used for buildings is 40 years, for plant and equipment 3 to 10 years, medical equipment 3 to 10 years, and furniture and fittings up to 10 years. Depreciation is accumulated on Southern Health's balance sheet.

[44] For the Casey hospital only (disregarding other capital projects within the portfolio of Southern Health).

7.6 Royal Women's Hospital

The time path of the Royal Women's hospital concession is given in Figure 27 as on overview of the project.

Royal Women Hospital
(2003- 2006)

Fig. 27: Time path: Royal Women's Hospital

7.6.1 Policy rhetoric

The Royal Women's Hospital has been an independent entity since July 2004 and is dedicated to clinical services for women. The old Royal Women's Hospital (RWH) was originally founded in 1856 and is currently suffering from high maintenance costs and an outdated design. The problems the project seeks to address include (IPA, 2007):

- Inadequate quality of the existing infrastructure: the current RWH is in a poor state of repair. It presented risks going forward associated with compliance with relevant building regulation and provides a poor environment for patient care and staff;
- Recurrent cost impacts: given its age, the current RWH is expensive to maintain and its design presents limited opportunities to generate efficiencies
- Integration of clinical services: in the current RWH, women's health services are separated from other clinical services.

Placing a new RWH facility adjacent to the Royal Melbourne Hospital would solve the problems described above, improve services, and reduce costs.

In October 2003, it was announced that a new RWH would be built (PV, 2007b). The RWH would move from its current location in Carlton, be redeveloped under the Partnerships Victoria policy, and be relocated to a site adjacent to the Royal Melbourne Hospital in Parkville. The awarding authority is the Women's Health Service of the DHS, and the contract for the redevelopment of the RWH was let in April 2005. The SPV was selected after a bidding process. The successful bidder is the Royal Women's Health Partnership comprising Bilfinger Berger BOT (sponsor and equity), Baulderstone Hornibrook (builder), United KG (facility maintenance manager), ANZ and Macquarie Bank (financiers). The SPV is responsible for designing and building the hospital and maintaining it for 25 years. The concession includes responsibility for building maintenance, including air conditioning, lifts and landscaping, along with a number of other services such as ward support and cleaning services. The provision of clinical services in the hospital remains the responsibility of the DHS.

The government had already provided funding for enabling works which were completed in December 2004. This enabled the construction of new accommodation and the refurbishment of an existing building on the hospital campus allowing the demolition of the Charles Connibere Building to clear the site ready for the construction of the new hospital.

Design & service flexibility

Design and service flexibility has been an explicit objective of the project. The RWH is being redeveloped on a site adjacent to the Royal Melbourne Hospital. The new RWH will provide obstetric, gynecological and neonatal services, with an increased focus on women's health issues associated with ageing, gynecology, and the menopause. The new stand-alone RWH will be built on Crown land and will have a separate board and governance structure from the Royal Melbourne Hospital. The existing RWH will remain fully operational until the new hospital is opened. The stipulated completion date (construction completion and commissioning) is June 2008.

The objective of the design, as stated, was that it would be operationally efficient, capable of meeting service plan targets, and sustaining service levels into the future. It should accommodate sufficient flexibility to be capable of adaptation to new technologies, clinical practice changes, and changes in government policy and funding arrangements.

Financial flexibility

The implementation of the concession arrangement for the RWH amounted to a reduction in financial flexibility for the hospital as the annual capital charge for the new hospital is significantly higher than the current capital charge. For 2005-06, the capital expenditure and depreciation costs were estimated at $3.36 million, while for 2004-05, the figure was $3.7 million (RWH, 2006).

The capital cost of the RWH project is $247 million. The SPV contributes $190 million towards the new hospital, with a further $60 million being provided by the existing hospital's asset sales. The RWH project has a NPV of $364 million (2005). The new hospital is funded by the SPV through the issue of capital market debt and an equity contribution. The majority is financed by indexed annuity and nominal bonds. Most bondholders are insulated from construction risks. There is an additional $20 million budget for furnishings, fittings and equipment (RWH, 2005b).

7.6.2 Contract[45]

Design flexibility

The new RWH is a nine-level above ground hospital (plus five underground car parking levels for 995 cars). It is located next to the Royal Melbourne Hospital. The close proximity

[45] This section is mainly based on the analysis of the project agreement of the Royal Women Hospital (RWH, 2005a; 2005b).

to an operational hospital made coordinating works an essential element of the construction process. The construction phase involves additional logistical risks with the distance between the two hospitals less than 50 meters. In the project agreement it is stated that the SPV must provide a facility with a flexible infrastructure capable of adapting to new technologies, clinical practice changes, and changes in government policy and funding arrangements. Outpatient services are centralized and co-located with associated services such as imaging, pharmacy, pathology collection, and physiotherapy. The patients have improved access to critical care facilities and specialist expertise at the adjacent Royal Melbourne Hospital.
The new RWH is designed for 160 beds including maternity services, 60 neonatal facilities with potential for expansion, 5 operating theatres, 17 birthing suites, 2 procedure rooms. The private Frances Perry House, which offers specialist women's health services, is expected to move to the new hospital site.

Both the SPV and the awarding authority are able to initiate modifications. If the SPV initiates such a modification, it is not entitled to any extension of time in relation to the completion date of the facility or other milestone date as a consequence of the modification. The modification may not have an adverse effect on the workmanship, quality, appearance, or durability of any part of the facility, or an adverse effect on the costs of maintenance of the facility or the provision or services (RWH, 2005a).
A State-initiated modification may be requested at any time. In response to such a request the SPV must prepare a change notice stating the costs of the modification and setting out how the State is intending to pay for this. The awarding authority may or may not accept the relevant change notice, with or without conditions. If the awarding authority rejects the relevant change notice, or accepts it only with amendments or conditions to which the project company disagrees, then two options are open. The parties should first negotiate in good faith and use reasonable endeavors to agree on a mutually acceptable solution to the matters set out or, if the parties are unable to reach an agreement, either party may refer the dispute to an independent expert for resolution. This independent expert must consider change compensation principles in determining the cost consequences of the proposed modification and the proposed variation in the service payment. If, finally, the State does not accept the response to the State-initiated modification, then it will pay the SPV reasonable costs and expenses in providing the change notice (RWH, 2005a).
If requested, the SPV must use all reasonable endeavors to fund the State-initiated modification, including the use of any cost savings from earlier modifications and arrangements for additional funding. If funding is not available, then the SPV is not obliged to execute such modifications.
In the event of a change in policy or law which was not foreseeable when signing the project agreement, and which has the effect of discriminating directly against the hospital, the SPV, or its associates, then the SPV may issue a change notice to the State. A mutually

acceptable resolution should be designed to compensate the material cost implications for the SPV – with or without the intervention of an independent expert.
The SPV accepts all risks relating to technical obsolescence in relation to the facility, including equipment or systems used in the design, construction, and provision of services and maintenance to the facility. It also accepts the risks associated with any changes in the hospital functions.

Service flexibility

Strategic service flexibility

The service provider, subcontracted by the SPV, has the responsibility for providing the following services: building maintenance (including air conditioning, lifts and landscaping), along with a number of other services such as ward support. Linen and meals are provided by the Royal Melbourne Hospital and do not form part of the service provider's contract. The arrangement includes more FM services than was the case with the Casey Hospital concession arrangement, such as cleaning, security, car parking, and porterage. Further, the SPV is to investigate commercial and retail opportunities on the hospital site.
The transferred ancillary services are to be subjected to market testing and the concession arrangement is to be reviewed at eight-year intervals. Nine-months prior to the end of the reviewable services term, the SPV must submit an offer for the subsequent period. If the offer is not acceptable to the DHS, the SPV must call for tenders from at least three prospective tenderers (RWH, 2005a).

In the event of a major default the DHS may exercise its various rights to resolve the situation. It may require the SPV to replace a subcontractor, sue the SPV for compensation for that default, exercise its step-in-rights, or terminate the project agreement.

Tactical service flexibility

The contract does not consider of the downside of political risk. This is related to the essential difficulty for any government in a democratic nation to walk away from welfare-based services. Political risk arises not only from the failure of a concession arrangement, but also when delivered services fail to meet the quality and quantity standards expected by the community, or are not delivered in ways that reflect the community's ethical standards. The DHS is obliged, with such a concession arrangement, to pay the full price for the availability of the hospital whether it uses it or not.

Prior to the implementation of the concession arrangement, in-house staff had provided the ancillary services. Tempo, the service supplier in the SPV, will take over the provision of services from the current in-house team. The SPV in the concession is also responsible for ensuring that, at the end of the 25-year term, the facility is in a condition that it can continue for a further five years without any major maintenance or refurbishment works other than routine maintenance.

Variations to the contract could lead to price increases, which could make the concession arrangement uncompetitive. Therefore, only DHS-initiated changes may lead to changes in price. The service payment does not contain a fixed element and is only to a small extent determined by usage or volume.
The specifications for the ancillary services may change due to changes in technology, practices in the health sector, the demand for the contracted services, or changes in the law, including changes in government policy in government's service requirements. The DHS generally bears the risk of government-initiated modifications to service specification post-completion. It is expected that, in such cases, it would provide a lump-sum payment to carry out those works or increase the service charges to reflect the capital expenditure. The right for post-completion modifications lies with the DHS, although the SPV may also suggest changes.

The DHS is not obliged to make any payment or increase the service payment as a result of a change in law (other than a discriminatory change in law) which occurs during the contract term and requires an increase by the SPV in its capital expenditure on construction costs for demolition works, the facility works, or the facility, except when the increased capital expenditure costs exceed a specified amount. This is not applicable in cases where an increase is required by the SPV to deliver the services.
The DHS's share in the re-financing benefit is 50 percent. The DHS also has the right to elect to receive it share as a single payment (to the extent that the SPV receives a one-off payment) or as a reduction in future service payments, or a combination of these (RWH, 2005b).

7.6.3 Operational outcomes

This hospital is not yet been in operation; the operational phase is expected to start in mid-2008. What can be observed is that the catchment population is growing. In the old RWH hospital, it was estimated that there were 32,165 admissions in 2004-05, an increase of 7 percent over 1999-2000.
In June 2005 (two months after the signing of the project agreement), the first deed of variation was signed between the partners (RWH, 2005c). However, this involved only small changes to terms and definitions and the extension of some clauses: no substantial variations in the design or services have been taken place.

7.6.4 Summarized

The VFM performance related to demand risk of the Royal Women's Hospital project is reflected in Figure 28.

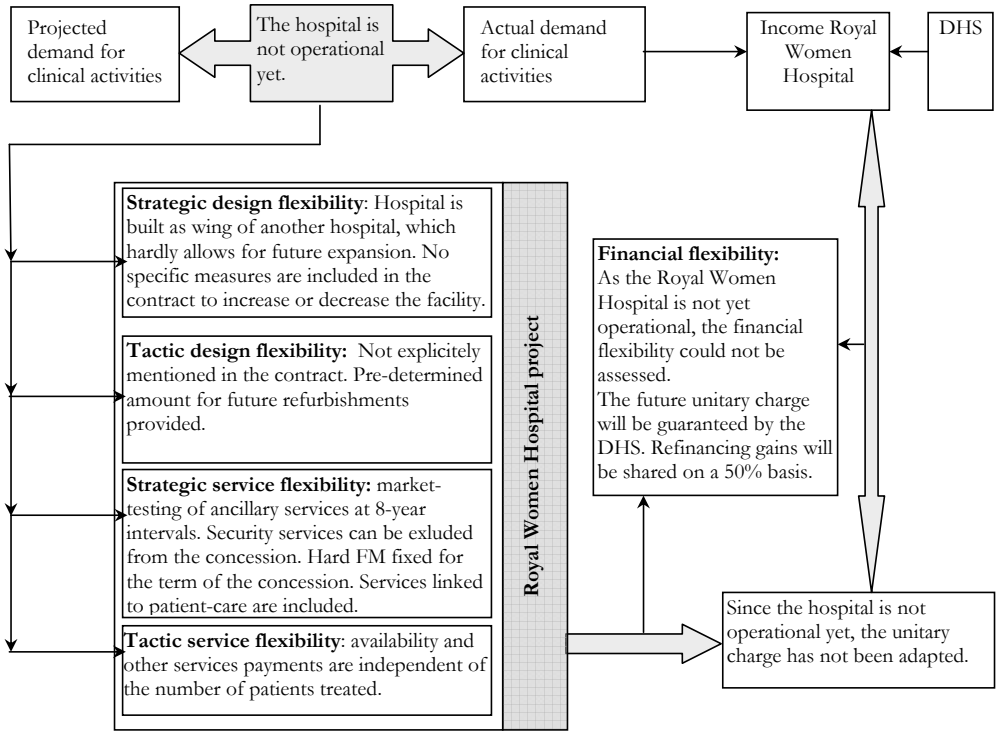

Fig. 28: Demand risk-related VFM in the Royal Women's project

7.7 Conclusions

In this chapter the evaluation of the Victorian hospital concession was presented. The research question guiding this evaluation was formulated: *What is the empirical performance of concession projects applied to hospitals?* In Chapter 5, the performance was operationalized in a demand-related VFM framework, which consisted of three forms of flexibility: design flexibility, service flexibility and financial flexibility. The model, as it was presented in Chapter 5, appeared appropriate in describing the performance of the hospital concession projects included in the Victorian context. The fit with practice was assessed by confronting the model with examples of practical hospital concessions in Victoria. The performance of the individual projects is given in Table 26. In this table the issue of financial flexibility is subdivided in two aspects: the financial effect of the implemented design and service variations and the affordability of the concession arrangement. These two interrelate in some cases, but a structural causal relation is not necessarily found. Therefore, a subdivision allows a better-structured insight into the issue of flexibility.

Tab. 26: Performance of the Victorian hospital concessions

	Latrobe Regional Hospital	**Casey Hospital**	**Royal Women's Hospital**
Strategic design flexibility	The facility appeared flexible post-concession. Much could however not be discovered in the public documents, apart from the future refurbishment contract provisions.	Greenfield site allows for future expansions. Further no specific measures are included to prosper flexibility. Has not been needed yet.	Hospital is built as wing of another hospital, which hardly allows for future expansion. No specific measures are included in the contract to increase or decrease the facility.
Tactical design flexibility	Idem, but as the concession referred to a full service, the clinical service fee rather than the availability fee is significant for the payments.	Not explicitly mentioned in the contract. Pre-determined amount for future refurbishments provided. Has not been needed yet.	Not explicitly mentioned in the contract. Pre-determined amount for future refurbishments provided.
Strategic service flexibility	Clinical services were reset annually by case mix targets. Ancillary services were to be market tested every 5 years.	Market-testing of ancillary services at 5-year intervals, which offers option to exclude security services. Hard FM fixed for the term of the concession. No services linked to patient-care included.	Market-testing of ancillary services at 8-year intervals. Security services can be excluded from the concession. Hard FM fixed for the term of the concession. Services linked to patient-care are included.
Tactical service flexibility	Service increases in services were only paid for if more services were required by the DHS. ACHL bears the lion share of demand risk, but would partly be reimbursed for any amount is excess.	Availability and other services payments are independent of the number of patients treated.	Availability and other services payments are independent of the number of patients treated.
Financial effect of implementing flexibility	Case mix funding and charges for the ancillary services were not adjusted, although the private sector requested this.	As flexibility has not been accommodated in this concession, the unitary charge has not been changed accordingly yet.	Since the hospital is not operational yet, the unitary charge has not been adapted.
Financial flexibility	Soon after the opening it became apparent that the ACHL could not make a profit. This was tried to be solved by reducing some services and requiring extra financial resources from the DHS. This was however refused. Ultimately, the hospital transferred back to the State. ACHL claimed part of its deficits due to an unexpectedly high level of demand, but no significant difference was found in comparison with the pre-concession situation. The current provider operated the hospital without financial losses.	As the Casey Hospital is a new facility, its performance cannot be compared with the pre-concession situation. The unitary charge is guaranteed to Southern Health; it has not to pay this from its clinical budget. ABN AMRO (leader SPV) has sold its equity. DHS is entitled to receive a 50% share in future refinancing benefits.	As the Royal Women's Hospital is not yet operational, the financial flexibility could not be assessed. The future unitary charge will be guaranteed by the DHS. Refinancing gains will be shared on a 50% basis.

In Chapter 8, the cross-case analysis is presented. In this chapter the insights derived from the Victorian case studies are compared to each other.

Chapter 8

Cross-case analysis

The aim of this chapter is to analyze the case studies that are described in Chapters 6 and 7. This chapter represents the final phase of the study: the evaluation of demand-risk-related VFM in concession arrangements as applied in English and Victorian hospitals against the framework that was derived in Chapter 5. The evaluation aims to generate insights into the performance of current implemented hospital concessions. The research questions guiding the evaluations in this chapter are formulated as: *What is the empirical performance of concession projects as applied to hospitals?,* and: *Which context and project characteristics constitute the performance of hospital concessions?* The cases are used to evaluate whether the model reproduces how flexibility is accommodated in practice. Analysis is performed on different levels. First, the cases are evaluated in terms of the framework derived from literature on a national level. The English cases are analyzed and compared with each other and then this is repeated for the Victorian cases. Second, the cases are evaluated internationally by comparing the insights derived from the two sets of national analyses. Evaluation is retrospective and is based on both empirical data and arguments.

8.1 Country analysis: English health concessions

Assessing the hospital concessions using the VFM framework presented in Figure 11, has produced the outcomes outlined in Table 27. The value judgments by means of positive and negative signs are made by mutually comparing the hospital concession projects on the presence of possibilities to accommodate the flexibility types set out on the left side of the table.

Tab. 27: Performance of the English hospital concessions

	Darent Valley	**Queen Elizabeth Hospital**	**Norfolk & Norwich Hospital**	**St George Hospital**
Strategic design flexibility	+ Present - Early needed in operational phase.	+ present - Due to unfavorable financial position this type of flexibility could not employed.	+ Present - Early needed in operational phase. - All variations were initiated by the Trust	- limitedly present - No explicit measures for reducing capacity.
Tactical design flexibility	- limitedly present - No effect on availability charge	- limitedly present - income led decision to close ward	- limitedly present - extra space was sought outside the hospital	- hardly present + Provisions to extend are provided at the risk of the SPV. - no provisions to reduce capacity
Strategic service flexibility	+ Present: market-testing at five-year intervals. + First test resulted in a price reduction of 2.4%	+ Present: market-testing at 5-7 year intervals. - First test resulted in a price increase of 6%	+ Present: market-testing at 5-7 year intervals + First tendering resulted in a price reduction of 2.2%.	+ Present: market-testing for services at various intervals.
Tactical service flexibility	- Hardly present	- Hardly present	- Hardly present: - Additional charges for operation above contractual norm.	- Hardly present
Effect use flexibility on unitary charge	Unitary charge increased with 2.5m annually. - implemented variations were not always benchmarked	N.A. But, unitary charge in real times was not much adjusted.	N.A., although some measures were given. - Implemented variations were not always benchmarked.	N.A.
Affordability	- In 2006, capital charges are 15.4% of the Trust's income. - Affordability is restricted - Trust experiences difficulties in paying the unitary charge – Policy changes has negatively affected affordability - Refinancing gains were not fully shared	- In 2006, capital charges are 12.7% of the Trust's income. - Affordability is restricted - Trust experiences difficulties in paying the unitary charge – Policy changes has negatively affected affordability - Refinancing not possible	- In 2006, capital charges are 12.2% of the Trust's income. - Affordability is restricted – Policy changes has negatively affected affordability - Refinancing gains are not fully shared	+ In 2006, capital charges are 7.7% of the Trust's income. - Affordability is restricted – Policy changes has negatively affected affordability - Financial position drives the strategy of the Trust.

Comparing the English cases leads to the following findings:

8.1.1 Design flexibility

Strategic design flexibility

Provisions to accommodate strategic design flexibility are usually explicitly included in the arrangement. In general, concession hospitals allow for strategic extensions as they are mostly developed on greenfield sites that are not fully occupied and this leaves space for additional building. However, as the St Georges case illustrates, a concession arrangement can also embrace just a part of a hospital. This leads to reduced design flexibility as less room is left for future extensions, although this is not a consequence of the concession arrangement itself.

From the case analysis, it appears that strategic design flexibility is constrained by the small capacity initially set for the hospitals. The comparison of the cases reveals that the scale in the first wave of hospital concessions was set assuming conservative future clinical demand levels. In the Darent Valley, the Queen Elizabeth as well as the Norfolk & Norwich concession arrangements, the hospital designs were developed based on a minimum projection of the demand level for clinical services. In the Norfolk & Norwich Hospital, the design capacity already appeared insufficient when the facility opened. In the early operational phase, it had to move some of its administration and management offices outside the hospital facility to make room for the much-needed clinical services provision.
Overcrowded hospitals are favored due to a maximized used availability charge, but also have negative impacts. Overcrowded hospitals can breed infectious viruses such as MRSA and the Norovirus (NHS Estates, 2005). In the Norwich and Norfolk University Hospital, which is mostly operating above set capacity levels, several outbreaks of viruses have taken place over recent years. An overcrowded hospital can also lead to additional costs since availability fees may raise sharply when the hospital is operated above set demand levels. Hence, the rush to certainty by setting capacity levels low in order to obtain an optimally-employed hospital facility appears futile as overcrowding brings forward new risks.
Several extensions to the hospitals have had to be implemented to neutralize the effect of operating above capacity levels. In some cases, for example in the Queen Elizabeth Hospital, the problems related to the insufficient capacity of the hospital could not be solved due to the uncertain financial position of the Trust. Functionality of the hospital in such cases is apparently subordinate to the financial position.

Further, provisions to increase the capacity of the hospital are preferred over provisions that make shrinking of the hospital possible. Provisions that allow for a design decrease of the clinical space are less found than provisions that allow for an increase. Since in three of the four projects, demand levels have been higher than projected, the need for strategic reduction of hospital space has not yet become a major issue. However, as the St Georges case study shows, when activity levels fall, a need can arise to shrink the hospital. The fact that concession arrangements are arranged in a way that aims to maximize the employment

of the whole hospital has, in some cases, removed the stimulus for including provisions to accommodate shrinkage. However, some hospitals, such as the Darent Valley hospital, have defined plans for alternative employment of functional areas in the event that the hospital becomes partly redundant.

Tactical design flexibility

It further appears that hardly any emphasis is placed on mechanisms that allow an adequate temporally change in the hospital design or, in other words, tactical design flexibility. The absence of provisions to temporally change the employment of the facility implies that the ability to adapt the design of the hospital is limited. Apart from some incremental provisions, such as the provisions for periodical ward refurbishments in the Norwich and Norfolk University Hospital, the concession arrangements have hardly been supplied with potentialities to temporally increase or decrease the functional space of the hospital. The only expressions of tactical design flexibility were instances where a ward or some beds were closed. In some cases, beds were closed in order to recover from a virus outbreak or from a deteriorating financial position as availability charges rise sharply if the hospital is operated above the demand level set in the contract. The availability charge was however not reduced in these cases. Another variant to assimilate tactical design flexibility was found in the St Georges case where some additional capacity was provided at the risk of the SPV. However, in this case, the demand for the specific clinical services has decreased over the years, with the result that this extra capacity has not been needed so far.

The lack of inclusion of tactical design flexibility supposedly arises from the contract structure used in hospital concessions. As demand risk comes at the expense of the Trust, the availability charge cannot be reduced during the term of the arrangement. Further, the costs of implementing changes are met by the Trust and not by the SPV. This does not incentivize the SPV to suggest adaptations to the hospital design once the hospital is operational.

Where there had been a design variation this has mainly been due to changes initiated by the Trust rather than the SPV. One issue related to this is that concession arrangements were expected to incentivize the SPV to come up with design optimization during the operational phase, but this has not been the case in the four projects analyzed. Most of the variations were due to new factors affecting the Trust's needs, which arose after the contract was awarded.

8.1.2 Service flexibility

Strategic service flexibility

On a strategic level, the service flexibility of the ancillary services allocated to the SPV is not much different to that in conventionally procured hospitals, where these services are also mostly outsourced to the private sector. As a one-off contest at the beginning of a contract is unlikely to cover the whole concession term, all hospital concessions have

provisions to enable changes, although some differences are found in their execution. Most contracts allow for ancillary services to be renegotiated every five years, but in another project an interval of seven years has been adopted. These market-testing processes introduce the possibility of renegotiating or revising the initial agreements. They also provided the possibility for the Trust to change the scope of the services within the concession, mostly without penalty. Renegotiations might bring about additional costs and an exposure to future costs, but they could also result in cost reductions, as the initial market testing of hospital concessions have shown. In the Norwich and Norfolk Hospital project, any price increase in market-testing exercises is capped. In two of the three hospital concession projects that were already market- tested, the incumbent service provider did the best bid and is permitted to continue providing its services in the hospital. The incumbent service provider obviously has a strong position in market-testing exercises as he has better knowledge than any competitors. The fact that they mostly also provide the 'hard FM' services also means that overhead costs can be spread. In the Queen Elizabeth Hospital, the incumbent service provider had the right to match the winning bid. This, however, might come at the expense of interest by external service providers in a later stage of the project.

Pre-determining the specifications of service flexibility sometimes appears difficult. In the Norfolk and Norwich University Hospital project, for example, the scope of services changed once the hospital became operational. IT services were initially transferred to a private sector partner, but were put back under responsibility of the Trust, when it was realized that these would be more efficiently implemented under its own direction.

Tactical service flexibility

One of the most striking observations with hospital concessions is that, just as with tactical design flexibility, tactical service flexibility hardly appears to be present. Trusts are able to reduce the level of payments for the ancillary services component of the unitary charge to some extent if it ceases to use part of the hospital. The availability part of this charge is, however, pre-determined and not subject to the actual usage of the hospital. It is, therefore, not easy for Trusts to avoid expenditure on maintaining areas not in use. Unlike with conventional hospital provision, Trusts cannot make immediate decisions to stop, or reduce, expenditure on maintaining areas no longer in use. In hospital concessions, if a Trust decides to reduce the clinical services, although it may save on the variable costs since some service payments contain a volume element, the Trust would not save on the fixed costs of repair and replacement and the availability fee for that element of the facility. If the proposed variation would have the effect of significantly reducing the unitary charge to the SPV, negotiating new terms for the contract is likely to be difficult and expensive because the incumbent ancillary service provider has strong rights. However, since the hospitals included in the case study are almost all operating at full capacity, this has yet not resulted in serious problems.

The short-term flexibility by using the overcapacity of the hospital can be compromised by unforeseen downstream costs or liabilities which offset the potential gain of setting a relatively low demand level. The Norfolk and Norwich Hospital project shows that occupation rates above the set demand level lead to an increase in the availability charge as the facility needs relatively more maintenance when used above set capacity level.
The availability fee constitutes an inflexible part of the expenditure in all hospital concessions. In part hospital concessions, such as the St Georges Hospital project, the concession-related capital charges are however only a small percentage of total costs as the new build component is only part of the site. This results in greater flexibility to accommodate major changes in use or a reduction in activities on the site. In the event of an unplanned reduction in activities it could sell or lease parts of the estate that are not part of the concession arrangement and maintain or increase activity in the 'new build' component of the arrangement.

8.1.3 Financial flexibility

Use flexibility affecting the unitary charge
Concerning the effect of using the flexibility on the unitary charges to the SPV, the following conclusions can be drawn. Design and service provisions, which were not part of the original specification, or which were related to further work on additional or improved facilities, or changes to the function of the building, result in an price increase for the Trust. The costs of design or service variations are, however, rarely revealed to the public in published reports. The only reported price increases due to making use of design flexibility were found in the Darent Valley Hospital and the Norfolk and Norwich Hospital projects In the former project, the unitary charge increased by £2.5 million due to variations. In the Norwich and Norfolk University project, some, but not all, variation-related price increases became publicly known.
Variations could result in price increases which were not VFM due to high charges for additional services. By benchmarking the price for a proposed design or service variation against available construction cost data for similar work, Trusts are able to assess the reasonableness of proposed construction price increases. Without benchmarking it is difficult for Trusts to demonstrate that price increases offer VFM. From the cases studies, it appeared that the awarding of a contract for implementing design variations mostly occurred without any competitive pressure. Besides, benchmarking was not always performed for all the variations implemented in the projects within the case study. The preferred bidder for implementing design variations was always the incumbent construction company in the SPV. This raises doubts about the degree to which competitors were given the opportunity to competitively bid for the variation work. Without benchmarking the price of the variation, it is virtually impossible to assess whether the proposed price for the variation is legitimate.

The affordability of hospital concessions

The implementation of a concession directly influences the financial flexibility of a Trust as the involved capital cost of a concession arrangement is usually higher than the capital cost the Trust would incur without a concession in their portfolio. In the four English cases studied, the percentage of the total income the Trusts spent on capital charges increased after concessions were implemented. The more the current budget is committed to capital charges, the less is left at the discretion of a Trust. The implementation of a hospital concession consequently implies a reduction in the financial flexibility of a Trust.

Some of the increases in capital cost stem from expenditures which were not accounted for. Any proposed investment in a new hospital has to be supported by both an outline and a full business case that show how the expected income to be earned from clinical activities exceeds the expected operating and capital costs of the arrangement. In theory, when a hospital concession is implemented, the arrangement should proceed on the basis of these business cases. However, in practice, this rarely happens. The transit from the OBC to the FBC stage was, in three of the four selected cases, associated with a cost increase of an average of 47.9 percent. In the analyzed projects, the average cost increase when comparing the eventual hospital with that represented in the FBC was another 25.0 percent. Rarely were any explanations for this given or disclosed in annual reports of the Trusts, nor in other governmental documentation.

From the case studies it appears that Trusts are currently financially vulnerable and that this is partly due to the fixed costs of the concession arrangements. This implies that money has to be taken from other resources in order to meet the unitary charge. Since Trusts rarely have financial reserves, they have the choice of either generating more income or cutting costs to close the resulting 'affordability gap'. As the budgets that Primary Care Trusts can spend on purchasing clinical activities from hospitals are rather limited, generating extra income through contracting extra services to Primary Care Trusts is mostly not a viable option. The affordability gap can, however, in other ways be reduced. The following approaches were found in the case studies:

The first way to close an affordability gap is by generating extra income through subsidies from health authorities such as the Department of Health and from land sales. Land sales have been used to offset the costs of concessions. The four cases studied all included some amount of land in their concession arrangement to make the deal more affordable.

A second way to close the affordability gap has been provided by the Treasury. It has made special funds available to first-wave hospital concessions to offset their costs known as the 'smoothing mechanism'. In 1997, the court of justice announced budget certainty for hospital concessions. As affordability problems with hospital concessions arose, means were sought to make use of block funding in order to increase the income of Trusts. Darent Valley, Queen Elizabeth Hospital and Norfolk and Norwich Hospital were all in receipt of smoothing mechanism money. These concessions were all implemented on the assumption that they would be revenue neutral or better, but this did not happen because

the capital cost base of the hospitals in these schemes was already depressed. To address the affordability gap of Darent Valley Hospital, for example, the local NHS Executive agreed to convert the Trust's block capital allocation into an annual subsidy towards the unitary charge involved.

Another option to close the affordability gap is cutting costs. One of the ways to achieve a cost reduction is to reduce clinical services. However, a reduction in clinical services might also lead to a reduction in income that can neutralize the effect of reduced costs. The Queen Elizabeth Hospital project shows that financial problems can arise despite having achieved a satisfactory efficiency level in clinical services provision. If actual patient flows turn out to be higher than originally expected then a hospital can 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. Conversely, if activity levels turn 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 such a deficit can be avoided is 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 e.g. by selling some of the now-redundant assets (Palmer, 2007).

A further option that can help to close the affordability gap is refinancing the arrangement as the financial gains resulting from this can contribute to making the concession arrangement more affordable to the Trust. Refinancing an arrangement is, however, initiated by the SPV and not by the Trust itself. In the two of the four hospital concessions studied, refinancing took place and has resulted in a reduction in the annual unitary charge. Refinancing the arrangement is, however, not possible for hospital concessions such as the Queen Elizabeth Hospital, where the debt finance was sourced from the bond market[46]. In such arrangements, refinancing would result in prohibitively expensive breakage costs for the Trust. Consequently, annual availability payments are effectively fixed for the term of the arrangement. This restricts the financial flexibility of Trusts implementing such hospital concessions.

In the period following the implementation of the first concession arrangement, several policy changes have been affected that had an influence on the financial flexibility of the Trusts studied. One is the phasing out of the 'smoothing mechanism'. It seems that, although the release of subsidies increased the financial flexibility of the receiving Trusts, this partly came at the expense of capacity and access to healthcare treatment. After all, money destined for subsidies under the mechanism could not be spent on other health services. The Treasury realized this, and decided to no longer allow the mechanism to absorb excess costs. However, as the current affordability problems could not be

[46] Bond financing: most PFI schemes raise the initial debt finance before the hospital is built from commercial banks. QEH is exceptional in that its initial PFI debt was raised through a bond issue. This was possible because the hospital already existed – it was a converted military hospital.

completely bridged using locally available resources, the need for subsidies under the mechanism did not disappear. This has led to a further deterioration in the financial position of some Trusts.

Second, the recently introduced Payment by Results (PbR) is a new funding system based on contracted volumes of clinical work whereby each treatment has a price tag. The price is set to reflect the 'average cost' of that treatment across the NHS. The problem is that this price only reflects the average cost of capital charges, which is based on the new and lower rate of 3.5 percent for the cost of finance. As concession hospitals have higher than average capital costs, Trusts with concession arrangements are only partly reimbursed for their actual costs. This only applies to early hospital concessions arrangements since newer commitments were made after the reduction in the cost of public finance from 6 to 3.5 percent. The early arrangements are thus currently faced with funding costs that are significantly higher than the 3.5 percent funded in the PbR tariffs. The observations highlight the fact that these Trusts are subject to particularly high risks of financial deficits in the event of demand for hospital services falling below the levels that were planned. They also highlight the fact that, to reduce projected financial deficits arising from excess capital costs, the clinical services provided and the income generated by the Trust has to be maximized.

A third policy change that affected the financial flexibility of Trusts is the revision of land treatment in the accounting practices of hospital concessions. The transfer of land was intended to close the affordability gap of the Trusts. However, when the accounting rules changed after these arrangements were signed, these Trusts were faced with additional costs once the hospital became operational. As a consequence, the affordability of the concession arrangements of these Trusts has deteriorated due to the land treatment revision.

Further, the English government recently decided to reduce the role of hospitals in health provision. One of the implications is already evident in the realization of Independent Sector Treatment Centers (ISTCs). This is, and will increasingly influence the financial position of Trusts in their neighborhood as clinical services will transfer from hospitals to the new ISTCs. St George hospital is already implementing an ISTC on its own site and the Queen Elizabeth Hospital Trust is afraid that the ISTC to be built in its area will have a negative affect on the demand for its own clinical services.

8.1.4 Summarized

The insights derived from the English cross-case analysis in the above sections are summarized in Figure 29.

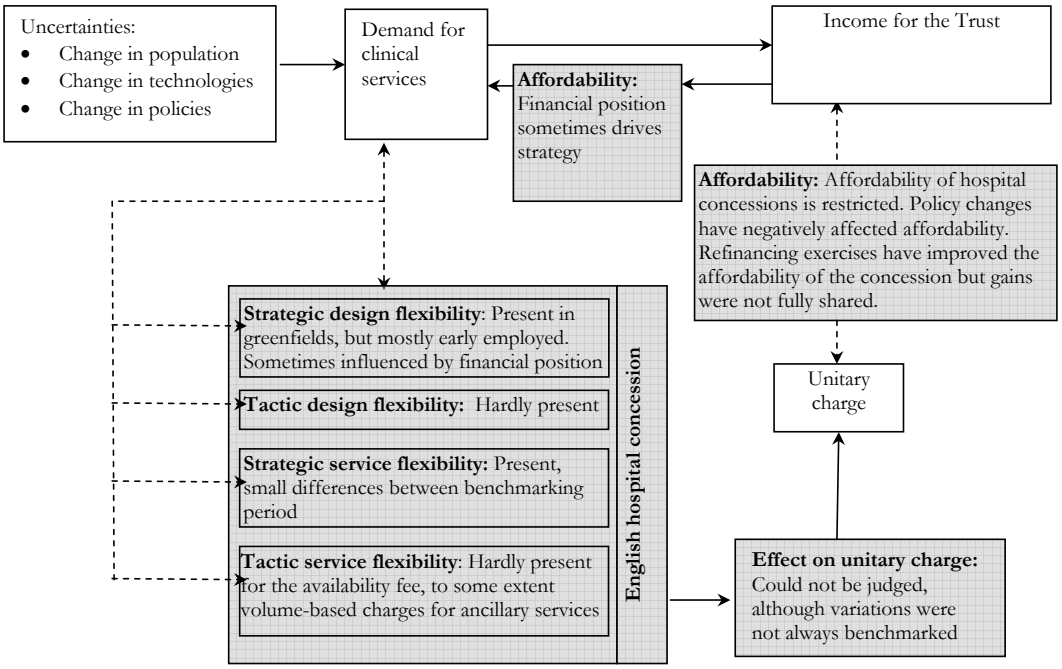

Fig. 29: The assessment of demand-risk-related VFM in English hospital concessions

8.2 Country analysis: Victorian hospital concessions

The case study research has yielded insights related to the organization of concession arrangements in Victoria. The price that has to be paid to include flexibility could not be assessed for the arrangements. Besides the fact that the financial implications are not publicly revealed, this could not be scrutinized due to the lack of concession arrangements in their operational phase. As a result the outcomes of the use of flexibility in both the Casey and Royal Women's Hospitals on the unitary charge could not be assessed.

Tab. 28: Performance of the Victorian hospital concessions

	Latrobe Regional Hospital	Casey Hospital	Royal Women's Hospital
Strategic design flexibility	+ The facility appeared flexible post-concession + Future refurbishment contract provisions.	+ present, but has not been needed yet.	- Limited. Hardly any space available that allows for future expansions.
Tactical design flexibility	- Not explicitly mentioned in the contract. + Full service contract optimizes	- Not explicitly mentioned in the contract. + Pre-determined amount for future refurbishments.	- Not explicitly mentioned in the contract. + Pre-determined amount for future refurbishments.
Strategic service flexibility	+ Clinical services were reset annually by case-mix targets. + Present: market-testing at five-year intervals.	+ Present: market-testing at five-year intervals.	+/- Present: market-testing at eight-year intervals.
Tactical service flexibility	+ Service increases in services were only paid for if more services were required by the DHS. + ACHL bears the lion share of demand risk	Hardly present: Availability charges are independent of the number of patients treated.	Hardly present: Availability charges are independent of the number of patients treated.
Effect use of flexibility on the unitary charge	+ Payments were not adjusted, although the private sector requested this.	N.A.	N.A.
Financial flexibility	- Private sector could not make a profit - Insufficient estimation of costs by private sector.	+Unitary charge is guaranteed to Southern Health - Leader SPV sold its equity. + DHS is entitled to receive a 50% share in any future refinancing benefits.	Operational outcomes N.A. + Unitary charge will be guaranteed by the DHS. +Refinancing gains will be shared on a fifty-fifty basis.

Comparing the Victorian cases leads to the following findings:

8.2.1 Design flexibility

From analysis of the Victoria cases, it is concluded that design flexibility is an issue that has hardly been subject to any review so far. The first hospital concession within the Victorian case study, the Latrobe Regional Hospital, was transferred back to the State government due to inflexibility in the arrangement in terms of service and financial measures, not because of any design-flexibility-related problems. In the years that the hospital was under private operation, design flexibility did not play a major role. The other two hospital concessions analyzed in this study were in such an early phase that the analysis of operational design flexibility would not reveal any pioneering insights. The Casey hospital has been in operation for only a relatively short term. In this period it appears that the hospital is operating well within its ultimate capacity, thereby limiting the need for design variations. Operational outcomes concerning the implementation of design flexibility are

rather limited. The Royal Women's Hospital is only due to become operational in 2008 and consequently operational outcomes are not yet available.

The analysis of the hospital concession contracts leads to the conclusion that the transition from the full service concession model towards the Partnerships Victoria model did not imply explicit changes concerning design flexibility. The individual arrangements present little variation with regard to design flexibility provisions. Provisions for post-construction variations to the facility and services are included in the contract. They all more or less have the same procedures for accommodating this type of flexibility. In all the contracts it is stated that only government-initiated variations may lead to price increases. This further limits the incentive for SPVs to investigate potential design variations from a user perspective in the operational phase.

One of the conspicuous provisions in all Victorian hospital contracts is the explicit budgets that are put aside for future refurbishment. Design flexibility is partly accommodated by these budgets that are individually set for all hospital concessions. Victorian contracts, within and outside the Partnership Victoria approach, include provisions for future refurbishments with associated capital allocations. Since the appropriate moment and condition for refurbishment is difficult to express in output specifications, these general contract provisions seem to be practical.

The issue of design flexibility is particularly relevant to the Royal Women's Hospital which is currently under construction. This new hospital is built adjacent to the Royal Melbourne Hospital. The reason for this is that situating the new Royal Women's Hospital as a wing of another acute hospital will increase clinical service flexibility due to the proximity to general acute services not provided in the Royal Women's Hospital. The two hospitals will remain discrete organizations with separate management boards. The effect of the adjacency of the two hospital facility upon design flexibility remains to be seen in the future. There is however hardly any additional space that could be employed to accommodate strategic design flexibility in the future. The construction phase of the new Royal Women's Hospital appears critical as the Royal Melbourne Hospital has to remains operational during this phase.

8.2.2 Service flexibility

The Royal Women's Hospital has not yet reached the operational stage, making the analysis of service flexibility in operational terms impossible. The Latrobe Regional Hospital project shows that a concession arrangement based on a full service specification can lead to serious problems when requests from the private operator to increase service and financial flexibility are rejected by the public sector. Although the operator made several attempts to receive additional funding, the DHS was unwilling to change the service scope and the reward system accordingly. However, in the end, it became very apparent that the DHS

could not transfer the political risk in this hospital concession. The DHS will invariably assume responsibility for the operation of hospital concessions in the event of default by the operator because of its duty of care to provide such facilities and services to the community. This responsibility implies that any threat to public health and safety, or clinical service provision, cannot be allowed to develop. Here, the DHS stepped in when it appeared that a risk to the provision of on-going clinical services was developing. The ultimate outcome was that the private operator was able to avoid the full service and financial risk obligations embodied under the contractual arrangements, and that these were transferred back to the DHS. Full service concessions are clearly not easy to implement. They are based on the maximization of risk transfer, and not on a maximization of VFM through ensuring each risk was borne by the party most appropriate to bear it. This strategy was overturned by the establishment of Partnerships Victoria in 2000.

Analysis of the contract provisions of the concessions under the Partnerships Victoria approach reveals that market-testing procedures are included to accommodate strategic service flexibility. Intervals to allow for this testing differ by service category: five-year intervals are set for the Casey Hospital and eight-year intervals for the Royal Women's Hospital project. In the latter project, ancillary services that require interaction with patients were also transferred to the SPV, which is not the case in the Casey Hospital project. The public actors involved in the Casey Hospital were of the opinion that services that have a direct relation with patients should not be bundled within the concession arrangements, given the dynamic nature of such services, especially in relation to clinical service provision. Market-testing of ancillary services under concessions has yet to be performed within the Victorian health context.
Tactical service flexibility in the Victorian hospital concessions is limited. The arrangement allows for some reduction in the ancillary service component of the unitary charge if the hospital is used below set demand levels. However, the availability component of the unitary charge has to be paid in full, independent of the actual use. The unitary charge is paid as quarterly service payments in a single charge approach.

It appears that hospital concessions limit the possibilities to change. Delivering change to the services provided by the SPV requires formal contract variations and additional payments. At this stage, it is still unclear whether future evolving needs will be absorbed into, and met by, the dynamics of a sound contract underlying the concession arrangement. This is dependent upon the degree to which the hospital has captured any future-needed service adaptations in its original service specifications. It seems that currently included contract provisions under Partnerships Victoria hospital concessions only pay attention to price mechanisms related to variations, and not to changing requirements. This implies that variations to the scope of the services offered are only possible at the market-testing stage of the ancillary services.

Whereas the Casey Hospital project concerned the development of a new hospital, the Royal Women's Hospital project is a redevelopment of currently provided core and ancillary services. The implementation of a concession arrangement for an already existing hospital is complicated by existing arrangements. Especially the contractual interface with pre-existing Health Service arrangements, currently provided services in the adjacent hospital, and policies is a particular challenge for the Royal Women's Hospital project.

8.2.3 Financial flexibility

Use flexibility affecting the unitary charge

Unlike with the English cases, the price that has to be paid to include flexibility could not be assessed for the Victorian concessions. Besides the fact that the financial implications are not publicly revealed, these could not be assessed due to the lack of concession arrangements in their operational phase.

The affordability of hospital concessions

Affordability has not been a major problem in the Partnership Victoria hospital concessions. The Royal Women's Hospital is not yet operational, but the initial outcomes of the Casey Hospital project are encouraging. Since its opening, no issues have arisen concerning the affordability of the arrangement. The underlying financial system of the health sector contributes to the affordability of hospital concessions. The capital funding in Victoria is relatively flexible and allows for different funding systems. Only three hospitals are being implemented under the Partnerships Victoria approach and a conventionally-funded capital development is still a viable option.

Further, unitary payments for concessions arrangements are guaranteed by the DHS and transferred to the clinical service provider of the hospital, which is the authority paying the unitary charge to the SPV. This system reduces the chance that payments for the unitary charge negatively affect the clinical services provided by the hospital. There is, in other words, no link between payments for the clinical services and the charges to be paid for the concession arrangement. Future refinancing exercises for the hospital concessions could make arrangements cheaper for the DHS. In the Victorian hospital concessions, under the Partnerships Victoria approach, contract provisions include a guarantee of a 50 percent share of any financial gains going to the DHS.

The concession for the Latrobe Hospital is an exceptional case in that it concerns a full service arrangement. The arrangement did not create any problems related to financial flexibility for the DHS, but did involve so much financial inflexibility from the service provider perspective that the project ultimately failed. Although no single cause can be blamed for the failure of the project, the extent of the financial inflexibility appeared to have played a role in this on various levels. First, although the financial system in the

Victorian health context seems to be reasonably clear, it was one of the foundations on which the Latrobe Regional Hospital failed. The private provider neglected of the fact that each Victorian hospital was expected to see a 1.5 percent annual productivity improvement in order to preserve funding levels in real terms. Attempts by the private partner to get the service and payment levels revised, were unsuccessful.
Second, the tender process allowed what proved to be an unsustainable bid price from the SPV (English, 2005). This increased the need for additional funding from the private partner at a later stage of the project.
The eventual outcome was, however, that the private operator was able to avoid the full financial risk obligations embodied under the contractual arrangement by handing the hospital back to the State.

In the period between the start of the operational phase of the Latrobe Regional Hospital and the collapse of the project, one particular policy decision influenced the financial flexibility of the service provider. This refers to the potential allocation of extra funds. During the private operation of the hospital, problems arose from the case-mix funding model (VAG, 2001; 2002). Consequently, the DHS was forced to make additional 'one-off' grants to many publicly-operated hospitals in response to deteriorating performance due to under-funding. Compensation was only available for hospitals under public operation, and hospitals that were privately run were ineligible for this type of funding. This contributed to the failure of the hospital concession. The financial streams available to government-run hospitals thus appeared to be more flexible than the streams to privately-run hospitals, and this appears to have contributed to the failure of the project.

For the two other hospital concessions in the Victorian case study, it appears that no significant policy changes have, so far, been implemented that could influence the financial flexibility of the concession arrangement. However, one development regarding the organization of SPVs could influence this type of flexibility for potential future projects.
In the Casey Hospital project, the leading role in the SPV was taken by the ABN-AMRO bank. This bank provided all the equity for the project and was the head of the consortium. It subsequently subcontracted project responsibility to a construction and facility management company which seemed to work quite well for all the actors in the project. Before the hospital became operational, ABN-AMRO sold its equity stake thereby creating a secondary market about which some people have reservations.

There is a lack of financial data on operational outcomes of hospital concessions, which stems from the limited time that has passed since the start of the operation of Victorian concessions, and also from the decision not to release financial data concerning the arrangements. Besides, the business cases justifying hospital concessions are not disclosed to the public. As a result, it is impossible to compare the ultimate cost of a facility with the cost originally given in the business case.

8.2.4 Summarized

The insights derived from the Victorian cross-case analysis in the above sections are summarized in Figure 30.

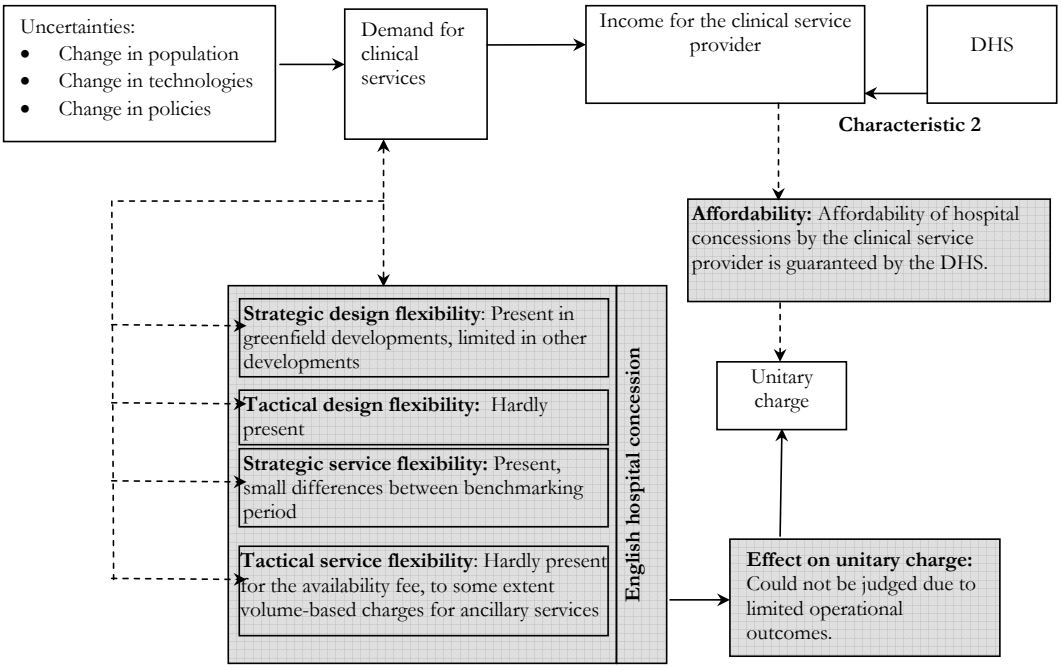

Fig. 30: The assessment of demand-risk-related VFM in Victorian hospital concessions

8.3 Cross-country analysis: English and Victorian hospital concessions

The previous sections provided insights into the performance of hospital concessions within the individual contexts of England and Victoria, as well as into the underlying characteristics that influence the accomplishment of this performance. The insights derived from the two contexts are compared to each other in order to generate cross-country insights. This section elaborates on these analyses.

Setting aside the differences in the timing and capital values of English and Victorian hospital concessions, a comparison between the countries has merit since it can generate insights regarding the influence of context upon the outcomes of concessions that can be applied in other contexts. This section elaborates on the international analyses and links the outcomes of the study specifically to the three levels on which the case studies were based: the policy rhetoric, contract and operational outcomes.

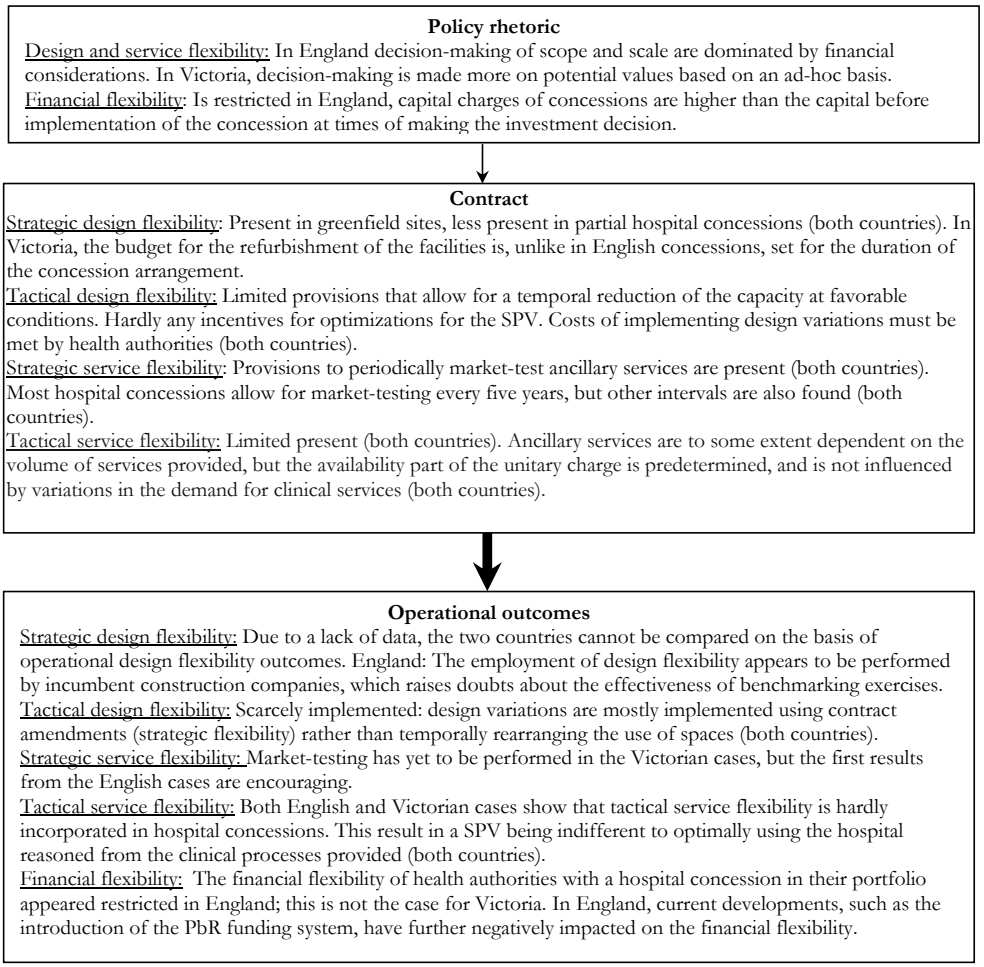

Fig. 31: Demand-risk-related VFM of hospital concessions subdivided to three evaluation levels

Policy rhetoric

Decisions regarding individual hospital concessions made during the policy rhetoric stage of the concession do not explain the differences found in the contracts. However, it appears that health authorities have secured slightly better contract provisions over time. Seemingly, this is more the result of updated knowledge on hospital concessions, rather than an improved decision-making process regarding individual hospital concessions. As experience with hospital concessions grows, so is the knowledge on contract provisions that help to secure VFM over the duration of the contract. Knowledge of, and expertise with, practical concession arrangements is integrated in updated contracts that are critical in enforcing concessions that represent and preserve demand-risk-related VFM.

For example, the refinancing of the early Darent Valley Hospital and the Norfolk and Norwich University Hospital projects in the form of changes to the debt or equity finance generated very high rates of return for the involved SPV but additional risks to the Trusts. No provisions were included for the Trust to share in these financial gains. In 2002, Trusts introduced contract provisions to share any financial gains resulting from the refinancing of the arrangement. Currently, these gains are shared on a fifty-fifty basis. Another example is that in more recent contracts, such as with the University College London Hospitals in relation to Darent Valley Hospital, the contracts contain safeguards to control the rate of return in relation to contract variations. The OGC guidance which has legitimacy from 2002 onwards requires benchmarking of any additional work. It appears that knowledge of, and expertise with, practical concession arrangements is critical in helping health authorities to enforce concession arrangements that represent their intentions and requirements, and yield and preserve VFM. Victoria had also the opportunity to learn from the failures apparent in the first wave of hospital concessions in England. It seems that the hospital concessions currently being implemented have similar updated revisions as their English counterparts.

The contract

The lack of implemented tactical design and service variations can be attributed to the contract that is used in hospital concessions. Any incentive to think strategically about an optional future reduction of the hospital is taken away with the chosen allocation of demand risk in hospital concessions. As demand risk is allocated to the health authority, the availability of the hospital has to be paid in full and is independent of the actual use. In result, there are hardly any provisions integrated in the contract to avoid financial crises by downsizing the hospital facility. This means that health authorities with concessions in their portfolio cannot make immediate decisions to stop, or reduce, expenditure on maintaining areas no longer needed.

Operational outcomes

From Figure 31, it appears that tactical design and service flexibility are hardly employed in practice. In hospital concessions, if a health authority decides to reduce the clinical services, although it may reduce the variable costs since some service payments contain a volume element, the SPV must still be reimbursed for the fixed costs of repair and replacement and the availability fee for that element of the facility. Variations needed due to new insights regarding clinical processes, changes in the context of a hospital, or a changed demand level, cannot be accommodated in the existing design, but need to be implemented by the health authority through contract amendments with the SPV.

SPVs are not incentivized to initiate design variations as they do not face any rewards for these. It further appears that there is a potential mutual dependency between design and service flexibility and financial flexibility. Design and service variations mostly result in a price increase for the awarding authority. In England, where the awarding authority is also

responsible for the clinical service provision, this restricts its financial flexibility. Oppositely, English practice shows that sometimes financial considerations are an issue when decisions are made regarding the implementation of design flexibility.

8.4 Determinants of demand-risk-related VFM

This section discusses the analysis of the context and project characteristics that influence demand-related VFM of hospital concessions over time. From section 8.3 it already appears that the knowledge on and expertise with hospital concessions are considered determinants in securing contracts that promote demand-risk related VFM. Further, the contract underlying the hospital concession influences the realization of demand-risk-related VFM since they particularly restrict the employment of tactical design and service flexibility in operational outcomes.

This section aims at determining the context and project characteristics influencing demand-risk-related VFM. Based on reconstructing the accomplishment of demand-risk-related VFM in the English and Victorian operational outcomes, the characteristics that constitute this performance are discovered. From this, it follows that project and context characteristics could positively or negatively influence the demand-risk-related VFM of hospital concessions. The four context and project characteristics that appeared critical for the demand-risk-related outcomes in the case study follow from the four arrows indicated in Figure 32 below. The thickness of the arrows depicts the relative influence of the dependencies they represent. These are discussed in more detail in the section below[47].

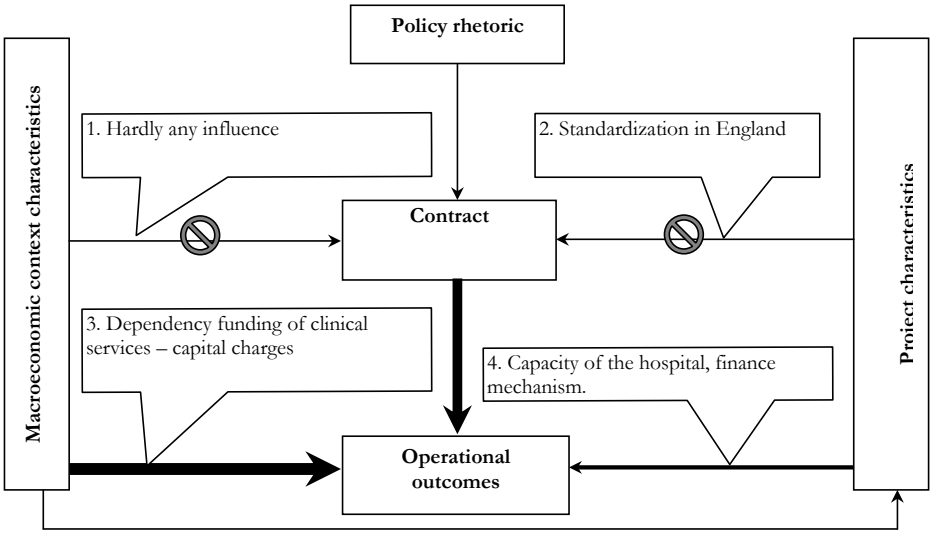

Fig. 32: The influence of macro-economic context and project characteristics on demand-risk-related VFM

[47] The thickness of the arrows roughly represents the relative influence exerted.

Characteristic 1: Absence of a macro-economic context– contract dependency
Although the English and Victorian contexts are significantly different concerning their history and the health system, very similar contracts are applied with identical levels of service flexibility. Seemingly, contracts are copied from earlier projects irrespective of the concession requirements and the macroeconomic context surrounding these arrangements.

Characteristic 2: Absence of a project – contract dependency
English and Victorian hospital concession contracts seem to become more standardized, with increasingly less emphasis placed on specific characteristics found in individual projects. This can be seen as an expression of the significance of efficiency matters related to hospital concessions.

Characteristic 3: Presence of clinical demand funding – capital charges dependency
In England, the unitary charge of the concession arrangement is paid from the same budget from which the provision of clinical services is met. Expenditures on the concession arrangement could therefore potentially come at the expense of clinical services. Recent developments such as the Payment-by-Results (PbR) policy increase the interdependencies further. PbR tariffs are based on an average of nationwide recurrent and capital costs, meaning that health authorities with higher than average capital costs are disadvantaged. It seems that explicit interdependencies between the funding of clinical services and the income of the clinical service provider have a negative effect on the achievement of demand-risk-related VFM, and more specifically on the financial flexibility of the health authority.
In Victoria, hospital concessions are less locally organized. The tariffs set for the provision of clinical services are based on recurrent costs only, and separately funded from capital cost for which hospitals can make individual requests to the DHS. The DHS provides the clinical service provider of a hospital with the financial resources needed to meet the unitary charge for a fixed period, independent of the number and quality level of the clinical services provided. Unitary charges, therefore, cannot undermine income certainty of clinical service providers. This increases the likelihood of delivering demand-risk-related VFM.

Characteristic 4: The capacity of the hospital
The fourth characteristic concerns the dependency between the project characteristics and the operational outcomes regarding demand-risk-related VFM, which is represented by the capacity of the hospital. The capacity of the hospital constitutes the basis for the future need for the employment of flexibility. A major part of the strategic design flexibility has already been used due to the relatively small capacities that were set in the first place. Designing hospitals with appropriate capacity levels, therefore, is a prerequisite for strategic design flexibility that can be used over the operation of the concession arrangement. Setting the capacity of the hospital too large does also not promote demand-risk-related

VFM, since under-utilized hospitals hinder a maximized use of the availability charge. This has a negative influence on the financial flexibility of the health authority.

Characteristics 5: the finance structure of the concession
Although the capacity of the hospital is the most significant in explaining the operational outcomes of the case studies, other characteristics, such as choices made regarding the financing of the project are also influencing these. Hospital concession that are financed by bonds, for example, are not suited for refinancing exercises, which affects the financial flexibility of awarding authorities.

8.5 Conclusions

In this chapter, insights from national and international cross-case analyses of hospital concessions were generated. These insights referred to the performance of hospital concessions or, more specifically to their outcomes in terms of design-related VFM, and also to the mechanisms that influence the way this performance is accomplished.
The concessions being studied were first compared with other projects within the same country. This was performed for both the English and Victorian cases. Afterwards, the insights derived from the national comparisons were cross-compared. The research questions guiding the evaluation conducted in this chapter were twofold.
The first research question guiding the cross-case analysis was: *What is the empirical performance of concession projects applied to hospitals?* In Chapter 5, the performance was operationalized in terms of demand-related VFM, which consists of three forms of flexibility: design flexibility, services flexibility and financial flexibility. In Chapter 6, these forms of flexibility were assessed for four English hospital concessions while, in Chapter 7, the performance of three Victorian hospital concessions based on these three indicators was discussed. Based on a systemic comparison of the cases, various insights were gained. These insights are reflected in Figure 31. From this figure the following conclusions are drawn.

It appears that contracts underlying hospital concessions are significant in the performance of concessions only to the extent that they determine the maximum potential flexibility of the hospital. Hospital concession contracts hardly include incentives for the SPV to initiate temporal design or service modifications in response to fluctuating design levels during the operational phase of the projects. This is reflected in the operational outcomes, almost all variations are implemented by contract amendments, reflecting the employment of strategic design flexibility rather than tactical design flexibility, with an increased unitary charge in result. The lack of tactical design and service provisions in the contract do not explain the differences found in operational outcomes among different hospital concessions as all hospital contracts under study have the same provisions regarding the implementation of tactical design and service flexibility.

Seemingly, differences in macroeconomic context underlying the health sector and project characteristics are more significant in explaining the differences in the employment of design and service flexibility.
Further, it is apparent that contracts are not tuned to project-specific needs and are copied from earlier hospital concession projects irrespective of the concession requirements and the macroeconomic context surrounding these arrangements. English hospital concession contracts seem to be becoming more standardized, which can be seen as an expression of the emphasis placed on efficiency in hospital concessions rather than on individual project characteristics. Project characteristics hardly play a role in the way the contracts are drawn up. In Victoria, decisions concerning the adoption of a concession arrangement tend to be taken on a more one-off basis when compared to the English cases, where hospital concessions are 'the only show in town'. In Victoria, the decision-making regarding the funding principles of providing the hospital are made on an individual project basis. Apparently this ad-hoc character is not carried through in the design of the contract, since contracts are almost identical.
Better knowledge on hospital concessions is the only mechanism by which contracts are adapted over time. New insights regarding hospital concessions are integrated in updated contracts that are critical in enforcing concessions that represent and preserve demand-risk-related VFM. The upgrades of hospital concession contracts of the hospital concessions under study concern small-scale adaptations of the contract: no significant changes in the structure of contracts were found.

The second research question guiding the cross-case analysis was: *Which context and project characteristics constitute the performance of hospital concessions?* By analyzing the factors influencing the achievement of demand-risk-related VFM, and comparing these retrospectively in an international context, the critical context and project characteristics were determined.

1. Knowledge and expertise; competent management of the arrangement is the health authority's key way of controlling its outputs and their contribution to outcomes. In this context, they need to be cognizant of the potential implications of the concession arrangement. Expectations should change based on a continuous assessment of how concession arrangements are meeting needs from a user-perspective. Upgraded knowledge should be captured in updated guidance and policy documents.
2. The contract; as this generally fails to incorporate tactical design and service flexibility, and incorporates little incentive for the private sector partner to re-optimize the hospital in reaction to a fluctuating demand in the operational phase. Currently, there are hardly any provisions to be found in hospital concession contracts for dealing with adaptability contingencies.
3. The hospital capacity; an unrealistically small hospital capacity accelerates the need for design upgrades and extensions early in the operational phase, which lead to an increase in the unitary charge. An under-utilized capacity has a negative effect on the financial

flexibility of the health authority because it leads to expenditures on clinical spaces which are not in use. To achieve a better planned scale, key purchasers of clinical services should be heavily involved in the planning of hospitals and appropriate planning techniques should be adopted.

4. The way the project is financed. Bond financing is not suited to refinancing exercises and could constrain the financial flexibility of health authorities, when compared to other financing mechanisms.
5. Presence of a dependency between the funding for the clinical services and the expenditures of the health authority related to the concession arrangement. A dependency between the funding of clinical services provision and payments for concession arrangements constrains the financial flexibility of the health authority, and might implicitly affect the strategic design flexibility of the concession.

In the next chapter the conclusions, limitations and contributions of the study are discussed.

Chapter 9

Conclusions, limitations and contributions

This study started with the question as to '*what is the performance of concessions adopted for the provision of hospitals, and what are the determinants to that performance?'* The answer to the central question was structured along the lines of four research questions:

1. What are the definitions, structures, and motives of concessions in social infrastructure?
2. How can these expectations and objectives in terms of performance be operationalized?
3. What is the empirical performance of concession projects applied in hospitals?
4. Which context and project characteristics constitute the performance of hospital concessions?

These questions have been answered throughout the previous chapters of this thesis. In Chapter 3, the first research question was answered. The outcome was that the motives for concessions are currently captured in the term 'Value for Money' (VFM), which was operationalized in Chapter 4 in a framework which can be used to monitor VFM in operational hospital concession projects. The emphasis is on guaranteeing a fit between the concession arrangement itself and a changing hospital context. After identifying one of the most crucial parts of this framework, the fit between the management of demand risk and the concession arrangement in, Chapter 5, a separate demand risk-related VFM framework was developed for empirical evaluation. The empirical performance of seven concession projects using to this framework was described in Chapters 6 and 7. These performances were analyzed in Chapter 8. In the same chapter, the contextual and project characteristics that constitute hospital concession performance regarding demand risk were also derived.

This study has tried to progress from the dominant normative standpoints surrounding hospital concessions through descriptive and sound reasoning. It has endeavored to assess the potential of hospital concessions and their empirical performance in addressing the underdeveloped issues described above.
The study started with two propositions: (1) while current efforts are predominantly put into the financial and legal structures of concession arrangements, the contracts underlying hospital concessions are significant determinants of concession performance; and (2) based on the claim that structure follows strategy, this contract will be tuned to project-specific needs of each concession as well as to the macroeconomic context surrounding it.

Section 9.1 now summarizes the conclusions of the study. In the subsequent section, the limitations of the study are outlined, while in section 9.3 the practical, social and scientific contributions of this study are discussed. This section is concluded with the implications for further research.

9.1 Conclusions

Hospital concessions are explicitly coupled with the involvement of the private sector in the context of health care. The public-private dichotomy has always been blurred in health and a public-private mixture will continue to exist in future years. Public hospitals have long received inputs from the private sector, while private hospitals are regulated by the public sector. The question is, rather, whether the private sector should be involved in health in the way dictated by hospital concessions. The answer should be dependent on the performance of hospital concessions regarding fulfilling their objectives. However, in order to assess hospital concession performance, insights need first to be generated into the objectives of these arrangements. To generate these insights, first the definitions, structures and motives of hospital concessions need to be amplified in more detail.

9.1.1 The definition, structure and motives of concessions

Concessions appear to be an emerging feature of public policy in many parts of the world. As the literature review has shown, different definitions are used to summarize the content of this feature, and these reflect the diversity among devotees and opponents of concessions. The definition adopted in this study is compiled from elements of various definitions and excludes any normative associations concessions sometimes included. The resulting definition is: a concession is 'an arrangement between a public and a private sector organization for the provision of a long-term infrastructure facility, where the private sector designs, builds, finances and maintains (and in some cases operates) it, and is, based on the services connected to the facility, it provides reimbursed by the public sector organization'.
The structure of concessions is given in Figure 5. One of the most crucial aspects is that certain risks regarding hospital development and operation are transferred to the private

sector or, more specifically, to the SPV. Generally, in most currently implemented hospital concessions, the risks coupled with the provision of clinical services remain the responsibility of the health authority, whereas most of the risks coupled with the hospital facility itself and the provision of ancillary services are borne by the SPV. This division has implications for the management of changes within the context of hospitals, and therefore on the performance of the concession arrangement.

The diversity found in the definitions of a concession was also apparent in the motives behind the adoption of concessions. Apart from such variations, the move by governments around the world towards neo-liberal paradigms, and more specifically to NPM principles, is increasingly seen as the explanation for the adoption of concession policies. The current popularity of concessions can therefore be traced to the dominance of NPM ideas in policymaking. The NPM ascendancy in concessions has been translated by several authors and policymakers into the term 'Value for Money' (VFM). VFM is thus increasingly seen as the key motive for the adoption of concession arrangements, including in the health context.

9.1.2 The operationalization of performance

Health authorities currently using concession arrangements for the provision of hospitals consider the demonstration of VFM in individual projects to be a prerequisite to implementation. So far, VFM is assessed solely in the initial stages of hospital development projects, and is measured by means of a Public Sector Comparator (PSC) benchmarking process. Reviewing such benchmarking exercises resulted in two main conclusions. First, the restricted reach of the PSC, seen in both the domination of quantitative measures as well as the exclusion of relevant indicators for the operational phase of a concession arrangement, is considered a shortcoming of the current measurement method. Second, PSC benchmarking in itself has several shortcoming that contradict an objective assessment of VFM. These criticisms lead to a belief that, although some form of ex-ante assessment is needed in order to give the green light to implementing concession arrangements, PSC benchmarking does not result in solid judgments as to whether the concession project will deliver VFM.

A new framework for assessing VFM in operational hospital concessions was therefore developed in this study. Contributions of researchers and policy-makers were reviewed and integrated into a single framework that indicates how VFM can be obtained and preserved in such arrangements. Authors have long argued that it is difficult to use contracts to specify the delivery of complex services over long periods. The challenge is even greater where, as in the health sector, the political, technical and financial environments are subject to constant change. These types of change seem to impinge on hospital concessions, which last for at least 15 years and often much longer. The specific division of roles, responsibilities and risks between the health authority and the SPV increase the difficulties in operating in an ever-changing health context. The developed VFM framework includes mechanisms that enable continuous monitoring of changes surrounding hospitals. This

framework was then developed to demand-risk-related VFM specifically in order to be able to interpret and assess hospital concessions in practice.

9.1.3 The empirical performance

Health authorities must be convinced of the consequences a concession arrangement might deliver, as implementation implies restrictions to design, service and financial flexibility. In a case study the demand-risk-related VFM was assessed. This incorporated an assessment of the extent to which hospital concession arrangements incorporate an ability to respond to changing demand patterns for clinical services, i.e. mechanisms that provide the flexibility to deliver VFM. Three different types of flexibility were distinguished and identified as indicators representing overall flexibility in hospital concessions: design flexibility, service flexibility, and financial flexibility. The overall flexibility of seven hospital concessions in England and in the Australian State of Victoria was analyzed within their contexts. These projects were assessed on three different levels: (1) the policy rhetoric, essentially the general guidelines and policy initiatives underlying the decision to implement a hospital concession; (2) the contract, consisting of the structures of exchange that should ensure the accommodation of future contingencies; and (3) the operational outcomes, which involves reflecting on how performance was accomplished in practice, based on project experiences to date. The outcomes of the empirical study are shown in Figure 33.

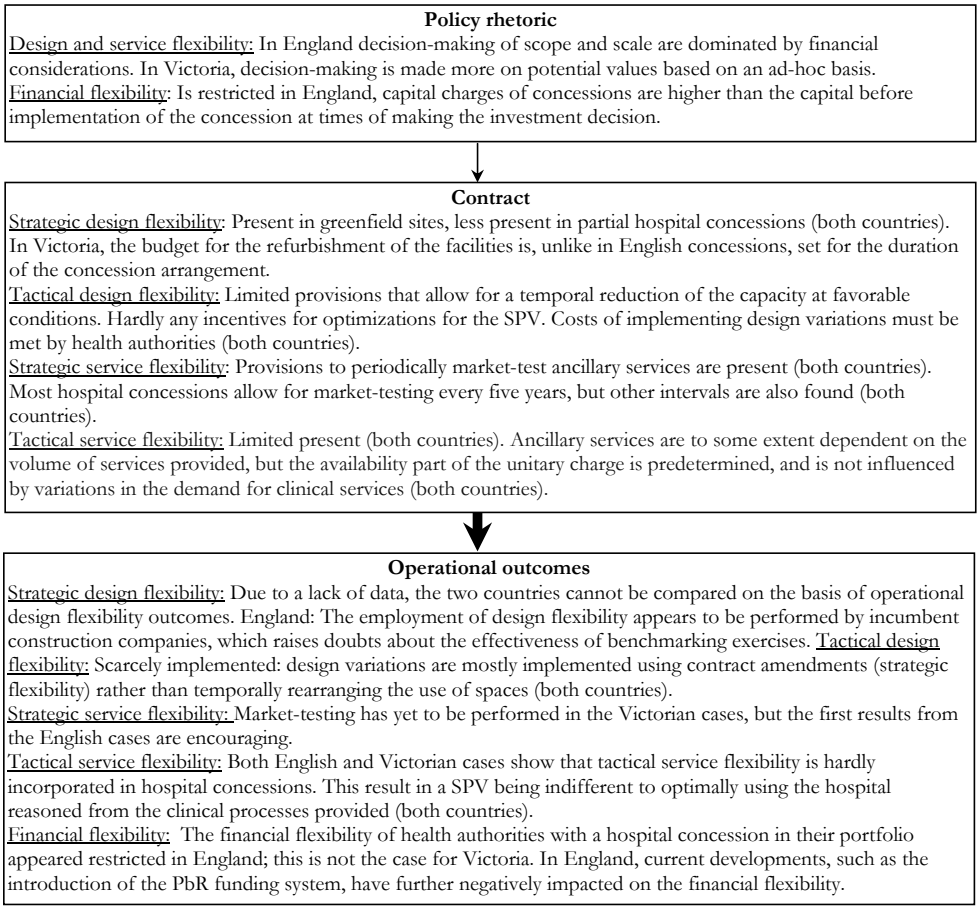

Fig. 33: Demand-risk-related VFM of hospital concessions subdivided to three evaluation levels

9.1.4 Project and context characteristics constituting demand-risk-related VFM

Demand-risk-related VFM is essential in long-term arrangements as advances in science and clinical practice, and changes in the needs of the local population, make it difficult to predict what sort of hospitals will be required in the future. The case study analysis generated insights in the project and context characteristics that constitute demand-risk-related VFM. These are given below based on the overall picture of the case study analysis, presented in Figure 34.

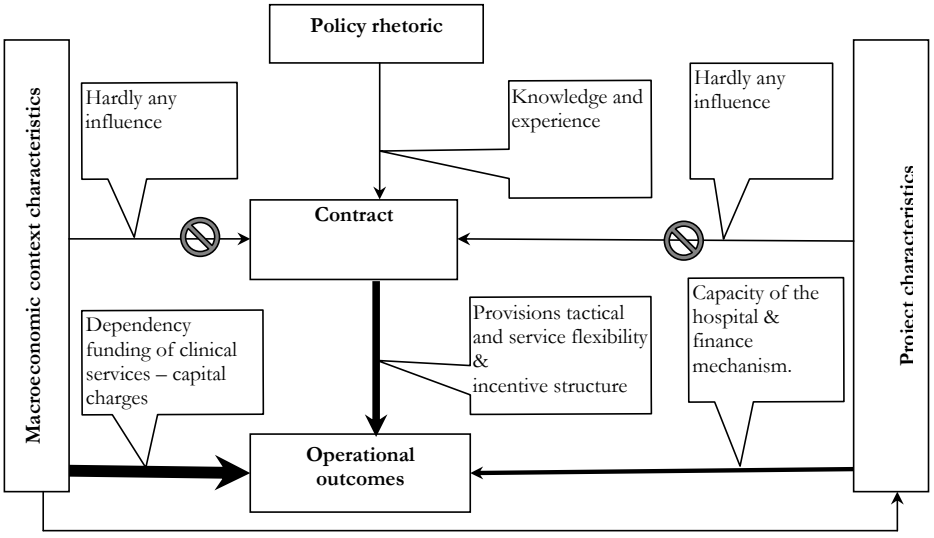

Fig. 34: The realization of demand-risk-related VFM in hospital concessions

The element of the central research question concerning which determinants influence concession performance is answered by considering the dependencies reflected in Figure 34. It was shown that the following determinants influence the operational demand-risk-related VFM performance[48]:

1. The contract; as this generally fails to incorporate tactical design and service flexibility, and incorporates little incentive for the private sector partner to re-optimize the hospital in reaction to a fluctuating demand in the operational phase. Private sector partners are currently being paid on the basis of the original contract structure, and not on the basis of how they are managing uncertainties or flexibility. There are hardly any provisions to be found in hospital concession contracts for dealing with adaptability contingencies.
2. Knowledge and expertise; as experience with hospital concessions grows, so is the knowledge on contract provisions. Knowledge of, and expertise with, practical concession arrangements is integrated in updated contracts that help to secure demand-risk-related VFM over the duration of the contract that are critical in enforcing concessions that represent and preserve demand-risk-related VFM.
3. The hospital capacity; an unrealistically small hospital capacity accelerates the need for design upgrades and extensions early in the operational phase, which lead to an increase in the unitary charge. An under-utilized capacity has a negative effect on the financial

[48] The thickness of the arrows roughly represents the relative influence exerted.

flexibility of the health authority because it leads to expenditures on clinical spaces which are not in use.

4. The way the project is financed. Bond financing is not suited to refinancing exercises and can constrain the financial flexibility of health authorities, when compared to other financing mechanisms.
5. Presence of a dependency between the funding for the clinical services and the expenditures of the health authority related to the concession arrangement. A dependency between the funding of clinical services provision and payments for concession arrangements constrains the financial flexibility of the health authority, and might implicitly affect the strategic design flexibility of the concession.

9.1.5 Summarized

The case study analysis does not generally support the propositions that constituted the starting points of the study as set out above. It is argued, based on the case-study evidence that:

1. Contracts underlying hospital concessions are significant in the performance of concessions only to the extent that they determine the maximum potential flexibility of the hospital; they do not explain the differences found in operational outcomes among different hospital concessions. According to several authors, context and project specifications would have a great influence on the outcomes of concession hospitals. Practice, however, is more refractory than would be supposed from theory. Although the English and Victorian contexts are different concerning history and underlying health system, nearly the same concession arrangements are currently being implemented. Changes in the individual arrangement seem to be the result of progressing insights that are summarized in updated guidance rather than influenced by context. Good incentives to the private sector in the arrangements are essential, and it seems that hospital concessions are moving in the right direction concerning strategic service flexibility.
2. The macroeconomic context underlying the health sector and the capacity of the hospital are more significant in explaining differences in demand-risk-related VFM.
3. Strategy follows structure rather than the other way around; contracts are not tuned to project-specific needs and are copied from earlier projects irrespective of the concession requirements and the macroeconomic context surrounding these arrangements. Further the current structure of a concession contract applied to hospitals is based on the concession model derived from former application in the economic infrastructure. When concession arrangements started to come into use in the social infrastructure, the then applied concession model in economic infrastructure was copied and only in a small extent adapted to characteristics of the social infrastructure. This might have contributed to contracts that lack adequate provisions for dealing with adaptability and flexibility issues. The current concession model applied to hospital provision can be tagged as technically difficult and is applied to

several infrastructure facilities in different sectors. However, concessions in health are specifically difficult as from their ever changing specifications and fast developing. It is currently impossible to say whether the concession model is outmoded or whether the current model is wrongly implemented in health. The fact that the same concession model is being applied to sectors that differ greatly is as strange as the observation that the same model is being applied in different contexts.

The implementation of hospital concessions is considered a manifestation of the general transition of governments to NPM principles. One of these principles is based on a reconfiguration of the boundaries and responsibilities of the public sector (see for example Minogue et al., 1998). This study has shown that the implementation of a hospital concession, and thus the transfer of responsibilities and tasks from the public to the private sector, reshapes the boundaries and responsibilities of the public sector. This implies that the remaining responsibilities and tasks of the public sector need to be reshaped as well.
The risks involved in hospital concessions are significant and need to be thoroughly analyzed and managed. This is endorsed by several researchers such as Broadbent et al. (2003) and Ng and Loosemore (2007). The core of obtaining VFM in hospital concessions lies in an effective risk allocation and management system. Apart from striving for efficiency and commercial viability of the project, the focus should be on improving the provision of clinical services. As it is unpredictable to what extent such clinical services will change in the future, health authorities engaged in hospital concessions need to adopt an effective contract management system to guarantee adequate alignment of the concession arrangement with these changes. Flexibility does not need to come at the cost of efficiency. Hospital concessions can yield flexibility and efficiency to the benefit of the public as long as they include a risk distribution that facilitates the clinical services needed by the public, the right incentives for initiating optimalizations during the entire life cycle of the hospital, and are effectively managed. This study has generated insights that can be employed in realizing this.

9.1.6 Recommendations

Health authorities already having, or considering, a hospital concession in their portfolio are urged to address the five determinants identified in order to avoid the development of hospitals that lack the provisions needed to adequately respond to the uncertainties associated with their immediate contexts. More specifically they are to take the following recommendations into account:

The first recommendation concerns the contract underlying hospital concessions. From the case study analysis it appeared that there are hardly any provisions to be found in hospital concession contracts for dealing with adaptability contingencies. This could be overcome in two ways:

In the first place, contracts can be improved by incorporating more and better adaptability contingencies suitable for the characteristics of hospitals. Luo (2002) argues that, besides term specificity, which is well-covered in hospital concessions, contingency adaptability should be incorporated in relational contracts to make them more complete. This concerns the degree to which guidelines and possible solutions for handling various unanticipated contingencies are incorporated in the contract. In hospital concessions, health authorities should place more emphasis on these contingencies, for example by making term specifications adaptive for issues that are vulnerable to the uncertain context surrounding hospitals or by providing alternative solutions for responding to various contingencies that are likely to arise. They could allocate some of the demand risk to the private sector partner, and consequently reward him whenever he is able to adequately adapt the hospital facility to the fluctuating demand for clinical services.

In the second place, health authorities can place more emphasis on enforcing better provisions for tactical design flexibility during the policy rhetoric stage, i.e. in setting the output specifications of the hospital. Since the private sector partner currently does not profit from design or service variations that are the result of tactical design and service flexibility provisions, he is not incentivized to devise these variations. As a consequence, if a health authority wants hospitals that accommodate tactical flexibility, it has to enforce the incorporation of these types of flexibility in the competitive part of the design phase of hospital concessions. In this stage, potential private sector partners still have strong incentives to reason from the health authority's perspective as the concession has not yet been awarded. Health authorities should therefore place more emphasis on adequately describing the performance requirements regarding this type of flexibility.

The second recommendation concerns the expertise and knowledge of health authorities. Competent management of the arrangement is the health authority's key way of controlling its outputs and their contribution to outcomes. In this context, they need to be cognizant of the potential implications of the concession arrangement. Expectations should change based on a continuous assessment of how concession arrangements are meeting needs from a user-perspective. Upgraded knowledge should be captured in updated guidance and policy documents.

Third, to achieve a better planned capacity of hospital, awarding health authorities and key purchasers of clinical services should be heavily involved in the planning of hospitals and appropriate planning techniques should be adopted.

Fourth, health authorities should be acquainted with the implications of the finance structure of the concession arrangement. Finance structures differ in the way they influence the affordability of the concession arrangement, and therefore might have an impact on the financial flexibility of the health authority.

Fifth, although awarding health authorities themselves probably cannot exert influence on the financial system of the health sector, they should understand the way context changes might influence their financial positions. Conversely, policy-makers should understand how the decisions they make regarding the funding of healthcare system could undermine the

financial flexibility of health authorities. The English cases show that recent changes in the macroeconomic system underlying the health sector have undermined the ability of Trusts to control an income-expenditure balance and have further increased affordability constrains. Trusts are faced with uncontrollable capital costs that cannot be recovered in the clinical service tariffs on which they are reimbursed. A financial system according to the Victorian health sector is more stable and is more likely to yield political and financial decisions in which clinical processes and patients are paramount.

9.2 Limitations of the study

The objective of this study, as formulated in Chapter 1, was to generate insights into the background and practice of concession arrangements in health services. More specifically, knowledge would be obtained that enables governments to make sound decisions regarding the adoption of concession arrangements for the provision of hospitals, and suggestions offered for context and project characteristics in which concessions would prosper. Considering the conclusions given in the previous section, it seems that the study has succeeded in meeting the research objectives. The case study research has contributed by generating insights in project and contextual characteristics that influence the performance of hospital concessions, including suggestions for project and context characteristics that enhance the performance of hospital concessions. This knowledge can be used by government, including health authorities, in making sound decisions regarding the implementation of such arrangements.

Hence, it seems that the research strategy applied in this study has been effective, at least to some extent. To meet the research objectives, a research strategy based on case study analysis was followed. The main characteristic of this approach is that it enables for an in-depth analysis of a limited number of practical projects. In this section, the limitations of the research strategy and choices made in this study are outlined. These reflections will lead to a number of remarks about the nature and merits of the outcomes of the research strategy. The outcomes of the study have also to be considered in the light of these remarks.

The limitations are subdivided into two categories. The first category concerns the limitations of the outcomes of the study, including the usefulness of the VFM framework, while the second category concerns the limitations in the way the study has been conducted.

9.2.1 Limitations of the outcomes

The realist view applied in this study was aimed at developing knowledge by identifying structures and relations which underlie and reproduce the social world. More concretely, knowledge was developed about the contextual and project characteristics that influence VFM in hospital concessions. This study generated an evaluation framework incorporating criteria to assess the performance of hospital concessions. In order to be able to assess performance, knowledge gained through a literature study was integrated into a framework

which was then used as a basis for case study research conducted in different contexts. In this section, the various limitations related to both the development of the VFM framework as well as the practicability of the outcomes of the case study research are discussed.

In developing the VFM framework, an attempt was made to address a number of limitations in the currently adopted VFM assessment method (PSC benchmarking), including the complete rejection of this method given its shortcomings and limitations. However, the newly-developed VFM framework inherits some of these limitations that have still to be addressed.

First, the demonstration of VFM in concession arrangements is a prerequisite for most health authorities wanting to proceed with a concession arrangement. The newly-developed VFM framework did not take this prerequisite fully into account and it is a mechanism to assess and monitor operational hospital concessions, and not explicitly to help in investment decisions over new hospitals. It, however, does generate insights into the future direction in which such an investment decision model should develop in order to make sound decisions. A new pre-concession VFM assessment model should give greater emphasis to flexibility-related issues, such as the inclusion of tactical flexibility in the design of the facility or the way cash flow streams to the SPV influence the financial flexibility of health authorities.

Second, the VFM framework is a model of what might be pursued rather than a reflection of the real life situation with hospital concession projects as it is based on literature. In stating this, one should recognize that the VFM framework has its limitations. Only a limited number of individual performance indicators could be included in the framework or it would become to complex. The selected indicators were derived from literature on concession arrangements, and selection partly based on the frequency they were mentioned and the value attached to the indicators by other researchers. No other study has proposed an overall VFM assessment model for hospital concessions in their operational phase. As such, the literature review provided only broad insights into the factors influencing performance of hospital concessions and these needed to be integrated by the researcher. This has yielded a certain degree of unavoidable subjectivity in the VFM framework. Further, as the current literature on hospital concessions is, just like the debate on the subject, characterized by normative viewpoints and arguments, the inputs used to develop the VFM framework might similarly be biased. As concession arrangements lack an underlying overall theory, the model is structured from different sources that are not necessarily coherent.

Third, the VFM framework has not been fully empirically tested. The empirical analysis focused on only part of the framework: demand-risk-related VFM since choice was inevitable, given the restrictions on the study in terms of time and money. However, in choosing which part of the framework would be empirically tested, emphasis was placed on the risk category that exerted the largest influence on the concession arrangement, which

was observed to be demand risk. Concerning the usefulness of the framework, it could be argued that the whole VFM framework should have been assessed in an in-depth case study. On the contrary, I would argue that studies on parts and aspects of the VFM framework are necessary in order to develop in-depth knowledge on them. The influence of context is analyzed in order to make judgments on the validity of translation to other countries, including the Netherlands. In order to do so, it was necessary to assess various projects in different contexts, rather than conducting one in-depth case study.
Fourth, the VFM framework has been developed based mainly on viewpoints mainly derived from the public domain. This research had largely adopted public sector perspectives and only to a lower extent incorporates the viewpoints of the private sector and end users. Although the conclusions of the study are that the clinical processes, and the people that are involved in these, should be paramount in making sound decisions for healthcare provisions, perceiving hospital concession performance from the perspective of the end users could not be effected in this study. In setting up the case study activities it did not appear feasible to assess hospital concession performance from their viewpoints. In order to attach much value to their viewpoints, and be able to use their insights, end-user respondents should have a certain level of knowledge of concessions. Due to the very specific field of interest, this could not be guaranteed. Further, in most of the hospital concession projects, it seemed nearly impossible to interview even one health authority member, let alone gain access to groups of patients or health specialists.

9.2.2 Limitations of the research process

Other limitations stems from the research method that was followed; with limitations coupled to the decisions made regarding the research process. These limitations fall into three categories: the demarcation of the study, data collection and data analysis.

The demarcation of the study

In the case study, only a relatively small number of cases in the UK and Australia were included due to the choice to study the cases within their contexts, which, combined with the demarcation of the study in terms of time and money, limited the population in the case study. Since neither a large project population nor other national contexts were scrutinized, this limits the applicability of the outcomes to other projects and contexts. The outcomes of the study can therefore not be extended with full confidence to other research contexts. Although the results obtained are specific to the included hospital concessions and incapable of being generalized to all hospital concessions, the results are capable of providing a basis for a discussion of emerging ideas and issues. Thus, as the practice of such projects is generalizable, the outcomes can, to some extent and with some restrictions, also be valid in other countries. However, given the newness of hospital concessions and the importance of strategic factors that are not easily quantifiable, conclusions about the likely longer term VFM are likely to be judgmental in nature. Since the main objective of this study was to generate insights as to whether hospital concessions do meet their

expectations, and not to explore the differences between contexts, it is not the generalizability to other countries that is paramount. Generalizability was assisted by the selection of the cases, as policy movements in both the Australian and English health contexts are comparable with considerations taken in other developed countries. Due to a limited number of operational hospital concessions outside the UK and Australia, the option to include other hospital concessions was rather limited.

The cases selected for the English case study research had to have been operational for some time in order to analyze operational performance. This meant that predominantly cases from the early years of implementing hospital concessions were included in the study. It seems, moreover, that although in terms of the basics later-implemented hospital concessions are similar arrangements, they do differ in some characteristics, including the project scale, from their predecessors. This constrains the generalizability of the study.

Further, as the projects differed considerably in duration, inputs, and contexts, it was not possible to compare them on an absolute scale. The concept of VFM cannot be caught in a single performance indicator, but has to be seen in the light of various indicators, and is dependent upon previously made choices within the policy rhetoric. Nevertheless, the relative judgments of VFM obtainment made in this study are a first step towards a more absolute assessment method.

The study further failed to take into account other forms of private involvement in capital investment in health, such as the 'local improvement finance trust' (LIFT). LIFT is a recently introduced model in England aimed at involving the private sector in health capital investments on a long-term and performance-dependent basis. Although it promises to remove some of the VFM hindrances found in concession arrangements, various authors are already criticizing the initial first outcomes, which seem to be less positive than expected.

To increase the generalizability of the study outcomes, different strategies were adopted in this study. One of these was the inclusion of hospital concessions from different time periods. Further, an overall approach was applied to the included projects and, finally, an emphasis was placed on the diversity of the projects.

The collection of data

The literature review was thorough and included a total of more than 200 articles, books, policy documents and reviews. This has resulted in a sound overview of hospital concessions in practice and their context.

The empirical data surrounding concession arrangements is generally poor. A lot of time in this research had to be invested in uncovering the details of the arrangements. This was time-consuming for several reasons. The evaluations of the projects on the different performance indicators were obtained in a qualitative and relative manner. Further, much time had to be allocated to finding the answers to the case study questions, since data collection by interviews appeared impossible for all the projects under study. Another

difficulty in uncovering the details of the concessions was the actual collection of the relevant documents. This is further discussed below.

Both the English NHS Trusts and the Victorian hospitals do not usually provide financial information on their concession payments in their annual reports and summary accounts. In striving for real case facts it was difficult to get consistent information on the projects as various sources cited different figures. Different evaluation reports on concessions are circulated, all pursuing their own definitions of financial measures and stating different financial measures. Additional financial support given by organizations, such as the Department of Health, is often not transparently reflected in annual reports of hospitals and Trusts. This makes it difficult, if not impossible to compare financial measures between projects. Refinancing deals make it even more complex as break options and contract lengths are mostly adapted in these deals. Further, the contract information that was evaluated did not concern entire agreements (due to commercial confidentiality). Further, strategies to capitalize on increasing demand levels by extending the hospital facility could not be thoroughly assessed as most of the costs of these extensions were not disclosed to the public. A lack of detailed information on the invoices presented for payments made evaluation difficult.

It also appeared that although a lot of data was accessible on the English cases, mainly due to the presence of a large audience for the political outcomes of implementing concessions, in Victoria fewer data were available for analysis. Although this implementation was addressed to the best of my abilities, the provision of reliable and valid descriptions of events could not be ensured in the Victorian case study.

Data analysis

First, this study was essentially conducted by a single researcher. Although this is a limitation that should be addressed, it was dealt with in an appropriate manner. The interim outcomes of the study were shared and discussed with experts at least twice a year. The VFM framework and insights derived from the literature study were further validated by experts in the field for their usefulness, correctness and practicability.

When this study started, the intention was to apply a specific form of data analysis, qualitative comparative analysis, based on principles of structurally comparing independent and dependent variables. However, as the study progressed, it became clear that VFM involves mutual performance indicators that could not be captured in a single measurement indicator and that many project and context variables influence project performance. This complicates the adoption of a Qualitative Comparative Analysis (QCA) approach. Further, the number of cases that could practically be included in the case study research was considered too small to allow proper QCA analysis. As a result, the QCA approach was abandoned. This had consequences for the overall analysis since QCA allows one to analyze the effect of a combination of project and context characteristics, which is more difficult with the analysis approach eventually taken.

To summarize, it can be concluded that subjective choices were made during the research process and this subjectivity could undermine the objectivity of the study. The outcomes of the study should be seen in the light of these choices, it does not mean that the study has not generated any value or useful contributions. The implications are further discussed in Section 9.3.

9.3 Contributions

The added-value of this study is partly in its structuring of the complexity of hospital concession arrangements. Although the hospital concessions included in the study showed considerable differences, the VFM framework proved a valid tool for assessing performance of all the hospital concession projects. Based on this observation, it is expected that, for other hospital concession settings, the VFM framework will also be a useful construct. The contributions made for practice and science, as well as the social contributions, are outlined in the subsequent subsections.

9.3.1 Contributions for practice

The intended practical contribution of this research, as outlined in Chapter 1, was to develop a set of rules and conditions which could be used to discriminate between well and badly performing health concessions. In this research, the lessons arising from the provision of hospital facilities through concession arrangements were identified, so that they can be taken into consideration in current and future projects. The VFM framework can assist health authorities in making decisions regarding hospital concessions. It has identified the risks that should be monitored during the lifetime of the arrangement. Health authorities should monitor hospital concessions during the lifetime of the arrangement to keep the implementation of changes on schedule, to provide budget control and to reduce problems with hindsight. The VFM framework given in Figure 8 provides support for issues that are important during monitoring processes.

The outcomes of the case study can support health authorities in making decisions regarding the critical factors that contribute to achieving VFM. It appears that although hospital concession arrangements seemingly provide strategic design and service flexibility, tactical flexibility in these arrangements is rather limited. To some extent health authorities choosing to implement hospital facilities through concessions should accept this to some extent. They, however, should place greater emphasis on including tactical flexibility in the concession arrangement. As it appears that it is difficult to include this in the operational phase, as the incentives for the private sector to do so are small, this should be emphasized in the design phase of a hospital project.

Further, implementation of a concession arrangement usually leads to a reduction in the financial flexibility of a health authority. This does not necessarily generate problems, but authorities need to take this explicitly into account. When payments to the SPV would lead to a reduction in the clinical services provided in the hospital, which to some extent is the

case in the UK, this should in some way be compensated for without reducing the clinical services, or their quality, to the public.

Understanding the mechanisms that influence VFM is essential for successful implementation of hospital concessions. Project failures can be avoided by complying with the outcomes of this study. Health authorities intending to implement a concession arrangement should therefore place emphasis on creating contextual and project characteristics which offer promising prospects. Health authorities, which have already implemented a concession arrangement, could learn from the study and should attempt to adapt project conditions accordingly. It is recommended that health authorities think very carefully about the flexibility that is required to meet future developments in service delivery and changes in the demands made on the health service. Before committing to any long-term concession arrangement, it would be prudent to consider how these requirements for flexibility can be addressed. This is seen as more valuable than yielding to the temptation to copy from other hospital concession projects.
The insights derived from this study can help health authorities to strategically think about VFM and how it is preserved. The framework represented in Figure 8 constitutes of an overview on the relationships of identified risks in hospital concessions with context uncertainties and the concession arrangement itself. This framework clarifies which risk categories are currently not included in the ex-ante VFM assessment method, but which do exert influence on the performance of hospital concessions. Future ex-ante VFM assessment methods should be upgraded to these insights and therefore should incorporate the mentioned other risk categories as well.
Further, it is argued that the issues related to the restricted design and service flexibility found in hospital concession project should already be addressed in the ex-ante VFM assessment methods. This implies that output specifications in the procurement phase of the concession project should include provisions regarding contingency adaptability and that the accompanying PSC is updated to these specifications accordingly. It is further recommended that, after benchmarking the private sector proposals with the updated PSC first, the private sector proposals are also assessed on the flexibilities they incorporate. This could be done by assessing the presence of and extent to which the different flexibility types are incorporated by means of a separate checklist. The commitment that an insufficient score on one or more items generates penalty points for the outcomes of the benchmarking process, will incentivize the private sector partners to take flexibility issues better into account in designing hospitals.

In agreeing a concession arrangement for a new hospital, health authorities make major long-term financial commitments. It is essential, when entering into such long-term commitments, to have a clear understanding of the level and sources of funding required meeting the costs. Although the study did not produce firm conclusions from empirical evidence as to whether concessions restrict or increase the flexibility of health authorities in

absolute terms, one solid conclusion is that health authorities should be warned of the potential problems when implementing concession arrangements.

9.3.2 Social contributions

One of the points of departure in this study was that some of the benefits of hospital concessions are more claimed than real, and that many of these claims are based on an acceptance of prevailing NPM thoughts which in themselves might be open to challenge (Coghill & Woodward, 2005). This study has contributed by generating insights into how hospital concessions might be optimized. It has provided empirical evidence on whether concessions deliver their perceived expectations and benefits. The research resulted in the observation that practice is not as clear-cut as both the detractors and the advocates of hospital concessions argue it is. From the analysis, it appears that flexibility is neither absent nor fully present. Practice thus is not as black and white as some people would like to claim. The research has structured the debates on the merits and worth of hospital concessions. However, since flexibility is only one of the issues influencing the overall outcome of a concession arrangement, an absolute judgment cannot be passed on whether health authorities should nominate hospital concessions as the preferred alternative for hospital provision.

9.3.3 Contributions to science

This study intended, as was outlined in Section 1.2.1, to contribute to the scientific debate around concessions by searching for systematically compiled empirical evidence as to how concessions are performing once contracts have been awarded. In order to do this, appropriate performance indicators must be set, operationalized, measured in practice, and then analyzed, which are all processes that formed a key part of this research. More specifically, this research has contributed to the body of knowledge on concessions in various ways.

The main scientific contribution of this study is that it has derived essential performance indicators from the literature and has linked these distinct indicators within one framework. It has unraveled criteria to assess the performance of hospital concessions, with a specific focus on the flexibility of concessions regarding demand risk. The framework presents a holistic model of the concept of VFM over time in hospital concessions. The research has structured many of the individual factors through the development of this framework. This provides an overview of important issues at stake in hospital concessions. It could therefore be said that this research has integrated different types of knowledge into one framework.

The linkages between the various parts of VFM do not only explain how VFM should be assessed in hospital concessions, but also clarify the way in which VFM can be monitored in order to avoid superfluous expenditure. With this framework, the performance of various hospital concession projects was qualitatively measured in practice. Analysis of these projects has resulted in empirical evidence on how hospital concessions are

performing in their operational phase. Although the empirical outcomes of the study cannot exclude the possibility that other project and contextual characteristics play a role in achieving VFM in hospital concessions, it seems that the performance of hospital concessions is less controversial than has been argued elsewhere. Earlier assessments had resulted in mixed and controversial empirical evidence on the effectiveness of concessions (Hodge & Greve, 2005). This study has clarified some of the controversies linked to such arrangements.

9.3.4 Implications for further research

This study has provided a foundation for establishing concessions for the long-term provision of hospitals with sufficient flexibility to accommodate a fluctuating demand for clinical services. It has contributed to developing an overall assessment framework for VFM as well as generating empirical evidence as to whether concessions are meeting expectations. It has provided a detailed VFM framework that offers a basis for further research, and which is essential for further empirical analysis. It appears unfeasible in practical terms to develop an all-embracing VFM framework and to test it empirically to its full extent in a single PhD research project. Therefore, suggestions are given for further research in the future.

The VFM framework

The developed VFM framework seems to be effective in assessing hospital concessions. The model was applied in two national contexts with the outcomes showing similar results, although the Victorian cases being more recent than their English counterparts has resulted in a difference in the richness of data between the two contexts.

It is not anticipated that assessing the VFM of other hospital concessions using the new framework will yield significant problems that have not noticed before. As such, the VFM framework is able to predict that certain outcomes of hospital concessions are likely under some conditions and unlikely under others. Nevertheless, a lot of work still needs to be done to increase the degree of understanding and applicability of the VFM framework. Particular attention needs to be paid to other risk categories that were not empirically tested in this study. Further, another recommendation is to try to assess VFM performance from the end-user point of view as such an approach seemed unfeasible in this study. Given that the currently implemented concession model for hospitals is derived from a model used in economic infrastructure projects, it is also recommended analyzing whether different concession model should be applied in social infrastructure facilities such as hospitals. Now that greater knowledge exists on the project and contextual characteristics that influence VFM in hospital concessions, it is also recommended that one conducts a study in which the QCA approach is adopted. QCA allows an analysis of the effect of a combination of project and contextual characteristics. This was unfeasible in this study due to the lack of knowledge on which mechanisms constitute VFM.

Generalizability of the study outcomes

The current research is a good starting point from which other hospital concession projects can be explored and assessed. Further empirical research on hospital concessions is needed to generate more insights into the dependencies between the three different types of flexibility in these arrangements. Due to a lack of access to reliable data, this could not be achieved in this study. It is therefore argued that this should be the responsibility of audit offices, such as the NAO in England, that are tasked with assessing infrastructure projects and probably have greater access to the data needed for conducting such assessments.

Further, to increase the generalizability of the VFM framework, it is recommended to empirically assess the whole VFM testing process in various settings. Since an increasing number of governments are considering the implementation of hospital concessions, and with that comes a need for reliable and objective data on hospital concessions, the current lack of theoretically- and empirically-founded research on such arrangements will only become more problematic in the near future.

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APPENDIX 1: CASE STUDY PROTOCOL

Objective

This case study research addresses managerial and policy strategies for the development and management of hospital concession projects. The objective of the case study research is to assess the performance of different types of demand-risk-related VFM in hospital concessions.

Unit of analysis

The unit of analysis is the hospital concession project. At the project level, project performance is assessed. Certain project and context characteristics will affect project performance assuming that project characteristics are different due to different contexts (national, sector and project contexts) and choices that are made in designing the project itself. These project and contextual characteristics are generated in the case analysis.

In the case study research it is determined for each project which provisions are incorporated in the arrangement regarding demand-risk-related VFM, and the way demand risk management occurs in practice.

Project performance

Flexibility performance in a hospital concession is judged upon whether the arrangement provides an ability to respond to changing demand levels for clinical activities, and also to different configurations or desired quality levels of these activities. In other words, it is assessed whether concessions have adequate strategic and tactical flexibility provisions to respond to changing demand levels, and whether the provisions in the concession arrangement limit the financial flexibility of the awarding health authority.

The assessment as to what extent concessions embrace the ability to accommodate flexibility in practice is based on empirical evidence on three levels: the political rhetoric level, the contract level, and level of operational outcomes. The assumption is that these three levels all affect flexibility performance. In the case study research, the flexibility of concessions on these three levels, and their dependencies, is assessed.

The policy rhetoric is broadly described for each case study project considered. Uncertainties seem to play a relatively large role in the outcomes of concession arrangements. Since uncertainties are interwoven with the context of such arrangements, the policy rhetoric, including the institutional framework, must be analyzed when judging VFM in concession arrangements. This will be carried out for the two national contexts in which the studied concessions operate, as well for the immediate contexts of each individual project. In the policy rhetoric, the policy and the political context are given, including the decisions that were made in the initial stages of each project regarding design and service flexibility. The financial contexts of the hospital concession projects will also be described.

The legal contract will be analyzed to determine how flexibility is allocated between the public and private sector partners in the specific cases. Flexibility-related issues are established in the contract specifications between the awarding authority and the SPV. In the risk allocation matrices, established through contracts, it becomes clear who is responsible for dealing with change.
Finally, the operational outcomes concern whether flexibility has been an essential issue in practice, based on experience to date. A key issue is whether the risk-shifting specified in the contract occurs in practice. In quantitative commercial terms, this means analyzing whether the flexibility risks borne by the parties in the operation of the concession arrangement are as agreed in the legal contract.

Flexibility will be analyzed on a project-by-project basis. The assumption is that each project will have different provisions regarding flexibility issues which need to be thoroughly analyzed and understood. It is also important to recognize that the appropriate distribution of demand risks is dependent on the resources and the capabilities of the parties to a contract, and that this can vary considerably. Given the above problems, and the underlying structure of concessions, flexibility is analyzed in several case studies. The overall objective of the case study research is to assess the process and the rationale underpinning the distribution of flexibility as it is related to demand risk. Cases will be judged upon their ability to adapt to changing clinical demand since flexibility reflects an uncertain context.

Case study questions
In the table below, the case study research questions are presented.

Design flexibility			
Policy rhetoric	**Type**	**Case study question**	**Data source**
	Strategic/tactical design and service flexibility	How was the capacity of the hospital set?	Indirect data: official policy documents (National Audit Office, memoranda to the health committee), data triangulation with scientific articles, internet sources (a.o. IPP).
	Financial flexibility	Is the capacity completely driven by patient activity?	Indirect data: official policy documents (a.o. NAO)
Contract	Strategic design flexibility	What is the capacity of the hospital?	Direct data: outline and full business case of the project (England) and Project Agreement of the project (Victoria). Indirect sources: scientific articles, magazine articles (a.o. Hospital Development)
	Strategic design flexibility	Does the design addresses long term department issues (e.g. space for future development in a good functionality to the new facility)?	Direct data: outline and full business case of the project (England) and Project Agreement of the project (Victoria). Indirect sources: scientific articles, magazine articles (a.o. Hospital Development)
	Strategic design flexibility	Which of such provisions are incorporated?	Direct data: outline and full business case of the project (England) and Project Agreement of the project (Victoria). Indirect sources: scientific articles, magazine articles (Hospital Development)
	Tactical design flexibility	Does the building offer temporal provisions to be able to respond to changes in demand for clinical services?	Direct data: outline and full business case of the project (England) and Project Agreement of the project (Victoria) Indirect sources: scientific articles, magazine articles (a.o. hospital Development)
	Tactical design flexibility	Which of such provisions are incorporated?	Direct data: outline and full business case of the project (England) and Project Agreement of the project (Victoria) Indirect sources: scientific articles, magazine articles (a.o. hospital Development)
	Tactical design flexibility	Are there any sanction or bonus agreements to incentivize the private sector partner to improve quality of services or building over the lifetime of the project?	Direct data: outline and full business case of the project (England) and Project Agreement of the project (Victoria) Indirect sources (for data triangulation purposes): scientific articles
	Strategic and tactical design flexibility	What is the contractual mechanism to effectuate design change?	Direct data: outline and full business case of the project (England) and Project Agreement of the project (Victoria) Indirect sources (for data triangulation purposes): scientific articles, evaluation reports of accounting offices.

Operational outcomes	Strategic and tactical design flexibility	Are both parties working together to identify improvements in the design?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices, scientific articles, board meeting minutes (whenever available from start operational phase – 2006).
	Strategic and tactical design flexibility	Is the facility able to cope with the demand? Are the projections of demand of users well determined in relation to the catchment's area?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices. Evaluation reviews of independent bodies (King's fund), scientific articles, and board meeting minutes (whenever available from start operational phase – 2006).
	Strategic/tactical design flexibility	Has design flexibility been an issue in practice yet? And if so, were there any problems dealing with changes while keeping the facility operational?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices, board meeting minutes (whenever available from start operational phase – 2006).

Service flexibility			
Policy rhetoric	**Type**	**Case study question**	**Data source**
	Strategic service flexibility	Were there any considerations concerning the scope of services that would be included in the concession?	Indirect data: evaluation reports, policy documents. Data triangulations with Internet sources, magazine and newspaper articles.
Contract	Strategic service flexibility	What is the scope of the ancillary services under the concession arrangement?	Direct data: outline and full business case of the project (England) and Project Agreement of the project (Victoria). Indirect sources (for data triangulation purposes): scientific articles, evaluation reports of accounting offices.
	Strategic service flexibility	What is the contractual mechanism for changing the service scope of the contract?	Direct data: outline and full business case of the project (England) and Project Agreement of the project (Victoria). Indirect sources (for data triangulation purposes): scientific articles, evaluation reports of accounting offices.
	Tactical service flexibility	Are there adequate processes to temporally change the availability fee and charges for ancillary services (and their payments) in response to changes in the market?	Direct data: outline and full business case of the project (England) and Project Agreement of the project (Victoria). Indirect sources (for data triangulation purposes): scientific articles, evaluation reports of accounting offices.
Operational outcomes	Strategic service flexibility	Has the awarding authority established the process and timing of market-tested yet?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices, board meeting minutes (whenever available from start operational phase – 2006).
	Strategic service flexibility	What are the outcomes of this market-testing?	Indirect data: annual reports of health authorities (NAO), board meeting minutes (whenever available from start operational phase – 2006).
	Strategic service flexibility	Has the health authority yet changed the scope of services transferred to the SPV during the period studied in this analysis? How?	Indirect data: annual reports of health authorities (NAO, VAG), board meeting minutes (whenever available from start operational phase – 2006).
	Tactical service flexibility	Has tactical service flexibility been an issue in practice yet? And if so, were there any problems dealing with changes while keeping the facility operational?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices, scientific articles, newspaper articles, magazine articles and internet sites, board meeting minutes (whenever available from start operational phase – 2006).

Financial flexibility			
Policy rhetoric	**Type**	**Case study question**	**Data source**
	Affordability	What were the financial implications of implementation of the concession arrangement at the time the business case/project agreement was signed?	Indirect data: Evaluation reports of official accounting offices (Health select committee, HM Treasury, House of Commission questions). Data triangulation with scientific articles.
	Affordability	Was the concession affordable at the time the business case/project agreement was signed?	Indirect data: Evaluation reports of official accounting offices (Health select committee). Data triangulation with scientific articles.
	Affordability	What was done, if necessary, to increase the affordability of the concession?	Indirect data: Evaluation reports of official accounting offices (Health select committee, House of Commission questions). Data triangulation with scientific articles, news paper articles, internet sources.
	Affordability	How is the concession arrangement been financed by the SPV?	Indirect data: Evaluation reports of official accounting offices (Health select committee, House of Commission questions). Data triangulation with scientific articles.
Contract	Affordability	What is the clause on sharing refinancing gains?	Direct data: outline and full business case of the project (England) and Project Agreement of the project (Victoria)
Operational outcomes	Affordability	What is the percentage of the health authorities' income that has to be paid to capital charges/concession arrangement?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (Health select committee), board meeting minutes (whenever available from start operational phase – 2006).
	Affordability	How much did this percentage change before and after the implementation of the concession arrangement?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (Health select committee), board meeting minutes (whenever available from start operational phase – 2006).
	Affordability	Has the health authority the necessary resources to meet the unitary charge to the SPV?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (Health select committee, VAG). Data triangulation with scientific articles, news paper articles, internet sources, board meeting minutes (whenever available from start operational phase – 2006).

	Affordability	Is it likely that the project is affordable over the duration of the contract? Or:	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (Health select committee, VAG). Data triangulation with scientific articles, news paper articles, internet sources, board meeting minutes (whenever available from start operational phase – 2006).
	Affordability	How is the flow of financial resources within this project organized?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (Health select committee, VAG), and board meeting minutes (whenever available from start operational phase – 2006).
	Affordability	Has there been any additional financial support to make the scheme affordable to the health authority?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (Health select committee, VAG). Data triangulation with scientific articles, news paper articles, internet sources, board meeting minutes (whenever available from start operational phase – 2006).
	Affordability	If so, are the financial consequences allocated according to contract specifications?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices (Health select committee), board meeting minutes (whenever available from start operational phase – 2006).
	Effect use flexibility on unitary charge	Has the unitary charge been changed due to design or service variations?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices, board meeting minutes (whenever available from start operational phase – 2006).
	Effect use flexibility on unitary charge/affordability	Has a refinancing, with a relevant share of gains, taken place where possible?	Indirect data: annual reports of health authorities, evaluation reports of official accounting offices, board meeting minutes (whenever available from start operational phase – 2006).

Outcomes

The case study research will result in an indication of demand-risk-related VFM in hospital concession projects.

Analyzing data

The analysis of the data will be done in both a literal sense and interpretively in assessing the accomplishment of performance in hospital concessions. The performance of the various projects will be compared in terms of their project and context characteristics to find the critical characteristics in constituting demand-risk-related VFM.

APPENDIX II: EXAMPLE FULL BUSINESS CASE ENGLISH HOSPITAL CONCESSION

Contents

1. Introduction	1-5
Part 1: case for change	
2. Strategic Context for investment	6-70
3. Trust response to case for investment	71-119
Part 2: Option evaluation	
4. PFI procurement	120-128
5. Option descriptions	129-169
6. Revenue costs of options	170-183
7. Option evaluation	184-212
Part 3: PFI solution	
8. Treatment of Property	213-225
9. Accounting Treatment	226
10. Project agreement	227-241
11. Affordability of the scheme	242-259
Part 4: Implementation	
12. Project organization	260-269
13. Scheme implementation	273-280
14. Human resources strategy	281-304
15. Equipment strategy	305-311
16. IM&T strategy	312-330
17. Risk management strategy	331-356
18. Post project evaluation	357-363
Part V: commissioner support	
19. Commissioner involvement and support	364-373

Appendices (in total approximately 3200 pages)

A. Current and future service levels
B. Key service concepts
C. PFI procurement
D. Minimum change option
E. Public sector comparator
F. Private finance option
G. Conventionally funded option

H. Workforce & financial analysis
I. Non-financial benefits evaluation
J. Economic appraisal/VFM
K. Accounting and VAT treatment
L. Project Agreement
M. Project organization
N. Scheme implementation
O. Equipment
P. IM&T system architecture
Q. Risk management
R. Post project evaluation
S. Commissioner support
T. Audit Trails
U. Addenda to the Full Business Case

APPENDIX II: EXAMPLE PROJECT AGREEMENT VICTORIAN HOSPITAL CONCESSION

Contents

Agreed terms
1. Defined terms and interpretation 13
Part 1 - Project Description
2. The Project 52
3. Accreditation and compliance 53
Part 2 - Contract Commencement
4. Conditions Precedent 54
Part 3 - Roles of parties
5. State's role 57
6. Authority 57
7. Project Director - Demolition, Design and Construction Phase 58
8. Contract Administrator 59
9. Sub Contracting – Demolition, Design and Construction Phase 60
10. Sub-Contracting - Operating Phase 61
11. Project Management 63
12. Independent Reviewer 64
13. Hospital Operator 66
Part 4 - Demolition, Design and Construction Phase
14. Construction and Defects Liability Bond 67
15. Construction License 68
16. General Obligations during Demolition, Design and Construction Phase 69
17. Demolition, design, construction and Completion warranties 70
18. Approvals 71
19. Site Management 72
20. Demolition Works 73
21. Facility Works Program 74
22. Progress of Facility Works 76
23. Facility Design Development 78
24. Project Director's right to inspect and test 80
25. Damages for delay 82
26. Items to be endorsed prior to Final Completion 83
27. Equipment 84
28. Completion 90
29. Transition 91
30. Final Completion 93

31. Defects Liability Period 94
Part 5 - Operating Phase
32. Licences 96
33. Use, Facility name and signage 99
34. Obligations during the Operating Phase 99
35. Maintenance and Refurbishment 100
36. Escrow Account 103
37. Carparking 104
38. Utilities Services and Medical Gases 105
Part 6 - Payment provisions
39. Payments 107
40. Rates and Taxes 108
41. Goods and Services Tax (GST) 109
Part 7 - Changes in circumstances
42. Modifications 110
43. Project Company Initiated Modifications 110
44. State Initiated Modification 111
45. State Payments upon a State Initiated Modification 113
46. Completion of Modification 114
47. Change in Law 114
48. Force Majeure 119
49. Hospital Functions - Intervening and Compensable Events 122
50. Extending the time for Final Completion of the Demolition or Facility Works 124
51. Reviewable Services 130
52. Base Case Financial Model 133
53. Re-financing benefit 133
Part 8 - Termination, Liability and Indemnity
54. Default 135
55. General remedies 138
56. Cure Periods 139
57. Termination 140
58. Step-in 141
59. Risk and Liability 144
60. Project Company's Indemnity 146
Part 9 - General rights and obligations 149
61. Representations and warranties 149
62. Protection of people and property 153
63. Environmental issues 154
64. Native Title and Artefacts 156
65. Notification of safety issues 158
66. Notification of industrial issues 158

67. Insurance 159
68. Intellectual Property Rights 169
69. Restrictions 171
70. Reports 176
71. Rights of access 178
72. Disclosure 179
73. Notices 179
74. Dispute Resolution 181
75. Rights and obligations at end of Contract Term 184
76. Miscellaneous 186

Schedules and appendices (In total approximately 150 pages)

I. Services Specifications
II. Payment Provisions
III. Quarterly Service Payment
IV. Change Compensation
V. Termination Payments
VI. Endorsement Procedures
VII. Equipment
VIII. Community Liaison Strategy
IX. Design departures
X. Bid Design Documentation
XI. Bid Project Management Plan
XII. Demolition Works Program
XIII. Bid Facility Works Program
XIV. Bid Asset Management Plan
XV. Draft Functional Areas Table
XVI. Construction Period Reports
XVII. Pro Forma Bond
XVIII. Certificate of Final Completion
XIX. Information to be included in Monthly Invoice
XX. Draft Plan
XXI. Completion Guidelines
XXII. Financier Direct Deed
XXIII. State Security
XXIV. Construction Direct Agreement
XXV. Services Provider Direct Agreement
XXVI. Independent Reviewer Deed of Appointment
XXVII. VIPP Statement
XXVIII. Connection Point Plan
XXIX. Utility Services requirements