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RISK MANAGEMENT FOR LOCAL AUTHORITIES' PRIVATE FINANCE INITIATIVE PROJECTS

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ABSTRACT

Based on a questionnaire survey involving fifty-five local authority (LA) Private Finance Initiative (PFI) schemes, this paper documents risk management in local authority PFI developments. The initiative demands that local government must be seen to have achieved an optimum allocation of the risks associated with a PFI scheme. Some findings emanating from this investigation include: (i) PFI in LA is used predominantly for school and transport schemes; (ii) the assessment of risk by local authorities, in terms of methods used and the process adopted, is unsatisfactory; (iii) almost all local authorities (LAs) use external financial advisers to progress their schemes, but the value of the services provided by the advisers particularly on risk assessment is questionable and should be improved; (iv) risk analysis is confined to the preparation of a risk matrix for the project; (v) as part of risk evaluation allocation process, most authorities place the onus for quantification of risks that have been listed in the PFI invitation to tender on the shoulders of the bidders and expect them to be negotiated between the two parties. The major implications of the investigation are twofold: firstly, the need for relevant training in the subject area of risk assessment for the public sector, and secondly, the need to develop an appropriate and agreed framework for risk assessment and management for PFI schemes.

Keywords: Local Authority, Project Finance, infrastructure, risk allocation, risk analysis

1 INTRODUCTION

The Private Finance Initiative (PFI) involves a process where private sector organisations, design, build, finance and operate assets which deliver a service to public sector clients. It is a way of procuring construction infrastructure which places private providers directly into the context of service delivery to the public. There is a tendency to regard PFI as a particularly British development, but evidence abounds that other countries (developed and developing countries) also have significant experience in the implementation of such initiatives (RICS, 1995).

Although PFI has predominantly in the past, sponsored by UK Central Government Departments, it is now expected that through PFI many Local Authorities (LAs) will, following the changes to capital regulations for LA in 1996 and the launching of Public Private Partnership in 1997, be able to undertake schemes that are relevant to local government, including the provision of healthcare, schools, energy initiatives etc. The attraction of PFI to local authorities is that many service providing schemes could be

undertaking 'off the balance sheet', thus escaping the limits on service development following from controls on the Public Sector Borrowing Requirement (PSBR) framework and permitting provision of service earlier than would otherwise allowed.

The two fundamental requirements for PFI schemes are that the public sector must secure value for money and that the private sector must genuinely assume responsibility for risk. The types of risk which are relevant to the LA PFI projects are many and varied, and may be project specific due to a variety of activities and service provisions (schools, infrastructure, social services, health, community heating, law and order etc.) undertaken by LAs. All these represent a unique way in which PFI risk assessment should be treated by a local authority.

This paper documents approaches adopted by local authorities, to assess and manage risks of PFI schemes based on a questionnaire survey. Although the questionnaire survey forming the basis for this paper dealt with various issues relating to PFI, this paper documents risk assessment and management element of the broader survey.

2 OVERVIEW OF PFI

The UK's Private Finance Initiative (PFI) began with the declared objective of finding ways of mobilising the private sector to meet the needs which are traditionally been met by the public sector. The initiative was first formerly announced in 1992 by the UK Conservative Government. The new Labour Government has continued with this initiative by putting PFI into the framework of its "public-private partnerships"(PPP).

Following the stated intention of the Labour Government to re-invigorate PFI, a Commission chaired by Malcolm Bates was established to review the Initiative. The published Bates Review which followed made 29 recommendations (see Cunliffe, 1997) which according to Sandison (1998) focussed mainly on: *"enhancing the professionalism of existing department procurement units through training; sharing of best practice across the public sector and drawing on private sector experience through inward secondment; standardising the terminology, procedures and contract documentation used by different departments; making better use of external advisers by introducing an accreditation scheme and requiring them to contribute their written work to a dedicated procurement library for use as precedents in subsequent projects."*

Warner (1998) records that since the PFI began in 1992, approximately £9.2 billion of PFI capital spending has been signed and the Government has indicated that it expects PFI to generate an extra £7.7 billion of capital spending on publicly sponsored projects by year 2000. According to one major public sector trade union, by early October 1998, £11.192 billion of PFI contracts had been signed (UNISON, 1998). These figures tend to confirm Hunt's (1995) view that PFI has become a major approach in the UK public sector's drive for investment in high quality and cost-effective modern public services.

The breadth of public sector provision in the UK is such that the demands upon the public purse is rapidly exhausted by rising expectations embodied in statutory rights and more demanding regulations arising from concerns regarding the environment embodied in national and EU legislation. The ageing Victorian infrastructure of UK municipalities in e.g. water and drainage services must be afforded capital sufficient for replacement and renovation, often to new and considerably more demanding standards. Selling-off services to private organisations still leaves a large demand for investment capital.

The most popular type of PFI contract in the UK is Design, Build, Finance and Operate (DBFO) or Design Construct, Manage and Finance (DCMF). Currently, most PFI schemes are operating under a DBFO contract arrangement in which the public sector makes monthly, quarterly or annual payments for the use of privately owned facilities over the lifetime of the concession. Gaffney and Pollock's study (1999) indicates that the major PFI developments for the NHS are DBFO schemes with the primary concession period ranging between 25 and 40 years. The PFI prison building programme is being advanced under the DCMF label (as opposed to DBFO) for which Kent (1998) has extensively documented the extent of the government's commitment. Elsewhere PFI is to be found embodied in contracts labelled: Design, Build, Operate and Maintain (DBOM) and Build, Own, Operate and Transfer (BOOT).

3 PRESSURE ON LOCAL AUTHORITIES

The demands on local government services and the relationship between central and local government in the UK has evolved considerably beyond the initial formulation associated with Victorian municipal models of innovative semi-autonomous local democracies with their own financial resources and local agendas. Leach et al (1994) describe UK local authorities as: *"agencies for delivery of services prescribed by national legislation, but also political institutions constituted for local choice of both the service provided and the development of local communities and for expression of local voices on the needs and concerns of those communities."*

It is obvious, in terms of the measurement of performance, LAs must provide services which are demanded locally and which may not be low-cost, even when efficient. On the other hand a central government which is held accountable for aggregate performance and supplies the majority of revenue support for local government will have a keen interest in any 'under-performance'. The agency/partnership debate on the proper relationship between the two layers of UK government has developed afresh in relation to new areas of policy such as economic regeneration where local government has willingly offered its local knowledge in shaping and managing central government initiatives to deal with structural change in the economy. The varying demands upon central government have in turn sparked pressure for local governments to put aside local priorities in order to follow policy and financial incentives which accompany new central policy priorities.

A particularly notable example of the foregoing was introduced under the Local Government Act 1988, requiring LAs to submit to external competition a specified range of services; thus compulsory competition tendering (CCT) which was to

challenge a long tradition of in-house and direct provision of local authority services was mandated for local administration.

Community Care and the Education Reform Act added fresh demands upon local authorities. In Community Care, LAs have been afforded prime responsibility for non-acute care of the elderly and infirm with financial provision diverted from NHS hospital budgets.

In education governing bodies of schools in England and Wales were given more responsibility for direct management and for control of their budgets further challenging the traditional pattern of, and accountability for local authority services.

More recently, the new Government's Best Value Initiative which seeks to achieve service reviews and any necessary reforms across to the entire range of local services has allowed CCT to be suspended where the authority can demonstrate VFM and a quality service benchmarked against national and relevant public and private alternative suppliers. The immediate threat to local custom and practice, embodied in CCT, is thus removed but at a price. It is clear that under the new UK government's initiative there will be no less attraction for considering how the private sector can contribute in a suitable partnership; particularly where the service has been by-passed by change in the wider economy. Thynne (1997) is of the opinion that Best Value has the potential to become the dominant influence in the environment which all other initiatives (PFI, public/private partnership, competition, etc.) will operate.

The spectacular waves of expansion of local government services in the past and in particular undertakings in recent time has created an inheritance of facilities due for replacement and upgrading; the shortage of public sector capital and the lessons of successful public-private partnerships in the past ensure that such options are more fully explored than might otherwise be the case.

The Department of the Environment Transport and the Region's (DETR, 1998) publication titled: 'Local Government and the Private Finance Initiative' identifies the benefits of PFI and other public private partnerships for local government. The latest changes in the rules governing capital expenditure in projects involving the private sector and associated revenue support mechanisms are designed to encourage local authorities to make maximum use of the opportunities as outlined by the DETR.

4 RISK AND PRIVATE FINANCED FACILITIES

Genuine risk transfer from the public sector to the private partner is one of the four cardinal points guiding the application of PFI and its importance has been underlined by the DETR (1998).

The risk associated with private provision of public sector infrastructure differs according to the nature of the service for which the facility is provided. In the report of The Private Finance Panel (1995), entitled 'Private Opportunity, Public Benefit', six

generic risks relevant to PFI were listed: design and construction (to cost and time); commission and operating (including maintenance); demand for volume/usage, residual value, technology/ obsolescence; and regulation and legislation. These risks were further commented upon in the Panel's publication (1996), 'Risk and Reward in PFI Contracts'.

The risks of private sector toll road operating within a public sector road network, are identified by Arndt (1998); these he categorised as:

- ◆ Design and Construction Risks – design suitability; obtaining necessary permit and approvals; the time and cost of construction overruns etc.
- ◆ Operating Risks: production risks, risks associated with maintenance, service standards, meeting environmental standards, and maintaining required insurance.
- ◆ Market Risk:– traffic volume, growth of transport substitutes, availability of other revenue sources, and the setting of toll levels subject to agreed caps.
- ◆ Sponsor Risk – availability and structuring of finance, commercial risks, tendering cost, and project viability, consortium risks, etc.
- ◆ Sovereign or Legislation Risks – change in legislation and government policies affecting the project.
- ◆ Network risk: access to the existing government road network, feasibility of connecting to the existing infrastructure; use of alternative routes available.
- ◆ Technology Risk – use of new technology in the operation of a road that had never been used on a real life project.
- ◆ External Risks – these include *force majeure* events, interest rates, exchange rates, and inflation.

In addition to the foregoing, other risks associated with the private provision of public sector infrastructure are demand risk and residual value risk. Demand risk is the willingness of the private sector to take on the risks associated with demand, and will depend on its ability to control and manage this risk. Residual value risk has two main determinants: (i) the condition of the asset at the end of the contract and (ii) demand for it. The specialist nature of some assets and lack of alternative uses may limit the scope for transfer of this class of risk. Since these affect the value of asset, the transfer of residual value risk for each PFI scheme must be given case consideration.

5 SURVEY OF LOCAL AUTHORITIES

A questionnaire survey was employed to determine the risk assessment and management process used by LAs in their PFI projects. The Questionnaire design was based on literature review on the subject and case study interviews with three project managers responsible for major PFI projects. This was developed with the aid of a series of pilot studies involving participants from LAs.

Overall, the mailed questionnaire achieved 55 positive responses from project managers; a response rate representing 30% of LA PFI projects. The questionnaire achieved a wide spread positive responses and given that not many LAs are currently engaged in PFI schemes, this study can indeed be regarded a national survey of LAs

involvement in the PFI. Just over sixty-three percent (63.6) of the respondents described themselves as project managers for the scheme forming the basis for their questionnaire response, 23.6% as full project member and 5.5 % as an occasional project team member.

5.1 Type and Nature of LA PFI schemes

Table 1 shows the types of LA PFI scheme in which respondents were involved. Numerically, the majority of the LAs are involved in school PFI schemes (36.4%) followed by Transport (21.8%), police (12.7%) and fire station schemes (7.3%). The results, particularly the prominence of schools and transport, suggest that the authorities are focusing on schemes which place a major demand on available resources and those which can be in Tong-KYu's (1998) terms be described as 'primary' facilities i.e. providing a direct high-profile service to the public.

Table 1 Type of LA PFI Projects

Type	Number	Percentage
School	20	36.4
Transport	12	21.8
Police	7	12.7
Fire Station	4	7.3
Others	12	21.6
Total	55	100.0

Others include IT, waste management, housing, magistrate, and car park projects, leisure facility, and office accommodation.

5.2 Risk assessment teams

The PFI risk assessment exercise is likely to involve much cross-departmental activity for the LA given the variety of information required. From Table 3 it is evident that the finance and legal service departments are the main ones involved in PFI risk assessment. The involvement of architectural and related services, commonly associated with LA capital projects, is found minimal, as is involvement of risk management sections. The latter may follow because these sections are commonly nested within LA finance departments. The technical data available from internal architecture, planning and engineering services may still be important in the process but it may indicate that PFI is essentially about finance and contract, rather than about the technical and design aspects of capital projects.

Table 4 Local authorities' departments involved in PFI risk assessment

Department/Section	Frequency	Percentage
Finance	44	80.0
Legal	35	63.6
Architecture	21	38.1
Education	17	30.9
Planning	16	29.0
Engineering	15	27.2
Insurance/Risk Management	11	20.0
Property Division/Estates/Valuation	7	12.7
Projects/Contract/Building Management	4	7.3
Others	12	21.8
None/Not Completed	4	7.3

Others are: Fire officers, operating cost and travel forecasters, quantity surveyors, economic policy development, waste management, chief executive, housing department, users representatives, facilities management, magistrate court committee, end users, health and safety, fleet manager, police operations.

5.3 External advisers in risk assessment

Table 5 shows external advisers involved in the projects risk assessments. The dominance of external advisers by financial establishments and lawyers is noted. This dominance is perhaps unsurprising given the demands arising from the PFI, professional affinities spanning public and private sectors and the active marketing conducted by the two professions.

Table 5 External advisers involved in Risk assessment

External Advisers	Frequency	Percentage
Financial advisers	40	72.7
Legal advisers	30	54.5
4P's representative	12	21.8
Project managers	10	18.1
Surveyors	9	16.3
Engineers	9	16.3
Government dept. representative	8	14.5
Risk management specialists	4	7.2
Architects	4	7.2
Contractors	2	3.6
Actuaries	2	3.6
None/not completed	6	10.9
Others	10	18.1

The involvement of external advisers from the property and construction field is generally low; the highest involvement of construction profession is project managers but ranking less than 20%, followed by surveyors and engineers with about 16%. The results tend to suggest that where construction professions are involved in risk assessment, it is for a limited period; probably to provide necessary data for use by accountants and lawyers at the heart of the PFI exercise. Given that one cannot separate asset design and development from PFI procurement, it is clear that the construction profession is under-represented in PFI evaluation and risk assessment.

5.4 Local authorities risk identification techniques.

Table 6 shows the method of risk identification used by local authorities for PFI schemes. Interestingly, brainstorming led the field (58.1%), followed closely by peer group discussion (54.5%). More formal/ technical methods such as SWOT analysis, flow charts, fault/event tree analysis are employed, but to a considerably lesser extent. The LAs continue to take precedence view on risk identification by relying on experience of other public sector organisations (41%). This tends to suggest that risk identified on a PFI project is replicable on another PFI scheme. This may be the case where we one is dealing with the same type of PFI scheme

Table 6 Techniques used to identify risks

Risk identification methods	Frequency	Percentage
Brainstorming	32	58.1
Peer group discussions	30	54.5
Analysis of past incidents/historic	26	47.2
Checklists	23	41.8
Experience of other public sector organisations	23	41.1
Attendance at conferences, seminars	16	29.0
Examination of legislation	15	27.2
Case studies	13	23.6
SWOT analysis	10	18.1
Flow charts, fault/event tree analysis, etc.	9	16.3
Research, surveys, questionnaires	9	16.3
Other Information e.g. the Internet	8	14.4

5.5 Techniques and methods of PFI risk analysis

Methods of risk analysis can be broadly classed as either qualitative or quantitative and respondents were asked to indicate the method employed in their PFI project by selecting: qualitative, semi-quantitative, quantitative or some combination of these. Their own description of the method(s) used was also requested. The questionnaire provided a general description and examples of what might constitute qualitative and semi-quantitative risk analysis procedures along with a checklist of quantitative risk analysis techniques, in order to assist respondents in making their replies.

Qualitative Risk Analysis

Twenty-six respondents (47%) indicated that they use qualitative risk analysis methods to analysis PFI risk. They provided a range of descriptions of how PFI risks are categorised using qualitative risk analysis. It is apparent from their descriptions that most respondents are able to categorise PFI project risks terms of probability, likelihood or frequency of occurrence and impact or consequence of the risks.

Semi-Quantitative Risk Analysis

The respondents were asked to describe how qualitative descriptions of risk are given a numerical value so that the level of risk can be indicated numerically. Twenty-three respondents (42% response rate) indicated that they use semi-quantitative risk analysis methods and provided information on their understanding of the methods. It is evident from the descriptions provided that when a numerical value is allocated to risk, it is based on the either the experience of the project team or the advice offered by external

advisers. Methods used ranged from risk weighting and allocation of numerical values, which varied widely, to the impact and probability of occurrence.

Quantitative risk analysis

Table 7 shows the use of quantitative risk analysis techniques by local authorities for PFI projects, although they were provided with a list of eight risk analysis techniques to select ones used on their project. A majority of respondents (75%) did not complete this question; this being consistent with non-use of the technique. A variety of reasons may contribute to this: lack of familiarity with the methods, no requirement for such analysis, projects not sufficiently developed, etc. A sensitivity analysis method is used by 16.3% of the respondents, followed by Monte Carlo simulation method with 14.5%. The PFI project teams do not use methods such as decision analysis, algorithms, mean ends analysis, and stochastic dominance.

Table 7 Risk analysis methods for local authorities PFI schemes

Risk Analysis Methods	Frequency	Percentage
Mean-ends analysis	1	1.8
Decision trees	1	1.8
Sensitivity analysis	9	16.3
Monte Carlo simulation	8	14.5
Others	7	12.7

The preference for qualitative and semi-quantitative methods of risk analysis over quantitative methods suggests that the authorities predominantly use risk checklists and a matrix based on Intuition/Judgement/Experience for PFI schemes.

5.6 Risk Allocation

Table 8 shows that the seven principal risk factors identified in the government publications (Private Finance Panel, 1995 & 1996) could be grouped into three classes: (i) risk factors that the LAs should transfer completely to private sector; (ii) risk factors to be shared between the LA and the private sector, (iii) risk factors where respondents are divided on their treatment.

The principal risk factors that the local authorities respondents reckoned should be completely transferred to private sector and in which they were unanimous are design and construction (95.2%); commissioning and operating (95.3%); financing (83.7%); and technology/obsolescence (66%) risks. Only 11.6% and 32% of the respondents indicated that financing and technology/obsolescence risk factors, respectively, should be shared between the local authority and the private sector.

Regulation risks fall under the second group of risk factors to be shared between the LA and the private sector. The majority of the respondents (64.3%) believed that the regulation risk factors should be shared between the LA and private sector, with 24% indicating that this should be transferred to private sector and 10% that this should be retained by the LA.

Residual value and demand risks fall under the third group i.e. those for which the respondents are divided on the treatment of the principal risk factors. Thirty percent of

the respondents indicated that demand risk should be retained by the authority, 35% favoured risk sharing and 35% believed it should be transferred to the private sector. In case of residual value, 25% of respondents favoured it being retained, 17.7% favoured sharing and 40% favoured transfer to the private sector; 17.5% are, at present, not sure how to treat the risk.

Table 8 Treatment of Risk

Principal PFI Risks	Nr	Risk Allocation							
		Retained		Shared		Transferred		Unknown	
		Nr	%	Nr	%	Nr	%	Nr	%
Design & Construction	42	-	-	2	4.8	40	95.2	-	-
Commissioning & Operating	43	1	2.3	1	2.3	41	95.3	-	-
Demand	37	11	29.7	13	35	13	35	-	-
Residual Value	40	10	25	7	17.5	40	29.0	7	17.5
Technology/Obsolescence	41	-	-	13	31.7	27	66.0	1	2.4
Regulation	42	4	9.5	27	64.3	10	23.8	1	2.4
Financing	43	-	-	5	11.6	36	83.7	2	4.7

6 CONCLUSION

The Private Finance Initiative has now achieved a central position in the delivery of UK public sector services. The pressure on local government spending limits has encouraged LAs to explore the use of the initiative in meeting demands for new and replacement premises and services.

The authorities' use of established risk analysis techniques in PFI risk assessment is limited. It can be speculated that the lesser use of the more formal methods of risk assessment and management on local authorities PFI scheme reflected a lack of the necessary data for their effective use and a preference for qualitative over quantitative methods. The analysis suggests a preference for methods which are less demanding on PFI project management teams. The absence of an agreed standard code of procedure perhaps invites project management teams to adopt the expedient rather than the more demanding and rigorous choice.

Leadership for PFI project, including risk assessment, is dominated by finance and legal departments. Technical departments (architectural, construction, surveying, planning, and engineering), when involved in PFI, usually features as team members rather than leaders. The external advisers involved in LA PFI are overwhelmingly represented by accountancy and legal practices. The private sector thus mirrors the dominant role of the two professions within the LAs.

Most respondents are conversant with the principle of risk management advanced in government policy i.e. that risk should be allocated to the party that is best able to manage it. All respondents agree that the DBFO risks should be completely transferred to the private sector. The risk factors that authorities prefer to share with the private sector are those related to demand and regulation/legislation.

There are many implications that could be drawn from this study. It may be argued that this imbalance in professional involvement in PFI which should be redressed in order to achieve the stated aims of PFI. PFI is not about finance deals only, it includes innovative design, construction, and facilities management; all of which should come together in genuinely innovative and cost-effective solutions to public sector needs. So also the training requirements for staff involved in LA PFI schemes is worthy of some attention. The contributions of professions such as risk management and quantity surveying, to risk assessment training will be invaluable. PFI scheme development demands an holistic approach with contributions from professions that are associated with capital project and facilities management.

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