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Investigating the performance of PPP in major healthcare infrastructure projects: the role of policy, institutions, and contracts

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Abstract: In the wake of the Covid-19 pandemic, public private partnerships (PPP) can prove useful to close the healthcare investment gap and accelerate long-term recovery, by matching public and private money. Despite their extensive application in the delivery of major infrastructure projects globally, their performance remains contested. Drawing on a unique set of data of PPP contracts for healthcare investments in Italy, the paper explores the antecedents (namely, policies, institutions, and contracts), that have influenced the capacity of PPP contracts to deliver performance, measured in terms of value for money (VfM), and contract stability. Results show that although explicit policy goals have a clear contribution, VfM can benefit from competent central PPP institutions, which should play a hands-on role in the planning, design, and project management activities. At the same time, centralised PPP units, if not combined with local competent authorities and strong governance mechanisms, may increase the risk of contract renegotiation.

Keywords: public–private partnership, value for money, contract renegotiation, healthcare investment gap

JEL classification: H51, H54, L33

I. Introduction

Thirty years ago, public–private partnerships (PPP) began spreading as a way of funding and delivering public infrastructure underpinned by two main arguments: a macroeconomic argument, namely the opportunity to maintain/increase investment levels in the context of curtailed public budgets without affecting the debt headline, by attracting private funding; and a microeconomic argument, which regards the supposed superior performance of PPP compared to traditional procurement, thanks to

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the incentives embedded in a long-term bundled contract, to achieve value for money (hereafter VfM). The on-time and on-budget delivery of an infrastructure asset and the on-quality delivery of the related services are the main drivers of the VfM of PPP *vis-à-vis* a traditional delivery mode.

Despite the vast literature on PPP, no conclusive results have been produced regarding the performance of PPP; in particular, with regards to VfM, projects showed mixed and opposite results, also because of the lack of *ex post* data and rigor in analysis (Greve and Hodge, 2013; Hodge and Greve, 2017). This has contributed to a PPP slowdown in many countries.

The Covid-19 pandemic has dramatically expanded the healthcare investment gap, quantifiably, in the European Union alone by EUR 500 billion before Covid.[1] Furthermore, the Covid-19 pandemic has heavily deteriorated public finances and PPP can prove useful to accelerate long-term economic recovery, by matching public and private money. In this context, it still appears useful for scholars to investigate and understand under what conditions a PPP contract can mobilize private capital, and improve the level of services without generating a burden to taxpayers and future generations. Therefore, this paper provides further evidence for policy-makers on 'how to make PPP work', i.e. the critical conditions that could help achieve better PPP performance.

To the best of our knowledge, existing studies on PPP have assessed success mostly with a narrow perspective, by considering one or two proxy measurements of performance (Wang *et al.*, 2018). Literature mainly refers to policy goals, conducive institutions, and complete and enforceable contracts as antecedents of PPP performance; since such antecedents are grounded in different theoretical perspectives, they have usually been analysed as separate factors.

Drawing on a unique set of data of PPP contracts for healthcare investments in five Italian regions, the paper explores the antecedents (namely, policies, institutions, and contracts) that have influenced the capacity of PPP contracts to deliver performance, measured in terms of VfM (on time, on budget, on quality) and contract stability.

The novelty of the research framework is twofold: (i) the definition of a research framework that integrates the driving factors of PPP performance, stemming from different theoretical strands; (ii) the application of such a framework to a whole national PPP policy and not just to a selected number of contracts.

Despite the limit of a single-country analysis, the Italian case is influential (Seawright and Gerring, 2008; Creswell and Poth, 2016) for several reasons. First, Italian regions acted under a common legal framework and with a similar level of capability and experience, therefore the case allows us to focus on the linkages between institutional and organizational arrangements and performance (Patrucco *et al.*, 2019). Second, Italy is a mature economy that, along with other countries, has extensively leveraged PPP solutions for the construction and modernization of its hospital network. Third, the case focuses on social infrastructure, which is having an increasingly significant role in levelling up communities, post-pandemic. Lastly, the case is particularly rich in terms of available data and granular information.

The case shows that Italian regions have followed three different governance approaches to PPP projects: 'local', 'centralized', and 'collaborative'. The centralized

[1] See 'Infrastructure gap and drivers for growth', available at https://www.sdabocconi.it/upl/entities/attachment/EIB_Conference%20paper_1_Infrastructure%20gap%20and%20drivers%20for%20growth.pdf

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approach, with more explicit policy goals and competent central PPP institutions, has achieved better performance in terms of VfM, but experienced more contract instability. Therefore, results provide further evidence on the salient role of PPP units, which should play not only a generic capacity building role, but also a more hands-on role in the planning, design, and project management activities.

The remainder of the paper is structured as follows: section II discusses the literature on PPP performance; section III presents the methodology and the research framework adopted; section IV describes and discusses the case, and section V draws some conclusions, with evidence for policy-makers and future research.

II. On the performance of PPP: dimensions and influencing factors

Given the different objectives, complex features, and actors that are involved in PPPs, defining, measuring, and explaining PPP success is challenging (Wang *et al.*, 2018; Warsen *et al.*, 2018). The vast literature on the topic has tried to answer the question of whether and how PPP delivers superior performance by investigating the dimensions of performance, and the influencing factors for a successful PPP.

(i) Dimensions of PPP performance

The literature distinguishes between a narrow and broader concept of PPP performance (Jeffares *et al.*, 2013). On one hand, in its narrow concept, PPP success is defined as the achievement of results and targets as set out in the PPP agreement. According to this perspective, time delays, budget overruns, and other factors have been used to test projects' (under)performance (Ke *et al.*, 2013; Kort *et al.*, 2016). On the other hand, a broader perspective measures PPP success in terms of wider outcomes for partner organizations, service users, and citizens.

VfM, conceived under the framework of 'New Public Management', has been one of the most recurrent dimensions of performance (see Siemiatycki and Farooqi (2012)). In general terms, a PPP project delivers VfM when it achieves the same outcomes for lower costs (increased efficiency), or better quality services and more innovative solutions for the same cost (increased effectiveness and added value). Despite the fact that it should encompass a broader measure of performance (Hodge and Greve, 2017; Wang *et al.*, 2018), VfM has been mainly applied with a narrow perspective, by considering the capacity of PPP to deliver projects on time, on budget, and on quality, thanks to the life-cycle optimization as a consequence of the bundled nature of the contract. The focus on effectiveness and added value as part of VfM has been inspired, in successive years, by the Network Governance and Public Value paradigms, which suggest that working with private-sector companies may allow public-sector organizations to access idiosyncratic resources and capabilities and favour more intense co-production in seeking to realize more innovative responses and improved service quality (Kivleniece and Quelin, 2012; Klijn and Koppenjan, 2016; Opara *et al.*, 2017; Warsen *et al.*, 2019).

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Another dimension used to measure the performance of such complex transactions is contract stability, which is critical to ensure PPP original goals (Cruz and Marques, 2013; Soecipto and Verhoest, 2018). The occurrence of a contract renegotiation can generate negative impact, mainly in terms of weakening the incentives of the private contractor to perform, and increasing transaction costs (Estache *et al.*, 2009).

(ii) The influencing factors for PPP performance

Previous literature has tried to explain why some PPP projects have superior performance than others (for a review of PPP critical success factors, see Osei-Kyei and Chan (2015)). Among different influencing factors, scholars have mostly cited the political commitment and policy goals beyond PPP, the existence of conducive institutions to PPP, and complete and enforceable PPP contracts.

Explicit policies, either inspired by the achievement of VfM or by the off-balance sheet and the financial additionality benefits, and long-term political commitment are crucial to creating legitimacy for PPP as a public investment instrument (Matos-Castano *et al.*, 2014). Evidence shows that when off-balance-sheet financing and financial additionality were the key rationale behind a government's decision to take a PPP route, the PPP policy lacks a solid basis for its implementation (Roehrich *et al.*, 2014; Van Den Hurk, 2018)

A conducive institutional context for PPP should encompass appropriate legal and regulative frameworks (Casady *et al.*, 2020), dedicated PPP-supporting arrangements, and public-sector competencies. PPP-supporting arrangements include dedicated PPP units, conventional *ex ante* evaluation instruments, and contracts (Van Den Hurk and Verhoest, 2016). The development of strong competencies, both at the central and local level, is then a fundamental enabling factor that allows for the management, monitoring, and enforcement of the PPP contracts (Opara *et al.*, 2017; Hueskes *et al.*, 2019).

Proper risk allocation and the possibility of employing sanctions are the two fundamental mechanisms to prevent opportunistic behaviour, keep contractors in line, and provide incentives to deliver on time and on budget, while reducing long-term costs and improving the quality of services (Iossa and Martimort, 2012; Iossa and Saussier, 2018).

These influencing factors are inspired by different theoretical perspectives—i.e. on one hand, institutional theory (DiMaggio and Powell, 1983), and on the other hand, economic theories such as transaction cost economics and principal–agent theory (Williamson, 1979). These factors have usually been investigated separately, with the sole exception of a recent study by Soecipto and Verhoest (2018), which classifies them at three levels: macro-level (PPP political commitment and policy), meso-level (PPP supporting institutions), and micro-level (contract-specific features).

III. Methodology

(i) Framework of analysis

In this study, we provide a multifaceted assessment of PPP performance by using two dimensions, namely VfM and contract stability. In particular, we define VfM in terms

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of on-time and on-budget delivery, using proxy indicators for (under)performance, such as the amount of overbudget (i.e. the increase in the value of the investment, and the increase in the weight of public funding at the completion of works), and overtime (i.e. the difference between the forecasted and actual date of completion of the work phase). Given the difficulty in measuring the on-quality of services, we have included an evaluation of the perceived level of quality, flexibility, and innovation, as reported by public officials in charge of coordinating the PPP project (Kort *et al.*, 2016). In addition, following Guasch *et al.* (2008), we consider whether a PPP project underwent a contract renegotiation, defined as a change in the original contractual terms and conditions, as opposed to an adjustment that takes place under mechanisms defined in the contract.

Figure 1 describes our framework of analysis, providing further details on how we investigated the performance of PPP, including their influencing factors. Leveraging on the work by Soecipto and Verhoest (2018), we integrate into our framework three main factors that may have an impact on the success of a PPP project. These factors are (i) macro-level, such as the existence of a PPP law with explicit policy goals; (ii) meso-level, such as the availability of a PPP unit and dedicated resources and capabilities, and (iii) micro-level, such as the penalty mechanisms applied in the contract and the number of contract addenda.

(ii) Research design

We adopted a qualitative research design, following an embedded single-case study research approach, which is well established within the public management literature (Jensen and Rodgers, 2001; Van Thiel, 2014). Given that a case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and the context are not evident (Yin, 2006), this approach seems particularly helpful to investigate the performance of a phenomenon like PPP, which is implemented differently in different contexts (Jooste *et al.*, 2011).

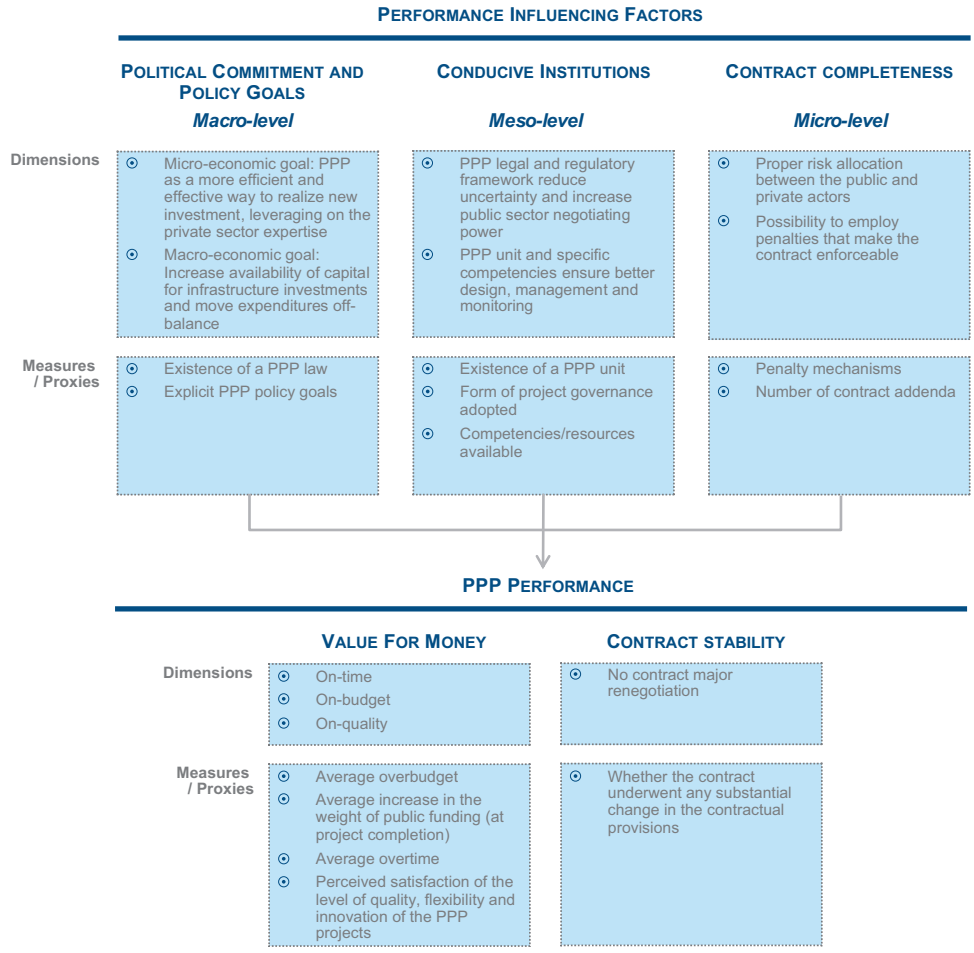
Our case study is the first generation of PPP projects implemented in the healthcare sector in Italy between 2002 and 2014 for the construction of new hospitals (or refurbishment and expansion of old buildings) in five major Italian regions (Lombardy, Piedmont, Veneto, Emilia Romagna, Tuscany). Out of 21 PPP projects awarded in total between 2002 and 2014, we excluded three projects because, at the time of writing, the construction phase was still under completion.

Data collection and analysis

We collected evidence from two main data sources: multiple archival materials and a survey. Archival materials (including calls for tenders and award notices, contracts, contractual amendments, deliberations of the competent local health authority, official reports made by regional authorities and by the Court of Auditors, official financial and non-financial reports officially released by concessionaires) were mostly used to analyse PPP performance and their respective influencing factors during the construction phase in terms of on time and on budget. The survey was used to obtain an assessment of PPP performance in terms of on quality during the operational phase. We submitted

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Figure 1: The framework to analyse the performance of PPP projects



the survey to public officials in charge of PPP contract management. The survey was aimed at understanding (i) if services included in PPP contracts deliver more quality, flexibility, and innovation compared to standard procurement, (ii) the private partner's ability to coordinate different services and problem-solving, (iii) if the monitoring systems put in place were able to ensure effective control of the contract and ensure the risk transfer, and, finally, (iv) the respondents' points of view on the main strengths and weaknesses of PPPs. The number of answers, limited in absolute terms (6), ensure good coverage in relative terms (47 per cent of projects). Data about contract renegotiation were sourced from archival materials and the survey. Data analysis was undertaken applying *a priori* codes derived from the framework presented above. One of the authors drafted the case study, which was then reviewed by the other authors. This rigorous process of case-study review and investigator triangulation increased the construct validity of the study (Yin, 2006).

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Table 1: The first generation of PPPs in the Italian healthcare

Hospital	Year of award	Beds (#)	Contract length (y)	Availability charge	Construction time (y)	Non-core services included (#)	Awarded investment (EUR million, net VAT)	Public grant/ total value of investment (award, %)	Over time (%)	Over budget (%)	Public grant(%var)	Contract amendments (#)
Castelfranco Veneto e Montebelluna	2004	792	27.5	no	10.2	11	110.1	26	0	18	81	1
Padova Sud	2009	447	27.5	yes	2.0	16	132.8	63	118	6	0	4
Alto Vicentino	2007	460	27.6	yes	2.2	16	114.1	57	48	11	0	6
Ospedale dell'Angelo–Mestre	2002	680	28	no	3.4	13	142.6	49	55	21	71	15
Verona–Borgo Trento**	2012	755	18.75	yes	6.0	4	117.8	48	18	23	20	2
Presidio ospedaliero di Treviso**	2014	600	24	yes	3.0	7	224.8	55	na	na	na	0
Nuovo Ospedale Sant'Anna	2006	638	35	no	2.2	13	137.2	71	109	21	32	5
Nuovo Ospedale Civile Sant'Agostino-Estense di Modena	2004	455	30	no	2.2	12	27.8	0	219	20	na	0
Nuovo Ospedale Alba-Bra	2005	350	20	yes	4.5	4	125.6	77	208	20	25	4
Nuovo Ospedale di Bergamo	2009	1,200	21.8	yes	0.6	10	31.7	26	220	4	0	5
Nuovo Ospedale di Garbagnate Milanese	2010	499	27.1	yes	3.3	9	113.6	60	15	5	0	5

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Table 1: Continued

Hospital	Year of award	Beds (#)	Contract length (y)	Availability charge	Construction time (y)	Non-core services included (#)	Awarded investment (EUR million, net VAT)	Public grant/ total value of investment (award, %)	Over time (%)	Over budget (%)	Public grant(%var)	Contract amendments (#)
Ospedale Niguarda Ca' Granda	2005	1,213	27	yes	7.1	7	209.3	61	–4	23	26	8
San Gerardo di Monza**	2011	550	29.7	yes	5.6	8	159.1	63	na	na	na	3
Nuovo Ospedale di Legnano	2005	550	29.7	yes	3.6	8	122.9	65	36	11	17	9
Nuovo Ospedale di Vimercate	2005	550	24	yes	2.8	9	119.4	67	9	20	33	na
Nuovo Ospedale di Como	2006	589	25	yes	2.4	7	138.1	72	41	15	31	6
Spedali Civili di Brescia	2008	1,839	33.5	no	5.5	4	130.3	52	30	7	6	11
Nuovo Ospedale Lucca (SIOR)	2007	410	24	no	2.9	9	77.4	59	151	25	58	4
Nuovo Ospedale Prato (SIOR)	2007	540	24	no	2.9	9	89.0	59	72	21	48	4
Nuovo Ospedale Pistoia (SIOR)	2007	400	24	no	2.9	9	75.5	59	67	15	37	4
Nuovo Ospedale Massa (SIOR)	2007	360	24	no	2.9	9	71.4	59	110	23	47	4
TOTAL		13,517					2,399.2					
AVERAGE		675.9	26.4		3.8	9.3	120.0	54	78	16	28	5.1

Notes: ** Construction works still ongoing but in an extremely late stage; in the case of Verona–Borgo Trento construction works have been completed, renovation works are ongoing; in the case of Monza San Gerardo first stage of construction is completed, completion is expected by 2022.

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IV. The case study

(i) The context: PPP in the Italian healthcare sector

Italy extensively leveraged PPP solutions for the construction and modernization of its hospital network. In 1998 PPP was introduced in the Italian legal framework and in 1999 the government established a national PPP unit, with the task of promoting the use of private capital for infrastructure development. The PPP unit played mainly an indirect role, providing advice to public authorities, for example in the evaluation of unsolicited proposals. Between 2002 and 2014, 21 contracts, worth EUR 2.4 billion, were awarded; a total of 12,727 new hospital beds were realized, with almost 50 per cent of beds newly built in the period under analysis (Cappellaro *et al.*, 2015). These contracts represented 32 per cent of all new construction or redevelopment projects planned since the beginning of the new millennium, and 62 per cent of completed projects. Italy imported the UK model (Hellowell and Vecchi, 2015), in which the private operator (a special purpose vehicle—SPV) designs, finances, and builds the hospital, and manages a wide array of non-core services (e.g. hard facility and medical equipment maintenance, energy management, cleaning, catering, laundry, and IT management). Even though traditionally delivered healthcare investments, developed before the adoption of PPP, experienced long construction periods (on average 24 years) and extra costs (64 per cent), the main reason beyond the adoption of PPP was the shortage of public funds available to renew a network of remarkably old public hospitals. Sixty per cent of hospital buildings were constructed before 1970, and almost 30 per cent at the beginning of the previous century. PPP was used to match public funds available with private capital; a large proportion of the upfront capital expenditure (on average 55 per cent) was provided by the public sector.

Table 1 reports the main data for the 18 projects in operation, at the time of writing, and for the three still under construction, but not included in the analysis.

On average, 9.3 different services were included. All projects included hard facility management services (i.e. building maintenance and energy management), plus several soft facility management services, such as catering, cleaning, and linen and laundry service.

The first generation of PPP contracts was initiated and awarded following solicited and unsolicited awarding procedures. In the former, the preliminary or detailed design, along with the financial plan and the contract draft, were prepared by the public authority and the economic operator was usually selected with an open tender. In the latter, the PPP project was implemented based on a market-led proposal (Amatucci *et al.*, 2007), and followed by an open tender to select the best and final offer.

(ii) Case analysis

Italy adopts a Beveridge system for the delivery of healthcare, where regions oversee the planning and organization of services delivered by local health and hospital authorities.

As shown in Table 2, the five regions included in the case adopted different governance approaches to implementing PPP, which can be categorized into three main groups: local, centralized, collaborative.

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Table 2: Cases' descriptive statistics

	Approach 1 'Local'	Approach 2 'Centralized'	Approach 3 'Collaborative'
Involved regions	Emilia Romagna, Veneto, Piedmont	Lombardy	Tuscany
Hospitals (number)	7	7	4
Average investment awarded (EUR million)	112.9	123.6	78.3
Average contract length (years)	27.9	26.9	24.0
Average number of services included in the contract	12.1	7.7	9.0
Average weight of availability charge on contractual revenues	8%	18%	0%
Average weight of capital grant on investment	49%	58%	59%

Table 3: PPP governance, resources, and procedures

	Approach 1 'Local'	Approach 2 'Centralized'	Approach 3 'Collaborative'
Project owner	Local health authority	Local health authority	Local health authority
Supporting institution	National PPP unit	National PPP unit Regional PPP unit	National PPP Unit Association of local health authorities
Tasks performed by the project owner	Feasibility study Design Procurement Project and construction management Contract management	Feasibility study Contract management	Feasibility study Design Project and construction management Contract management
Tasks performed by the supporting institution	Support to the evaluation of unsolicited proposals	Design Procurement Project and construction management	Support to the evaluation of unsolicited proposals (by the national PPP unit) Procurement
Award procedures	38% PPP solicited 62% PPP unsolicited	71% PPP solicited 29% PPP unsolicited	100% PPP unsolicited

Table 4: PPP performances based on the different governance approaches

	Approach 1 'Local'	Approach 2 'Centralized'	Approach 3 'Collaborative'
Average overbudget (%)	16.6	12.0	20.0
Average overtime (%)	108.2	49.5	100.0
Average increase in the weight of public grant on total investment (at project completion)[a] (%)	4.9	2.6	12.7
Average increase of the public grant (at project completion)[b] (%)	34.7	16.0	47.3
Average number of contract amendments (at the time of writing)	5.0	7.3	4.0

Notes:
[a] The increase is calculated as the difference between the share of public contribution on total investment at the award of the contract and at the end of the construction phase.
[b] The increase is calculated as the variation of the value of the public grant at the award of the contract and the end of the construction phase.

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In Emilia Romagna, Veneto, and Piedmont, individual health authorities were mostly in charge of designing, procuring, and managing projects; for this reason, this approach can be named 'local' or 'decentralized'. Regional authorities played a limited role, confined to the technical evaluation and approval of feasibility studies proposed by local health authorities to get access to public funding. In such regions, the regional programming documents did not mention PPP as a possible delivery model to be adopted. PPP was therefore seen as a mere means to fill a public funding gap and as a procurement route.

Lombardy chose a completely different path by adopting a 'centralized' approach. In 2001, it created a regional PPP unit, which actively promoted the use of private capital for public infrastructure and PPP. In 2003, a regional law mandated health authorities to delegate to a regional entity, IlSpA (Infrastrutture Lombarde SpA), the procurement or supervision of new hospital delivery. Since 2003, IlSpA has acted as an advisor by signing a proper contract with each health authority and receiving an advisory fee ranging from 2 to 3 per cent of the investment costs. Once IlSpA had overseen the procurement and construction phase, the project then became the responsibility of each health authority at the completion of the works, for the execution of the operation phase. In Lombardy, the adoption of PPP was explicitly included in healthcare investment programming, with the aim of sourcing additional resources to cope with technological requirements and proposing innovation mechanisms and activities capable of positively affecting the management of health services. However, programming documents did not consider the VfM as a goal to be achieved.

Tuscany followed an intermediate solution, which can be considered 'collaborative', by keeping single health authorities in charge of the project design and implementation but asking them to coordinate their efforts, by constituting a temporary association to implement projects. This solution was chosen for building four hospitals in four main Tuscan cities, through one single PPP scheme, articulated within four contracts. The association oversaw the procurement and coordination of the activities carried on by the four health authorities during the design and construction phase. As in the decentralized model, PPP was not considered in any regional programming document as a potential delivery approach.

Table 3 summarizes the three governance approaches used; it also shows the human resources employed and the legal procedures adopted for the implementation of the PPP contracts. Under the first and third approaches, PPP projects were implemented by local health agency staff and external consultants. Under the second approach, IlSpA acted with its staff, supported by external consultants. Concerning the awarding procedures, in the local and collaborative approach, the unsolicited procedure was mainly adopted. In the centralized approach, the public-driven PPP procedure was prevalent, because of the decision to set up a dedicated unit (i.e. IlSpA) in charge of design and procuring complex infrastructure contracts.

Looking at the on-time and on-budget performance results, on average, the 18 projects analysed experienced a 2-year delay, which represents an 80 per cent increase compared to forecasts, and a 16.2 per cent in construction costs increase, which often dictated an increase in the public grant. However, as shown in Table 4, there are differences across the various approaches. The centralized approach was better able to limit the over-time and over-budget results, as well as to limit the public grant increase, thus leaving most of the extra construction costs to the private contractor.

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Local and collaborative approaches show comparable results in terms of over-time, but the latter fared worst in terms of over-budget. It experienced considerable growth in the amount of public contribution of the total construction cost, meaning that the cost increase was borne by the public sector.

Regarding the contract completeness, the local and collaborative models enjoyed similar performance, with on average 4/5 amendments per project. The centralized model fares a little bit worse, with 7.3 contract amendments per project.

Looking at the on-quality dimensions, 67 per cent of respondents to our survey agree that PPP contracts ensured more flexibility. Answers are evenly split (50–50) as to whether PPP also led to higher quality, whereas there is no perception of an increase in innovation compared to standard procurement contracts. Private operator ability to co-ordinate different service providers is generally seen as weak (50 per cent of answers) or just average (33 per cent). When looking at the main weaknesses, respondents refer to higher costs compared to standard procurement, and the difficulty in monitoring such complex contracts because of the inadequacy of monitoring systems. With regards to the strengths, they state that PPP allows for flexibility and timeliness in the operations.

(iii) Discussion

The Italian case shows a dominant, and in the majority of cases bottom-up, 'matching fund' policy goal (implicit or explicit). This explains the high construction grant allocated to all the contracts signed, matched with a limited availability charge, to reduce the direct impact of the new projects on public budgets, and a high number of non-core services included (9.5 on average), whose generous margins had to contribute (albeit hidden) to the remuneration of private capital. Only one region, i.e. Lombardy, purposely introduced PPP as a policy to ensure modern and better facilities. However, even in this region, there was not a specific goal to adopt PPP to generate VfM or superior results compared to a traditional investment approach.

The first generation of PPPs took place in a weak institutional context, with an extremely limited number of competent actors. The market was dominated by a few consultants and in particular one legal firm, which was involved in about 50 per cent of contracts.

The decision of the Lombardy region to centralize some activities related to PPP contracts played a crucial role in limiting the over-time and over-budget experienced elsewhere. This is in line with the dominant literature on collaborative procurement (Meehan *et al.*, 2017), which can generate economies of knowledge and scale, efficiency, and transparency. The qualified competence of the regional PPP unit allowed the use, in the majority of cases, of the public-driven PPP procedure, according to which the winning consortium is selected on the basis of a project prepared by the authority, which helps the minimization of project changes during the construction phase and therefore limits the circumstances of delay and extra costs. However, coordination mechanisms put in place with the beneficiary local authorities were weak, as reported to authors by some stakeholders and also as documented by the official correspondence between the regional PPP unit and one hospital.[2]

[2] These documents were accessed by one author who served as an independent consultant for the Court, to settle litigation between the hospital and the private contractor.

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Considering the contractual dimension and notably the risk allocation, no codified rules and experience existed at the time in which the first generation of PPPs were implemented. PPP contracts were based on a standard public investment approach to risk allocation. When contractual clauses are weak, incentives to retain and manage risks such as the on-time and on-budget delivery are compromised (Hellowell and Vecchi, 2015).

All PPP contracts under analysis are remarkably similar, and they appear critical in terms of construction risks allocation for the following reasons:

- when a significant grant covers the upfront capital expenditure, the construction risk is limited, because only a fraction of investment costs is repaid during the operational phase (through the payment of the availability charge and the mark-up included in the service fee by the authorities);
- in case of delay, there is no consequent reduction in the operational phase length (with a consequent reduction of revenues and contract profitability), and penalties are inadequate.

Contracts dictated that extra construction costs remain with the private contractors if incurred due to their mistakes. However, because of low competition (Amatucci *et al.*, 2007), the estimated costs for construction most likely left generous room to absorb some of these extra costs, without providing sufficient incentives of risk mitigation/management, especially to avoid extra delivery times. Grants increased, by the end of the construction phase, by, on average, 5 per cent (against an average increase in the construction costs by 16.2 per cent). This can be considered the amount of construction risk retained by the public sector, while private investors retained a higher amount of these extra costs (11.2 per cent).

As shown in Table 2, 12 projects included the payment of an availability charge, which, on average, accounted for 11 per cent of SPV annual revenues. The remuneration of investors also depended on generous mark-ups added to the price of non-core services (Vecchi *et al.*, 2020). Considering that contracts included limited penalties to be applied to both the availability charges (uncorrelated with the damage caused in terms of interruption/disruption of the clinical activities) and service charges, and the lack of effective monitoring systems, they seem also unable to ensure superior quality during the operational phase, at the time of writing ongoing. Contracts appear just as an 'umbrella' that bundles together traditional contracts for works and services provision; however, such an 'umbrella' offers some margin of flexibility in the management of services, and it seems the main strength perceived by public officials. Indeed, such a perception of flexibility has to be interpreted in the light of the very rigid and bureaucratic rules for public procurement in Italy, which are the cause of delays, litigation, and often adverse selection in traditional procurement.

Changes in project features dictated by authorities, extra building time and costs, wrong risk allocation, and incomplete contracts forced the renegotiation of the original contract and the integration of some addenda. Sometimes such contract modifications were the outcome of litigation between the two parties or the consequence of the intervention of superior authorities. In some cases, such contract changes damaged the risk allocation, thus forcing the authorities in recent years, in a more experienced and mature context, to enter into further contract renegotiations. With reference to the three governance approaches, the centralized one experienced the average highest

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number of contract amendments; this can be explained by the fact that IlSpA adopted a standard contract that often resulted in ill-fitting solutions and conditions for the beneficiary health and hospital authorities, thus requiring contract adjustments to discipline project-specific changes.

V. Conclusion and implications for theory and practice

The literature on PPP highlights that policies, the institutional context, and contract completeness are salient determinants for the performance of a PPP contract. However, previous studies analysed the impact of these dimensions separately and independently, with reference to a selected number of contracts and a single or few dimensions of performance. This paper defines and applies a novel research framework that integrates the driving factors of PPP performance, sourced from two theoretical frameworks, by considering the inter-connections and an expanded definition of performance (VfM, i.e. on time, on budget, on quality, and contract stability). Despite focusing on one single country, thanks to the comparison between different institutional and organizational settings at the regional level, and the depth and width of data analysed, results are salient for advancement of theory and practice.

Three lessons are learned from the Italian case.

First, if the policy goal is not clearly focused on the achievement of VfM, the legal framework is weak, and the overall institutional context is not mature and PPP-ready, a PPP contract is not able to achieve adequate performance. Our study shows that PPP was barely able to deliver on its promises because the policy goal was *de facto* to match public and private capital, without any declared intention to achieve a better VfM compared to a traditional procurement route. Nevertheless, in a context where PPP was considered a policy to modernize the infrastructure network (i.e. in Lombardy region), though tentatively and without a clear focus on VfM goals, the performance achieved was better.

Second, our study confirms that PPPs are not self-administering, and they require strong institutional capabilities to be successful (Casady *et al.*, 2020). The Italian case proves the importance of competent PPP units (Verhoest *et al.*, 2015). Such bodies need to act on the basis of a strong mandate and have the possibility of being directly involved in the management of the project. The study shows that when the unit operates with a hands-on approach, taking charge of the planning, design, and project management activities, especially during the construction phase, the on-time and on-budget goals can be better achieved. Therefore, results suggest that they should expand from supporting the policy-maker in the design and continuous improvement of the PPP policy and laws, to contract design and implementation, to ensure that the policy goals beyond PPP and in particular the VfM objective are clearly embedded in contracts, through the definition of an adequate system of penalties, deductions, and monitoring systems. Indeed, the Italian case, where a national PPP unit did operate, confirms that in weak institutional contexts, indirect support, through, for example, the provision of standard documents or general advice, may not be enough.

Third, standard contracts applied by PPP units may dictate contract adjustments to discipline project-specific changes, thus increasing transaction costs. Centralized

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competent PPP units, if not combined with local competent authorities and strong governance mechanisms for the design of the contract, may increase the risk of renegotiation. On the other hand, bottom-up collaborative procurement solutions, without strong and experienced competence, cannot eliminate the risks of underperformance experienced in PPP contracts designed and implemented by single health authorities.

In addition, the Italian case shows that, even if PPP contracts were not able to deliver on their promises, results achieved were better, at least in terms of on-time and on-budget, if compared to traditionally procured contracts, which experienced significant delays and cost overruns. This confirms the potential of bundled contracts, which, when they are designed and executed under appropriate conditions, can still prove useful to cope with the healthcare infrastructure gap and the new digital investment needs emerging in the aftermath of the Covid-19 pandemic.

References

Amatucci, F., Germani, A., and Vecchi, V. (2007), 'Il project finance in sanità: un'analisi delle caratteristiche economico e finanziarie', in E. Anessi Pessina and E. Cantù (eds), *L'aziendalizzazione della sanità in Italia: rapporto OASI 2007*, Milano, Egea.

Cappellaro, G., Longo, F., Ricci, A., and Vecchi, V. (2015), 'Gli impatti del PPP nel ridisegno dell'offerta ospedaliera: esiti, determinanti, prospettive', in *L'aziendalizzazione della sanità in Italia: rapporto OASI 2015*, Milano, Egea.

Casady, C. B., Eriksson, K., Levitt, R. E., and Scott, W. R. (2020), '(Re)defining Public–Private Partnerships (PPPs) in the New Public Governance (NPG) Paradigm: An Institutional Maturity Perspective', *Public Management Review*, **22**(2), 161–83.

Creswell, J. W., and Poth, C. N. (2016), *Qualitative Inquiry and Research Design: Choosing among Five Approaches*, Thousand Oaks, CA, Sage.

Cruz, C. O., and Marques, R. C. (2013), 'Exogenous Determinants for Renegotiating Public Infrastructure Concessions: Evidence from Portugal', *Journal of Construction Engineering and Management*, **139**(9), 1082–90.

DiMaggio, P., and Powell, W. (1983), 'The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields', *American Sociological Review*, **48**, 147–60.

Estache, A., Guasch, J.-L., Iimi, A., and Trujillo, L. (2009), 'Multidimensionality and Renegotiation: Evidence from Transport-sector Public–Private-partnership Transactions in Latin America', *Review of Industrial Organization,* **35**(1–2), 41–71.

Greve, C., and Hodge, G. (eds) (2013), *Rethinking Public–Private Partnerships: Strategies for Turbulent Times*, Abingdon, Routledge.

Guasch, J. L., Laffont, J. J., and Straub, S. (2008), 'Renegotiation of Concession Contracts in Latin America. Evidence from the Water and Transport Sectors', *International Journal of Industrial Organization*, **26**(2), 421–42.

Hellowell, M., and Vecchi, V. (2015), 'The Non-incremental Road to Disaster? A Comparative Policy Analysis of Agency Problems in the Commissioning of Infrastructure Projects in the UK and Italy', *Journal of Comparative Policy Analysis: Research and Practice,* **17**(*5*), 519–32.

Hodge, G., and Greve, C. (2017), 'On Public–Private Partnership Performance: A Contemporary Review', *Public Works Management and Policy,* **22**(1), 55–78.

Hueskes, M., Koppenjan, J., and Verweij, S. (2019), 'Public–Private Partnerships for Infrastructure: Lessons Learned from Dutch and Flemish PhD Theses', *European Journal of Transport and Infrastructure Research*, **19**(3), 160–76.

Iossa, E., and Martimort, D. (2012), 'Risk Allocation and the Costs and Benefits of Public–Private Partnerships', *RAND Journal of Economics*, **43**(3), 442–74.

Downloaded from https://academic.oup.com/oxrep/article/38/2/385/6588216 by Università Bocconi user on 19 May 2022

Iossa, E., and Saussier, S. (2018), 'Public Private Partnerships in Europe for Building and Managing Public Infrastructures: an Economic Perspective', *Annals of Public and Cooperative Economics*, **89**(1), 25–48.

Jeffares, S., Sullivan, H., and Bovaird, T. (2013), 'Beyond the Contract: The Challenge of Evaluating the Performance(s) of Public–Private Partnerships', in C. Greve and G. Hodge (eds), *Rethinking Public–Private Partnerships*, Abingdon, Routledge, 178–99.

Jensen, J. L., and Rodgers, R. (2001), 'Cumulating the Intellectual Gold of Case Study Research', *Public Administration Review*, **61**(2), 235–46.

Jooste, S. F., Levitt, R., and Scott, D. (2011), 'Beyond "One Size Fits All": How Local Conditions Shape PPP-enabling Field Development', *The Engineering Project Organization Journal*, **1**(1), 11–25.

Ke, Y., Wang, S. Q., and Chan, A. P. C. (2013), 'Risk Misallocation in Public–Private Partnership Projects in China', *International Public Management Journal*, **16**(3), 438–60.

Kivleniece, I., and Quelin, B. V. (2012), 'Creating and Capturing Value in Public–Private Ties: A Private Actor's Perspective', *Academy of Management Review*, **37**(2), 272–99.

Klijn, E. H., and Koppenjan, J. (2016), 'The Impact of Contract Characteristics on the Performance of Public–Private Partnerships (PPPs)', *Public Money and Management Management*, **36**(6), 455–62.

Kort, I. M., Verweij, S., and Klijn, E. H. (2016), 'In Search for Effective Public–Private Partnerships: An Assessment of the Impact of Organizational Form and Managerial Strategies in Urban Regeneration Partnerships Using fsQCA', *Environment And Planning C: Government And Policy*, **34**(5), 777–94.

Matos-Castano, J., Mahalingam, A., and Dewulf, G. (2014), 'Unpacking the Path-dependent Process of Institutional Change for PPPs', *Australian Journal of Public Administration*, **73**(1), 47–66.

Meehan, J., Menzies, L., and Michaelides, R. (2017), 'The Long Shadow of Public Policy; Barriers to a Value-based Approach in Healthcare Procurement', *Journal of Purchasing and Supply Management*, **23**(4), 229–41.

Opara, M., Elloumi, F., Okafor, O., and Warsame, H. (2017), 'Effects of the Institutional Environment on Public–Private Partnership (P3) Projects: Evidence from Canada', *Accounting Forum*, **41**(2), 77–95.

Osei-Kyei, R., and Chan, A. P. C. (2015), 'Review of Studies on the Critical Success Factors for Public–Private Partnership (PPP) Projects from 1990 to 2013', *International Journal of Project Management*, **33**(6), 1335–46.

Patrucco, A. S., Walker, H., Luzzini, D., and Ronchi, S. (2019), 'Which Shape Fits Best? Designing the Organizational Form of Local Government Procurement', *Journal of Purchasing and Supply Management*, **25**(3), 100504.

Roehrich, J. K., Lewis, M. A., and George, G. (2014), 'Are Public–Private Partnerships a Healthy Option? A Systematic Literature Review', *Social Science and Medicine*, **113**, 110–19.

Seawright, J., and Gerring, J. (2008), 'Case Selection Techniques in Case Study Research: A Menu of Qualitative and Quantitative Options', *Political Research Quarterly*, **61**(2), 294–308.

Siemiatycki, M., and Farooqi, N. (2012), 'Value for Money and Risk in Public–Private Partnerships: Evaluating the Evidence', *Journal of the American Planning Association,* **78**(3), 286–99.

Soecipto, R. M., and Verhoest, K. (2018), 'Contract Stability in European Road Infrastructure PPPs: How Does Governmental PPP Support Contribute to Preventing Contract Renegotiation?', *Public Management Review*, **20**(8), 1145–64.

Van Den Hurk, M. (2018), 'Public – Private Partnerships: Where Do We Go From Here? A Belgian Perspective', *Public Works Management and Policy,* **23**(3), 274–94.

— Verhoest, K. (2016), 'The Challenge of Using Standard Contracts in Public–Private Partnerships', *Public Management Review*, **18**(2), 278–99.

Van Thiel, S. (2014), *Research Methods in Public Administration and Public Management: An Introduction,* Abingdon, Routledge.

Vecchi, V., Casalini, F., Cusumano, N., and Leone, V. M. (2020), 'PPP in Health Care—Trending Toward a Light Model: Evidence from Italy', *Public Works Management and Policy,* **25**(3), 244–58.

Downloaded from https://academic.oup.com/oxrep/article/38/2/385/6588216 by Università Bocconi user on 19 May 2022

Verhoest, K., Petersen, O. H., Scherrer, W., and Soecipto, R. M. (2015), 'How Do Governments Support the Development of Public Private Partnerships? Measuring and Comparing PPP Governmental Support in 20 European Countries', *Transport Reviews*, **35**(2), 118–39.

Wang, H., Xiong, W., Wu, G., and Zhu, D. (2018), 'Public–Private Partnership in Public Administration Discipline: A Literature Review', *Public Management Review*, **20**(2), 293–316.

Warsen, R., Klijn, E. H., and Koppenjan, J. (2019), 'Mix and Match: How Contractual and Relational Conditions are Combined in Successful Public–Private Partnerships', *Journal of Public Administration Research and Theory*, **29**(3), 375–93.

— Nederhand, J., Klijn, E. H., Grotenbreg, S., and Koppenjan, J. (2018), 'What Makes Public–Private Partnerships Work? Survey Research into the Outcomes and the Quality of Cooperation in PPPs', *Public Management Review*, **20**(8), 1165–85.

Williamson, O. E. (1979), 'Transaction-cost Economics: The Governance of Contractual Relations', *The Journal of Law and Economics*, **22**(2), 233–61.

Yin, R. K. (2006), 'Case Study Methods', *Handbook of Complementary Methods in Education Research*, **3**, 111–22.

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