A 'New Governance' Approach to Public-Private Partnerships: Lessons for the Public Sector

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ABSTRACT

The use of public-private partnerships (PPPs) to deliver public infrastructure services to citizens via private sector concessionaires has increased globally since the 1990s. While the advantages and disadvantages of PPPs have been widely discussed, their advantages remain subject to considerable debate. However, overarching public sector governance of PPP delivery—including legislative budgeting for infrastructure, project prioritization within the infrastructure budget category, and project procurement, operation and maintenance—is currently understudied. In order to develop a more thorough understanding of the public sector governance challenges associated with PPP arrangements, this paper applies a 'New Governance' framework and an institutional theory perspective to the study of PPPs. Drawing upon various disciplinary perspectives, including public policy, public administration, organizational theory, and project management, this review identifies that effective and efficient delivery of PPPs depends on the maturity of institutions, representing legal, normative and cultural-cognitive rules and processes in society. Several early adopters of PPP delivery, including Australia, Canada, and the United Kingdom, have developed mature PPP markets. The United States lags far behind these jurisdictions in the number and timing of PPP projects delivered. The future expansion of PPPs in the US thus requires enhanced institutional development, characterized by elaborate and standardized judicial and normative rules and procedures which govern the interaction between public and private actors. The use of PPPs in infrastructure delivery will be more prevalent if public sector governance accelerates institutional maturity in the field.

Keywords: Governance; institutional theory; institutional maturity; PPP; P3; public administration, new governance; new public management; public-private partnerships, project management; procurement

Introduction

Today, public governance is increasingly executed via collaborative models, characterized by public and private sector cooperation (Andrews and Entwistle 2010). The increased blending of these public and private domains makes crafting hybrid governance systems no simple matter (Ansell and Gash 2008). While public sector governance is primarily executed by managers and policymakers within government bureaucracies in order to maximize public utility, private sector governance is largely guided by market signals and conducted by shareholders, corporate managers, and board representatives striving for commercial gain (Daily, Dalton and Cannella 2003). These different institutional goals, norms, and expectations make partnership between the public and private sector especially challenging (Bryson, Crosby, and Stone 2006). In this paper, we explore the overarching public governance mechanisms and institutional challenges associated with managing public-private partnerships (PPPs), particularly those used in infrastructure development. Applying a 'New Governance' framework to these collaborative arrangements, we examine the institutional maturity of the US PPP market and recommend areas for institutional reform.

While the definition of public-private partnerships is inherently broad, PPPs used in infrastructure project delivery generally refer to long term contractual arrangements between public agencies and private partners that increase private participation and risk sharing in various stages of the project lifecycle, including facility design, construction, financing, operations, and maintenance (Casady and Geddes 2016). In these arrangements, the public sector awards a long-term contract to a private actor in the form of a concession. The government acts as the owner while the private partner manages the design and construction of the facility, acts as the service provider, and often also arranges private financing. Within these general guidelines, the public sector sponsor and concessionaire utilize somewhat different, but interdependent governance

mechanisms to help facilitate the execution of PPP contracts. As a result, the conflicts that arise from these agreements pose significant governance challenges. These challenges exist because infrastructure projects have unique, asset-specific characteristics based on their location, local geography, supply-chain capacity, availability of skilled labor, project uncertainty, and overall deal complexity. Additionally, infrastructure projects are characterized by a sequence of distinct phases, involving different participants, resulting in a high degree of "broken agency" — i.e. parties at one stage of the project can make decisions in their own interest that impose undue costs on counterparties in subsequent phases of project delivery (Henisz et al. 2012). Researchers have argued and demonstrated convincingly in traditionally procured infrastructure projects that:

- Infrastructure planners systematically overestimate the benefits and underestimate the
 costs of projects, in explicit or implicit collusion with governments, to get them launched
 (Flyvbjerg 2002);
- Engineers tend to design over-conservatively, both to limit their design time and cost, as well as to minimize the risk of potential liability for failures (Levitt et al. 1980);
- Contractors build as cheaply as they can, just barely meeting specifications, even where
 modest additional investments in the construction phase could greatly reduce operating and
 maintenance costs of the project lifecycle, and exploit any ambiguities in the design
 specifications by seeking to obtain contractual change orders that increase their
 compensation (Henisz et al. 2012); and
- Governments typically defer maintenance investments in ways that greatly increase future repair or replacement costs, in favor of building new infrastructure assets or other noninfrastructure priorities (Bennon, Kim, and Levitt 2017).

In light of these issues, PPPs, if appropriately planned, executed, and enforced, offer a wide range of potential benefits, such as better on-time and within-budget delivery, design innovation, novel forms of financing, efficient risk allocation, life cycle costing, and other project synergies (Casady & Geddes, 2016.) However, as more and more fiscally-constrained governments pursue PPPs to reap the socioeconomic gains of infrastructure development, public agencies must also deepen their understanding of the various engineering, economic, political, sociological, and policy tools available to them (Vigoda 2002; Bovaird 2007; Hodge et al. 2010; Girth 2017).

In order to enhance the public sector's ability in governing PPP contracts, this paper draws on the "thematic dimensions of efficiency, legitimacy and accountability" and seeks to "bridge [the gap] between the domains of public policy, [public administration, organizational theory,] and project management" by articulating a 'New Governance' approach to PPPs (Sanderson and Winch 2017, 222). In the following section, we provide a synopsis of basic public sector governance considerations. Next, the role of public-private partnerships (PPPs) in the increasing structural diversity of public sector governance is outlined. A 'New Governance' framework is then applied to PPPs, followed by an overview of the level of public sector institutional maturity in the US PPP market. Finally, this paper concludes by reviewing the 'New Governance' approach to and institutional theory perspective on PPPs and suggests a few normative governance recommendations to promote efficiency, efficacy, equity, and institutional legitimacy of PPP delivery in the United States.

Public Sector Governance: An Overview

Political scientists Hult and Walcott (1990) provide a helpful framework for understanding governance systems, particularly in public organizations. Building heavily on resource dependence

models (Pfeffer and Salancik 1978) and contingency models (Thompson 1967; Galbraith 1973) in organizational theory, they argue that all governance systems are primarily about the control and use of power and, hence, are inherently political systems. The main difference separating public and private systems is that the goals pursued by the former tend to be more diffuse, ambiguous, and conflicting than are those of private systems. In the starkest terms, private systems are engaged in making a profit whereas public systems are expected to serve the public interest where controversy surrounds the relative importance to be placed on equity and distributional fairness versus independence and freedom of choice. Public organizations are also expected to correct and control important limitations of private organizations, which are not well suited to handle information asymmetries or deal with externalities--adverse effects imposed on others--associated with the pursuit of profit (Lindblom 1977). Because outcomes (including regulation of private business) of public organizations are likely to be both uncertain and controversial, a higher importance is attached to "the *processes* by which goals are established, challenged, and reestablished." (Hult and Walcott 1990, 62).

It is for this reason that government agencies appear to be governed by constraints. Instead of emphasizing outcomes and accomplishments, they are more apt to focus on following established rules, procedures, norms, and expectations (Wilson 1989). As a consequence, public agencies often operate inefficiently. Most lack profit-maximizations incentives, are less attuned to appropriate resource allocation, and lack internal organizational goal alignment. Their priorities favor process over outcome, equity over efficiency, and risk aversion over risk-taking (Wilson 1989).

Hult and Walcott (1990, 63-67) propose that the primary types of process values emphasized by public organizations are:

• Structured rationality - processes to insure that relevant expertise and information are incorporated into agency decision making

Great emphasis is placed on the importance of structure--a rule-like framework that supports the construction of routines "to developed patterned ways in which to discover and articulate goals, select among means, and cope with uncertainty and controversy" (p. 36).

 Accountability - procedures to ensure that governing officials are held responsible for their actions

In democracies, officials are elected in accordance with established rules of participation but, once in office, they must be answerable to those who elected them.

• Representativeness - procedures to allow those who may be affected by the policies being considered to participate in the shaping of those policies

This value recognizes that simply having a voice in selecting one's representative may not be sufficient; it is also important to allow those affected by decisions to voice their needs and concerns on matters that concern them. Who--which constituencies--should be included will vary with the type of decisions; and there is no assumption that the preferences of any group will prevail, only that they will be taken into account when the decision is made.

• *Legitimacy* - a general sense among the important publics that a given policy decision has been formulated in acceptable ways, through justifiable procedures

Largely because of the work of institutional theorists (DiMaggio and Powell 1983; Meyer and Rowan 1977; Scott and Meyer 1983), there is increased recognition of the importance of perceived legitimacy of structures and processes used by organizations to enable the stability and well-being of an organization. Because of this general awareness, the precipitous decline in the perceived legitimacy of public officers and agencies in recent decades is a cause for concern (Heclo 2011).

Consequently, government agencies are placing renewed emphasis on establishing "appropriate" decision-making procedures in order to maintain institutional legitimacy. Because the goals and priorities of these organizations are both diffuse and negotiable, public sector entities require continuous scrutiny, revision, and reapplication of their administrative objectives and decision-making processes in new and dynamic decision settings. Moreover, governance structures in public sector institutions require policymakers to define and interpret problems, consider facts, evaluate policy alternatives, analyze potential consequences, and make decisions in the absence of certainty (Bell 1985; Chamberlain and Jackson 1987). In addition to providing administrative rationality, well-executed governance frameworks also promote high levels of accountability, enable practitioners to identify and correct mistakes, and allow third party auditors to scrutinize decision criteria, thereby enhancing institutional legitimacy (Mashaw 1985; Williamson 1981b). Participants involved in public sector governance will vary depending on the decision setting. In some situations, broader participation of private actors in the decision-making processes of government entities may improve both the range of policy options and depth of information considered in addressing unanticipated governance challenges. Altogether, governance structures based on bureaucratic rationality, accountability, and representativeness provide the basis for legitimate and effective public sector organizations (Hult and Walcott 1990).

Increasing Structural Diversity in Public Sector Governance: The Role of Public-Private Partnerships (PPPs)

While many current conceptions of public sector governance remain rooted in the traditional approaches to public administration, organizational design, and institutional theory (Ostrom 2008), the role of public sector institutions has evolved over time from "one of doing to one of arranging" (Salamon 2002, 8). Public sector agencies have "reinvented, downsized, privatized, devolved, decentralized, deregulated, delayered, subjected to performance tests, and contracted out" to assuage growing public concerns about government competency, program costs, and institutional effectiveness (Salamon 2002, 1) These changes in the scale and scope of public sector agencies created a new indirect form of governing known as "third-party government" or "government by proxy" (Kettl 1988; Salamon 2002; Kettl 2013).

Although political rhetoric and academic literature continue to characterize public agencies in the United States as inefficient, centralized hierarchical bureaucracies, the formal adoption of third-party government by public sector institutions has made them increasingly reliant on intricate, interdependent relationships with third party institutions to address public policy problems (Kettl 2013). Using complex collaborative agreements, government entities actively choosing to delegate some of their traditional public sector responsibilities to private non-governmental actors. While this approach appears to be novel, sharing public authority with private entities is not new (Wettenhall 2003, 2005). According to Kettl (1993, 4), "[e]very major policy initiative launched by the federal government since World War II–including Medicare and

Medicaid, environmental cleanup and restoration, antipoverty programs and job training, interstate highways and sewage treatment plants and even security in post-conflict zones—has been managed through public-private partnerships."

In an increasingly globalized economy characterized by integration, complexity, and volatility, governments are continuing to shift the provision and management of public services to private actors via public-private partnerships (PPPs) (Guttman 2000). Without the requisite knowledge, capacity, or management capabilities needed to operate in certain daunting policy environments, public agencies are becoming increasingly reliant on the expertise and managerial proficiency of private firms to carry out certain administrative responsibilities. As a result of this ongoing rise of third-party government, PPPs have seen increasing use across a wide range of public and private collaborative endeavours (Bovaird 2004; Hodge and Greve 2007). However, following the U.K.'s private finance initiative (PFI) during the 1990s, PPPs emerged as a popular policy mechanism for governments to engage private firms in the delivery and management of infrastructure services.

Globally, PPPs are alternative procurement arrangements designed to incorporate private-sector expertise, resources, and risk management proficiency into infrastructure project delivery. PPPs, broadly defined, represent contractual arrangements between public-sector sponsors and private partners that increase private participation and risk sharing in various stages of the project lifecycle, including facility design, construction, financing, operations, and maintenance (Casady and Geddes 2016). When appropriately planned, executed, and enforced, PPPs can offer a myriad of potential benefits, such as better on-time and within-budget delivery, design innovation, access to new sources of capital, enhanced technologic adoption, and other synergistic effects. The two distinctive features of PPPs—taxpayer/private partner risk sharing and bundling—allow public

agencies to construct innovative procurement arrangements for building and managing infrastructure facilities based on trade-offs between contractual incentives, project flexibility, and institutional dynamism (Bennett and Iossa 2006; Martimort and Pouyet 2008; Iossa and Martimort 2015). At their core, PPPs can create social value through life-cycle costing, life-cycle asset maintenance, and appropriate risk allocation to parties which are best positioned to managed complex, infrastructure-delivery-related risks (Casady and Geddes 2016; Hodge, Greve and Boardman 2010).

With a strong market bias informing the delivery of public services in the US, public sector institutions are slowly turning to PPPs to supplement their general public management skills of infrastructure provision. Although public agencies may prefer utilizing command and control mechanisms to create hierarchies, define lines of control, and centralize authority (Gulick 1937), the increasing complexity of public management settings has forced many public sector institutions to relinquish some control over the provision of public services, including infrastructure, and engage in PPPs. Because public sector agencies must constantly deal with a diverse range of organizational types, competing stakeholder perspectives and incentives, information asymmetries, and changes over time, these organizations are limiting their ability to exercise complete control over the delivery of infrastructure services in return for improved public sector capacity and agency expertise (Moe 1987). Rather than developing the technical, financial, and physical resources themselves, governments are starting to rely on private firms to address all stages of the project lifecycle—from planning, design, and construction through operations and maintenance (Levitt and Eriksson 2016). This partial abdication of public authority ultimately reinforces the public sector's reliance on interdependent relationships, networks, and complex exchanges with private institutions. This codependence of public and private entities is especially

characteristic of PPP projects (Grimsey and Lewis 2007; Yescombe 2011). As private actors seek more collaborative forms of interaction with government in infrastructure delivery (Bingham et al., 2005), public agencies must develop more collaborative forms of governance which reflect these broader shifts in the political economy. Moreover, the increasing resource differentiation between public, private and civic actors increases their need to work together. These reinforcing effects show that the public and private sectors are not mutually exclusive spheres of action but codependent domains, working in cooperation to provide public services and solve complicated public problems (Salamon 2002). PPPs thus serve as a tool for public infrastructure service provisioning which requires rigorous stakeholder engagement, network management, and performance monitoring. These criteria uniquely align within the theory of 'New Governance'.

Applying an Appropriate Framework: PPPs within a 'New Governance' Paradigm

In light of growing public sector dependence on private entities to implement and manage public services, Salamon (2002) articulates a 'New Governance' paradigm for public agencies, one that redefines the traditional conceptions of public sector governance to account for the rise of third-party government. At its core, this paradigm primarily focuses on analyzing the tools or instruments through which public interests are pursued rather than the structure of public agencies themselves. Represented in the form of loans, tax expenditures, social regulation, economic regulations, loan guarantee programs, vouchers, insurance, grants, contracts, and service concessions, these tools are the means by which governments facilitate the provision of public goods and services. Overall, tools of public action essentially define the procedures, skills requirements, and delivery mechanisms associated with a limited set of government problem-solving approaches.

In infrastructure delivery, PPP arrangements have become an increasingly popular tool for public agencies because of their ability to manage the transaction-specific characteristics of infrastructure assets such as project uncertainty, deal complexity, the degree of asset specificity, bidding competitiveness, and the proficiency of government contract management skills (Vining, Boardman, & Poschmann 2005; Williamson 1981a, 1985). By their nature, infrastructure projects are inherently difficult to execute. These projects are expensive, complex, and frequently politically contentious. They are characterized by economic uncertainty, public vs. private distributional issues, and societal and environmental impact considerations. Large cost overruns and delays are common, along with lower ultimate demand relative to forecasts prepared by both public and private project proponents. (Flyvbjerg 2002). Because infrastructure projects are some of the largest financial commitments that governments make, along with defense contracts and mineral and wireless spectrum concessions, they also pose high barriers to entry and attract relatively small numbers of bidders. A combination of limited competition and poor government management practices (Boardman and Vining 2012) ultimately make these projects magnets for corruption in jurisdictions where the effectiveness and transparency of governance are weak or failing. These conditions give rise to opportunism and create a persistent threat to infrastructure contracting with significant implications on transaction costs (Spiller 2011; Obermann 2007).

Given these challenges, PPPs aim to address some of the shortcomings of traditional infrastructure provision by using private sector markets and actors to enhance the transparent and accountable provision of infrastructure assets (see, e.g. Burger and Hawkesworth 2011; Hodge, Greve, and Boardman 2010). This enhanced private sector involvement and cooperation in the decision-making and provision of infrastructure normally involves the bundling of project lifecycle phases and reallocation of significant risks from public to private actors. As a defining feature of

PPPs, this process typically requires public sponsors to pay a risk premium for transferring project-specific risks to the party best equipped to manage those risks (Engel, Fischer, and Galetovic 2014). If the risk premium paid is less than the overall efficiency gains realized by assigning project-specific risks to private sector agents, PPP delivery can offer positive "Value for Money (VfM)" to citizens.

This follows logically from privatization theory, which assumes the public interest and its services can sometimes be better served by a private concessionaire (Moe 1984; Savas 1987; Garvey 1993). Likewise, reinvention theory and new public management theory view indirect government via PPPs as a way to improve the internal management of government bureaucracies (Osborne 1993; Kaul 1997: Hughes 2012). While these views have merit, they retain a stringent, neoclassical economics perception of public sector institutions as traditional, command-and-control, hierarchies. Because public sector service provision, specifically through PPPs, is actually much more nuanced than these aforementioned theories contend, 'New Governance' offers an alternative view of government institutions, one characterized by organizational networks rather than hierarchical bureaucracies (Kettl 2013).

In 'New Governance', the asymmetric power relationships found in principal-agent theory (Moe 1984; Zeckhauser and Pratt 1985) as well as dynamic, interdependent stakeholder settings found in network theory (Kickert, Klijn, and Koppenjan 1997) help define the government's role in organizing and maintaining third-party networks, enabling private partners to solve public issues, and upholding collectively held objectives in complex policy environments. Infrastructure PPPs are a prime example of this paradigm. In PPP arrangements, public sector agencies activate third-parties to deliver infrastructure services, orchestrate and maintain relevant stakeholder networks across the project lifecycle, and modulate appropriate rewards and penalties through

contracts in order to elicit cooperative behavior (South, Levitt, and Dewulf 2015; Salamon 2002).

Moreover, PPPs fit uniquely well within the 'New Governance' framework because they:

- 1) Establish performance standards for infrastructure service delivery rather than specifying detailed design criteria and/or operating rules;
- 2) Encompass dynamic, multi-stage networks of diverse stakeholders involving designers, contractors, financiers, and operators, and;
- 3) Require sophisticated contractual arrangements extending over long and complex procurement windows.

Throughout the PPP process, public sector authorities use negotiation and persuasion to elicit publically desired outcomes by enabling private parties. Privatization theory supports this market approach and new public management theory agrees with the application of business management practices in public sector settings to enhance performance (Massey 1996; Lane 2000). However, these theories inaccurately downplay the role of public management (Schultze 1977). When dealing with indirect forms of government like PPPs, public sector organizations still provide an essential public management service. In reality, "[g]overnment relationships with the private sector are not self-administering . . . they require, rather, aggressive management by a strong, competent government" (Kettl 2011, 6). Strong political commitment and effective public management are needed in third-party government settings because private markets alone cannot be trusted to give weight to public welfare over private interest.

As more and more private firms gain interest in delivering infrastructure as a service concession, rather than an asset, to generate stable, long-term, inflation-adjusted returns on their

investments (Buxbaum and Ortiz 2007), governments will need to increase their capacity to operate in these networked environments in ways that promote the public interest. This may be difficult because the public and private sector approach these decision-making settings differently. Looking to do business that generates returns on investment, the private sector conducts itself based on norms and rules established by business relationships, contracts, and fiduciary obligations. Conversely, the public sector aims to deliver public utility through rulemaking, adjudication, and informal agency action (Bingham et al. 2005). The difficulty in aligning public and private interests provides impetus for governments to develop proper safeguards within their PPP governance frameworks overtime and ensure "public services are not compromised for the sake of private profits" (Forrer, Kee, Newcomer, and Boyer, 2007, 477).

While there are myriads of difficult factors associated with delivering successful PPPs (see, e.g., Grimsey and Lewis 2007; Hodge and Greve 2005; Yescombe 2011; Levitt and Eriksson 2016), effective PPP governance is generally based on a few critical conditions. Firstly, PPPs rely on long-term, relational contracting networks between the public and private sector (see, e.g., Wettenhall 2003). These relational contracting networks need to be combined with standardized laws for procurement and commercial transactions in the PPP market to maximize competition among concessionaires and to minimize the legal costs associated with developing PPP tenders. Moreover, if there are special laws for individual PPPs, then the process for developing those also needs to be aligned with relational contracting (Burger and Hawkesworth 2011; Martin et al. 2013; Opara et al. 2017). Finally, the successful execution, management, and enforcement of PPPs in complex, networked environments largely depend on the government's ability to properly align incentives, develop a trustworthy network, and measure performance regularly (Eggers and Goldsmith 2004).

Overall, effective government stewardship of PPP projects depends on accountability. As policymakers and public managers purse new governance frameworks to manage the increasingly collaborative nature of public problem solving, the degree of accountability within public sector PPP governance frameworks will determine the degree of successful collaboration between public and private actors. This is true because public and private sector collaboration is conditioned by the surrounding network of actors and institutions (Bingham and O'Leary 2014), and these interactions between public and private actors within a PPP arrangement may impact a public agency's oversight capacity, including its ability to maintain contractual compliance through a set of appropriate rewards and penalties (Kee, Newcomer, Trent, Oster, and Rosen 2007). Forrer et. al. (2007) suggests governments improve PPP accountability by evaluating projects along six dimensions—risk, costs and benefits, political and social impacts, expertise, collaboration, and performance measurement. Using this framework, governments can track mutual influence, participation rights, and transparency within PPPs in order to create an overarching alignment of public and private interests (Brinkerhoff 2002). More importantly, they can assess "the net gains to the public offered by [PPPs]" vs. governments' more traditional procurement of infrastructure design and construction services (Forrer et. al. 2007, 482).

While many public agencies have turned to indirect governance mechanisms like PPPs in order to break the government agency's monopoly, inject competition and flexibility into provision of public services, extend the public sector's access to technical, financial, and physical resources, and improve service quality, many forms of direct infrastructure provision still offer public agencies the ability to "[internalize] transactions, [minimize] legalisms involved in complex contractual negotiations with external actors, and [provide] a more stable framework for bargaining" (Salamon 2002, 31). It is therefore imperative that governments analyze their available

processes, tools, and methods for infrastructure service provision based on their effectiveness, efficiency, equity, manageability, and political legitimacy. By assessing these methods on their achievement of target objectives, balancing of costs and benefits, distribution or redistribution of benefits and costs to eligible stakeholders, ease or difficulty in operation, and effect on institutional legitimacy, public sector agencies will more appropriately adopt effective governance tools in infrastructure decision-making contexts. The application of these considerations to infrastructure provision, taken together with broader factors facilitating PPP development such as "market potential, institutional guarantees, government credibility, financial accessibility, government capacity, consolidated management, and corruption control" (Yang, Hou, and Wang 2013, 301), will help government agencies make more effective "[p]ublic use of private interest" (Schultze 1977).

'New Governance' in Context: An Overview of Institutional Maturity in the US PPP Market

Institutional maturity represents the ongoing structuration of organizational fields (Scott and Meyer 1994). Applying this concept to PPPs, we define institutional maturity as the increasing clarity of responsibilities, interactions, rules, and procedures within and between actors that enhance the structural organization of institutions within a PPP market. In markets where PPPs are used, the institutional frameworks associated with infrastructure provision usually mature over time based on legislating, agency formation, and legal precedents in common law jurisdictions like the US. In some nations, these institutional settings have developed steadily as PPP markets have matured and adopted 'New Governance' paradigms. Leading PPP jurisdictions, such as Canada, Australia and the United Kingdom, employ a variety of different PPP approaches and all lack national PPP models (Hodge 2013; Siemiatycki 2013). Accordingly, the growth of legislation and

agency work, division of authority between federal and state agencies, and elaboration of procurement details in each country has enabled these jurisdictions as well as others across Europe, Asia, and Latin America to develop robust institutional frameworks for infrastructure service delivery via PPP.

Although there are significant cross-national differences in the institutional arrangements and public accountability governing PPP contracts worldwide, decades of experience within leading PPP jurisdictions have yielded similar trends in institutional maturation, procedural standardization, and contract specification, resulting in the development of distinct but comparable PPP-enabling fields (Jooste and Scott 2012). Through regulative and normative interactions across the project lifecycle, governance mechanisms have developed that influence the effectiveness, efficiency, equity, manageability, and political legitimacy of the PPP process.

For example, the standardization of PPP contracts is regarded as a key development in improving the public sector's PPP governance capacity (Casady and Geddes 2016). Although standardized contracts are inherently restrictive, these arrangements enhance the visibility and transparency of PPPs and improve the repeatability of procurement processes, greatly reducing the substantial legal costs associated with preparing PPP tenders (KPMG 2010). With standardized PPP procurement proceedings in place, the public sector improves the efficiency, manageability, and legitimacy of its infrastructure delivery framework (Brinkerhoff 2007; Brinkerhoff and Brinkerhoff 2011). Similar effects are evident in the use of PPP units. While PPP units are new and very scarce throughout the US, these quasi-governmental agencies are used heavily around the world to help facilitate PPP delivery (Istrate and Puentes 2011; Casady and Geddes 2016). By enhancing the visibility of PPP projects, both to investors and the general public, PPP units assist public sector agencies in developing robust project pipelines as well as mature procurement

practices that are reliable and replicable (Casady and Geddes 2016). Like contract standardization, PPP units functionally improve the effectiveness, efficiency, manageability, and political legitimacy of infrastructure delivery. Additionally, the advent of PPP procurement "fairness auditors" in mature PPP contexts represent another signal of institutional maturity to improve public sector governance. These fairness auditors observe the procurement process and ensure compliance with required rules and procedures in order to increase the overall transparency and equity of the PPP process, thereby enhancing the political viability of PPP procurement proceedings (Shukla, Zaidi, and Innes 2015).

In the context of 'New Governance', these developments in the institutional maturation process of PPP-enabling fields have created an elaborately networked and regulated market environment defined by judicial and legal processes that must be managed by the public sector (Jooste and Scott 2012). Within these settings, the enactment of enabling legislation, establishment of regulations, definition of agency responsibility, demarcation of decision making processes, use of rigorous "Value for Money" (VfM) analyses, and production of bid templates, evaluation standards, and standardized contracts have contributed to the maturation of global PPP governance mechanisms within the public sector. As investors, construction companies, operators, and maintenance firms become increasingly sophisticated in managing and contracting the division of labor and responsibilities necessary to bid for and execute PPP agreements, public agencies must do their part to ensure procedural transparency, information availability, and diverse capabilities of public, private, and civic actors to safeguard the public interest in these complex and demanding institutional environments.

Unfortunately, in the United States, the institutional maturation of PPP governance mechanisms at all levels of government—federal, state, local, and municipal—is lagging far

behind leading PPP jurisdictions such as Australia, Canada, and the UK. In general, the US has been relatively slow to adopt the PPP procurement model (Geddes 2011). This incrementalism is historically rooted. Since the end of WWII, the US federal government has funded the capital costs of new construction of nationally significant infrastructure such as the Interstate Highway Program, launched by President Eisenhower, wastewater treatment facilities built under the Environmental Protection Agency's Clean Water Program, and the Urban Mass Transportation Agency's urban mass transit programs of the 1970s - 1990s using 90% federal funds and only 10% local funds. At the same time, states and local jurisdictions largely retained responsibility for funding the ongoing operations and maintenance of these programs. Facing this unbalanced funding model, state and local legislators have tended to defer maintenance expenditures indefinitely, letting roads, bridges, buildings, and other assets deteriorate—often to the point of catastrophic failure, as seen in several recent cases of bridge collapses in California, Minnesota and Washington—until the federal government steps in to provide capital cost funding for replacement infrastructure (Kirk and Mallett 2013; ASCE 2017).

Accentuating this problem between federal and state levels is the electoral cycle. Local legislators in the US are typically elected every two years and increasingly face term limits of two terms. Even without the incentives to defer maintenance created by the unbalanced US federal funding model, it has usually been more politically attractive for politicians to launch new infrastructure projects than to spend taxpayer dollars on maintaining existing projects over the long term. This tendency is magnified when those assets are named for earlier legislators—perhaps from a different political party—who led the efforts to authorize and fund them. If the federal government deems a project to be of national importance to the point it chooses to provide funding, it would be more effective for the federal government to require a larger portion of local funding

for the project's capital costs in order to screen out politically favored projects that lack adequate local support. Additionally, the federal government should require that it and/or the state provide an adequate level of ring-fenced funding for the project's lifetime maintenance, to prevent the all-too-common deferred maintenance scenario described above (Bennon, Kim, & Levitt 2017; ACSE 2017).

Several jurisdictions globally have been relatively successful in addressing similar institutional dynamics, but the distribution of powers and responsibilities of infrastructure provision across different levels of government is more fragmented in the United States, making federal, state, and local cooperation inherently more challenging (Albalate, Bel and Geddes 2015). Enhanced private investment in the US via PPPs is also dis-incentivized by the unique way infrastructure investments are subsidized over other uses of public funds. Federal, state and local tax exemption for the recipients of interest payments on public sector bonds is unique to the US. Consequently, US public bonds have historically carried a lower interest rate than comparable privately issued bonds. This practice does not really reduce the cost of public borrowing to the government—the local, state and federal governments are forgoing the taxes they could otherwise collect from the recipients of the interest payments. It is rather a means to cross-subsidize and favor investments in infrastructure over other kinds of federal, state and local government spending. However, since taxpayers in all municipal jurisdictions contribute to their state and federal tax bases, it is foolish for any local or state jurisdiction not to take advantage of the lower cost public bonds. Thus, tax exemption for public bonds has historically tilted the playing field in favor of government financing, operating and maintaining—albeit often under-maintaining infrastructure assets, versus having these functions performed by prospective PPP concessionaires subject to rigorous performance requirements for operating and maintaining these assets.

Despite these institutional hurdles, the use and governance of PPP projects is the United States is maturing as governments embrace 'New Governance' and adopt more indirect tools of infrastructure service provisions. Although investment still lags considerably behind PPP investment levels in Europe, 498 PPP projects¹, with a value of \$116.5 billion, were closed in the United States between 1985-2016 (PWF March 2017; Geddes and Reeves 2017). The growing activity of PPPs in the US is being spurred by the substantial infrastructure deficit and its ongoing effects on economic progress (Heintz et al. 2009; ASCE 2017). Likewise, government and jurisdiction debt-stress, particularly at the local level, is driving governments' choice of private involvement in contracts, as is the jurisdiction's tax burden (Albalate, Bel and Geddes 2015; Boyer and Scheller 2017; Bel and Fageda 2009). Increasingly smaller discretionary budgets from a combination of growing healthcare and pension entitlement obligations as well as public opposition to tax increases have exacerbated declines in federal, state, and local funding for infrastructure investment (Cawley 2013; DeCorla-Souza, Lee, Timothy, and Mayer 2013; Engel, Fischer, and Galetovic 2014). In these challenging conditions, the adoption of PPP design has become "a pragmatic rather than a political decision" (Albalate, Bel, and Geddes 2017, 41). However it may be financed, the cost of public infrastructure must ultimately be funded by taxes, direct user fees, or a combination. But it has much easier politically for governments to impose user fees on infrastructure users than to raise taxes on all citizens.

To accommodate this growing pragmatism, enabling institutional frameworks are developing across the United States. For example, the federal government created revolving loan funds to provide low-cost loans or loan enhancements for state and local infrastructure development, thereby reducing the costs and challenges of financing projects. However, state and

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¹This total includes design-build (DB) projects which are not traditionally regarded as PPPs.

local agencies are ultimately required to fund them through some combination of local taxes and/or user fees. As the loans get paid back, the funds are reused for new projects. The Transportation Infrastructure Finance and Innovation Act (TIFIA) for surface transportation projects and the Water Infrastructure and Innovation Act (WIFIA) for water and wastewater projects take this approach to financing local projects. The US federal government also made tax-exempt financing available for private PPP concessionaires working on public projects through Private Activity Bonds (PABs). This achieved a double benefit of removing the artificially "lower cost of capital" preference for traditional public financing and operation of infrastructure, and of incentivizing regional and state agencies to build only projects for which there is sufficient political support by local beneficiaries to develop and maintain them.

In addition to these alternative financing structures, states are also improving their legal frameworks to engage in PPPs. In 2016, 33 US states had enacted PPP statutes. These laws pertaining to PPP use at the state level impact the institutional framework surrounding PPP procurement. In the US, considerable variation across states exists in their PPP enabling frameworks (Geddes and Reeves 2017). Because the complexity of PPP procurement must balance both contractual flexibility and public-interest protections, state-level enabling laws, both specific and generic in nature, are now proliferating (Queiroz and Lopez 2013). Serving as an institutional foundation of PPPs across the US, these statutes can either create a supportive environment for PPP procurement or discourage PPP activity (Geddes and Reeves 2017). While some states have more favorable laws than others, the general adoption of these enabling statues is linked to demand side, supply side, and political/institutional drivers (Geddes and Wagner 2013). In particular, economic factors such as state debt and urban travel demand have had a significant effect on PPP adoption (Geddes and Wagner 2013; Albalate, Bel, and Geddes 2017; Boyer and Scheller 2017)

while traditional public finance considerations, such as federal highway aid, have shown little impact on the passage and favorability of PPP enabling law (Geddes and Wagner 2013). In total, the economic benefits of PPPs are often the leading justification for their use in the US (Grimsey and Lewis 2007; Garvin 2010; Delmon 2011).

Finally, as a whole, the United States lacks cohesive project prioritization frameworks, uniform procurement guidelines, standardized contracts, and a robust PPP project pipeline. Wide variation in project governance exists across state lines, within specific infrastructure sectors, and even within cities or metropolitan transit authorities that deliver PPP projects. How PPPs fit with national and regional priorities as well as existing governance mechanisms and procurement processes becomes especially challenging when delivery of PPPs is done on a relatively ad hoc basis. This problem is complicated by the uneven distribution of PPP procurements across the US. For instance, by 2011, 27 states had not delivered any transportation PPPs while two states had delivered more than 10 projects (Istrate and Puentes 2011). In general, private participation in infrastructure provision is greater in more populated states, given the existence of larger markets for potential users or customers (Albalate, Bel, and Geddes 2015).

To mitigate these challenges, a handful of states and some municipalities (e.g. Virginia, California, Washington, Michigan, Oregon, Colorado, Georgia, and Washington, DC) have established state-level PPP units to help standardize PPP procurement processes, increase delivery transparency, and promote accountability (Istrate and Puentes 2011). However, many states still lack any formalized institutional capacity to manage their PPP projects. The US should consider developing more PPP units across infrastructure sectors on a regional and national basis to improve the public sector's ability to deliver PPP projects in a consistent and reliable fashion while avoiding duplication of capacity across states and localities (Casady and Geddes 2016).

Overall, the U.S. lacks the institutional maturity to deliver a coordinated PPP program like those found in leading PPP jurisdictions. Current US institutions (e.g. laws, rules, social norms, and policy guidance) do not offer the necessary incentives for many private firms considering long-term infrastructure contracts with governments (Geddes and Reeves 2017). Inconsistent PPP procurement standards, lack of sufficiently favorable state-level PPP enabling legislation, and minimal use of PPP units represent just some of the many ongoing governance challenges hampering the full development of the U.S. PPP market. In order for the U.S. to develop a robust PPP market, facilitated by sound public governance, public agencies must address existing knowledge deficiencies surrounding public-private collaboration, share and cultivate practical experience with PPPs, and adopt basic variants of existing PPP governance frameworks used in international settings (Boyer 2016).

Conclusions and Recommendations

Around the world, governments are increasingly turning to PPPs as an alternative procurement tool for infrastructure services. In a globalized economy characterized by integration, complexity, and volatility, the growing use of private, third party actors to deliver infrastructure assets indicates the rising prominence of third-party government. Public sector organizations tasked with vague, competing, and dynamic objectives are limiting their ability to exercise complete control over the delivery of infrastructure services in return for improved public sector capacity and agency expertise.

In light of these trends, this article presents 'New Governance' as a theoretical perspective for understanding the adoption of infrastructure PPPs worldwide. While new public management theory typically characterizes this increasingly reliance on private firms in all stages of the project

lifecycle—from planning, design, and construction through financing, operations and maintenance—as a necessary adoption of private sector management techniques to enhance performance, this view remains too narrowly focused on public service becoming more "businesslike." PPPs are much more than a method to enhance the technical, financial, and physical resources of governments in infrastructure project delivery. PPPs, like other tools of public action, are used to navigate daunting policy environments characterized by diverse organizational types, information asymmetries, and competing stakeholder perspectives and incentives. By applying a 'New Governance' framework to PPPs, this paper articulates how public agencies, through PPP contracts, organize and maintain third-party networks, enable private partners to solve infrastructure delivery issues, and uphold collectively held objectives in complex regulative, normative, and cultural-cognitive domains (South, Levitt, and Dewulf 2015; Salamon 2002). By their nature, PPP arrangements allow public sector agencies to activate third-parties for infrastructure project delivery, orchestrate and maintain relevant stakeholder networks across the project lifecycle, and modulate appropriate rewards and penalties through contracts in order to elicit cooperative behavior.

Finally, this paper presents institutional maturity as a useful conceptual framework for explaining the public sector's capacity to participate effectively in infrastructure PPP markets. When applied in the US context and used to compared different PPP jurisdictions, this approach offers a rough indication of which institutions are lacking within the US public sector governance capacity. Institutional maturity thus serves as a powerful tool for comparing diverse PPP markets and identifying institutional changes needed to mitigate PPP governance shortcomings.

In order for PPPs in the United States to function effectively as tools of public action within a 'New Governance' paradigm, they require enabling institutions that safeguard public interests while delivering infrastructure assets efficiently and equitably. PPP governance within the public sector is the product of an institutional maturation process, evidenced by the development of elaborate legal frameworks, economic rules, and social norms which balance the conflicting goals of public and private actors. Leading PPP jurisdictions such as Canada, Australia, and the UK boast professional project prioritization protocols, fairly standardized commercial contracts, multiple PPP units, and streamlined PPP legislation and procurement processes. In contrast, the US institutional capacity for PPPs remains relatively underdeveloped. The US can enhance the institutional integrity, transparency and accountability of its PPP market by "establish[ing] clear, predictable and legitimate institutional framework[s] supported by competent and well-resourced authorities" (World Bank and DFID 2009; OECD 2012, 8). For example, the United States could immediately enhance its public sector PPP governance capacity by:

- 1) Politically committing to the use of PPPs as an alternative delivery mechanism at the federal, state, and local level;
- 2) Developing standardized PPP legislation, contracts and procurement procedures at all levels of government;
- 3) Using non-partisan, expert prioritization panels to select the highest value infrastructure projects to deliver,
- 4) Choosing the highest "Value for Money" project delivery approach for each of the prioritized infrastructure projects; and

²For a more detailed review of PPP governance mechanisms, see World Bank & DFID (2009) as well as OECD (2012).

5) Establishing PPP advisory units at the regional and national level.

Although these recommendations are by no means exhaustive, the changes we propose are characteristic of more mature PPP jurisdictions. If PPPs are going to be an effective tool of public action in the US, careful consideration must be given to the variability and transferability of PPP institutional arrangements across different regions (Acerete, Gasca, Stafford, and Stapleton 2015). Additionally, more research is needed on comprehensive measures of PPP performance (Boardman, Poschmann, and Vining 2005) as well as the localized development of PPP-enabling institutions across the US (Boardman, Greve, and Hodge 2015; see also Van den Hurk et al. 2016). While PPPs should not be considered a panacea for all US infrastructure deficits and/or difficulties with traditional procurement methods, public sector agencies must take a 'New Governance' approach to PPPs and consider how these contracts, managed at arm's length, can create long term, cost effective, and equitable partnerships that align with the public interest.

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