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TWELVE YEARS OF SCOTTISH SCHOOL PUBLIC PRIVATE PARTNERSHIPS: ARE THEY BETTER VALUE FOR MONEY?

Rizal Yaya*

ABSTRACT. This research evaluates the value-for-money (VFM) obtained from public-private partnership (PPP) schools in Scotland, based on headteachers questionnaires, local authority interviews and Scottish School Estate Statistics. The period covered is 2000-2012, when 395 new schools were commissioned. The PPPs were better in building condition and maintenance standards and conventionally-financed schools were better in terms of teacher access and improvement in staff morale. There was transfer of knowledge whereby the high standards of the PPPs then became the new standards for the conventionally-financed schools. Concerns about PPP VFM relates to the high cost of unitary charges and contract inflexibilities. A higher percentage of headteachers of conventionally-financed schools (63.64%) considered their new schools resulted in good VFM compared to PPP schools (42.86%).

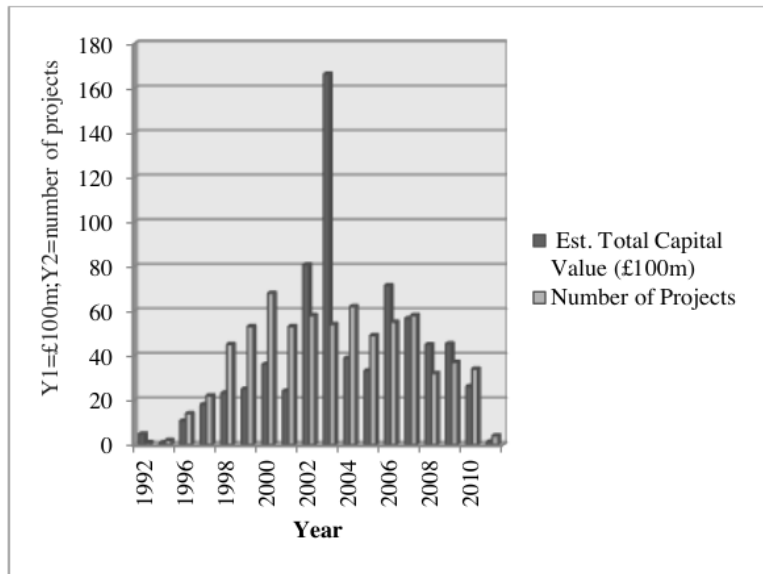
INTRODUCTION

Growing demand for public infrastructure in the context of limited public funds has pushed governments to seek more private sector involvement in infrastructure procurement (Hodge, 2010; Yaya, 2014). Since the 1990s, this involvement has moved to an integrated model of a PPP contract which bundles the design, construction, financing and operation activities into a single long-term contract.¹

In the United Kingdom (UK), there was a significant increase in PPP contracts, notably during the 1997-2010 Labour Government. Figure 1 shows that the increased trend of using PPP-type procurement started in 1996 and reached its peak seven years later.

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FIGURE 1
PPP Development in the United Kingdom



Source: Author's calculations based on UK Treasury (2012) with adjustment by adding data of three London Underground contracts in 2002 (£5.53b) and 2003 (£12.07b).

In 2003, the investment in PPP contracts was around £16.63bn, equivalent to 3.18% of total public spending of the UK Government in that fiscal year. After a sharp decrease in new contracts, there was a significant rise (by £7.14bn) in 2006. However, since 2007, the number of new PPP contracts steadily decreased as a result of the global financial crisis (National Audit Office, 2010a, p. 14). The number of PPP contracts also diminished due to the policy of the UK Coalition Government, elected in 2010, to reduce budget deficits by *inter alia* the cancellation of a large number of PPP bidding processes in England (Watt, 2010; UK Treasury, 2010).

This research was undertaken in the context of school PPPs in Scotland. This was characterised by some changes in the internal and external environment surrounding the Scottish PPP schools projects. The changes in the internal environment were, for instance, the experience gained on project management skills by both the public and private sectors; longer relationships maintained with partners; the issuance of new PPP guidelines; and the increased number of conventionally-financed schools. Changes in the external environment include the austerity imposed by the UK Government on the devolved Scottish Governments. In 2010, excluding the NHS ring-fenced budget, the new UK Coalition Government targeted 25% overall cuts in the public services provided by departments at the central government level by 2014-15 (The Economist, 2010). Similarly, the public spending budget of the devolved Scottish Government was predicted to fall by 2.9% per year with a cumulative fall of 16.1% (£4.8b) by 2015-16 compared to the 2009-10 public spending budget (Goudie, 2010, p. 23). The UK Treasury (2011a) had said that savings from the on-going PPP projects should be secured and local authorities were urged to secure savings from PPP operations through, for instance, optimising asset management.

A PPP school project is designed for a long-term contract to provide accommodation and related services for 25 to 30 years. Notwithstanding that the UK Coalition Government had a severely reduced programme for schools rebuilding in England and had set a new approach for PPP projects, the previously-signed contracts would continue to operate until the end of the contract period and it was still necessary to demonstrate their VFM.² Given this new context, the Government budget cuts policy will have reduced the budget flexibility of local authorities. On the other hand, the PPP contractors may have purposely managed these projects well to obtain the good reputation needed to obtain new PPP contracts. Thus, the uncertainty of the availability of future new schools PPP projects may or may not affect the contractors' behaviour towards their ongoing PPP projects.

LITERATURE REVIEW

This section discusses the definition of PPPs followed by a detail definition of VFM and factors that may contribute to PPPs VFM. Grimsey and Lewis (2005, p. 346) stated that PPP procurement is used to fill the gap between conventionally procured government projects and full

privatisation. In more detail, Ball and King (2006) differentiate PPP and conventional procurement in three aspects. First, conventional procurement includes only infrastructure in its contract. Under PPPs, the contract also includes private sector involvement in post-construction activities, such as infrastructure operation and maintenance. Second, instead of specifying how the infrastructure should be designed and procured, the PPP contract adheres to output specifications provided by the government, describing the services that the public sector needs. This approach is expected to enable PPP bidders to come up with the best design that the private sector can offer to serve these needs at an affordable cost. Third, significant risks associated with the project should be transferred from the public sector client to the private sector. Among the three aspects, the Organisation for Economic and Cooperation Development (OECD) (2008, p. 18) considered risk transfer to be the fundamental feature.

The then UK Labour Government claimed that the use of PPP procurement was intended to enable the public sector to gain VFM from public investment (UK Treasury, 2000; 2004b). To examine this claim, researchers from academic and practitioner backgrounds have undertaken studies to evaluate whether PPP is value-for-money. Table 1 shows that ten studies suggested that PPP was not better VFM than could have been obtained from conventional procurement, while the other ten suggested that VFM was improved. Thus, Hodge (2010) concluded that there was no consensus about PPP value-for-money. However, it is noticeable that, while academics and audit bodies reported both positive and negative assessments, consultants were unanimously positive.

The UK Treasury (2004, p. 17) defined VFM as 'the optimum combination of whole life costs and quality'. It clarified that VFM is not about achieving the lowest initial price. In addition, the UK Treasury (2006, p. 7) required VFM assessment to compare the potential or actual outcomes of the alternative procurement options, known as the Public Sector Comparator (PSC). In its early guidance, the UK Treasury Taskforce (1999a) suggested the PPP procurement team make VFM judgements based on the whole life costs rather than individual cost components. The whole life costs should include the future upgrade/maintenance requirements of the asset and its

TABLE 1
PPP Evaluation over the Decade 2000-2010

Better VFM	
'Yes'	'No'
Academics	
<ul style="list-style-type: none"> - Savas (2000): General observations on the [PPP] in the USA - Pollitt (2002): 10 major [PPP] cases in the UK 	<ul style="list-style-type: none"> - Pollock et al (2002): 3 NHS hospitals and 8 Trusts in the UK - Greve (2003): Case study of Farum Municipality, Denmark
<ul style="list-style-type: none"> - Pollitt (2005): General observations of UK cases plus 5 cases 	<ul style="list-style-type: none"> - Edwards et al (2004): 8 cases from roads and 13 hospitals case studies, UK - Shaoul (2005): General observations on UK cases - Boardman et al (2005): 5 North American cases across several sectors - Pollock et al (2007): Re-analysis of Mott Macdonald and other reports, UK - Leviakangas (2007): A Finnish toll-road case study - Hellowell and Pollock (2009b): Financial viability of NHS organisations analysed, UK
Consultants	
<ul style="list-style-type: none"> - Arthur Andersen and LSE Enterprise (2000): 29 business cases analysed, UK - Mott Macdonald (2002): 39 conventional projects and 11 PPP projects, UK - Grimsey and Lewis (2004): Global observations across several sectors in several countries - Allen Consulting Group (2007): Sample of 21 PPPs and 33 conventional projects 	
Audit Bodies	
<ul style="list-style-type: none"> - National Audit Office (2000): 7 business cases, UK - Auditor General of New South Wales (2006): Construction of 19 schools in New South Wales - National Audit Office (2006): reviewing the termination of the National Physical Laboratory* 	<ul style="list-style-type: none"> - Audit Commission (2003): 10 conventional and 8 PPP schools in England - National Audit Office (2009a): reviewing the failure of London Underground projects in England*

Source: Author's adaptation from Hodge (2010).

Notes: * These studies were not reviewed by Hodge (2010), but they are added to this Table as a supplement to the mixed views on value for money in the PPP studies by audit bodies.

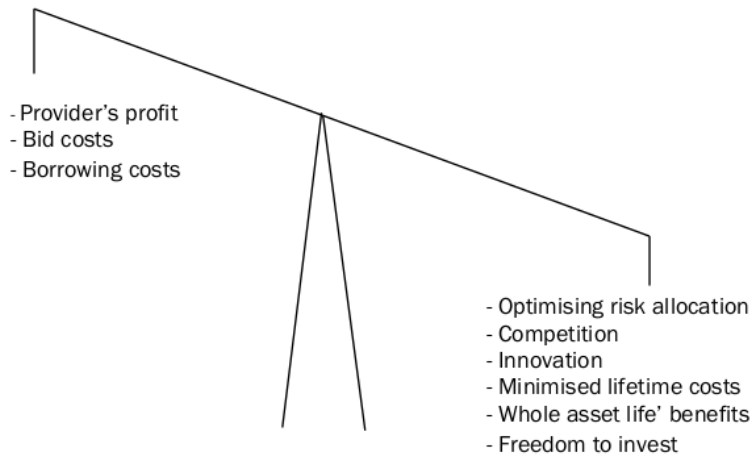
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residual value if the asset reverts to the public sector at the end of the contract:

As PFI [Private Finance Initiative] is about the delivery of a stream of services over the longer term, judgements should be made on whole life costs rather than on individual cost components incurred at particular junctures. The evaluation of bids needs to focus on the overall cost of services over the life of the contract rather than on the phasing of items of expenditure or individual cost components within it. For example, in competing for the same service requirement, two rival bidders may have different approaches, with one choosing to have high upfront capital investment with lower future upgrade/maintenance requirements, and the other relatively low initial capital investment but with more frequent renewals and upgrades. The procurer should concern itself with the overall NPV of bidders' unitary charges rather than the mix or 5: balance of individual components within it. If the asset reverts to the public sector at the end of the contract, the procurer should also assess the residual value of that asset to get a whole life value of each bidder's proposals (UK Treasury Taskforce, 1999a, para. 4.2.1).

The UK Treasury Taskforce (1997, p. 8) acknowledged that there are extra costs incurred from the use of PPPs. These are provider's profit, bid costs and borrowing costs. However, it was claimed that the extra costs incurred are outweighed by the benefits derived from the PPP, as shown in Figure 2.

Vinogradov et al (2014) added that a PPP can provide funds for projects that are not viable through standard public procurement. For private partners, a PPP can give incentives through extra benefits from their collaboration with the government (e.g. risk reduction, reputational gains, access to additional resources and lower bureaucratic burden). However, Leśniak and Zima (2013) noted that there are concerns about public sector clients with little experience of large scale procurement. They said that, for such clients, the description of the contract is difficult and time-consuming. In their study on the PPP in Poland, the public sector client often had less control over the contract and were at high risk of achieving lower quality (p. 324).

FIGURE 2
The VFM balance



Source: Treasury Taskforce (1997, p. 8).

The UK Treasury Taskforce (1997, para. 3.08) identified factors in PPP that can result in better value-for-money. These are: (1) bundling of design, build and service operation; (2) an output specification that encourages innovative design, re-engineering, avoidance of over-specification, new materials or more efficient maintenance (including guaranteed maintenance at the appropriate time); and (3) efficient allocation of risks to the parties best able to manage them at least cost.

PPP Bundling and Value for Money

Martimort and Pouyet (2008) explained some circumstances where PPP methodology would perform better than conventional procurement. They proposed that, in a situation where a performance contract can be written and infrastructure design can save operating costs, bundling the tasks of building and asset management would be the optimal organisational structure. The argument is that private consortia can better internalise the impact of the improved infrastructure quality on operating costs. Consequently, a private

consortium will strive to produce better design of the infrastructure to gain a bonus from lower operating costs. These benefits do not exist under conventional procurement, as the building and asset management tasks are undertaken by separate entities.

Iossa and Martimort (2008) suggested that the effort level of the private consortia is higher with bundling. They assumed that the financiers have expertise in obtaining access to some informative signals on whether the cost is high or low compared to the market in PPPs in providing the infrastructure and services. The use of private finance enables financiers to improve incentives 'by conditioning the firm's repayment on the informative signal they get on its effort' (p. 26). In contrast, as the government does not have this expertise, when managing a project using public finance it does not receive the informative signals and the contractor implements only their second-best effort.

In bundling a PPP project, it is suggested to consider its optimum size to balance economies of scale and bidding competitiveness. Iimi's (2010) study on PPP contracts for water utilities across several countries found that, in a large scale transaction, economies of scale in service operation can be expected, but bidding competitiveness may be compromised. On the other hand, in small scale contracts, bidding competitiveness can be enhanced but at the cost of scale diseconomies in operation. He suggested that, for a very large contract, the government should consider unbundling the transaction into several contracts. Meanwhile, for several small scale operations, it is suggested that they be rolled up into a single contract.

The growth of PPP practices should be accompanied by the development of PPP regulations. Verma (2010) reported widespread practices across nations to allow the submission of project concepts that are not requested by procurement agencies. This is called unsolicited proposal (UNP) which can inhibit transparency and competitiveness. He suggested that public sector procurers reform PPP regulations to make it clear that the UNP should only relate to new or innovative projects which are essential for government and that the government must provide equal supports to competitors. He also suggested that other competitors are allowed to prepare counter proposal in a reasonable time.

PPP Output Specification and Value-for-Money

The UK Treasury Taskforce (1999b, p. 10) defines an output specification as 'a statement of needs to be satisfied by the procurement of external resources'. It is an instrument to specify what the public sector client wants to procure and what the supplier is expected to provide.³ This instrument is used by the public sector to construct the PSC and is utilised by the private sector to prepare PPP bids.

The UK Treasury (2003b, p. 33) stated that the output specification is different from the input specification approach under conventional procurement. Under conventional procurement, the procuring authority describes precisely the work required to deliver particular services. This is then tendered for to secure competitive pricing and the most economically advantageous proposal for the construction. However, the Public Private Partnerships Programme (2001) a consulting body for PPP projects established by the Local Government Association and Partnerships UK, stated that, if the design and plan produced by the public sector were inappropriate, it is the public sector that will bear the cost to put the construction back on track if costs increase because of project delays. Consequently, conventional procurement has the potential to cost more than the original estimate, or can fail to meet the initial output objectives.

The UK Treasury (2000) addressed the cost overruns and delays in some traditional procurement contracts which might be alleviated under the PPP procurement route. Table 2 shows problems that were identified in some projects under conventional procurement. Grimsey and Lewis (2007, p. 173) explained that the increased cost may occur because of altering the design after the tender process, either due to changes in scope or in response to risks that the government retains. Consequently, it also affects project completion from the initial completion date. In addition, a number of uncertainties also exist in terms of building lifecycle maintenance, ongoing provision of services, and efficiency of facilities under conventional procurement after asset construction (Public Private Partnerships Programme, 2001).

Under PPP procurement, the procuring authority only specifies the services required (UK Treasury, 2003a). The selection of a preferred bidder is based on the competition to offer better whole life costs and

TABLE 2
Problems with Conventional Public Procurement

No	Name of project	Cost overrun	Total slippage in completion date
1	Trident Submarine Shiplift and Berth (Faslane, Scotland)	Initial cost estimate £100m, final cost £314m	2.5 years
2	Jubilee Line Extension	Initial cost estimate £2.1b, final cost some £3.5b	almost 2 years
3	The New En-Route air traffic control centre	Total initial cost estimate £475m, latest estimate £655m	5 years
4	Guy's Hospital	Initial cost estimate £36m, final cost £160m	over 3 years

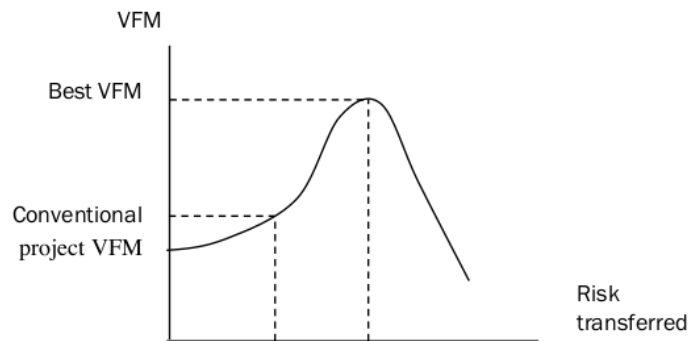
Source: Treasury (2000, p. 18).

the quality to meet users' requirement and is not necessarily based on the bid with lower construction cost. According to the Public Private Partnerships Programme (2001), this approach would encourage a focus on strategic needs rather than on 'the history and detail of current provision' (p. 5). A proper output specification would drive the private sector to come up with new ideas about the design, construction and operation of schools (p. 6). As this approach also encourages bidders to develop means to deliver the outputs within a fixed performance-related pricing mechanism, the Public Private Partnerships Programme (p. 6) stated that the PPP should 'lead to better designed and operated schools in the longer term'. The UK Treasury (2003a) also argued that the use of an output specification would benefit the public sector as this can drive the private sector to meet the desired output objectives by using their best expertise and know how to deliver the service. The arguments have figured prominently in the economic justifications to put forward for PPPs in the United Kingdom.

PPP Risk Transfer and Value for Money

Risk transfer is defined by the UK Treasury Taskforce (1999b, p. 63) as 'the process of moving the responsibility for the financial consequences of a risk from the public to the private sector'. This concept is based on the public sector's efforts to find a solution for cost overruns in public infrastructure procurement. The UK Treasury Taskforce Technical Note 5 (UK Treasury Taskforce, 1999b, p. 8) stated that an optimum risk transfer can lead to 'dramatic improvements in value-for-money'. The OECD (2008, p. 49) however emphasised that risk allocation to the party best able to manage does not mean maximum risk transfer. Figure 3 shows that risk transfer could improve VFM to an optimum level, after which VFM declines.

FIGURE 3
Risk Transfer and Optimal VFM



Source: Treasury Taskforce (1997, p. 11)

Theoretically, VFM is improved by transferring risk to the private sector, which can reduce risk in terms of the probability of occurrence or financial consequences if the risks do materialise. Value-for-money will decline if the public sector keeps transferring risks which cannot be best managed by the private sector. The decline is caused by the benefits of risk transfer being outweighed by the premium charged by the private sector. Having too much risk transfer may result in the public sector paying a premium for something that will not be delivered: there are many PPP projects with services which cannot be neglected,

such as health and education. Consequently, when problems arise, the public sector would have to step in, thus providing an implicit guarantee to the private sector. It is the optimum rather than the maximum total risk transfer which should be aimed at by the PPP procurement method.

Grout (1997) suggested that the economics of a PPP project can be seen from the perspective of: (i) risk and compensation for risk within the PPP; and (ii) the incentives to the private sector. In terms of compensation, he argued that risk transfer under the PPP will lead to a competitive price for risk (p. 59). He explained that, if the aggregate of risk is constant and if the amount of risk taken on by the private sector is equal to the amount of risk reduction to the public sector, then the public sector should be willing to and will have to pay the market price for all risks transferred. He further argued that the PPP type of transaction, through the contract for purchasing the services, would immunise the public sector from the risks they have passed to the private sector (p. 60).

In terms of the incentives for the private sector, Grout (p. 63) explained that, under conventional procurement, there are incentives for the builder to reduce the long-term quality of the asset. This is because the public sector buys the asset and the contractor does not have any responsibility for the long-term consequences of poor quality during the construction process. However, under PPP procurement, these problems are anticipated through the use of contractual arrangements for purchasing the services. This arrangement requires the private sector to build the assets and sell the services, but the remuneration will be paid only for services which meet the agreed standards through adjustments to the unitary charge. Consequently, there will be 'no incentives to reduce quality even if the consequences do not appear for many years' (p. 63).

VALUE-FOR-MONEY STUDIES ON THE PPP

Early studies of the VFM of PPPs took place when projects were at the appraisal stage to assess the appropriateness of the methodology. Edwards and Shaoul (2003b) doubted that the methodology was appropriate for IT projects, arguing that risk transfer under PPP procurement was only partial. This was based on their findings that, in practice, the public sector retains some of the risk and the costs supposedly transferred. In addition, a study undertaken by the National

Audit Office (1999, p. 49) on an early hospital PPP project reported that the cost of external advisers reached £2.4m, or 7.7 times higher than estimated. The study also reported that the project was overestimated in terms of its VFM, thus being more expensive than set out in the Initial Business Case (p. 44).

Shaoul's (2002) study of the large capital investment of a London Underground projects also doubted the appropriateness of PPP VFM assessment methodology. She argued that the agreed high payments to the PPP consortia could only be met by a combination of public subsidy and reduced passenger services (p. 59). She emphasised that the deal would not ensure financial stability; instead, it was possible that the PPP would jeopardise the project's future. She added that, by any normal financial criteria, the project would not have been allowed to proceed. In the end, two out of three London Underground consortia failed to meet their spending obligations and went into administration in 2007. Regarding the consortia failures, National Audit Office (2009b, p. 7) reported that the UK Government paid 95% of the consortias' £1.747bn obligations and estimated that the loss to the taxpayer, due to the difference between the bail-out cost and the value of the work done, could reach £410m at 2007 prices.

Later VFM studies were conducted at the operational phase of the PPP programme. The Audit Commission (2003) found that users of new PPP schools noted some improvements in terms of the services received compared to their previous conventional provision, including greater levels of responsiveness to complaints, especially about day-to-day maintenance. The Accounts Commission (2002, p. 3) also noted that users generally welcomed the improved level of services received from private providers. In a local authority where PPP schools had already been operating for one year, it was reported: 'Schools are very pleased with the catering service, overall demand is up 16% and the uptake of free school meals has increased significantly' (p. 88). The Audit Commission suggested that these improvements were the results of efficient and effective services delivery (p. 88).

Two later studies reached a different view. Ismail and Pendlebury (2006), in their 2004 survey of 100 (out of 214 questionnaires distributed) PPP schools throughout the United Kingdom, reported that only 51% of responding headteachers felt the quality of services provided by the private provider was good or very good. A high proportion (34%) felt dissatisfied or very dissatisfied with the time

taken by their PPP service provider to deal with reported problems. They also found that more than a third of headteachers had frequent or very frequent disputes with the PPP service provider. Most of the headteachers (76%) found that their involvement with the PPP was more time-consuming than they had expected (p. 400). Meanwhile, a study by the Public Private Partnerships Programme (2006), involving six operational PPP school projects in England, reported that some services had remained unchanged from their former conventionally-financed schemes. This situation made school staff worried about the facility management services and the time spent to resolve issues (p.16).

In 2008, Ipsos MORI undertook a study of the performance of PPP projects, conducted for Partnerships UK on behalf of the UK Treasury. It reviewed the performance of 151 (out of 418 questionnaires distributed) PPP projects across England that had reached the mature operational stage. Twenty-six percent of the contract managers involved in the survey was from education projects and the others were from accommodation (22%), health (19%) and transport (13%). Findings from this survey were compared to the performance of 105 (out of 390 questionnaires distributed) PPP projects studied earlier by Partnerships UK (2005). The survey reported that a number of improvements had been achieved in comparison to the early operation of PPP projects.

In terms of the overall performance of the PPP projects over 12 months before the survey, the majority of the contract managers (73%) rated it as good or very good (Ipsos MORI, 2008, p. 4). This indicated an increase in the overall performance as compared to the 2005 survey (66%). The study also reported an increase by five percentage points from 84% in the 2005 survey that the projects had always or almost always achieved their contracted service level. Furthermore, it was confirmed that most of the projects (92%) had delivered services to an acceptable standard (p. 5). However, in a detailed sectoral analysis i.e. education, health and transport, it was found that about a quarter of the contract managers in the education sector reported that the services were not delivered to an acceptable standard.

With regard to the ability of local authorities with PPP schools to cope with changing circumstances, Audit Scotland (2008) conducted a study of 10 new/refurbished primary and secondary PPP schools in six local authorities in Scotland. Half of the sample schools were early

PPP projects, opened between 2000 and 2003. They reported that since the contracts were based on the Retail Price Index, there had been some changes in the unitary charge, but not all local authorities with PPP contracts had effective plans to meet the increased costs (p. 22). This consequently put pressure on future budgets of non-PPP expenditure. Audit Scotland assessed that local authorities may have made decisions on using limited resources by cutting important current services or cancelling new service developments. Since the PPP charges were contractually committed, the maintenance budgets for non-PPP schools may have been squeezed, with the possibility that the condition of these non-PPP schools would deteriorate (p. 22).

A number of positive findings, but with lower agreement, were reported by academics in relation to the early outcomes of the PPP projects. In 2005, Demirag and Khadaroo (2010) surveyed 141 (out of 332 questionnaires distributed) headteachers of operational PPP schools in the United Kingdom. They found agreement to a great or very great extent that the PPPs had a positive impact on staff morale (50%), staff productivity (44.3%), pupil productivity (53.5%) and pupil behaviour (43.9%) (p. 17). However, the claim about the greater positive impacts of PPPs were not supported by a comparison with conventionally-financed schools. Thus, it is not clear from the study whether improvement was simply because of having the new/refurbished schools or because the use of the PPP procurement route had brought additional benefits.

RESEARCH METHOD

This research is undertaken in the education sector, on schools PPP in Scotland. In the United Kingdom, this sector was third largest in using this procurement route after transport and health. By March 2011, the sector had absorbed almost 16% of total PPP capital value. Despite education being (only) the third largest investment in PPP projects, its development was attention-grabbing. First, prior to its initiation, there was scepticism that the private sector would be interested in investing in this sector (Fitz and Hafid, 2007, p. 282). This was because the school sector was not considered to have as attractive a business propositions as in the transport sector. Second, when schools PPP was initiated at the end of the 1990s, there were criticisms that the scheme was back-door privatisation (Edwards and Shaoul, 2003b). This created opposition from the existing pressure

groups such as the public sector trade union UNISON, the National Union of Teachers and the British Medical Association (Pollock, 2002; Lister, 2003; UNISON, 2003). Third, prior to schools PPP, there had been other sectors developed under PPP schemes, such as defence, water management, housing and prisons, but the development of schools PPP grew faster than these other sectors.

The selection of Scottish schools PPP for this research is based on three reasons. First, by year 2010, Scotland was the largest in PPP investment per capita compared to other parts of the United Kingdom. In this year, Scotland was the only constituent United Kingdom country with PPP investment per capita of above £1,000. This amount is larger than the capital value per capita in England (£709.34) and Northern Ireland (£974.22) and much larger than Wales (£180.65). Second, Scotland was the highest schools PPP investment per capita (£571.37). In addition, it had had the highest proportion of its total PPP investment devoted to the schools sector (51.88%), in comparison to Northern Ireland (31.31%), England (17.81%) and Wales (12.76%). Therefore, Scotland can be considered an important location for conducting research on school PPPs. The PPP schools in this survey were procured in two phases, categorised as PPP1 and PPP2. The early PPP1 projects were the first 11 projects, with financial close between 1998 and 2003. The later PPP2 projects had financial close since 2004. These later PPP projects were the next round after the Scottish Government's invitation to local authorities to bid for further funding.

The research population in this study is PPP new build primary schools commissioned in Scotland from 2000 to 2012, divided into PPP1 and PPP2. The PPP primary schools are compared to conventionally-financed new build primary schools which could be identified from publicly available information. The choice of the year 2000 as the starting year is because that is when the first PPP school in Scotland was commissioned. Year 2012 was the year when headteacher questionnaires were distributed for this research. The test for comparing the two groups is the Mann-Whitney U test. This test determines whether the mean scores of the two different groups of schools are different.

This study used interviews with local authorities, a postal questionnaire to headteachers, and the Scottish Government Schools Estates dataset to obtain evidence for this study.⁴ The Scottish Schools Estate dataset is the results of the Scottish Government's survey of the

size, value, condition, capacity and running costs of the school estate (Scottish Government, 2012). All local authorities with experience of schools PPP were approached for interview. Sixteen local authorities (more than half the population) agreed to participate (detailed information on the 16 local authorities is presented in Table 3).

TABLE 3
Coverage of Local Authorities Participating In Interviews

	Figure within the interviewed Local authorities	Potential figure of Scotland 2002-2012	%
Number of Local authorities	16	29	55.17
School PPP capital values	£1,548m	£3,285.3m	47.12
Number of new build PPP primary schools	49	115	42.61
Number of new build PPP secondary schools	59	112	52.68
Number of refurbished PPP primary schools	5	8	62.50
Number of refurbished PPP secondary schools	27	37	72.95
Number of new build conventionally-financed primary schools	59	120	49.17
Number of new build conventionally-financed secondary schools	1	3	33.33
Total number schools	200	395	50.63

Key officers who had knowledge about PPP projects were contacted for interview. They were Director/Head of Finance, Director/Head of Education, and Project Manager. If the Officers assigned a Depute to represent them, the substitute was accepted after assessing the relevance of their position and experience of both procurement methods. Since the local authorities also have new build PPP/conventionally-financed secondary schools and refurbished types of project, the views of these Officers are not limited to the primary schools which are the basis of the surveys questionnaire results reported in this paper.

Headteachers being respondents to the questionnaire is supported by earlier surveys. Research studies following this method includes Partnerships UK (2005), Ismail and Pendlebury (2006), Pricewater-

houseCoopers (2007; 2008; 2010) and Demirag and Khadaroo (2010). In addition, a headteacher has a strategic position in that they can act on behalf of the school (or appoint the school's representative) in dealing with the local authority and suppliers.

In this study, from 235 questionnaires sent to headteachers of new build PPP and conventionally-financed primary schools, 42.55% (100 questionnaires) responded. Compared to conventionally-financed schools, the PPP schools response was higher (48.70% in PPP and 36.67% in conventionally-procured). Other types of school (e.g. new build secondary schools and refurbished schools) were also surveyed, but because the responses were low and the proportion between PPP and conventionally-financed schools is uncomparable, the data are not used in this comparative analysis.

Based on the headteacher questionnaires, the new school buildings were viewed very positively by both PPP and conventionally-financed primary schools. Table 4 shows that PPP schools had high levels of agreement of above 90% in terms of the quality and satisfaction with the building and the quality of facilities. The conventionally-financed schools had similar levels of agreement (over 90%) except for the element of building facilities, which was 84.09%. In terms of complaints, there were only 12.50% of PPP and 15.91% of conventionally-financed schools which generally/strongly disagreed that the building produced a low number of complaints. Based on the Mann-Whitney U test for these four elements, the two groups of schools are not significantly different: either type of procurement resulted in similar quality of building.

TABLE 4
Overall Quality and Satisfaction with New Build Primary School Building

Questions	PPP financed				Conventionally-financed				Mann-Whitney U test
	Good/very good (%)	Poor/very poor (%)	No answer (%)	Mean	Good/very good (%)	Poor/very poor (%)	No answer (%)	Mean	
In general, how do you rate the quality of the building?	92.86	0.00	0.00	4.554	90.91	2.27	0.00	4.523	0.987

TABLE 4 (Continued)

	Generally/strongly agree (%)	Generally/strongly disagree (%)	No answer (%)	Mean	Generally/strongly agree (%)	Generally/strongly disagree (%)	No answer (%)	Mean	Mann-Whitney U test
In general, how do you rate the quality of the facilities?	91.07	0.00	0.00	4.554	84.09	2.27	0.00	4.341	0.183
	Satisfied/very satisfied (%)	Dissatisfied/very dissatisfied (%)	No answer (%)	Mean	Satisfied/very satisfied (%)	Dissatisfied/very dissatisfied (%)	No answer (%)	Mean	Mann-Whitney U test
Please state whether you are satisfied or dissatisfied with the (PPP/ conventionally-financed) building	92.86	1.79	0.00	4.393	93.18	6.82	0.00	4.500	0.171
Questions	PPP financed				Conventionally-financed				Mann-Whitney U test
	Generally/strongly agree (%)	Generally/strongly disagree (%)	No answer (%)	Mean	Generally/strongly agree (%)	Generally/strongly disagree (%)	No answer (%)	Mean	
The building produces a low number of complaints	73.21	12.50	7.14	3.904	70.45	15.91	6.82	3.854	0.993
The PPP consortium offered an innovative design for the school building	62.50	7.14	10.71	3.920	-	-	-	-	0.685
The Local Authorities produced an innovative design for the school building	-	-	-	-	70.45	13.64	2.27	3.930	
Compared to its construction schedule, how was the building completed?	53.57	30.36	16.07	2.574	45.45	31.82	22.73	2.471	0.589
The consortium is highly trusted to hand over the school in good condition at the reversion date	51.79	1.79	30.36	3.872	-	-	-	-	0.786
The Local Authorities is highly trusted to keep the school in good condition throughout its useful life	-	-	-	-	59.09%	11.36	11.36	3.744	

Notes: *significant at 10%, **significant at 5%, *** significant at 1%.

RESULTS AND DISCUSSION

In terms of design innovation, more headteachers of conventionally-financed schools generally/strongly agreed that they have obtained innovative design for their school building (70.45% compared to 62.50% of PPP schools). In interviews with local authority Officers, most of them said that innovation in the PPP schools can also be applied to conventionally-financed schools procurement:

Yes, I think we learned a lot from going out to PPP2. When we have gone out conventionally, we have captured a lot of that in our output specification: the good things we liked from it, we have captured. And we put out a similar output specification to the market looking for innovation. For example, we had 'X' who was a PPP contractor, coming back with one design and then we had a company called 'Y' Construction coming back with another design, and the designs were so different, it's hard to believe that they were derived from the same output specification. But 'Y' Construction used a lot of innovation in terms of a school that was very easy for us to maintain. It was long, linear and compact. And one of the things that we asked for was every classroom to have access to an external area for teaching, by creating little internal courtyards open to the sky. This meant the whole outline of the building was nice and rectangular, easy for us to maintain (Assistant Director of Education: Local Authority 6).

The preceding quotation explains why the conventionally-financed schools in Scotland are slightly better in terms of innovation than the PPP schools: local authorities procured conventionally-financed school during the period studied after they procured the earlier PPP schools and they used their experience in later procurements. The PPP schools became the new standard for new school building under conventional finance:

We have got benefits of having a number of new good quality High Schools. And so that helped in terms of the Local Authorities school estate. It also set a standard for other schools. We are now looking at replacing three of our secondary schools ... and so we have set a benchmark. Headteachers are competitive and they always want what the other headteachers have got. We have certainly set a benchmark in terms of upgrading our schools. I think when you build a new school in

one part of the Local Authorities [area] then you have set [expectations] for the rest. (Head of Finance & Infrastructure: Local Authority 8)

Studies in local government procurement show that that human resource and its management is very critical for the success of local government procurement (Thai, 2001, 2009; Nurmandi and Kim, 2015). This finding gives a wider view of the development of the learning capability of public sector clients in PPP contracts. In previous study, such as Zheng and Caldwell (2008), it was concluded that the private partner has greater learning capability than its public sector client. Based on two hospital projects in England, they found that the private sector adopt internal learning mechanisms from the projects they have been involved in, moving from one project to another for the design and construction phase. On the other hand, the public sector client cannot offer the career pathway (or financial rewards) like in the private sector. They found that public sector clients' learning capability is affected by staff turnover and the discontinuity of PPP contracts being one-off projects. However, based on this Scottish school PPP study, there is evidence that public sector clients also learned from the PPP and have been able to adopt it in their conventionally-financed project.

In terms of building completion, more headteachers of PPP schools considered that their schools were built on time or ahead of schedule than those of conventionally-financed schools (53.57% compared to 45.45%). On these two elements, the two groups of schools are not significantly different, indicating that the different procurement routes did not necessarily make a difference in design innovation and timely building completion.

Table 5 shows that the comparative detailed picture of the two types of procurement is quite mixed. In some elements, PPP schools were better and in some elements conventionally-financed schools were better. The PPP schools were significantly better in terms of the quality of windows and doors, mechanical electrical services, and building wear and tear. Based on the summary question about building condition in the questionnaire, it was found that the two groups of schools were significantly different at 5%, whereby 67.86% of the headteachers in the PPP schools considered that good condition was met in all/most elements compared to 54.55% in the conventionally-financed schools. On the other hand, the conventional-ly-financed

schools were significantly better in terms of sufficiency for current demand, suggesting that the PPP consortia were more concerned about tendering a competitive bid and less concerned about future pressures on meeting the demand for pupil places.

Despite positive views on the new build schools, based on analysis of the Scottish Government (2012) school estate dataset it was found that some of the primary schools had already gone down to a lower category of school building quality. By using data from 115 new build PPP and 118 conventionally-financed primary schools, Table 6 shows that more than 90% of both new build PPP and conventionally-financed schools were rated 'good' for their condition and suitability. In terms of condition, none of the PPP schools were rated lower than the 'good' category, but for the conventionally-financed schools, there were seven (5.93%) which were rated as 'satisfactory'. This condition may relate to different treatment on asset maintenance. Under PPPs, the client is obliged to pay a unitary charge periodically until the contracts end which includes the costs of capital, maintenance and related services, debt interest and profits for the consortium. Consequently, there is a ring fenced fund for maintenance costs. There is no such commitment under conventionally-financed assets: maintenance costs are discretionary and may be given the least expenditure priority.

TABLE 5
List of Statistically Significant Results for New Build Primary Schools

	Type of question	Is PPP better?	Mean		Sig. level
			PPP	Conventionally-Financed	
A. Building quality					
All windows and doors work properly	Likert 5	Yes	4.218	3.591	0.007***
To what extent are the Scottish Government's 'good condition criteria' (A is the best; D is the worst) met by your school?	Likert 4	Yes	3.500	3.111	0.036**

TABLE 5 (Continued)

	Type of question	Is PPP better?	Mean		Sig. level
			PPP	Conventionally-Financed	
The mechanical and electrical services meet health and safety requirements	Likert 5	Yes	4.741	4.386	0.030**
The building withstands wear and tear in use	Likert 5	Yes	4.400	4.045	0.026**
The school currently has no significant surplus or deficit of pupil places	Likert 5	No	3.236	3.744	0.053*
B. Service quality					
Prior to asset construction, did you expect the maintenance standards in a PPP school to be higher than in a conventionally-financed school?	Yes/No	Yes	1.868	1.500	0.004***
Considering the experience since your school opened, do you find that the maintenance standards in your school are higher than those in conventionally-financed schools?	Yes/No	Yes	1.887	1.545	0.007***
Satisfied or dissatisfied with time taken to rectify problems with the building and its facilities	Likert 5	Yes	4.111	3.209	0.000***
Satisfied or dissatisfied with effectiveness of the action taken to deal with reported problems	Likert 5	Yes	4.073	3.209	0.000***
The PPP consortium has been effective in dealing with the school's reports on service failures	Likert 5	Yes	4.189	3.488	0.000***
In general, how do you rate the quality of the services provided for your school by the PPP consortium?	Likert 5	Yes	4.429	4.023	0.010***

TABLE 5 (Continued)

	Type of question	Is PPP better?	Mean		Sig. level
			PPP	Conventionally-Financed	
C. Maintenance mechanism					
The PPP key performance indicators are well understood	Likert 5	Yes	3.800	3.269	0.007***
The school or the Local Authorities has a right to step in if the consortium ignores or fails to rectify service failures	Likert 5	Yes	4.475	1.500	0.000***
The specified key performance indicators of services and accommodation are in line with the school's needs	Likert 5	Yes	4.149	3.667	0.008***
Performance reports produced by the PPP consortium reflect reality	Likert 5	Yes	3.914	3.333	0.015**
Penalties have been regularly imposed on the PPP consortium for being unable to rectify service failures within the specified time	Likert 5	Yes	2.931	1.414	0.000***
D. Potential problems					
The PPP maintenance mechanism enables the Headteacher to spend more time on curriculum development and/or school management	Likert 5	Yes	3.800	2.325	0.000***
Teachers have appropriate access to the school building and facilities	Likert 5	No	4.073	4.386	0.055*
Is there a restriction on the number of hours per day that the school is available to you?	Yes/No	No	1.727	1.432	0.003***
E. School performance					
Staff morale and self-esteem have risen	Likert 5	No	4.000	4.293	0.065*

TABLE 5 (Continued)

	Type of question	Is PPP better?	Mean		Sig. level
			PPP	Conventionally-Financed	
F. Overall value for money					
The PPP contract has resulted in good value for money	Likert 5	No	3.614	4.057	0.025**

Notes: *significant at 10%, **significant at 5%, *** significant at 1%.

Table 6 shows, in terms of suitability, there were eight (6.96%) PPP schools and 11 (9.32%) conventionally-financed schools which were rated as only 'satisfactory'. In addition, one PPP school (0.88%) was rated as 'poor' and no conventionally-financed schools fell into this category.

This early downgrading is unexpected because, based on a 1999 survey in the United States, it takes 40 years on average for a school building to have major refurbishment since their original construction (The National Center for Education Statistics, 2000, p. 37). Based on the Mann-Whitney U test, in terms of building suitability, the PPP schools are not significantly different from conventionally-financed

TABLE 6
New Build Primary School Building Condition and Suitability

	Building condition				Building suitability			
	PPP		Conventional		PPP		Conventional	
	Count	%	Count	%	Count	%	Count	%
A (Good)	115	100.00	111	94.07	106	92.17	107	90.68
B (Satisfactory)	0	0.00	7	5.93	8	6.96	11	9.32
C (Poor)	0	0.00	0	0.00	1	0.87	0	0.00
Total	115	100.00	118	100.00	115	100.00	118	100.00
Mann-Whitney U test	0.008***				0.701			

Note: *** significant at 1%.

Source: The Scottish Government (2012).

schools, but in terms of building condition, the PPP schools are significantly better than conventionally-financed schools. An alarming finding from the questionnaire is that more than one fifth of the headteachers in both groups of schools considered that there is need for significant changes in the design of their school building to meet future educational challenges (23.21% of PPP schools and 29.55% of conventionally-financed schools) (Table 7).

This is consistent with the Audit Commission (2003) findings comparing PPP and conventionally-financed schools at the early operational phase. Both groups of schools shared the same problems in terms of storage , indoor temperature and roofing. Some problems,

TABLE 7
Elements where more than 20% of the New Build Primary School Headteachers View as Problems

Questions	Generally/strongly disagreed by headteachers of PPP schools	Generally/strongly disagreed by headteachers of conventionally-financed schools
The roofs have no problem of leakages	30.36%	36.36%
All windows and doors work properly	Less than 20%	29.55%
The indoor temperature of the school building is comfortable in all seasons	41.07%	40.91%
The building is the right size for its functions	25.00%	20.45%
There is adequate storage space	50.00%	50.00%
The school currently has no significant surplus or deficit of pupil places	30.36%	Less than 20%
The design of the school building has anticipated future school demand	39.29%	40.91%
Significant changes in the design of this school building are still needed to meet future educational challenges	23.21%	29.55%

such as building size and meeting current demand, were identified as mainly occurring in PPP schools and the problem of windows and doors in conventionally-financed schools.

Table 8 indicates that the PPP schools had significantly better services than the conventionally-financed schools in terms of the overall service quality, the effectiveness of the actions to resolve problems, and time taken to rectify them. These positive experiences reached 83.93% of PPP school headteachers agreeing that the maintenance standards in their schools were better than in conventionally-financed schools compared to expectations (58.93%) prior to construction.

TABLE 8
Significant Differences in Services Quality in New Build Primary Schools

Question	PPP financed				Conventionally-financed				Mann-Whitney U test
	Good/very good (%)	Poor/very poor (%)	No answer (%)	Mean	Good/very good (%)	Poor/very poor (%)	No answer (%)	Mean	
In general, how do you rate the quality of the services?	89.29	3.57	0.00	4.429	77.27	6.82	0.00	4.023	0.010***
Questions	Satisfied/very satisfied (%)	Dissatisfied/very dissatisfied (%)	No answer (%)	Mean	Satisfied/very satisfied (%)	Dissatisfied/very dissatisfied (%)	No answer (%)	Mean	Mann-Whitney U test
Please state whether you are satisfied or dissatisfied with time taken to rectify problems with the building and its facilities	82.14	3.57	3.57	4.111	52.27	31.82	2.27	3.209	0.000***
Effectiveness of the action taken to deal with reported problems	78.57	7.14	1.79	4.073	47.73	29.55	2.27	3.209	0.000***
The PPP consortium (The Local Authorities or its contractors) has been effective in dealing with the school's reports on service failures	85.71	3.57	5.36	4.189	63.64	20.45	2.27	3.488	0.000***

TABLE 8 (Continued)

Question	Yes	No	No answer	Mean	Yes	No	No answer	Mean	
Prior to asset construction, did you expect the maintenance standards in a PPP school (conventionally-financed) to be higher than in a conventionally-financed (PPP-financed) school?	58.93	8.93	32.14	1.868	18.18	18.18	63.64	1.500	0.004***
	PPP financed				Conventionally-financed				
	Generally/strongly agree (%)	Generally/strongly disagree (%)	No answer (%)	Mean	Generally/strongly agree (%)	Generally/strongly disagree (%)	No answer (%)	Mean	Mann-Whitney U test
Do you find that the maintenance standards in your school are higher than those in conventionally-financed schools (PPP-financed schools)?	83.93	10.71	5.36	1.887	13.64	11.36	75.00	1.545	0.007***

Notes: *significant at 10%, **significant at 5%, *** significant at 1%.

In contrast, there were only 13.64% of conventionally-financed school headteachers who agreed that their school maintenance standards were better than in PPP schools. This percentage is lower than expected prior to construction (18.18%). This finding is supported by evidence obtained during interviews:

I would say they have got better soft and hard FM services ... and unfortunately when we commit to do a new conventional build, we do not commit to the lifecycle costs, whereas the PPP commits to the lifecycle costs within the unitary charge. I can go along to these schools which opened in 2009 and find faults, just general wear and tear that should be repaired, but they are not being repaired. For example, I was in one school and I noticed that there were water marks on the plastic boards which must be caused by an internal leak. If that was a

PPP school, it would have been picked up as a fault, and repaired within the rectification period, whereas in the conventionally-financed school, we might just ignore it until the maintenance money becomes available (Assistant Director of Education, Local Authority 6).

This confirms the findings from the National Audit Office's (2003) study in the prison sector that PPP prisons had better performance compared to conventionally-financed prisons. However, the statistical tests reported in this paper show a significant advantage in better staff morale and self-esteem in conventionally-financed schools. This finding is consistent with the National Audit Office (2009c) that the PPP is not always good or always poor value-for-money.

Overall, The headteachers in both groups of schools reported in Table 9 have high satisfaction with their school building, facilities and services (82.14% in PPP schools and 88.64% in conventionally-financed schools). However, in terms of VFM, the headteachers did not draw the same conclusion: only 42.86% of the headteachers in the PPP schools and 63.64% in conventionally-financed schools considered that their new school building has resulted in good value-for-money. Based on the Mann-Whitney U test, the two groups of schools are statistically different at 5%. Thus, although both groups of respondents are very positive about their new building, when they assess the VFM of the school building they draw different conclusions. In addition, although the PPP schools perform better in terms of building and service provisions, in terms of overall VFM the conventionally-financed schools are considered significantly better than the PPP schools.

Finally, 37.50% of headteachers of the PPP schools and 31.82% of headteachers of the conventionally-financed generally/strongly agreed that their schools are better VFM than would have been provided under public procurement. The VFM figure for the PPP schools is higher than reported by Ismail and Pendlebury (2006): 34% of headteachers of the PPP schools at the operational phase generally/strongly agreed that the PPP had resulted in good VFM and 32.7% generally/strongly agreed that the PPP had provided better VFM than would have been achieved under conventional procurement. Based on the Mann-Whitney U test, there is no significant difference between the two groups of schools in terms of this aspect. However, almost a third of the headteachers of the PPP schools and more than a half of the headteachers of

TABLE 9
Overall Perception of VFM

Questions	New build PPP primary schools				New build conventionally-financed primary schools				Mann-Whitney U test
	Generally/strongly (%)	Generally/strongly disagree (%)	No answer (%)	Mean	Generally/strongly agree (%)	Generally/strongly disagree (%)	No answer (%)	Mean	
Please state whether you are satisfied or dissatisfied with the PPP (the buildings, facilities and services), taken as a whole	82.14	3.57	1.79	4.200	-	-	-	-	0.778
Please state whether you are satisfied or dissatisfied with the buildings, facilities and services, taken as a whole	-	-	-	-	88.64	9.09	0.00	4.136	
The PPP contract has resulted in good value for money	42.86	8.93	21.43	3.614	-	-	-	-	0.025**
The school new build has resulted in good value for money	-	-	-	-	63.64	6.82	20.45	4.057	
The PPP contract has provided better value for money than would have been provided under conventional procurement	37.50	7.14	32.14	3.737	-	-	-	-	0.145
The conventionally-financed school has provided better value for money than would have been provided under a PPP contract	-	-	-	-	31.82	2.27	52.27	4.095	

Notes: **significant at 5%.

conventionally-financed schools did not answer the question, indicating difficulties in coming up with a final judgement.

During interviews with local authorities Officers, all interviewees were asked a summary question as to whether the PPP had provided better VFM than would have been provided under conventional procurement. Different answers were obtained based on different

perspectives and background, indicating that there were ambiguities about PPP value-for-money. One interviewee in an authority with serious concern about the unitary charges said:

I am not convinced. I think the only people who seemed to win out of the PPPs and all the long contracts seem to be the consultants, lawyers, and people seem to make a vast amount of profit out of these things, but I think, if we could have had the funds to do that, I am not convinced that PPP would have been my chosen way of doing that. I think that conventional [procurement] would probably have been better for us. (Head of Finance: Local Authority 13)

All local authorities agreed that the PPP schools were more expensive than conventionally-financed schools. However some authorities considered other aspects, for example having schools quicker, as a contribution to the VFM of the PPP schools:

It depends on how you define value for money. We got the assets quicker than we would have otherwise. If you would say 'is that value for money?' the answer would be 'yes'. Would you have got the schools cheaper if you had done it all in-house? ... You would do without the profit element, but overall, I think we got a good deal from it. (Head of Finance: Local Authority 9)

Other local authorities considered that other benefits were obtained in terms of pupil attainment:

It's more expensive, it's definitely more expensive, it just is. Value-for-money? Don't know whether I can answer this easily, because that will depend on 20 years time, how things are then ... We are getting other things we wanted in terms of the attainment etc. So the schools, they don't have to pay money out every year ... we do it through the contract. So I don't know if it was better value for money. I think apart from the profit element, which is difficult, I think it is value. Whether it is better, I am not sure (Director of Finance: Local Authority 5).

An interviewee whose local authority had had previousl unsatisfactory experience with one of its new build conventionally-financed school expressed a very positive opinion about their newly built PPP schools:

Well, politically, I was totally against PPP, personally, politically I thought, no, no, no, we are going to be in debt for 30 years. We will be paying this. But the reality is that the quality of the product, the quality of the end outcome has been so outstanding and good, I am of the view, we will never ever had been able to do that without PPP. So that's the reality (Head of Education, Secondary and Inclusion: Local Authority 1).

However, considering inflexibilities in the PPP, local authorities with experience of a decade of PPP schools stated a preference for conventional procurement if the funding were available:

It's really hard to tell, there is no direct comparator there. This isn't Local Authority policy or anything like that, but, if we did have the money to do it, we probably would have tried to do it ourselves and have it as our own asset. Obviously, we were where we were and I think it [PPP] did prove to be value for money, but you are paying for it over a period of time and you are locked in and you are committing yourselves, admittedly with benefits, to maintenance over a period of time. Despite everything I have said, can you say that we are gold-plating maintenance of certain Local Authority asset to the detriment of other assets? I don't know, but then again, a school is an important asset, so we have got all of our High Schools that will be fit for purpose well beyond most of other assets (Project Manager, Local Authority 4).

This statement clarified that no funding was available for conventional procurement at that time. A number of studies reported that the use of the PPP was driven by the opportunity to have the asset recorded off-balance sheet in the Government accounts (Broadbent and Laughlin, 2002, Heald and Georgiou, 2011; McQuaid and Scherrer 2010). The importance of this accounting instrument was to enable the UK Government to develop public infrastructure without increasing the level of public borrowing. This was because the rules imposed by the European Union on member state budget deficits and debt had potentially limited public borrowing (McQuaid and Scherrer, 2010). Based on its risk transfer methodology, the use of the PPP could camouflage an investment as "a series of smaller annual revenue expenditures over the life of the project" and consequently allow the acquisition of new infrastructure without apparent increases in public borrowing (p. 30).

It was the only game in town, so you are obliged to use it: if we hadn't pursued it, then we wouldn't have got the funding for the project (Project Manager, Local Authority 13).

This often expressed opinion that the PPP was 'the only game in town' in the interviews, indicated that the officers were fully aware that the local authorities were 'posting bills to the future' but, pragmatically, they felt they had no options in the existing circumstances. There was strong feeling among interviewees that local authorities were as capable as the private sector of providing good VFM for school procurement, particularly after they had learned from the PPP process. The Accounts Commission (2002) reported that, up to the point when they conducted their study, all PPP school projects in Scotland had passed the PSC comparison test. However, they presumed that, if the PSC suggested that the PPP was not economic, it might have been fatal to the project. This view supported Mayston's (1999, p. 251) argument that, in the situation where public funds were known to be unavailable, the VFM test became less than real.

CONCLUSION

Schools PPP developed in Scotland, in response to UK Government policy in the late 1990s to use more PPPs for public infrastructure procurement. Theoretically, the PPP schools are expected to provide better VFM through the use of the bundling mechanism in procurement and risk transfer through penalties in the unitary charge. However, empirical evidence of direct comparison between the PPP and conventionally-financed schools shows no difference in most of building and outcome aspects. The headteachers and local authority Officers with both types of new build schools considered they have obtained good quality buildings, but there are worrying indications in the analysis of the Scottish School Estates dataset that some types of school have already slipped from being in the 'good' category in building suitability in PPP primary schools and in building condition and suitability in conventionally-financed primary schools. In addition, many headteachers in both PPP and conventionally-financed schools generally or strongly agreed that significant changes in design are needed to meet future educational challenges.

There were mixed messages from the questionnaire. The PPP primary schools were better in building condition, maintenance standards and the mechanisms employed to enhance them.

Conventionally-financed primary schools were better in terms of building sufficiency, teacher access to schools and their facilities, and in improved staff morale and self-esteem. On detailed questions, the PPP often received more positive responses. However, a higher percentage of headteachers of conventionally-financed primary (63.64%) considered that their new schools have resulted in good VFM compared 50 PPP primary schools (42.86%), challenging the arguments that PPPs provided better value-for-money.

The views of local authority Officers provided mixed messages of the PPP overall value-for-money. Their conclusions are based on concerns about contract implications (e.g. high costs of the unitary charge and inflexibility of contracts). Local authorities who had problems with these matters doubted that PPP contracts were value-for-money. However, some local authorities were pragmatic in that they considered that without going the PPP route they would not have had new schools: having the PPP schools was better VFM than having no schools at all. This supports Heald's (2003, p. 359) view that the fact of there being no possibility of a public sector client implementing the PSC may lead to a 'subconscious psychological bias', whereby the comparison is not undertaken even-handedly.

Another interesting finding from the interviews with local authority Officers was that the good quality of conventionally-financed school building procured later was because of their experiences with the PPP procurement process. The high standards of the PPP then became the new standards for procuring conventionally-financed school buildings. This suggests that there was a transfer of knowledge from private sector practices in infrastructure procurement to the public sector. If the procurement was then undertaken through conventional finance, this may, in itself, be considered another type of added value of the PPP procurement.

The ideal scenario for researching VFM of the schools PPP is by having the whole picture of projects and comparing them to conventionally-financed schools. This requires that VFM research obtains financial and non-financial information which allows analysis of the life time costs and benefits of PPP projects and to compare them with conventionally-financed schools. This research is limited to non-financial information obtained from headteachers as users of PPP assets, local authorities as the clients who made procurement decisions, and the Scottish Government which monitored school

quality based on the national school estates survey. This research is also limited to PPP projects where no school has yet reached the end of their contract and arrived at the reversion date. The findings therefore provide only a partial picture of PPP value-for-money.

In the longer term, an evaluation of the success of the Scottish schools PPP will be possible after a sufficient number of schools reach their end-of-contract dates and had reverted to the public sector. The protocols employed in this research would be easily adapted to revisit the issues explored.

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NOTES

1. Internationally, collaboration between public and private sectors to deliver public services through investment by the private sector in infrastructure is described as PPP. The UK Treasury (2000) suggested Private Finance Initiative (PFI) as one form of PPPs contract, but acknowledged (UK Treasury, 2003b, p. 118) the interchangeable use of the terms 'PPP' and 'PFI' and suggested using PFI for a procurement tool and PPP for ownership structure. In this paper, PPP is used throughout: where PFI was in direct quotations or in the titles of academic papers, this has been changed to [PPP].
2. Value-for-money is defined by the Treasury (2004) as the optimum combination of whole life cost and quality (or fitness for purpose) to meet the user's requirement. This has been interpreted as requiring that the discounted price of any PPP contract be

compared to the discounted price of a Public Sector Comparator (PSC) to inform the overall VFM appraisal.

3. The output specification should detail what needs to be achieved, not how it is to be achieved. The difference between the two is illustrated in the following examples: 'Ensure that there are adequate arrangements in place to maintain the safety of the school and its users' is an output specification, but, 'The school should have a 24-hour security patrol' is not an output specification (4Ps, 2001).
4. The questionnaires and interview protocol employed in this research may be obtained from the author at r.yaya@umy.ac.id.

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