RIFAT AKBIYIKLI, Ph.D.
E-mail: rakbiyikli@sakarya.edu.tr
Sakarya University, Faculty of Engineering
Department of Civil Engineering,
Esentepe Campus 54187 - Adapazari, Turkey
SEYYIT UMIT DIKMEN, Ph.D.
E-mail: u.dikmen@iku.edu.tr
Istanbul Kultur University,
Faculty of Engineering and Architecture
Department of Civil Engineering
Atakoy Campus, Bakirkoy 34156, Istanbul, Turkey
DAVID EATON, Ph.D.
E-mail: d.eaton@salford.ac.uk
University of Salford, School of the Built Environment
Maxwell Building, Salford, M5 4WT, UK

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PRIVATE FINANCE INITIATIVE (PFI) FOR ROAD PROJECTS IN UK: CURRENT PRACTICE WITH A CASE STUDY

ABSTRACT

The long-term sustainable provision of new and high quality maintained road stock is vitally important, especially in times of economic constraint such as Europe is currently experiencing. The Private Finance Initiative (PFI) is one method of financing such large-scale, capital intensive projects. An important aspect of this form of financing projects is that the risks are borne not only by the sponsors but are shared by different types of investors such as equity holders, debt providers, and quasi-equity investors. Consequently, a comprehensive and heuristic risk management process is essential for the success of the project. The proposition made within this paper is that the PFI mechanism provides a Value-for-Money and effective mechanism to achieve this. The structure of this PFI finance and investment on a particular road project therefore enables all project stakeholders to take a long-term perspective. This long-term perspective is reflected in the mechanism of a case study of UK – Class A trunk roads which are examined in detail. This paper presents a novel solution to a modern dilemma.

KEYWORDS

capital road projects, Private Finance Initiative, project finance, structured finance, payment mechanisms

1. INTRODUCTION

This paper presents an overview of the UK approach to solving the twin dilemma of requiring new and high quality existing road stock whilst suffering from economic and financial austerity. The results of a longitudinal investigation over eight years suggest that the PFI mechanism provides both Value-for-Money and a higher quality maintenance and operational regime than would otherwise be possible for a Government Authority. In the early 1980s the idea of Private Finance Initiative (PFI) emerged in Australia which was later adopted by other governments with the same name or different names such as BOT (Build-Operate-Transfer). The method aimed to resolve the shortage of public funds for major investments through the funding capability of private entities. The method is widely used in countries having different legal structures. In the UK PFI is used extensively. The case study involves the analysis of three separate UK Class A -2x2 dual carriageways. Class A trunk roads in the UK are the second highest road specification after Class M (Motorway) routes. This paper describes the mechanism of PFI as it is used in the UK and presents the case study for a better understanding of the financial ramifications for both sides of the PFI contract.

2. PRIVATE FINANCE INITIATIVE (PFI)

PFI is a contractor-led procurement system focused on Design, Build, Finance and Operate (DBFO). The private sector offers a complete service and has the potential for increased integration within the project value chain. It aligns the interests of the user, the service provider and the major financiers. The process establishes a relationship that is based on partnering, with the private sector determining the inputs required to achieve quality services specified by the public sector on a consistent basis. The private sector creates the asset and delivers the service in

return for payment commensurate with the quality of service delivered.

Currently, in the UK, it is usual for PFI projects to be funded by equity investment [1]. The financial package is tailored to minimise the total risk. According to de Lemos et al. [2] an important aspect of PFI is that the risks are borne not only by the sponsors but also by the different types of investors such as equity holders, debt providers, and quasi-equity investors. Therefore, since the risks are shared, the criteria of a project's suitability for financing are its ability to stand alone as a distinct legal and economic entity and the separation of project cash-flows from those of the Sponsor's.

3. STRUCTURED PROJECT FINANCE (SPF)

Project finance (PF) is the long-term financing of infrastructure and industrial projects based upon the projected cash flows. The core element is that the investors have no claim to any of the assets other than the project itself. Therefore, they must completely satisfy themselves that the project is fully capable of meeting its debt and equity liabilities and still offer an acceptable margin of profit. There are two basic types of project finance, namely, limited and non-recourse. In the case of limited project financing, lenders utilise the cash flows of a project to repay debt service, but permit creditors and investors some recourse to the sponsors in case of failure. In non-recourse project financing, lenders utilise the cash flows in the same way but only have the assets of the project as security. Physical assets and future cash flows are of little value if a PFI project is abandoned, and thus pure, non-recourse financing is very rare. It is much more common to arrange funding on a quasi non-recourse basis in which the financing is structured to achieve the optimum trade-off between non-recourse and credit support from the lenders so that lenders will be satisfied with the credit risk. In certain instances the public sector, will offer cash and/or assets to improve the financial viability of the proposed project evaluation being conducted by the potential lenders. As reported by Esty [3], the total project financed investment has grown from less than $10 billion/year in the late 1980s to almost $220 billion/year in 2001.

SPF is a legitimate financial management tool with well established roots in capital optimisation and risk management, and generally has its own inherent checks and balances protecting the interests of all the parties involved. SF has its origins in two different phenomena dating back to the 1970s: Securitisation and the use of Special Purpose Entities (SPEs) [4]. These are synonymous with UK SPVs (Special Purpose Vehicles) – a separate legal entity created by the equity partners to manage a specific project.

Securitisation is the process by which the cash-flows on one or more assets are bundled and conveyed to an SPV that in turn issues debt or equity securities that represent claims on those underlying assets or the cash flows. In most cases, the original assets are conveyed by the originator to the SPV, which then issues securities to investors. Interest and principal paid on the new securities are financed by cash flows emanating from the underlying asset pool [4].

The purpose of the SPV is to minimise the sponsor's exposure to risk and help to preserve its own credit standing and future access to financial markets. As a consequence, and in notable contrast to the parent company borrowing, SPVs are set up to facilitate off-balance sheet finance and asset divestiture. SPVs are usually wholly owned and controlled by the parent companies that establish them.

UK road projects are a combination of both these forms. Typically 90% of the total anticipated finance requirement is provided by securitised 'bank' loans and the remaining 10% 'point finance' is provided directly by the SPV stakeholders. Nevitt & Fabozzi [5] asserted that the key to successful PF is structuring the finance with as little recourse as possible to the sponsor, while at the same time providing sufficient credit support through guarantees or undertakings from a sponsor or third party, so that lenders will be satisfied with the credit risk. Therefore, the crux of PFI is stability of cash flow and its security structure to accommodate the credit risk in the transaction [5].

Esty [3] notes that PF combines both an investment decision involving a capital asset and a financing decision. He argues that PF solves two financing problems, reducing the cost of agency conflicts inside the project companies and reducing the opportunity cost of underinvestment due to leverage and incremental distress costs in sponsoring firms. Furthermore, Esty [3] argues that PF reduces the net cost of financing the assets. SPVs have evolved as institutional structures that reduce the cost of financial functions by pooling resources, managing risk and transferring resources through time and space.

4. SPF WITHIN PFI

According to Merna & Dubey [6], Merna & Smith [7] and Estache & Strong [8] the basic features of PF are built around the contractual commitments to PFI. Hence, an SPV is created to undertake the project on the principle that the project's cash-flow is the principal source for repayment of debt and the project's assets are the principal collateral for any borrowings. Thus, once the project is operational, lenders have no or very limited recourse to the credit of the project owners. The main participants and relations between them are shown in *Figure 1*.

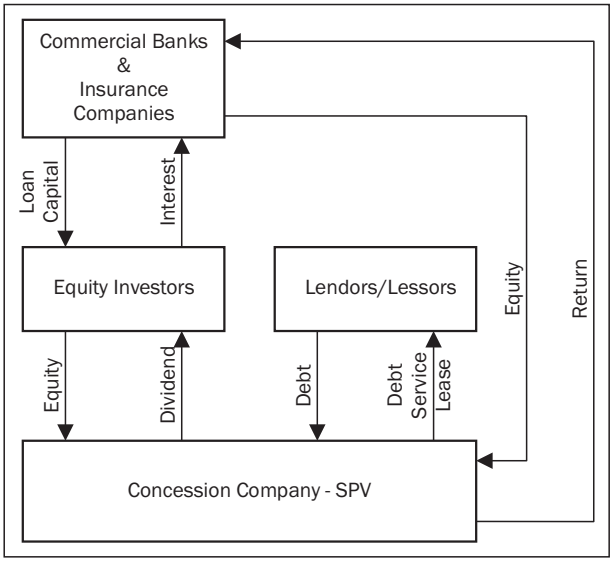

Figure 1 - Main participants in project finance in PFI road projects

The shareholders invest equity (10% point finance) into the SPV. These shareholders are usually the Construction Company, the Operation Company and the Facility Management and Maintenance Company. Debt funding (90%) can either consist of bank debt or bond issues or a combination of both. Bank debt tends to be more expensive than bonds with higher rates and shorter loan duration and bonds can offer longer loan periods at lower interest rates. To date there have been relatively few bond financings in UK-PFI projects [1]. Bonds are long-term interest-bearing documents of debt, issued by public as well as private sector organisations, which oblige the issuer to pay the principal amount after a specified period of time called maturity [9]. The term maturity refers to the length of time to the expiry of a loan/debt. Lenders will not normally demand repayment of the principal and interest on the loans until the construction phase has been completed and the project enters its operational phase. Once a project has completed the development phase including construction, the risk profile alters and the SPV can obtain better re-financing terms and lower rates for the rest of its projected life. This re-financing has been excluded from this article.

Banks and other financial institutions) are generally more risk averse than point financers, and as they provide the majority of funding, their role in the PFI project leads them to ensure that proper due diligence is performed; all risks are identified, assessed, quantified and allocated to the parties best able to manage them.

5. PFI FOR ROAD PROJECTS

The Public Sector objective of PFI procurement is to provide high quality public services that represent 'Value-for-Money' (VfM) for the taxpayer. It is therefore VfM, and not the accounting treatment, which is the key determinant of whether a project should be procured by PFI Sponsors focus on how procurement can achieve risk transfer in a way that optimises VfM [10].

Figure 2 shows cash-flow potential differences between public-funding and a PFI Project. From the public sector side, the PFI requires no upfront capital but involves a larger operating expenditure over time to purchase the services. However, on the other hand the public asset approach requires a large upfront capital funding commitment and relatively lower operating expenditure over time.

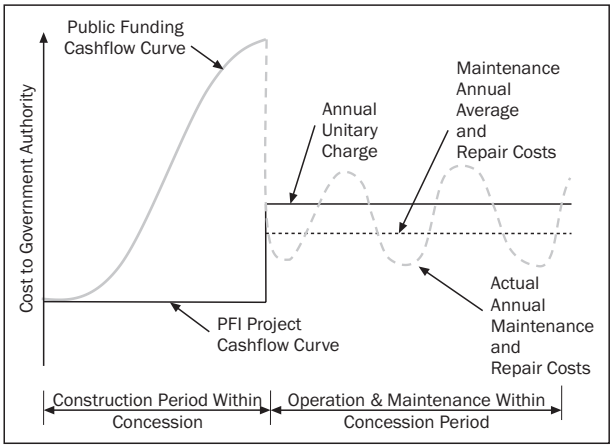

Figure 2 - Generic cash-flow differences between public funding and PFI project

By making no payments until services are provided in accordance with the Granting Authority's Output Specification, the payment mechanism transfers significant design and construction risk to the SPV and provides significant incentives for the faster implementation of infrastructure projects. The objectives of the payment mechanism are highly dependent on the requirements set out in the Output Specification and the results of the risk assessment. These three items are closely related and it is important to establish mechanisms to facilitate iteration between these.

Senior debt providers need assurance that the Unitary Charge, creating the project cash-flow, proposed as the payment mechanism can be paid by the project sponsor. For UK central government projects this is supported by the departmental financial allocations. For UK Local Authorities the process is slightly different. The UK government makes available Revenue Support Grants to Local Authorities (LA) for each financial year, spread across all service sectors (including roads). In addition, as part of the government's Comprehensive Annual Spending Review (CSR) additional PFI credits for each of the next three fiscal years are announced to fund the capital element of Local Authority PFI Schemes. To provide confidence in the availability of LA funds, central government publishes a list of approved projects. This list is updated quarterly.

Having achieved satisfactory assurance that Government funds are available the lenders have to be assured that the repayments are adequate. These repayments are defined by the payment mechanism. The payment mechanism defines the financial effect of the allocation of risks, roles and responsibility between the Granting Authority and the Special Purpose Vehicle (SPV) which is the Service Provider. It is important that the payment mechanism reflects both, the level of service required and the most cost-effective transfer of risk to the private sector [11]. The payment mechanism should give the SPV an incentive to perform well and should provide the Granting Authority with remedies in the event that the SPV does not meet its obligations. The payment mechanism is there to ensure that the Granting Authority's objectives for the project are being delivered and it should be linked to the outputs for the project set out in the Output Specification.

The payment mechanism sets out the basis for calculation of the payment of the Unitary Charge to the SPV for the provision of the Output Specification services. The payment mechanism in a PFI Contract forms the sole basis of payment to the private sector Service Provider. The general objectives of the payment mechanism [11] should be to:

- provide realistic, challenging but achievable availability and performance standards for the Service Provider to meet in order to secure the full unitary charge agreed in the Contract;
- provide an incentive to meet the availability and performance standards set out in the Output Specification by placing payment of the unitary charge at risk if performance falls below the agreed standard;
- match payments to the outcomes and outputs that the Local Authority (Council) wishes to see delivered from the project;
- provide an incentive to the Service Provider to rectify problems by escalating penalties for worsening performance, or failure to act promptly on items failing to meet the agreed availability and performance standards;
- provide an incentive for the Service Provider to innovate and secure efficiency gains and deliver Best Value throughout the period of the Contract.

The link between the payment mechanism and performance in a generic PFI road project is shown in *Figure 3*.

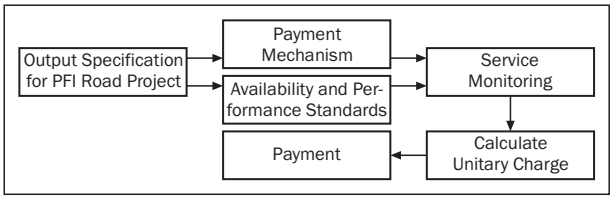

Figure 3 - Payment mechanism and performance in a PFI road project

By requiring no payments until services are provided to an acceptable standard, the payment mechanism provides significant incentives for the faster implementation of infrastructure road projects. The payment mechanism should include appropriate incentives for the Service Provider to deliver the service in a manner that achieves Best Value, and promotes partnership working. The key to a successful payment mechanism will be the relationship and inter-operability between the Output Specification and its availability and performance standards and the payment mechanism. The Service Provider (SPV) is paid for the provision of the road core services. This can be in the form of a road toll payment, paid directly by the user or the Granting Authority pays the SPV an amount which is based on the number and type of vehicles using the road; with adjustments made for lane closure and safety performance. These are known as shadow tolls when the road user pays nothing. The predominant form in the UK roads is shadow tolling.

6. CASE STUDY

The Case study PFI Road Projects are the A55 in North Wales, A92 Dundee-Arbroath and the Newport Southern Distributor Road. Full details were provided in the study by Eaton et al. [12]. These roads are all 2x2 dual carriageway Class A 'trunk road' specification. In the UK this class of road is the second category below Class M – Motorway.

The payment mechanism is fundamental to a PFI Contract as it defines the financial effect of the allocation of risks, roles and responsibility between the granting authority and the SPV which is the Service Provider. Hence in the A92 project the granting authority had devised a Base Monthly Payment (BMP) schedule parallel to deductions in case of lane unavailability and performance failure. The scheduled rates BMP, monthly lane unavailability (MLUC) and performance failure in UK pounds are shown in Tables 1, 2 and 3, respectively. The monthly payment is calculated separately for heavy vehicles and vehicles other than the heavy vehicles. Due to space limitations in *Table 1* only the rates for other vehicles are tabulated. However, the schedule for the heavy vehicles is the same with exception of different number of vehicles and unit rates.

As shown in *Figure 4* the rates for BMP increase by increasing usage but decrease by the progressing operation period. The MLUC is calculated based on the time of the day, length of the closed lane in multiples of 4.0km and whether a single lane or the full carriageway is closed. For further assurance of the service level there is an additional charge calculated based on the performance as tabulated in *Table 3*. All the charges and BMP values are values at the beginning of the contract and they are further adjusted annually

Table 1 - Rates for calculation of Base Monthly Payment (BMP)

Band	Years	2	10	15	19	25	31
B1	No. of Veh.	0 – 408	0 – 430	0 – 444	0 – 454	0 – 468	0 – 482
	£/veh./day	0	0	0	0	0	0
B2	No. of Veh.	409 – 1,361	431 – 1,434	445 – 1,479	455 – 1,512	469 – 1,559	483 – 1,605
	£/veh./day	0.27	0.26	0.25	0.24	0.24	0.23
B3	No. of Veh.	1,362 – 1,442	1,435 – 1,554	1,480 – 1,626	1,513 - 1,683	1,560 – 1,768	1,606 – 1,854
	£/veh./day	0.51	0.35	0.28	0.24	0.2	0.17
B4	No. of Veh.	1,443 – 1,468	1,555 – 1,594	1,627 – 1,676	1,684 - 1,743	1,769 – 1,844	1,855 – 1,946
	£/veh./day	1.5	0.99	0.79	0.66	0.52	0.43

Source: Schedule 7: Payment Mechanism-Project Agreement of A92, 2003

Table 2 - Lane unavailability charge (per 4 km closure or part thereof) – Part detail closure of one carriageway

Daily Two Way Traffic	Traffic Flow Period (hours of day)				
	00.00 – 07.00	07.00 – 10.00	10.00 – 16.00	16.00 – 19.00	19.00 – 24.00
	£	£	£	£	£
≤ 11,000	0	800	800	1,200	500
16,001 - 17,000	0	1,450	1,450	2,150	1,000
20,001 - 21,000	0	2,050	2,050	2,925	1,440
24,001 - 25,000	0	2,750	2,750	4,000	2,000
29,001 - 30,000	0	3,850	3,850	5,800	2,700
≥ 31,000	0	4,450	4,450	6,700	3,000

Source: Schedule 7: Payment Mechanism-Project Agreement of A92, 2003

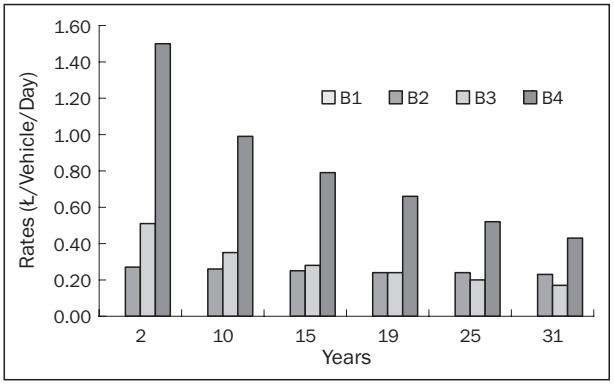

Figure 4 - Summary of payment rates for different bands and years

by a retail price index based on annual indexation factor. The indexation factor is a minimum of 1.025 for annual inflation rates of less than or equal to 2.5%. But for inflation rates above 2.5% only 26.95% of the excess is included in the indexation factor.

This payment mechanism provides a powerful incentive for the SPV to ensure high quality sustained availability of the road meeting the pre-defined performance standards in the output specifications. Non-performance puts at risk the unitary charge payment as defined above. It provides a mechanism to ensure the earliest rectification of defects. A mechanism that is not available within non-PFI roads. For A92, after 5 years of operational use, the SPV has never suffered a financial penalty for 'road defects'. The Local Authority client considers this road as the 'Jewel in the Crown' of their road system. They aspire to the same maintenance and operational standards achieved in the PFI for the remainder of their road stock.

The payment mechanism for each road project can be tailored and structured to reflect the particular needs for any Local Authority.

The A92 project was set out for tender in February 2002 by the relevant local public authority. The construction period was foreseen as three years and the operation period was foreseen as 31 years. In October 2003 the project was awarded to a UK consortium. The bid of the winning consortium was £53.0M and £27.0M for the construction and operation, respective-

Table 3 - Performance failure deduction chart – Part detail - full service period

Number of Relevant Performance Failure Points	Performance Deduction
0 – 30	0.000%
61 – 85	0.525%
96 – 100	1.050%
151 – 155	2.000%
201 – 205	3.000%
296+	7.500%

Source: Schedule 7: Payment Mechanism-Project Agreement of A92, 2003

ly. With this bid data and the payment mechanism it is possible to estimate the potential income and expenditure of the SPV and the granting authority respectively.

Two very important pieces of data in such an estimation process are the inflation rates and the lending rates. The investment will be made by using some form of borrowing as explained above and the costs will be recovered through a long-term repayment process making the results of the estimation analysis sensitive to these data.

The inflation rates data are available through the Office for National Statistics [13]. There are two sets of data available from this office, namely, one set using 1974 as the base year and the other using 2005. The first set provides data for a period of over two hundred years (*Figure 5*a) while the second set contains data for the recent years starting from 1988 (*Figure 5*b). Both sets show a similar trend, with the second set being slightly lower, for the common period between 1988 till today. The inflation in the UK was reasonably low for the previous 20 years averaging 2.7%. However, the inflation in the UK has shown great variations in the past and may possibly behave in the same way in the future. The average annual inflation for the period starting from 1800 and lasting through 2009 is calculated as 2.4% with a standard deviation of 7.20%. This indicates that inflation is over 9.6% for about 15% of the time. Hence, for the purposes of this study four different inflation rates will be used to demonstrate the sensitivity of the results, i.e. SPV's income and/or Local Authority's expenditure. These rates will be 0.5%, 2.5%, 5.0% and 10.0% to reflect the very low inflation, current trend (and also to match the minimum inflation adjustment rate), medium level inflation and moderately high inflation, respectively.

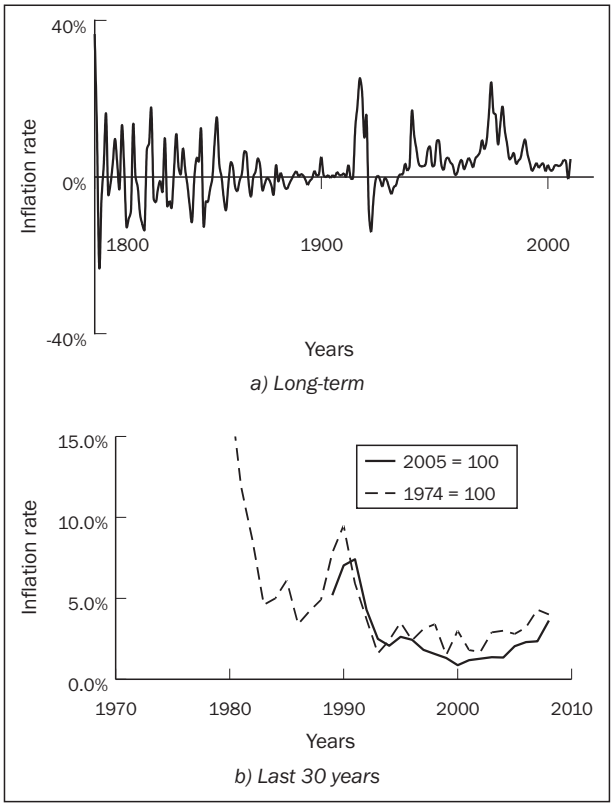

Figure 5 - Inflation rates in the UK

The other important rate in the calculations is the lending rate. According to Kavanagh [4] PF has historically been undertaken by commercial banks in two phases involving a relatively short-run construction/completion phase and a 'permanent' financing phase with maturities ranging between 15-20 years. In the UK, cases having a maturity as long as 40 years also exist. As can be seen from *Figure 6* the prime lending rate as reported by the Bank of England [14] is around 4.5% in the post-1990 period and seems fairly stable.

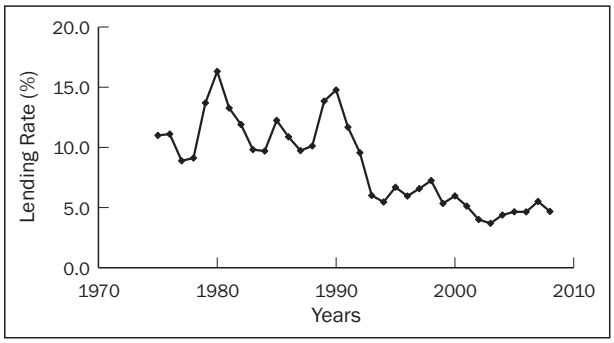

Figure 6 - Lending rates in the UK

In relation with the inflation rates, prime lending rates of 3.0%, 5.0%, 7.5% and 13% are used for inflation rates 2.5%, 6.0% and 10.0%, respectively. It is also assumed that the contractor will be able to draw medium and long-term loans, i.e. loans, at prime lending rate plus 150, 175, 200, 225 basis points for 5, 10, 15, 30-year loans, respectively. For comparison purposes it will be assumed that the granting authority can also borrow at the same rates.

Regarding the construction period spending of this particular project, two assumptions can be made. Firstly the profit content in the construction budget can be accepted as part of the spending and hence the accumulated amount of potential profit is not reused in the project funding. This is justified since construction is sub-contracted out by the SPV. The second assumption is the distribution of construction spending which, since the project involves major rehabilitation work, can be assumed as relatively flat with slightly higher spending in the initial months (*Figure 7*).

Regarding the operation period and the potential penalties for unavailability and performance failures, it can be assumed that the contractor has included in his cost an estimated amount to cover for these values. It is also assumed that the operation period expenditures will be small in the beginning and bigger towards the end of the period. Furthermore, it is assumed that the £27M bid is at the bid date rates, so the annual expenditure is adjusted by the inflation fac-

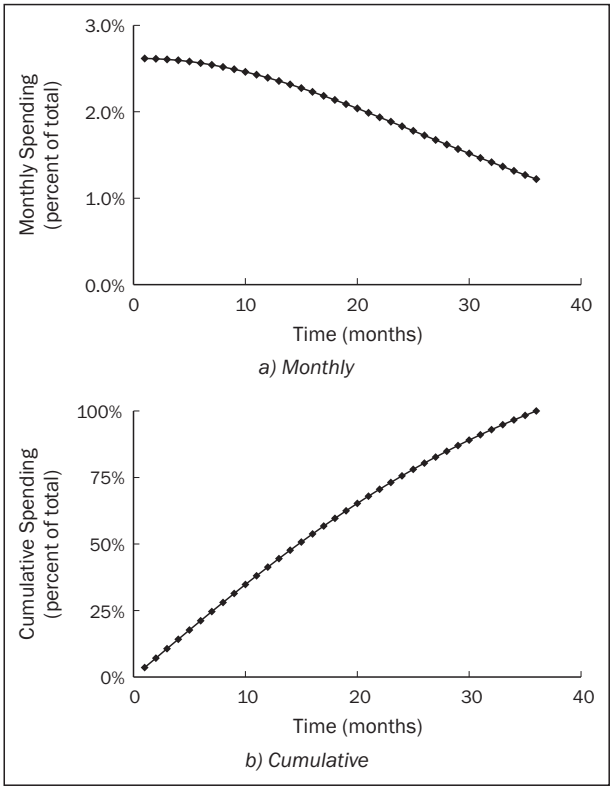

Figure 7 - Cumulative and monthly construction spending

tor. The results are shown in *Figure 8*. However, if the granting authority was operating the carriageway the values shown in the graphs in *Figure 8* would be lower since the contractor's values contain the penalties to be paid also. For the calculation purposes this reduction for LA expenditure is assumed to be 25%.

The contractor's only source of covering their operating expenses is the BMP. The figures include the minimum inflation adjustment of 2.5% over the years. The revenue from the heavy vehicles comprises about 10% of the total revenue. Based on these values SPV's net present value of the additional earning before interest, taxes, depreciation and amortization is calculated based on two different discount rates, namely 5% and 10%, and tabulated in *Table 4*. As can be seen from the table, SPV receives an additional income at low and moderate levels of inflation. However, when the inflation is high than according to the scheme devised SPV's income becomes negative, i.e. at loss.

Furthermore, an analysis was made to calculate the difference in cost between the two alternatives, namely the traditional bid and build type and the PFI

Table 4 - SPV's additional gain/loss (Million £) at different inflation levels and discount rates
a. 5% discount rate

Inflation rate	0.50%	2.50%	5.00%	10.00%
30 - year loan	35.0	16.0	-4.0	-78.0
15 - year loan	37.0	23.8	11.9	-41.9
10 - year loan	37.8	26.9	18.4	-26.7
5 - year loan	38.0	29.6	24.5	-11.8

b. 10% discount rate

Inflation rate	0.50%	2.50%	5.00%	10.00%
30 - year loan	19.1	8.8	-2.5	-38.3
15 - year loan	13.9	6.2	-1.3	-28.0
10 - year loan	11.2	4.8	-0.7	-22.2
5 - year loan	7.2	2.5	-0.6	-15.9

Table 5 - Cost difference of PFI structure from the traditional type contract (Million £) at different inflation levels and discount rates
a. 5% discount rate

Inflation rate	0.50%	2.50%	5.00%	10.00%
30 - year loan	-21.9	-13.7	-6.1	17.1
15 - year loan	-17.1	-11.4	-7.1	9.5
10 - year loan	-14.6	-10.2	-7.6	5.2
5 - year loan	-45.7	-48.0	-51.7	-65.6

b. 10% discount rate

Inflation rate	0.50%	2.50%	5.00%	10.00%
30 - year loan	-39.5	-24.0	-10.0	43.5
15 - year loan	-41.3	-30.9	-23.4	16.6
10 - year loan	-42.0	-33.6	-28.8	5.3
5 - year loan	-56.4	-61.3	-70.4	-109.4

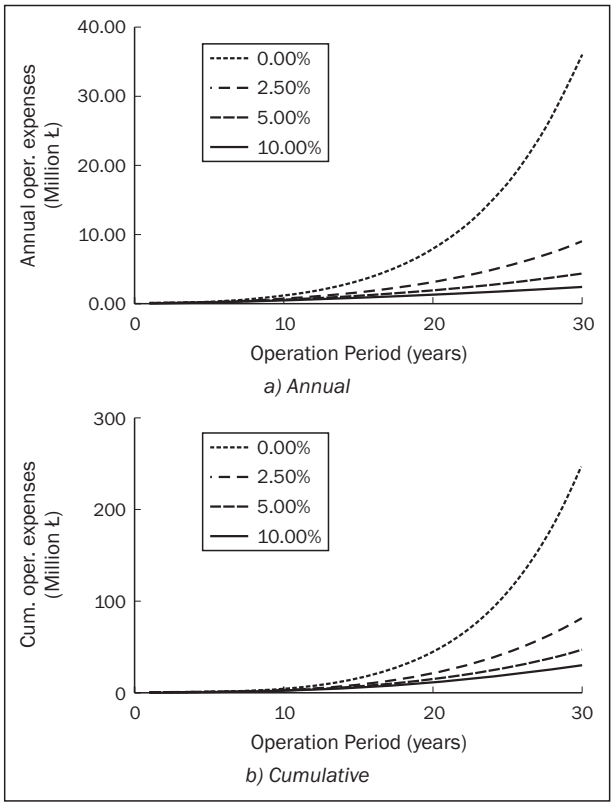

Figure 8 - Cumulative and annual operation period expenditure

structure presented earlier. The results obtained are converted to the net present value at the date of the beginning of operation and summarized in *Table 5*. For this purpose also, two different discount rates, namely 5% and 10%, have been utilized.

The results reveal that with the current payment structure the SPV seems to receive additional gains in case of below moderate inflation levels. Of course, these amounts can be decreased or increased by the financial market conditions and the contractor's performance. But the additional earnings seem a reasonable compensation granted to the contractor for the risks assumed.

7. CONCLUSION

Private sector involvement in the provision of public services through PFI Roads has two distinct elements: Operational and Financial. This paper has concentrated exclusively on the financial element. PFI combines the operational risks and financial risks and achieves a combined output and performance target which is reflected in the payment mechanism and predicted cash flows.

Finance for Road Projects is a commodity that can equally well be raised by the public sector or the private sector. The case for private sector involvement in providing finance needs justification. The cost of finance is dependant on the investors' perception of risk and the security of repayments associated with interest and capital repayment.

In public sector financing many of the implicit risks associated with investments are never exposed. Public Authorities invest current revenues and borrow against these and future revenue streams. The risks of a particular road investment project are not isolated and priced by the financial departments of public sponsors. They are implied and hence accepted by the Public Authorities decision to invest. The total cost to the Public Authority is therefore unspecific, with variations, claims, delays, etc, all leading to a potential increase to the original project capital cost.

In private sector financing, the relevant risks are necessarily exposed and priced. The cost of finance will vary with the risk profile and risk allocation together with the contract provisions between the public and the private parties for each individual project. Contractual incompleteness can make private finance very inefficient. However, the private sector lenders require complete scrutiny and due diligence before agreeing to any debt issuance. In this case the lenders can offer an extremely competitive financial package for the project debt. When this is combined with the PFI incentive for the SPV to maximise the efficiency, effectiveness and economy throughout the whole-life-cycle of the project, this completed package is competitive with that of other more traditional forms of procurement finance. The total cost to the Public Authority is fixed before commencement of site activity, at the Financial Close phase. All subsequent potential cost increases are borne by the SPV, and are deemed to be incorporated within the financial model. Cost and time disruptions, etc., do not affect the Local Authority; they do however affect the financial profitability of the SPV.

The cost certainty within a PFI project provides the Local Authority with a significant benefit. The financial cost to the LA can be incorporated within future fiscal plans with complete certainty.

PF has a wide range of available financing structures providing stronger incentives for careful evaluation and risk assessment. Each PFI project undergoes a regime of periodic and cyclical scrutiny, commencing at OBC (Outline Business Case) and continuing through to Financial Closure. This technical, legal, insurance and economic scrutiny, together with due diligence reviews, and other relevant financial analyses leads to the exposure of the nature and amount of project risk and their causes. This provides an explicit evidence-based approach to investment decision making.

This sophisticated financial and technical review of the feasibility and viability of each PFI road project has improved the 'bankability' (the ability to obtain loans from the lenders), viability, accountability and affordability of these projects. The unit capital cost of such projects has been reduced whilst at the same time reducing the construction duration. When this reduction in capital cost is combined with the reduction in O&M costs and the improved whole-life asset and service quality, there is solid evidence that UK PFI Road Projects provide improved 'Value-for-Money', compared to previous forms of road procurement.

This Value-for-Money is vitally important when Central and Local Government are suffering financial austerity measures whilst the maintenance and upkeep of the road stock still needs to be met. The PFI mechanism provides higher maintenance quality since any breach could incur a financial penalty, and as indicated in the five years of operation of the A92 no such penalty has been incurred.

In conclusion, PFI Roads have proved to be timely, of high quality and cost-effective and have provided Local Authorities with Value-for-Money schemes.

RIFAT AKBIYIKLI, Ph.D.
E-mail: rakbiyikli@sakarya.edu.tr
Sakarya Üniversitesi, Mühendislik Fakültesi
Esentepe Kampüsü 54187 – Adapazari, Türkiye
SEYYIT UMIT DIKMEN, Ph.D.
E-mail: u.dikmen@iku.edu.tr
Istanbul Kultur University,
Faculty of Engineering and Architecture
Department of Civil Engineering
Atakoy Campus, Bakirkoy 34156, Istanbul, Turkey
DAVID EATON, Ph.D.
E-mail: d.eaton@salford.ac.uk
University of Salford, School of the Built Environment
Maxwell Building, Salford, M5 4WT, UK

ÖZET KISALTMALARI

BİRLEŞİK KRALLIK'TAKİ YOL PROJELERİ İÇİN ÖZEL FİNANS İNSİYATİFİ: ÖRNEK ÇALIŞMA İLE BİRLİKTE MEVCUT UYGULAMA

Yeni ve yüksek kalitede bakımlı bir yol stoğunun uzun vadeli sürdürülebilir olarak sağlanması, bilhassa şu an Avrupa'nın içinde olduğu gibi ekonomik olarak sıkıntılı dönemler için hayati öneme sahiptir. Özel Finans İnisiyatifi (PFI) büyük çaplı, ön yatırımı yoğun projelerin finansmanı için bir yöntemdir. Bu tür finansman ile finanse edilmiş projelerin en önemli özelliği risklerin sadece projeye parasal destek sağlayanların değil ayrıca öz-kaynak sahipleri, borç verenler ve yarı-öz-kaynak sahipleri gibi değişik yatırımcılar tarafından da paylaşılmasıdır. Bunun neticesinde, projenin başarısı için geniş kapsamlı ve bulgusal bir risk yönetim süreci gerektirmektedir. Kredi verenler, öz-kaynak ve borç sağlayanlar risk yönetim planının uygulanmasında ve ayrıca projenin genel başarı olasılığı için de çok önemli rol oynamaktadırlar. Bu makalede yapılan öneri, PFI mekanizmasının paraya değer kazandırdığı ve bunun etkili bir meknizma olduğudur. Bu nedenle belirli bir projede böyle bir finansman ve yatırım yapısı bütün proje paydaşlarının projede uzun vadeli bir perspektif almalarını mümkün kılmaktadır. Bu uzun vadeli perspektif makalede detaylı örnek olarak incelenen Birleşik Krallık'taki klas A yol projesinin ödeme mekanizmasına da yansıtılmıştır. Bu makale modern bir ikileme yeni bir çözüm sunmaktadır.

ANAHTAR KELİMELER

Büyük Yol Projeleri, Özel Finans İnisiyatifi, Proje Finansmanı, Yapılandırılmış Finans, Ödeme Mekanizmaları

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