



## **A Systematic Review of Research on Private Finance Initiative (PFI) and Public Private Partnership (PPP)**

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### **ABSTRACT**

The study aims to systematically review the key characteristics and issues of PFI/ppp research in top public sector journals and to offer suggestions concerning the future direction of research on PFI/ppp. A qualitative meta-analysis method is used to analyse 108 PFI/ppp published papers from 26 selected public sector journals from 1992 to 2010. There is evidence of a growing trend in the amount of PFI/ppp literature since its inception in the UK in 1992. Past literature also mostly focuses on different PFI/ppp issues such as concepts and the application of PFI/ppp, risk management and performance of PFI/ppp, although other issues have been investigated from time to time. This study is important as it offers insights on the key characteristics of PFI/ppp literature in the selected public-sector journals.

JEL Classification: Z18- Public Policy

Key words: Content analysis, Meta-analysis, PFI, PPP, Public sector

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### **1. INTRODUCTION**

Various forms of public private partnerships (PPP) that involve the participation of the private sector in the provision of public services have existed for very many years but recently their use has increased significantly. Much of this increase in use can be attributed to the development of a specific form of PPP which was officially launched in the UK in 1992 and initially known as the private finance initiative (PFI). The PFI refers to a long-term contract between the private sector and the government whereby the private sector plays a key role in designing, building, financing, and operating the

facilities for the provision of public services. In return, the government makes regular payments to the private sector provider over the contract period for the capital and operating costs incurred. When the Labour government took power in 1997, the idea of PFI was inherited using a new label, that is, Public Private Partnership (ppp). As a result, in the UK, PFI has also often referred to as PPP. Basically, there are two meanings of PPP; one is the broad form of private sector participation in public services delivery and second is the type that is really PFI by another name. To distinguish between the broad form of public private partnership from the narrower, in the remaining part of this paper, the former is referred to as 'PPP' and the latter as 'ppp', and the focus of this paper is mainly on PFI (i.e. ppp).

A key assumption underpinning the use of PFI/ppp is that this substantial involvement by the private sector will lead to gains in efficiency and an improvement in the services provided. PFI/ppp represents a fundamental change in the focus of the public sector, away from being a direct provider of services and towards becoming a purchaser of services and a regulator. However, what makes PFI/ppp different from other initiatives is that, unlike privatisation, the public sector retains a substantial role in a PFI project (i.e., as the main purchaser of services and as a regulator of the project). Also, unlike contracting out, the private sector provides the capital assets as well as the services (Kerr, 1998). For these reasons, PFI/ppp has received great support from major political parties and massive attention from various parties.

The key advantages of PFI/ppp over traditional public sector procurement are claimed to be that PFI/ppp involves a substantial degree of risk transfer to the private sector associated with constructing, operating, and maintaining the assets; provides an improved form of public procurement; and offers a higher quality of public services with greater innovation in the design, which consequently could render better value for money from the use of public resources. However, PFI/ppp has been criticized as often being more expensive than publicly financed projects due to higher borrowing costs incurred by the private sector, excessive profit made by the private sector to the detriment of the public and adverse effects on the pay and conditions of the employees. Thus, for a PFI/ppp scheme to deliver better value for money, the benefits achieved from the scheme must outweigh the higher borrowing costs (Terry, 1996; Heald and Geaughan, 1997; Jones and Pendlebury, 2000: 114; Broadbent et al., 2001; Audit Commission, 2003; Froud, 2003 and Ratcliffe, 2004).

The PFI/ppp has become a widely used mechanism in delivering public services in the UK. According to the statistics provided by the HM Treasury Public Private Partnership unit, as of February 2010, there have been 667 PFI/ppp signed projects with an estimated capital value of over £56 billion (HM Treasury, 2011). Subsequently, there has been a growing amount of published

academic research on various issues and relevant topics regarding PFI/ppp. As PFI/ppp is an important agenda of the public sector, researchers in the area may be interested in obtaining information on the trend and scope of the relevant PFI/ppp literature. Although a great deal of research has been done on the topic to date, there have been very few studies that have systematically analysed and reviewed the published output of this research. Work by Al-Sharif and Kaka (2004), Pantouvakis and Vandoros (2007), and Ke et al. (2009) are examples of reviews that have focused mainly on the engineering and construction literature, however, to the researcher's knowledge, there is currently no comprehensive review of the PFI/ppp research that has been published in the public-sector or public-administration journals. As a systematic review of the published output on a specific topic is likely to assist in the current understanding and future direction of research into that topic (Tsai and Wen, 2005), the purpose of this study is to provide such a review.

In essence, this paper aims to analyse what has been researched in the area of PFI/ppp and published in the key refereed public sector journals. In particular, there are two main objectives of this paper. First, it aims to identify the important characteristics of research on PFI/ppp (i.e. the number of papers published, the journals that contributed most to PFI research, and the origins of the papers) that were published between 1992 and 2010. Second, it attempts to recognise the trend of PFI/ppp published research during the period and to offer suggestions for future direction of the PFI research agenda.

The unique contribution of this paper is that it offers insights into the development of PFI/ppp research via a systematic review of public sector literature. More importantly, it proposes the potential future direction of research in the PFI/ppp arena. In other words, this paper benefits not only the existing researchers in this relevant area of research but would also be useful to new researchers who are considering embarking on research in the area of PFI/ppp and later might opt for public sector journals as their publication avenue.

The remainder of the paper is structured as follows: The next section reviews studies that have embarked on a systematic review of PFI/ppp literature. This is followed by a methodology section, which discusses the method and procedures used in embarking on this research. The next section discusses the findings of the analysis undertaken in this study. Finally, the conclusion is provided with the limitations and suggestions for future research in this area.

## 2. LITERATURE REVIEW

Prior literature that has adopted a qualitative meta-analysis approach to the topic of PFI/ppp can be categorized into two types. Firstly, studies that have critically examined the findings of past studies to clarify a specific concept

or area of PFI/ppp, such as the definition of PFI, the approaches of PFI, and common critical success factors and evaluation criteria (see, for example, studies by Weihe, 2008; and Kwak et al., 2009). The second category comprises studies that have comprehensively examined prior literature for technical and methodological matters to identify the trend of research on PFI/ppp. The present study adopts the second approach of meta-analysis, hence, the remainder of this review section will only consider past studies that have used this similar approach.

Al Sharif and Kaka (2004) provide a systematic review of PFI/PPP papers published in four journals that are ranked in the top ten in the area of construction. Al Sharif and Kaka's study covers articles published between 1998 and 2003, and one aim of their study was to identify key PFI/PPP topics that have been discussed in the literature to date. In addition, their paper also systematically analyses the quantity and the origin of the research as well as the key researchers and research centres in the area of PFI/PPP.

Three years later, Pantouvakis and Vandoros (2007) undertook a similar study with some extension from the earlier study in terms of the analysis period and the scope of analysis. Although this later study covers a longer time frame (from 1996 to 2006), like Al Sharif and Kaka's (2004), it only considers four construction sector journals, three of which were covered by the earlier study. In terms of extension in the scope of analysis, Pantouvakis and Vandoros (2007) also examined the number of citations of each paper in other papers included in the analysis. A total of seventy-eight papers were analysed, representing an increase of more than 100% over the number of papers analysed by Al Sharif and Kaka (2004).

More recently, Ke et al. (2009) published a study that covered the same four journals as Al Sharif and Kaka (2004) but extended the study period from six years to eleven years (1998 through 2008). The analysis is very similar to the previous two studies. One of the key findings reported by Ke et al. (2009) is that the number of PFI/PPP papers published in those journals increased over the years.

Inspired by the previous studies, the present researcher also intends to embark on the meta-analysis approach to systematically review prior studies on PFI/ppp but in the context of public sector journals rather than construction sector journals. Even though PFI/ppp has received considerable attention in the public sector literature over the past two decades, to the best of the researcher's knowledge there is limited evidence of any systematic analysis of PFI/ppp studies that have been published in public sector journals. Realising the importance of PFI/ppp in the public sector agenda, the present study will bridge the gap in the extant public sector literature as it attempts to offer insight into the focus and trend of PFI/ppp literature in top public sector journals. The

following section outlines the methodology adopted in this study.

### 3. METHODOLOGY

#### 3.1 QUALITATIVE META-ANALYTIC PROCEDURE

Meta-analysis refers to the analysis of analyses. It connotes a rigorous alternative to the casual, narrative discussion of research studies, which typify our attempts to make sense of the rapidly expanding research literature (Glass, 1976: 3). There are two types of meta-analysis – quantitative and qualitative meta-analysis. While a quantitative meta-analysis involves a statistical operation used to combine results from independent studies (Ankem, 2005), a qualitative meta-analysis refers to a systematic review of literature without having any mathematical synthesis. This paper adopts a qualitative meta-analysis technique to analyse the PFI/ppp publications to identify the characteristics as well as the trend of issues discussed in the extant literature on PFI/ppp published in the top public sector journals. In particular, this study covers 26 public sector journals and reviews 108 published articles on PFI/ppp in these selected journals over the 19 year period from its inception in the United Kingdom in 1992 through 2010.

#### 3.2 SELECTION OF JOURNALS

According to Singleton and Straits (1999) in meta-analysis “ideally, we would like to include or sample all studies bearing upon the research question. In actual practice, however, the data obtained will be a biased sample of the targeted research”. In other words, the limitation of meta-analysis is the tendency of the omission of unpublished research or poorly indexed publications (Singleton and Straits, 1999). However, Saxton (1997) is of the view that good indexed publications, which should have gone through a refereeing process, are of better quality and the results are more reliable. Thus, in selecting the journals to be covered in this study, the researcher used the two well-known citation index databases, the Social Science Citation Index and the Scopus, as the primary sources of identifying the top refereed public-sector journals. Specifically, all journals listed in either or both of the databases that are categorized as public administration or public sector are included in the sample for the analysis of this study. Also, only English-medium journals are covered in this study. In total, 42 public sector journals were identified, however, of these only 26 had published papers on the topic of PFI/PPP and it is these 26 journals that are included in the study.

### 3.3 IDENTIFICATION OF RELEVANT PAPERS

As the present study critically reviews papers on PFI/ppp published in the top-ranked public sector journals, all paper titles in each issue of all identified journals starting from 1992 until 2010 were browsed using either library databases, such as ABI-Inform, EbscoHost, or the website of the individual journal. Papers that contained terms such as ‘private finance initiative’, ‘public private partnerships’, ‘PFI’, or ‘PPP’ in the titles were downloaded and printed for consideration for inclusion in the analysis. Next, the researcher, with the help of two trained research assistants, scanned through the abstracts and the keywords to exclude irrelevant papers. As mentioned earlier, due to the broad concept of PFI/PPP, the researcher mainly includes studies on PFI/ppp that carry a common definition, that is, a long term contract between government and private sector, whereby the private sector is responsible for designing, building, financing and operating facilities based on output specifications determined by the public sector. In effect, the public sector does not own the assets but has the obligation to make regular payments to the private sector providers for the use of facilities throughout the contract period. After the contract has expired, based on the terms of the original contract, ownership of the asset either remains with the private sector providers or is returned to the public sector. Hence, when scanning through each of the 156 papers that matched the search terms, 44 articles with the term PFI/ppp in the title or the abstract were omitted, as they did not refer to the intended definition for this study. In addition, four articles that were published and categorised as ‘forwards’, ‘editorial’, ‘book review’, or ‘articles in press’ were also excluded from the analysis. Once the paper was identified as relevant, the reference list of the paper was also browsed through to look for cited PFI/ppp papers published in the selected public-sector journals that might have been unintentionally omitted in the first screening process. In total, 108 papers are relevant or qualify for further review to achieve the objectives of this study.

## 4. FINDINGS AND DISCUSSION

### 4.1 CHARACTERISTICS OF PFI/ppp PUBLICATIONS

In achieving the first objective of this paper that is to identify the characteristics of PFI/ppp published publications, this section analyses the trend of PFI/ppp research in terms of the number of publications each year and the top journals that published most PFI/ppp papers over the analysis period. The results are presented in the following sub-sections.

## 4.1.1 NUMBER OF PFI/PPP PAPERS PUBLISHED

A total of 12,411 papers were published by the 26 top-ranked public sector journals from 1992 to 2010, of which slightly less than one per cent (108 papers) were on PFI/PPP topics.

FIGURE 1  
Number of PFI/PPP Articles Published Each Year from 1992 to 2010

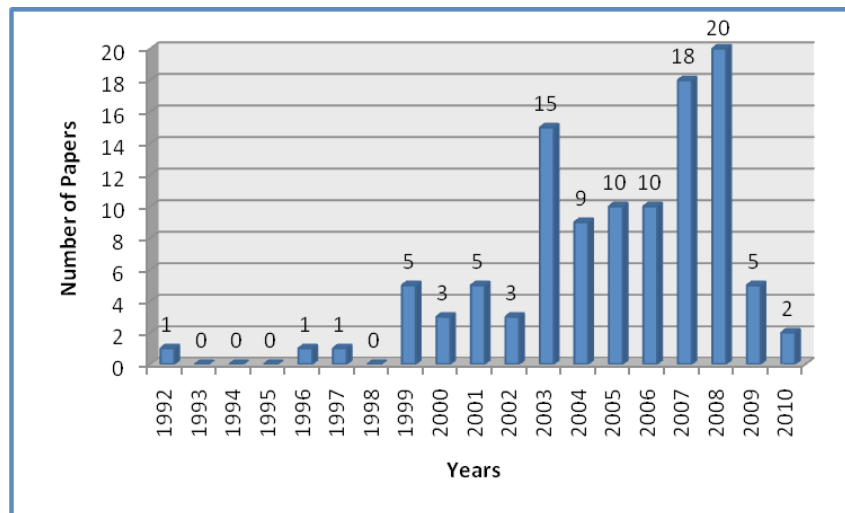


Figure 1 depicts the number of PFI/PPP papers published each year from 1992 until 2010. It can be seen that initially, the PFI/PPP papers published in the top public sector journals were very few or did not exist at all for some years. However, since 1999, there has been an increasing trend in the quantity of PFI published papers, peaking with a total of 20 published in 2008, which represents 18.5% of the total of 108 published over the 19 year period. Moreover, the period between 2003 and 2008 demonstrated a high number of PFI/PPP publications each year ranging from nine to 20 publications per year. However, the number of publications significantly declined after 2008.

One possible reason for the steady growth in the number of papers published after 2000 is that this reflects the increasing use made of PFI/PPP projects, particularly by the UK government, from the late 1990s onwards. As PFI/PPP schemes became much more widely practiced the evaluation of the costs and benefits and the examination of the issues and controversies surrounding these schemes became an important part of the public sector agenda. This, in turn, led to an increase in research interest and eventually to

an increase in published output. However, the drop in the papers published pertaining to PFI/ppp after 2008 may be due to the maturity of the PFI/ppp policy, which led to the saturation of research in the area.

#### 4.1.2 PUBLIC SECTOR JOURNALS WITH PUBLICATION ON PFI/ppp

Table 1 depicts the public sector journals that have published more than five papers on PFI/ppp over the analysis period. In terms of quantity, *Public Money and Management* (PMM) ranks at the top, with 25 PFI/ppp papers published over the 19 year period, followed by *International Journal of Public Sector Management* (IJPSM), which has published nine PFI/ppp papers over the period. *Public Works Management and Policy*, and *Financial Accountability and Management* have published eight PFI/ppp papers each.

TABLE 1  
Top Public Sector Journals with More than Five PFI/ppp Papers Published from 1992 to 2010

No	Journal Title	Total number of papers published	Number of PFI/PPP paper	Percentage of PFI/PPP papers to total papers (%)
1	Public Money and Management	686	25	3.64
2	International Journal of Public Sector Management	678	9	1.33
3	Public Works Management and Policy	326	8	2.45
4	Financial Accountability and Management	382	8	2.09
5	Public Management Review	214	7	3.27
6	Public Policy & Administration	476	7	1.47
7	International Review of Administrative Sciences	664	7	1.05
8	International Journal of Public Policy	155	6	3.87
9	Public Administration	698	6	0.86

#### 4.2 TREND AND CONTENTS OF PFI/ppp RESEARCH

The results presented in this section include an analysis of the research methods used, PFI/ppp sectors involved in the studies, the trend in terms of PFI/ppp research topics engaged by researchers over the analysis period and the review of previous PFI/ppp studies and findings based on the identified topic.

##### 4.2.1 RESEARCH METHODS USED FOR PFI/ppp RESEARCH

In undertaking research on PFI/ppp topics, there are a number of different



research methods adopted by the researchers. A number of studies have also used a multi-method approach. In undertaking this analysis on the research methods used, two or more methods will be counted separately, even if they come from the same paper. Based on Table 2, the most popular research methods are literature review and document analysis, whereby both research methods focus on secondary data in investigating an issue. The most frequently used sources of primary data are interviews, case studies and questionnaires. It is clear from Table 2 that secondary data sources dominate the research methodology adopted in these papers.

TABLE 2  
Research Methods Used in PFI/ppp Research for the Period from 1992 to 2010

Research Method	Number of Papers
Document analysis	52
Literature review	40
Interviews	22
Case study	19
Questionnaire or survey	9
Participant observation	7
Annual report analysis	3
Website analysis	2
Total	154*

\* The total is more than the number of papers analysed because there are papers that adopted more than one research method.

#### 4.2.2 PFI/PPP SECTORS INVOLVED

Table 3 depicts the various sectors of PFI/ppp that the papers have addressed. Generally, almost half of the papers (55 papers) examined PFI/ppp issues without referring to a specific project or sector. Of the papers that focused on a specific sector, there is evidence that health, education, and road and transport are the three most popular PFI/ppp sectors to which researchers gave attention. The probable reason for this finding is that these are the sectors into which the pioneer PFI projects fall. Moreover, these are the sectors in which there has been evidence that PFI is a suitable mechanism to carry out the projects (IPPR, 2002; Ismail, 2011). Moreover, as many PFI projects are from these sectors, various controversial issues might have arisen that might have affected different parties, thus leading to greater attention from researchers in these sectors.

TABLE 3  
PFI/ppp Sectors Covered

PFI/PPP Sector	Number of Papers	Percentage
Health	19	16.4
Education	13	11.2
Road and Transport	11	9.5
Local/state/federal government projects	5	4.3
Defence	3	2.6
Financial Services	2	1.7
Prison	2	1.7
Telecommunication	2	1.7
Utilities: Water and Electricity	2	1.7
Museum	1	0.9
Retirement Pension	1	0.9
General (paper did not refer to any specific sector)	55	47.4
Total	116*	100

\* The total is more than the number of papers analysed because there are papers that addressed more than one sector.

#### 4.2.3 REVIEW OF PFI/ppp ISSUES COVERED

There were various PFI/ppp issues studied by researchers whose papers were published in the top public-sector journals. In this paper, the researcher classified the PFI/ppp issues into six broad categories that are Accounting issues, concepts of application of PFI/ppp, performance evaluation, project management, risk management and integration research, as shown in Table 4.

The reason for various topics having been covered by the 108 papers is that most, if not all, of the public-sector journals, particularly the 26 journals under consideration, have a broad coverage of research areas for publication. Therefore, the journals attracted researchers from diverse specialization areas to contribute to the publications. Moreover, the journals also attracted many target audiences besides academics, including practitioners, policymakers, public administrators, and civil servants. The issue of each paper was determined by the present researcher based on the title, keywords or abstract of the paper and if there was any doubt on the actual issue addressed, the contents of the paper were examined. For papers that cover more than one issue, the classification of the issue is based on the issue that has been emphasized most in the paper. Hence, each paper falls only under one specific category.

Table 4 shows the distribution of PFI/ppp publications for each year and total number of publication based on the issues addressed. The most popular

PFI/ppp research topic is concepts and application issues, which contributes 36 papers (33.33 per cent) out of the total publications. This is followed by research categorized as performance evaluation and risk management with 26 and 14 publications respectively. The least number of publications in the public sector journals is on the accounting issues topic. However, the low number of publications on accounting issues may be because studies in that area have been well published in journals of other areas, specifically, accounting and business journals. The following sub-section reviews the published research under each of the categories identified.

TABLE 4  
Distribution of Papers Based on Issues of PFI/ppp from 1992 to 2010

Research Topics	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Accounting for PFI/ppp			1			1		1	1	1	1	1	1	1					1	7
Concepts and application				1				1	2			4	3	4	2	6	7	4	1	36
Performance evaluation							1	1	1	3	3	1	1	2	2	7	6			26
Project management										1	2			1	1	2	5			12
Risk management											1	4	2	2	1	3	1			14
Integration research											1	2	2		4		1	1		13
Total	1	0	0	0	1	1	0	5	3	5	3	15	9	10	10	18	20	5	2	108

#### 4.2.3.1 CONCEPTS AND APPLICATIONS OF PFI/ppp

Table 6 illustrates that research on the concept and application of PFI/ppp is the earliest topic that was published in public sector journals. This is expected as when PFI/ppp was officially announced in 1992, researchers in the area were interested to examine and to know more about the true concepts of PFI/ppp. The earliest publication, by Boyfield (1992), studied the political motives for greater involvement of the private sector and suggested solutions to overcome barriers that discouraged private sector participation in public sector projects in the past. Terry (1996) published a study that examined the origins of PFI in the UK and its significance to the government. Later, Broadbent and Laughlin (2005) studied the role of PFI/ppp as an agent of the government's modernization in the UK.

As PFI/ppp has increasingly received attention from many countries, from time to time there were publications on the country based concepts and application of PFI/ppp including both PFI/ppp in the developed countries such as Ireland (Reeves, 2003), Germany (Bode, 2003; Connolly et al., 2008), Switzerland (Lienhard, 2006), the United States (Gallay, 2006; and Kee and Forrer, 2008) and Poland (Jorna et al., 2010) as well as in the developing countries like Thailand (Pongsiri, 2003) and Pakistan (Farah and Rizvi, 2007). Furthermore, there were studies that attempted to compare PFI/PPP practice and implementation between countries such as the UK and Spain (Norton and Blanco, 2009); the UK and United States (Demirag et al., 2009) and the USA and the UK/Europe (Startin et al., 2009). Due to the worldwide adoption of PFI/ppp and the existence of various definitions, roles and forms of PPP, Wettenhall (2007) thoroughly examined a project that involved both the public and private sectors in order to verify whether its structure and operation reflect the true PPP arrangement. In addition, Coulson (2005), Zarco-Jasso (2005) and Wettenhall (2008) investigated the different concepts and types of PPP.

Pertaining to the application of PFI/ppp there were various studies that assessed the use of PFI/ppp in various projects from different sectors such as local government (Ewoh, 2007), museums (Wilson and Boyle, 2004), road and transport (Glaister et al., 2000; Koppenjan, 2005; Battaglio and Khankarli, 2008; Startin et al., 2009; Visser, 2009), health service (Mayston, 1999; Broadbent et al., 2003; English, 2005; and McMurray, 2007), education (Reeves and Ryan, 2007; Reeves, 2008) and other infrastructure development (Boase, 2000; Bovaird, 2004; Henderson and McGloin, 2004; Jones and Noble, 2008; and Murphy, 2008).

#### 4.2.3.2 PERFORMANCE EVALUATION

Based on Table 4, the publication on the PFI/ppp performance evaluation topic first cropped up in public sector journals in 1999. Since then, each year until 2008 there were several studies published and 2007 had the highest number with seven publications on performance evaluation of PFI/PPP. Generally, the 26 studies under this performance evaluation category can be further classified into two broad aspects: 1. Studies that evaluated the performance measurement mechanisms used in assessing PFI/ppp projects, and 2. Studies that assessed the performance of PFI/ppp projects.

Several published studies critically evaluated the various performance measurement mechanisms used in evaluating PFI/ppp projects (see: Colman, 2000; Froud and Shaoul, 2001; English, 2007; Pollock et al., 2007; Coulson, 2008; Garvin and Bosso, 2008; Morillos and Amekudzi, 2008; Marty et al., 2005). Froud and Shaoul (2001) carried out a study on the appraisal procedures used for evaluating VFM and the affordability of a PFI/ppp option. The study found trivial problems with the appraisal mechanism used at that time. Likewise, Colman (2000) and Coulson (2008) closely examined the UK treasury guidelines for assessing the VFM of PFI proposals and projects. Coulson (2008) commented on the quantitative elements of the PSC including risk transfer, transaction costs, imputed lifecycle and discounted cash flows and he concluded that in reality PFI may not always give better VFM. Adding on to the similar area of works, Morillos and Amekudzi (2008) rigorously evaluated the VFM assessment adopted by various countries including the UK, Australia and Canada and based on the information gathered from the evaluation, the authors offered guidelines for future use of the VFM mechanism. Furthermore, in improving the performance evaluation of PFI/ppp projects, Garvin and Bosso (2008) proposed a framework to assess the effectiveness of PFI/ppp projects taking into account various factors including the interests of society, the state, industry and the market. Moreover, PFI/ppp performance audit mechanism and procedures, particularly in Australia, were examined by English (2007).

In relation to assessing the performance of specific PFI/ppp projects, various aspects have been evaluated including affordability and cost savings (Ball, et al., 2000; Shaoul, 2002; Shaoul, 2003; Ismail and Pendlebury, 2006; and Demirag and Khadaroo, 2008;) and effectiveness, efficiency and quality (McCabe, et al., 2001; Hodges and Grubnic, 2005; Koppenjan, 2005; Teicher, et al., 2006; Hodge and Greve, 2007; Kakabadse, et al., 2007; and Vining and Boardman, 2008a and 2008b) and value for money (Colman, 2000; McCabe, et al., 2001; Asenova, et al., 2003; Ismail and Pendlebury, 2006; Morillos and Amekudzi, 2008; and Shaoul, et al., 2008). Pertaining to affordability

and cost saving, most if not all studies reported evidence that was not in favour of PFI/ppp. In particular, the published studies that examined the affordability of PFI/ppp projects concurred that an affordability gap exists whereby the actual unitary charge payable under a PFI/ppp contract was higher than expected (see: Gafney and Pollock, 1999; Shaoul, 2003; Hellowell and Pollock, 2007; and Shaoul, et al., 2008). Similarly, higher costs were claimed to have been incurred under PFI/PPP contracts than the traditional procurement method (see: Ball et al., 2000).

Concerning the VFM of PFI/ppp projects, there is no one study which found conclusive evidence that PFI/ppp has offered better VFM. For instance, Ball et al. (2007) analysed VFM based on evidence reported in the government official reports and concluded that there is no evidence of VFM from PFI/ppp projects. Similarly, perception studies by Ismail and Pendlebury (2006) and Demirag and Khadaroo (2008) on the VFM of operating PFI/ppp schools in the UK claimed to have found inconclusive evidence pertaining to VFM achievement. Hurst and Reeves (2004) even failed to produce any evidence on VFM due to insufficient information as the public sector comparator (PSC), which is the benchmark to assess the VFM of PFI/ppp projects, was kept confidential by the government. Furthermore, McCabe et al. (2001), who evaluated the VFM of Glasgow PFI schools and found evidence for VFM, raised concern regarding the VFM justification put forward for PFI/ppp projects due to the subjective elements (i.e. risk transfer and discount rate) used in assessing VFM.

#### 4.2.3.3 RISK MANAGEMENT

From 2002 until 2008 a total of 14 studies on risk in PFI/ppp projects were published in the selected public sector journals that cover various dimensions of risk management in PFI/ppp. Having closely looked at each of the 14 studies, it is interesting to observe a trend of research on risk management in PFI/ppp where in the early years (i.e. 2002 and 2003) studies had focused on identifying the types of risks involved in PFI/ppp projects (Ham and Koppenjan, 2002; Asenova and Beck, 2003a) and how to evaluate and manage risks (Asenova and Beck, 2003a; Ball et al., 2003; Hood, 2003; Asenova and Beck, 2003b). Subsequently, (i.e. 2004 until 2007) when a number of PFI/ppp projects were already in the operational stage, research on risk tended to move its direction into assessing the reality of risks being transferred to private sector companies (Hodge, 2004a; Hodge, 2004b; Lonsdale, 2005) and the effect of risk transfer on VFM (Nisar, 2007a and 2007b; Asenova et al., 2007). More recently, there was a study on risk auditing (Pollock and Price, 2008). Specifically, the research alerted the

government authority concerning the need to increase effort in auditing the risk transfer in operational PFI/ppp projects, as it is the key justification for achieving VFM in PFI/ppp projects (Pollock and Price, 2008).

#### 4.2.3.4 PROJECT MANAGEMENT

As shown in Table 4, research on PFI/ppp project management was first published in public sector journals in 2001 and, similar to many other PFI/ppp topics, the highest number of publications was in 2008. Under the issue of PFI/ppp project management, Ball et al. (2003), whose study used the technique of participant observation, had identified key factors that lead to effective project management, which include motivation, staffing, asset ownership, innovation and financial matters. Likewise, Vinning and Boardman (2008) highlighted eight important rules for governments to emphasize when managing PFI/ppp projects, which, among others, include establishment of PFI/ppp constitution, standardization of procedures and competitive bidding process. In relation to the issue of managing PFI/ppp projects, Ysa (2007) identified various governance structures of PFI/ppp projects depending on the type of contractual relationship between the private and public sectors. Furthermore, due to the problems with the existing governance structure of PFI/ppp projects, Johnston and Gudergan (2007) proposed an improved governance framework.

In the study by Klijn et al. (2008) the authors examined choices faced by managers in implementing strategies for managing PFI/ppp projects and concluded that commitment, communication and relationship are the factors that could have a positive outcome on PFI/ppp projects. Furthermore, Wakeford and Valentine (2001) investigated the roles of the private sector in managing PFI/ppp projects whilst Noble and Jones (2006), and Jones and Noble (2008) studied the roles and behaviour of 'boundary-spanning' managers whose duty involves bridging the organizational boundaries of PFI/ppp projects. Both studies also investigated the challenges faced by this group of managers in managing the implementation of PFI/ppp projects.

Trust and accountability are the crucial elements in managing PFI/ppp projects. There were at least four studies that examined the issue of trust in PFI/ppp project management and implementation. Grubnic and Hodges (2003), Brewer and Hayllar (2005), Barretta et al. (2008) and Edelenbos and Klijn (2008) all examined theoretically or/and empirically the role of trust in PFI/ppp projects with particular reference to projects in the UK, Hong Kong, Italy and the Netherlands, respectively. More importantly, Barretta et al. (2008) claimed that the success of a PFI/ppp project depends on the level of trust between the private firms that made up the special purpose vehicle. In



relation to accountability, Acar et al. (2008) identified five potential functions of accountability in the various stages of PFI/PPP project management.

#### 4.2.3.5 ACCOUNTING FOR PFI/ppp

Although publications on PFI/ppp accounting issues in public sector journals are small in terms of quantity, the issue started much earlier than many other PFI/ppp topics. Since Financial Reporting Standard 5 (FRS 5) – ‘Reporting the Substance of Transactions’ was issued in April 1994 (Accounting Standard Board, 1994), the accounting treatment of PFI transactions has become the subject of much debate. The key accounting issue is whether PFI assets and the associated debt should either be ‘on’ or ‘off’ the balance sheet of the public sector (Heald and Geaghan, 1997; Hodges and Mellett, 1999 and 2004; and Kirk and Wall, 2001). Later, Kirk and Wall (2002) investigated the impact of the accounting treatment for PFI/ppp projects based on the amended standard (i.e. FRS 5) on the VFM of PFI/ppp projects.

Khadaroo (2005) also carried out a study on the accounting treatment of PFI/ppp projects but looked at the theoretical perspective, particularly the institutional theory. It considers the impact of institutional pressures on the PFI/ppp accounting standard setting in the UK. Most recently, McQuaid and Scherrer (2010) examined the implications of adopting the new international accounting standards on the benefits and costs of PFI/ppp projects and concluded that there will be a significant impact on the future use of PFI/ppp.

#### 4.2.3.6 INTEGRATION RESEARCH

Published studies categorized as integration research covers topics that do not fall under any of the earlier discussed categories. There were studies that examined the critical success factors of PFI/ppp projects (Jamali, 2004a and 2004b; Trafford and Proctor, 2006; Jacobson and Choi, 2008), opportunities and challenges (Asenova et al., 2002; Klijn and Teisman, 2003; Jamali, 2004b; Bloomfield, 2006), impact and implications of PFI/PFI implementation (Fischbacker and Beaumont, 2003; Broadbent and Laughlin, 2004; Asenova and Hood, 2006), future prospects of PFI/ppp (Glaister, 1999) and research agenda on PFI/PPP (Broadbent and Laughlin, 1999; Wall and Connolly, 2009).

### 5. FUTURE DIRECTION OF PFI/ppp RESEARCH AND CONCLUSION

This present study embarked on comprehensive content analysis of 108 PFI/ppp papers published in top public sector journals from 1992 to 2010. The

study was motivated by the importance of PFI as a new public-sector policy in many countries in the world. Due to the massive amount of literature on PFI/ppp, this study analysed the key characteristics and trends of PFI/ppp papers published in selected public-sector journals.

The analysis found an increasing trend in the quantity of publications on PFI/ppp, with the United Kingdom being a leading contributor in terms of both the authors and the number of papers. The published papers used various research methods in undertaking the studies, particularly the use of secondary data. There was also a range of issues of PFI/ppp research published in the public-sector journals. Looking at the trend of published research on PFI/ppp, although the number of publications in the last two years of the analysis period has declined compared to the previous years, it is believed that research on PFI/ppp will continue to exist in the future.

In terms of research on PFI/ppp performance, due to the long term nature of PFI/ppp projects and the claims made by present researchers that inconclusive evidence on the VFM achieved was due to the early measurement of its success (see: Ismail and Pendlebury, 2006), it is strongly expected that in the near future when there are PFI/ppp projects that reach the end of the contract period, researchers in the area may well be interested in assessing the actual performance and true success of PFI/ppp project over the whole contractual period. Also, there is the potential for more research to compare the performance of PFI/ppp across countries as the policy and implementation of PFI/ppp differs between countries. As a result, modified PFI/ppp procedures and assessment mechanisms may be discovered.

Furthermore, although there seems to be a paucity of research on the performance, risk management and project management of PFI/ppp in the last two years, it is very likely that there will be a study on these topics in the near future as these are the contentious areas of PFI/ppp implementation that will receive further attention from researchers. On the topic of concepts and the application of PFI/ppp, as PFI/ppp has been world-widely accepted and different countries adopt diverse concepts and application of PFI/ppp, it is forecasted that studies on the topic will continuously emerge particularly from developing economies that have shown a positive commitment towards PFI/ppp policy. From the analysis, it is believed that literature on PFI/ppp can continue to grow in the near future. Overall, it is positive that future studies may focus on existing PFI/ppp topics as well as new dimensions of research on PFI/ppp.

The issues investigated by this study might be the same issues as addressed by other publications. It differs mostly in the context of studies in different countries that use research methods that have not been widely used in research on PFI/ppp, such as focus groups and ethnographic methods.

This study is not without limitations. Firstly, it mainly focuses on PFI/ppp literature published in selected public-sector journals, ignoring relevant PFI/ppp literature published in journals of other fields, such as accounting, construction, and engineering. As a result, evidence on the trend of PFI/ppp issues might not be conclusive and, similarly, suggestions made for future direction of PFI/ppp research might not be valid. Hence, future researchers might want to consider literature on PFI/ppp from all relevant fields of knowledge.

Secondly, the selection of the journals was based on the list from Social Science Citation Index and Scopus, and even though these are well-recognised citation index lists of top journals, they are not free from criticism, due to the subjective and not transparent measures used in determining journals to be listed (Leydesdorff, 2009). To carry out a more comprehensive meta-analytic procedure, a broader range of public-sector journals needs to be considered, instead of only top-ranked journals. In addition, future researchers may want to embark on meta-analytic procedures to consider a specific topic in PFI/ppp, such as on the performance of PFI/ppp projects. This valuable piece of work would be able to offer its audience the actual average performance of PFI/ppp projects. In short, despite its limitations, this study is important as it offers some insights on the key characteristics of PFI/ppp literature in selected public-sector journals that point to a positive future direction of research on PFI/ppp.

## REFERENCES

- Acar, M., C. Guo, and K. Yang. "Accountability When Hierarchical Authority is Absent: Views from Public-Private Partnership Practitioners." *American Review of Public Administration* 38, no. 1 (2008): 3-23.
- Accounting Standard Board. *FRS5: Reporting the Substance of Transactions*. London: Accounting Standard Board, 1994.
- Al-Sharif, F., and A. Kaka. "PFI Topic Coverage in Construction Journals." Paper presented at the *Twentieth Annual ARCOM Conference*, Association of Researchers in Construction Management, Herriot Watt University, 1-3 September 2004.
- Ankem, K. "Approaches to Meta-Analysis: a Guide for LIS Researchers." *Library & Information Science Research* 27, no. 2 (2005): 164-176.
- Asenova, D., and M. Beck. "The UK Financial Sector and Risk Management in PFI Projects: A Survey." *Public Money and Management* 23, no. 3 (2003a): 195-202.
- Asenova, D., and M. Beck. "Scottish Local Authorities and the Procurement of Private Finance Initiative Projects: A Pattern of Developing Risk

- Management Expertise?" *Public Works Management and Policy* 8 (2003b): 11-27.
- Asenova, D., and J. Hood. "PFI and the Implications of Introducing New Long- Term Actors into Public Service Delivery." *Public Policy and Administration* 21, no. 4 (2006): 23-41.
- Asenova, D., M. Beck, A. Akintoye, C. Hardcastle, and E. Chinyio. "Partnership, Value for Money and Best Value in PFI Projects: Obstacles and Opportunities." *Public Policy and Administration* 17, no. 4 (2002): 5-19.
- Asenova, D., M. Beck, A. Akintoye, C. Hardcastle, and E. Chinyio. "Obstacles to Best Value in NHS PFI Projects: Evidence from Two Hospitals." *Journal of Finance and Management in Public Services* 4, no. 1 (2003): 33-49.
- Asenova, D., W. Stein, C. McCann, and A. Marshall. "Private Sector Participation in Health and Social Care Services in Scotland: Assessing the risk." *International Review of Administrative Sciences* 73, no. 2 (2007): 275-292.
- Audit Commission. *PFI in Schools*. London: Audit Commission, 2003.
- Ball, R., M. Heafey, and, D. King. "Managing and Concluding the PFI Process for a New High School: Room for Improvement?." *Public Management Review* 2, no. 2 (2000): 159-179.
- Ball, R., M. Heafey, and, D. King. "Some Lessons from Using PFI for School Building Projects." *Local Government Studies* 29, no. 2 (2003): 89-106.
- Ball, R., M. Heafey, and D. King. "The Private Finance Initiative in The UK: A value for money and economic analysis." *Public Management Review* 9, no. 2 (2007): 289-310.
- Barretta, A., C. Busco, and P. Ruggiero. "Trust in Project Financing: An Italian Health Care Example." *Public Money and Management* 28, no. 3 (2008): 179-184.
- Battaglio, R. P., and G.A. Khankarli. "Toll Roads, Politics, and Public—Public Partnerships: The Case of Texas State Highway 121." *Public Works Management and Policy* 13, (2008): 138-148.
- Bloomfield, P. "The Challenging Business of Long-Term Public-Private Partnerships: Reflections on Local Experience." *Public Administration Review* 66, no. 2 (2006): 400-411.
- Boase, J. P. "Beyond Government? The Appeal of Public-Private Partnerships." *Canadian Public Administration* 43, no. 1 (2000): 75-92.
- Bode, I. "The Organisational Evolution of the Childcare Regime in Germany: Issues and Dynamics of a Public-private Partnership." *Annals of Public and Cooperative Economics* 74, no. 4 (2003): 631-658.

- Bovaird, T. "Public–Private Partnerships: From Contested Concepts to Prevalent Practice." *International Review of Administrative Sciences* 70, no. 2 (2004): 199–215.
- Boyfield, K. "Private Sector Funding of public Sector Infrastructure." *Public Money and Management* 12, no. 2 (1992): 41–46.
- Brewer, B., and M.R. Hayllar. "CAPAM Symposium on Networked Government: Building Public Trust through Public–Private Partnerships." *International Review of Administrative Sciences* 71, no. 3 (2005): 475–495.
- Broadbent, J., C. Haslam, and R. Laughlin. "*The Origins and the Operation of the PFI*, (2001)." [WWW] <http://www.ippr.org.uk/research/> (Accessed 12 January 2003).
- Broadbent, J., and R. Laughlin. "The Private Finance Initiative: Clarification of A Future Research Agenda." *Financial Accountability and Management* 15, no. 2 (1999): 95–114.
- Broadbent, J., and R. Laughlin. "Striving for Excellence in Public Service Delivery: Experiences from an Analysis of the Private Finance Initiative." *Public Policy and Administration* 19, no. 4 (2004): 82–99.
- Broadbent, J., and R. Laughlin. "The Role of PFI in The UK Government's Modernisation Agenda." *Financial Accountability and Management* 21, no. 1 (2005): 75–97.
- Broadbent, J., J. Gill, and R. Laughlin. "The Development of Contracting in the Context of Infrastructure Investment in the UK: The Case of Private Finance Initiative in National Health Service." *International Public Management Journal* 6, no. 2 (2003): 173–197.
- Colman, J. "Examining the Value for Money of Deals under the Private Finance Initiative/Public Private Partnership." *Public Policy and Administration* 15, no. 4 (2000): 72–82.
- Connolly, C., G. Martin, and A. Wall. "Education, Education, Education: The Third Way and PFI." *Public Administration* 86, no. 4 (2008): 951–968.
- Coulson, A. "A Plague on all your partnerships: Theory and Practice in Regeneration." *The International Journal of Public Sector Management* 18, no. 2 (2005): 151–163.
- Coulson, A. "Value for Money in PFI Proposals: A Commentary On The UK Treasury Guidelines For Public Sectors Comparators." *Public Administration* 86, no. 2 (2008): 483–498.
- Demirag, I., and I. Khadaroo. "Accountability and Value for Money in Private Finance Initiative Contracts." *Financial Accountability and Management* 24, no. 4 (2008): 455–478.
- Demirag, I., I. Khadaroo, and W. Clark. "The Institutionalisation of Public-

- Private Partnerships in the UK and the Nation-State of California.” *International Journal of Public Policy* 4, no.3/4 (2009): 190–213.
- Edelenbos, J., and E.H. Klijn. “Trust in Complex Decision-Making Networks: A Theoretical and Empirical Exploration.” *Administration & Society* 39, no.1 (2008): 25-50.
- English, L. M. “Performance Audit of Australian Public Private Partnership: Legitimising Government Policies or Providing Independent Oversight?.” *Financial Accountability and Management* 23, no. 3 (2007): 313–336.
- English, L. M. “Using Public–Private Partnerships to Achieve Value for Money in the Delivery of Healthcare in Australia.” *International Journal of Public Policy* 1, no. 1/2 (2005): 91–121.
- Ewoh, A. I. E. “Public–Private Partnerships in a Texas Municipality: The Case of the City of Houston Tax Increment Reinvestment Zones.” *Public Works Management and Policy* 12 (2007): 359–369.
- Farah, I., and S. Rizvi. “Public–Private Partnerships: Implications for Primary Schooling in Pakistan.” *Social Policy & Administration* 41, no. 4 (2007): 321-426.
- Fischbacher, M., and P.B. Beaumont. “PFI, Public-Private Partnerships and the Neglected Importance of Process: Stakeholders and the Employment Dimension.” *Public Money and Management* 23, no. 3 (2003): 171–176.
- Froud, J. “The Private Finance Initiative: Risk, Uncertainty and the State.” *Accounting, Organizations and Society* 28, no. 6 (2003): 567-589.
- Froud, J., and J. Shaoul. “Appraising and Evaluating PFI for NHS Hospitals.” *Financial Accountability and Management* 17, no. 3 (2001): 247–270.
- Gafney, D., and A. M. Pollock. “Pump-Priming the PFI: Why are Privately Financed Hospital Schemes Being Subsidized.” *Public Money and Management* 19, no. 1 (1999): 55–62.
- Gallay, D.R. “Public–Private Partnerships for Financing Federal Capital: Useful or Chimerical?.” *Public Works Management and Policy* 11 (2006): 139–151.
- Garvin, M. J., and D. Bosso. “Assessing the Effectiveness of Infrastructure Public—Private Partnership Programs and Projects.” *Public Works Management and Policy* 13 (2008): 162-178.
- Glaister, S. “Past Abuses and Future Uses of Private Finance and Public Private Partnership in Transport.” *Public Money and Management* 19, no. 3 (1999): 29–36.
- Glaister, S., R. Scanlon, and T. Travers. “Getting Public Private Partnerships Going in Transport, Public.” *Policy and Administration* 15, no. 4 (2000): 50–71.

- Glass, G. "Primary, Secondary and Meta-Analysis of Research". *Educational Researcher* 5 (1976): 3–8.
- Grubnic, S., and R. Hodges. "Information, Trust and the Private Finance Initiative in Social Housing." *Public Money and Management* 23, no. 3 (2003): 177–184.
- Ham, H. V., and J. Koppenjan. "Building Public-Private Partnerships: Assessing and Managing Risks in Port Development." *Public Management Review* 4, no. 1 (2002): 593–616.
- Heald, D., and N. Geaghan. "Accounting for the Private Finance Initiative." *Public Money & Management* 17, no. 3 (1997): 11–16.
- Hellowell, M., and A. M. Pollock. "New Development: The PFI: Scotland's Plan for Expansion and its Implications." *Public Money and Management* 27, no. 5 (2007): 351–354.
- Henderson, J., and E. McGloin. "North/South Infrastructure Development via Cross-Border PPP Mechanisms." *The International Journal of Public Sector Management* 17, no. 5 (2004): 389–413.
- HM Treasury "Budget 2011." (2011) [http://cdn.hm-treasury.gov.uk/2011budget\\_complete.pdf](http://cdn.hm-treasury.gov.uk/2011budget_complete.pdf) (Accessed 14 April 2011)
- Hodge, G. A., and C. Greve. "Public-Private Partnerships: An International Performance Review." *Public Administration Review* 67, no. 3 (2007): 545–558.
- Hodge, G. A. "Risks in Public-Private Partnerships: Shifting, Sharing or Shirking?." *Asia Pacific Journal of Public Administration* 26, no. 2 (2004): 155–179.
- Hodge, G. A. "The Risky Business of Public-Private Partnerships." *Australian Journal of Public Administration* 63, no. 4 (2004): 37–49.
- Hodges, R., and S. Grubnic. "Public Policy Transfer: the Case of PFI in Housing." *International Journal of Public Policy* 1, no. 1/2 (2005): 58–77.
- Hodges, R., and H. Mellett. "Accounting for the Private Finance Initiative in the United Kingdom National Health Service." *Financial Accountability and Management* 15, no. 3/4 (1999): 275–290.
- Hodges, R., and H. Mellett. "Reporting PFI in Annual Accounts: A Users Perspective." *Public Money and Management* 24, no. 3 (2004): 153–158.
- Hood, J. "Minimising Risk: The Role of the Local Authority Risk Manager in PFTIPPP Contracts." *Public Policy and Administration* 18, no. 2 (2003): 57–70.
- Hurst, C., and E. Reeves. "An Economic Analysis of Ireland's First Public Private Partnership." *The International Journal of Public Sector Management* 17, no. 5 (2004): 379–388.
- Institute for Public Policy Research (IPPR). *IPPR Call for Review of PFI*



- . Press release. Institute for Public Policy Research: London, 2002.
- Ismail, S. *Private Finance Initiative in the United Kingdom*, Germany: Lambert Academic Publishing, 2011.
- Ismail, S., and M. Pendlebury. "The Private Finance Initiative (PFI) in Schools: The Experience of Users." *Financial Accountability and Management* 22, no. 4 (2006): 381–404.
- Jacobson, C., and S.O. Choi. "Success Factors: Public Works and Public-Private Partnerships." *International Journal of Public Sector Management* 21, no. 6 (2008): 637–657.
- Jamali, D. "Success and Failures Mechanisms of Public Private Partnerships (PPPs) in Developing Countries." *The International Journal of Public Sector Management* 17, no. 5 (2004): 414–430.
- Jamali, D. "A Public-Private Partnership in the Lebanese Telecommunications Industry: Critical Success Factors and Policy Lessons." *Public Works Management and Policy* 9 (2006): 103–119.
- Johnston, J., and S.P. Gudergan. "Governance of Public—Private Partnerships: Lessons Learnt from an Australian case?." *International Review of Administrative Sciences* 73, no. 4 (2007): 569–582.
- Jones, R., and G. Noble. "Managing the Implementation of Public-Private Partnerships." *Public Money and Management* 28, no. 2 (2008): 109–114.
- Jones, R., and M. Pendlebury. *Public Sector Accounting*. 5<sup>th</sup> ed. England: Financial Times Prentice Hall, 2000.
- Jorna, F., P. Wagenaar, E. Das, and J. Jezewski. "Public- Private Partnership in Poland: A Cosmological Journey". *Administration and Society* 42, no. 6 (2010): 668–693.
- Kakabadse, N. K., A.P. Kakabadse, and N. Summers. "Effectiveness of Private Finance Initiatives (PFI): Study of Private Financing for the Provision of Capital Assets for Schools." *Public Administration and Development* 27 (2007): 49–61.
- Ke, Y., S. Wang, A.P.C. Chan, and E. Cheung. "Research Trend of Public-Private Partnership in Construction Journals." *Journal of Construction Engineering and Management* 135, no.10 (2009): 1076–1086.
- Kee, J. E., and J. Forrer. "Private Finance Initiative—the Theory Behind Practice." *International Journal of Public Administration* 31 (2008): 151–167.
- Kerr, D. "The Private Finance Initiative and the Changing Governance of the Built Environment." *Urban Studies* 35, no.12 (1998): 2277-2301.
- Khadaroo, I. "An Institutional Theory Perspective on the UK's Private Finance Initiative (PFI) Accounting Standard Setting Process." *Public Management Review* 7, no. 1 (2005): 69–94.
- Kirk, R., and A.P. Wall. "The Private Finance Initiative: Has the Accounting



- Standards Board reduced the scheme's value for money?." *Public Management Review* 4, no. 4 (2002): 529–547.
- Kirk, R., and A.P Wall. "Substance, Form and PFI Contracts." *Public Money and Management* 19, no. 3 (2001): 41–46.
- Klijin, E. H., and G.R. Teisman. "Institutional and Strategic Barriers to Public-Private Partnership: An Analysis of Dutch Cases." *Public Money and Management* 23, no. 3 (2003): 137–146.
- Klijin, E., J. Edelenbos, M. Kort, and M.V. Twist. "Facing Management Choices: An Analysis of Managerial Choices in Eighteen Complex Environmental Public—Private Partnership Projects." *International Review of Administrative Sciences* 74, no. 2 (2008): 251–282.
- Koppenjan, J.J.F.M. "The Formation of Public-Private Partnerships: Lesson from Nine Transport Infrastructure projects in The Netherlands." *Public Administration* 83, no. 1 (2005): 135–157.
- Kwak, Y. N., Y.Y. Chih, and C.M. Ibbs. "Towards a Comprehensive Understanding of Public Private Partnerships for Infrastructure Development." *California Management Review* 51, no. 2 (2009): 51–78.
- Leydesdorff, L. "How are New Citation – Based Journal Indicators Adding to the Bibliometric Toolbox?." *Journal of the American Society for Information Science & Technology*, (2009): 1–27.
- Lienhard, A. "Public Private Partnerships (PPPs) in Switzerland: Experiences—Risks—Potentials." *International Review of Administrative Sciences* 72, no. 4 (2006): 547–563.
- Lonsdale, C. "Post-Contractual Lock-In and the UK Private Finance Initiative (PFI): The Cases of National Savings and Investment and the Lord Chancellor's Department." *Public Administration* 83, no. 1 (2005): 67–88.
- Marty, F., S. Trosa, and A. Voisin. "The Financial Determinants of Government Commitment in Public-Private Partnerships." *International Journal of Public Policy* 1, no. 1/2 (2005): 41-57.
- Mayston, D. J. "The Private Finance Initiative in The National Health Service: An Unhealthy Development in New Public Management." *Financial Accountability & Management* 15, no. 3 (1999): 249–274.
- McCabe, B., J. McKendrick, and J. Keenan. "PFI In Schools - Pass or Fail?." *Journal of Finance and Management in Public Services* 1, no. 1 (2001): 63–74.
- McMurray, R. "Our Reforms, Our Partnerships, same Problems: the Chronic Case of the English NHS." *Public Money and Management* 27, no. 1 (2007): 77–82.
- McQuaid, W.R., and W. Scherrer. "Changing Reasons for Public-Private

- Partnerships (PPPs)." *Public Money and Management* 30, no. 1 (2010): 27–34.
- Morallos, D., and A. Amekudzi. "The State of the Practice of Value for Money Analysis in Comparing Public Private Partnerships to Traditional Procurements." *Public Works Management and Policy* 13 (2008): 114–125.
- Murphy, T. J. "The Case for Public-Private Partnerships in Infrastructure." *Canadian Public Administration* 51, no. 1 (2008): 99–126.
- Nisar, T. M. "Risk Management in Public-Private Partnership Contracts." *Public Organization Review* 7 (2007a): 1–19.
- Nisar, T. M. "Value for Money Drivers in Public Private Partnership Schemes." *International Journal of Public Sector Management* 20, no. 2 (2007b): 147–156.
- Noble, R., and R. Jones. "The Role of Boundary-Spanning Managers in the Establishment of Public Private Partnerships." *Public Administration* 84, no. 4 (2006): 891–917.
- Norton, S. D., and L. Blanco. "Public-Private Partnerships: A Comparative Study of New Public Management and Stakeholder Participation in the UK and Spain." *International Journal of Public Policy* 4, no. 3/4 (2009): 214–231.
- Pantouvakis, J.P., and N. Vadoros. "A Critical Review of Published Research on PFIs in Construction." *Proceedings of the CIB W92 Conference*, Salford, (2007): 410–419.
- Pollock, A. M., and D. Price. "Has the NAO Audited Risk Transfer in Operational Private Finance Initiative Schemes?." *Public Money and Management* 28, no. 2 (2008): 173–178.
- Pollock, A. M., D. Price, and S. Player. "An Examination of the UK Treasury's Evidence Base for Cost and Time Overrun Data in UK Value-for-Money Policy and Appraisal." *Public Money and Management* 27, no. 2 (2007): 127–134.
- Pongsiri, N. "Public-Private Partnerships in Thailand: A Case Study of the Electric Utility Industry." *Public Policy and Administration* 18, no. 3 (2003): 69–90.
- Ratcliffe, A. "The Real Benefit of PFI." *Public Money & Management* June, (2004): 134-135.
- Reeves, E. "Public- Private Partnership in Ireland: Policy and Practice." *Public Money and Management* 23, no. 3 (2003): 163–170.
- Reeves, E. "The Practice of Contracting in Public Private Partnerships: Transaction Costs and Relational Contracting in The Irish School Sector." *Public Administration* 86, no. 4 (2008): 969–986.
- Reeves, E., and J. Ryan. "Piloting Public-Private partnerships: Expensive

- Lessons from Ireland's Schools' Sector." *Public Money and Management* 27, no. 5 (2007): 331–338.
- Saxton, M. L. "Reference Service Evaluation and Meta Analysis: Findings and Methodological Issues." *Library Quarterly* 67, no. 3 (1997): 267–288.
- Shaoul, J. "A Financial Appraisal of the London Underground Public-Private Partnership." *Public Money and Management* 22, no. 2 (2002): 53–60.
- Shaoul, J. "A Financial Analysis of the National Air Traffic Services P." *Public Money and Management* 23, no. 3 (2003): 185–194.
- Shaoul, J., A. Stafford, and P.M. Stapleton. "The Cost of Using Private Finance to Build, Finance and Operate Hospitals." *Public Money and Management* 2, no. 2 (2008): 101–108.
- Singleton, R.A., and B.C. Straits. *Approaches to Social Research: 3<sup>rd</sup> Edition*. New York : Oxford University Press, 1999.
- Startin, J., A. Baxter, and N. Harding. "Comparing public-private partnerships for highway projects in the USA and UK/EU: Applying lessons learned." *Journal of Public Works & Infrastructure* 1 (2009): 329–348.
- Teicher, J., Q. Alam, and B.V. Gramberg. "Managing Trust and Relationships in PPPs: Some Australian Experiences." *International Review of Administrative Sciences* 72, no. 1 (2006): 85–100.
- Terry, F. "The Private Finance Initiative-Overdue Reform or Policy Breakthrough?" *Public Money and Management* 16, no. 1 (1996): 9–16.
- Trafford, S., and T. Proctor. "Successful Joint Venture Partnerships: Public - Private Partnerships." *The International Journal of Public Sector Management* 19, no. 2 (2006): 117–129.
- Tsai, C. C., and M. L. Wen. "Research and Trends in Science Education from 1998 to 2002: A Content Analysis of Publication in Selected Journals." *International Journal of Science Education* 27, no. 1 (2005): 3–14.
- Vining, A. R., and A. E. Boardman. "Public—Private Partnerships: Eight Rules for Governments." *Public Works Management and Policy* 13 (2008a): 149–161.
- Vining, A. R., and A.E. Boardman. "Public-Private Partnerships in Canada: Theory and evidence", *Canadian Public Administration* 15 (March) (2008b): 9–44.
- Vissers, C. "PPPs for Urban Road Networks: A Way Out of the Urban Deficit." *Journal of Public Works & Infrastructure* 2, no. 1 (2009): 43–54.
- Wakeford, J., and J. Valentine. "Learning Through Partnership: Private Finance and Management in the Delivery Service of London." *Public Money and Management* 21, no. 4 (2001): 19–26.

- Wall, A., and C. Connolly. "The Private Finance Initiative: An Evolving Research Agenda?." *Public Management Review* 11, no. 5 (2009): 707–724.
- Weihe, G. "Public-Private Partnerships and Public-Private Value Trade-Offs." *Public Money and Management* 28, no. 2 (2008): 153–158.
- Wettenhall, R. "ActewAGL: A Genuine Public-Private Partnership?." *International Journal of Public Sector Management* 20, no. 5 (2007): 392–414.
- Wettenhall, R. "Public-Private Mixes and Partnerships: A Search for Understanding." *Asia Pacific Journal of Public Administration* 30, no. 2 (2008): 119–138.
- Wilson, L. A., and E. Boyle. "The Role of Partnerships in the Delivery of Local Government Museum Services: A Case Study from Northern Ireland." *The International Journal of Public Sector Management* 17, no. 6 (2004): 513–533.
- Ysa, T. "Governance Forms in Public Private Partnerships." *International Public Management Journal* 10, no. 1 (2007): 35-57.
- Zarco-Jasso, H. "Public–Private Partnerships: A Multidimensional Model for Contracting." *International Journal of Public Policy* 1, no. 1/2 (2005): 22–40.