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Hybrid Governance and the Attribution of Political Responsibility: Experimental Evidence from the United States

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Abstract

How does the mode of public service delivery affect the attribution of responsibility for public goods? Through a survey experiment on a sample of more than 1,000 Americans, we provide evidence of how the allocation of public goods shapes voters' support for incumbent politicians. We find that voters prefer a mixture of public–private financing and management when it comes to the delivery of infrastructure. However, once performance information is available, the mode of infrastructure delivery no longer influences their voting intention. The successful delivery of these infrastructure projects is what ultimately matters to voters. Moreover, this preference for a mixture of public and private involvement in public service delivery is stronger among citizens with high political knowledge, who are more likely to punish the incumbent for a failed first phase of the public service delivery. These findings deepen our understanding of how hybrid forms of public service delivery are perceived by voters and how performance information affects evaluations of the performance of public services and politicians alike.

Abstract

In che misura le modalità di erogazione dei servizi pubblici influenzano l'attribuzione di responsabilità per la gestione dei beni pubblici? Tramite un esperimento su un campione di più di 1000 americani, dimostriamo come l'allocazione di beni pubblici condizioni il sostegno elettorale dei politici in carica da parte degli elettori. In merito al finanziamento e alla gestione dei servizi pubblici, risulta che gli elettori preferiscono un mix tra pubblico e privato. Tuttavia, non appena sono disponibili informazioni sulla performance, non sono più le modalità di erogazione del servizio a influenzare le intenzioni di voto degli elettori, bensì la riuscita dei progetti stessi. Inoltre, questa preferenza per un mix tra pubblico e privato nell'erogazione dei servizi pubblici è più marcata tra gli elettori con livelli più elevati di conoscenza politica, che si mostrano più propensi a punire il politico in carica nel caso di fallimento nella prima fase di erogazione del servizio pubblico. Questi risultati ci aiutano a capire meglio come certe forme ibride di erogazione dei servizi pubblici siano percepite dagli elettori e come le informazioni sulla performance influiscano sia la valutazione dei servizi pubblici che quella dei politici.

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Introduction

Mechanisms for delivering public goods and services that blur the lines between public and private have become increasingly common in both developed and developing countries (Jang, McSparren, and Yuliya Rashchupkina 2016; World Bank 2016). These mechanisms are legion and they are varied, from management through various stakeholders to public corporations competing with private firms to purpose-specific organizations enabled by significant private funding (Khanna 2012). Contractual agreements between the government and private partners form the basis for building or improving infrastructure, such as highways, airports, railroads, bridges, roads, water or wastewater facilities, school buildings, prisons, or sports facilities (Bertelli 2019; Brown, Potoski, and Van Slyke 2015; Hodge and Greve 2007). These arrangements make the public and private sectors less distinguishable because private actors—rather than governments—bear a significant part of the risk involved in the construction and management of infrastructure as a means to incentivize the efficient use of resources (Engel, Fischer, and Galetovic 2013).

Public–private partnerships (PPPs) for building infrastructure are forecast to play an important role in delivering much-needed infrastructure to countries worldwide in the coming years. In the United States, for example, an estimated $3.6 trillion are needed for infrastructure investment. The most recent report of the American Society of Civil Engineers gives American infrastructure a grade of D+. PPPs are expected to play an important role in delivering this essential infrastructure, with the market for them being "positioned to become one of the world's largest" (PricewaterhouseCoopers 2016). Given the scale of these infrastructure projects and the projected importance of PPPs for delivering them, it is essential to understand the politics of PPPs—how such arrangements are used politically and how voters respond to them.

While a rich literature in political science explores the distributive politics of where, when, and how public goods (and government spending more generally) are allocated across the electoral map (cf. Golden and Min 2013, Lee 2000, 2003; Rundquist and Carsey 2002; Stein and Bickers 1994), an emerging line of studies has bridged into public administration and considers how distributive patterns differ according to the nature of the public good itself. Scholars have started to consider how, for example, the characteristics of a public good affect the political logic of its distribution (Albertus 2013) or, more explicitly from a public administration angle, how the differences in which party (government or private consortium) retains control rights across different kinds of PPPs changes the perception of the "publicness" of a project and, consequently, politicians' ability to use it to their political advantage (Bertelli 2019). Similarly, there is a growing attention in public administration to assessing the neutrality of delivery structures from the point of view of co-production, with James and Jilke (2020), for example, finding that when private firms deliver local public services, this reduces users' willingness to coproduce. Another nascent literature examines citizens' perceptions of government—regardless of their party orientations—as delivering lower quality services than the private sector (Lerman 2019; Lerman and Acland 2020).

What is lacking, however, is an understanding of voters' responses to hybrid modes of public service delivery. The mechanisms through which voters assess how public goods are provided are unknown. To the best of our knowledge, ours is the first individual-level study of responses to different forms of public service delivery and their influence on voting intention.

Through a survey experiment on 1,194 Americans, we test competing views regarding how the mode of public service delivery affects voters' attribution of responsibility for infrastructure and their preferences over incumbent politicians. The experimental scenario asks participants to imagine that their congressional representative won funding for an infrastructure project (either a toll road or a water treatment center) in their district. We manipulate the form of the public service delivery: the government (or a private company) was in charge of the construction of the project and the government (or a private company) was in charge of the management of the toll road for the next 20 years, once it has been constructed. Having been informed about this project, participants are then asked to indicate their voting preferences toward the incumbent and their expectations about the performance of the different phases of the project (construction and management). We then ask participants to imagine that the project had been constructed. After being randomly assigned to one of two different conditions regarding the actual time needed to complete the construction phase (either the time planned or 2 years more than planned), the respondents are again asked to indicate their voting preferences toward the incumbent, their expectations regarding the performance of the management phase of the project, and their assessment of the construction phase.

Our results suggest that the PPP is the more effective way for politicians to increase support among voters. Yet, this effect only exists before the project is completed. Once the infrastructure is in place, the voters we surveyed are concerned primarily about the performance of service delivery, regardless of the actors involved.

Importantly, subjects with high political knowledge are less likely to express intention to support the incumbent when full private management is adopted, at least before performance information about the first phase is released. Overall, once performance information about the construction phase is released, subjects with high political knowledge judge the bad performance condition in the construction phase most harshly.

Our contribution is twofold. First, our experimental design permits a test of three competing perspectives voters may take about how public service delivery modalities influence electoral outcomes and the impact of political sophistication on their ability to make such connections and sanction incumbent politicians. Second, we provide new experimental evidence about the influence of the mode of public service delivery on the accountability of incumbent politicians by showing evidence that voters, particularly those with high political knowledge, are more likely to credit politicians for a mixture of public and private infrastructure development, but that mixture becomes irrelevant once performance information is available.

Citizens' Perspectives on Service Delivery and Accountability

We aim to distinguish among three perspectives that voters may take on the mode of delivering public goods, the performance of these assets, and electoral accountability. Each has its roots in a literature on public goods and services provision. Because the relationships we study are of political accountability, we also examine the moderating effect of political knowledge on these perspectives.

The first perspective voters might take is a *consequentialist* one. Regardless of whether a public good or service is provided through public or private management, voters are interested in its performance. Voters taking such a perspective should reward the incumbent politician who won funding for the infrastructure regardless of whether public or private actors are in charge of managing it. This perspective emerges from a long line of theoretical arguments about distributive goods, which concentrate benefits from infrastructure or water treatment centers among voters in a specific geographic constituency, like the Commonwealth of Pennsylvania, while the assets themselves are financed through taxes paid by members of a larger political jurisdiction, such as the United States (Weingast et al. 1981). In building an inventory of studies on distributive politics, Golden and Min (2013) find that those focused on democratic accountability conceptualize distributive allocations as attempts by politicians to protect themselves electorally by targeting benefits toward specific groups of voters. But the results of those projects, not just the fact of their provision, seem to matter to voters. A literature in public administration (e.g., James et al. 2016; Mortensen 2013) and political science (e.g., Gasper and Reeves 2011) addresses the ability of citizens to sanction representatives for the quality of public goods and services. Angulo Amaya, Bertelli, and Woodhouse (2020) provide evidence that in Colombia, where policy failures from PPPs have been significant and negative, vote intention for an incumbent executive or her party decreases as experience with more PPPs in respondents' districts grows.

> *H1 (Consequentialism)*: Voters are more (less) likely to express an intention to vote for an incumbent politician responsible for public service delivery with good (poor) performance, but the public or private construction or management of the asset has no impact on their voting intentions.

A second perspective is one of *publicness*. By this, we mean that a public mode of delivery is associated with elected representatives in the minds of voters. Thus, apart from the performance of a public good or service, voters associate a publicly, but not a privately, managed asset with the actions of politicians. PPPs allow governments to provide public goods that are valuable beyond a single payment by leveraging private investments and risk-sharing (Hodge and Greve 2007). PPPs represent a form of public service delivery that falls between the two extremes of state provision, full public management, and market provision, full private management (cf. Delmon 2011; Greve and Hodge 2016). Analytically, a principal variable among these arrangements is in the locus of control rights and government revenue guarantees (Bertelli 2019). Compare a build-lease-transfer (BLT) agreement, in which a government owns an asset, but leases it to a private management consortium with a build-operate-transfer (BOT) agreement, in which the private consortium actually owns the asset during the operating stage. Bertelli (2019) argues that the control rights give the BLT more "publicness" than the BOT (Bozeman 1987).

> *H2 (Publicness)*: Voters are more (less) likely to express an intention to vote for an incumbent politician responsible for a public service that is publicly (privately) delivered.

A third perspective can be characterized as *anti-public management*. Voters taking this perspective feel that publicly managed public goods and services are of lower quality than those managed by private firms. When making decisions, individuals rely on simple heuristics that reduce the complexity of each decision to simpler

judgmental operations (Artinger et al. 2015; Battaglio et al. 2019; Gigerenzer and Todd 1999; Kahneman 2011). In our context, repeated exposure to anti-public sector messages would negatively bias citizens' evaluation of publicly managed assets. Scholars have observed that citizens see public management as less efficient or effective than private management (Lerman 2019; Lerman and Acland 2020; Marvel 2016).

H3 (Anti-public management): Voters are more (less) likely to express an intention to vote for an incumbent politician responsible for a public service that is privately (publicly) delivered.

Research has shown that political knowledge affects attitudes toward specific issues as well as political participation (Galston 2001). Being informed affects voters' responsiveness to electoral platforms (Larcinese 2005; Zaller 1992) and a significant amount of research has focused on whether informed voters make better choices that ultimately lead to better governance outcomes (e.g., A. Banerjee, S. Kumar, R. Pande, and F. Su, unpublished data; Pande 2011). We expect that the more citizens know about politics, the more sophisticated are their understandings of electoral accountability and, crucially, the more they can connect electoral accountability to a delivery mode or performance evaluation of public services and take the sanctioning perspective implicit in H1–H3 (Bertelli 2016; Bertelli and Van Ryzin 2020). What is more, connecting the mode of public goods and service provision—whether they are provided by either public or private actors or a partnership between them—to electoral accountability requires a particularly sophisticated understanding of retrospective sanctioning of political representatives. We test the claim that as political knowledge increases, voters are more likely to take consequentialist, publicness or anti-public management perspectives.

H4 (Political knowledge): Voters with higher (lower) levels of political knowledge are more (less) likely to exhibit the relationships in H1–H3.

In the experiment that follows, we examine an additional dependent variable beyond vote intention—our primary focus—to help us to understand potential causal pathways for vote intention. That variable captures the *performance expectations* respondents have about public goods provided by the public or private sector, or a public–private partnership. Existing literature would anticipate that public provision would be associated with poorer performance expectations than private provision, but provides no expectation for hybrid provision arrangements (Lerman 2019; Lerman and Acland 2020).

Data and Methods

Our data were obtained from an online sample of n = 1,194[1] adults in the United States, with responses gathered through invitations sent to the Qualtrics research panel in July 2019.[2] Representative sampling quotas were established for region, sex, age, and race, based on national estimates from the Current Population Survey (Census QuickFacts). The narrowest political jurisdiction by which respondents could be identified and randomized in our survey is the state level. Our experiment was preceded by another set of two experiments embedded in the same online questionnaire.[3] Data were analyzed (unweighted) with Stata 15.

Experimental Design

Participants are asked to imagine that their congressional representative has won funding for a project in their district (either a toll road or a water treatment center, depending on the randomly assigned condition). After being told that the project will be ready for use in 2 years, they are provided with information about the mode of public service delivery, that we manipulate. They read that the government (or a private company) is in charge of the construction of the project and the government (or a private company) is in charge of the management of the project for the next 20 years, once it has been constructed. Knowing about this project, participants are then asked to indicate their voting intention regarding the incumbent and their expectations about the performance of the different phases of the project (construction and management).

Once respondents have shown their preferences on these outcomes, we ask them to imagine that the project has been realized, and we randomly assign them to one of two different conditions regarding the time needed to complete the construction phase: either 2 years (as planned) or 4 years (2 more than planned). Provided with this information about the first phase, they are again asked to indicate their voting intention regarding the incumbent, their expectations about the performance of the management phase of the project,

1 This number then becomes 1,100 respondents for the estimations, as this is the number of individuals who completed the survey in full.

2 Institutional Review Board (IRB) approval was granted by Rutgers University on June 27, 2019. The study ID is #Pro2019000960 and was part of the project "Heuristics, Accountability, and Public–Private Partnerships" for whom the principal investigators were Gregg Van Ryzin and Anthony Bertelli. The survey data were collected by Qualtrics on July 16–23, 2019. The data and do file for replication are available at the following link: 10.7910/DVN/O6EDYE.

3 The preceding vignettes had nothing to do with PPPs, infrastructure, or public–private sector collaborations. Thus, we expect no priming to have taken place with reference to our main variables of interest. A description of the online questionnaire is included in the supplementary appendix.

and their assessment of the construction phase. The experimental vignette reads as follows[4]:

> Say your congressional representative won funding for a *toll road* [*water treatment center*] project in your district. The *toll road* [*water treatment center*] project has already been approved and will be ready for use in 2 years. *The government* [*A private company*] is in charge of the construction of the toll road [*water treatment center*] and *the government* [*a private company*] will be in charge of the management of the toll road [*water treatment center*] for the next 20 years, once it has been constructed.

- Knowing about this project, on a scale of 0–100, how likely would you be to vote for this representative of your district in the next congressional election?
- Please explain your choice.
- On a scale of 0–100, how likely do you think it is that the project will be ready for use in 2 years?
- On scale of 0–100, how likely do you think it is that the project will be well run once ready for use?

Now imagine that the project has been realized and it took *2 years (as planned)* [*4 years (2 years more than planned)*] for *the government* [*the private company*] in charge of the construction to make the project ready for use.

- Given this time frame for the completion of the project, on a scale of 0–100, how likely would you be to vote for this representative of your district in the next congressional election?
- Given this time frame for the completion of the project, on a scale of 0–100, how would you rate the construction phase of the project?
- Given this time frame for the completion of the project, on a scale of 0–100, how likely do you think it is that the project will be well run?

Treatments

The experiment has three treatment variables.

Mode of Public Service Delivery

The mode of public service delivery is our main treatment. We manipulate the organizations in charge of the two phases of the project (construction and management), in three combinations:

1. A private company is in charge of the construction phase and a private company is in charge of the management phase (private, $N = 345$);
2. The government is in charge of the construction phase and the government is in charge of the management phase (public, $N = 326$);
3. The government is in charge of the construction phase and a private company is in charge of the management phase (hybrid, $N = 340$).

Performance of the First Phase

Performance information about the construction phase of the project is also manipulated. In particular, the time needed for the project to be ready for use is randomly distributed, with two different levels: either 2 years, that is as planned in the beginning ($N = 507$), or 4 years, which is 2 more than planned ($N = 504$).

Project

We test our hypotheses against two different types of project that were randomly assigned to subjects: a toll road ($N = 497$) and a water treatment center ($N = 514$). We randomize on the type of project so as to increase the external validity of our findings and avoid a situation whereby our results could be driven by the sector or nature of the project rather than the mode of delivery itself.

Outcomes

We focus our analyses on four main outcomes: vote intention for the incumbent member of Congress (1), expectations regarding the performance of the construction (2) and management (3) phases of the project, and assessment of the construction phase (4).

Incumbent Vote Intention

Subjects are asked to indicate, on a scale from 0 to 100, how likely they would be to vote for the representative of their district in the next congressional election. We ask this question both before and after subjects are informed about the time frame for the completion of the construction phase of the project. In addition, once respondents have indicated their likelihood of voting for the representative, we ask them to explain their choice.

Thus, we measure a latent variable—support for the incumbent—which is continuous and model its realization as a hypothetical binary vote, where the dependent variable is equal to one for those who indicated more than 50 on the likelihood scale. We do this to consider the vote choice more realistically: in an election, and quite clearly in one with two major parties like the United States, accountability requires that a voter must decide whether to vote for an incumbent or not (Kam, Bertelli, and Held 2020). This modeling choice brings our study into line with public administration work

4 The text in italics displays our experimental manipulations. The text in italics in the square brackets was inserted instead of the corresponding italics text in the vignette, depending on the experimental condition.

by James (2011) and van der Meer, Hakhverdian, and Aaldering (2016), who model voting intentions in the same way. In the supplementary table A4), we show the robustness of our results to choices of alternative cut points around the median response of 50 adopted in the models that follow.

Performance Expectations, Construction Phase

In order to measure performance expectations regarding the construction phase of the project, before being informed about the time frame for the completion of the construction phase, subjects are asked to indicate on a scale from 0 to 100 how likely they think it is that the project would be ready for use in 2 years.

Performance Expectations, Management Phase

As for performance expectations about the management phase, both before and after being informed about the time frame for the completion of the construction phase, subjects are asked to indicate on a scale from 0 to 100 how likely they think it is that the project would be well-run once ready for use.

Performance Assessment, Construction Phase

After being informed about the time frame for the completion of the construction phase, subjects have to indicate how they would rate the construction phase of the project on a scale from 0 to 100.

Moderators

Political Knowledge

Hypothesis 4 expects that political knowledge will moderate the causal effects triggered by our manipulations. Political knowledge is measured through five items, and for this reason, subjects are not randomized over their levels of political knowledge. In particular, participants are asked to indicate: (1) the political party that has a majority in the US House of Representatives; (2) the political party that has a majority in the US Senate; (3) the Speaker of the US House of Representatives; (4) the Majority Leader in the US Senate; (5) the Vice President of the United States. Respondents were given the choice to respond "don't know" to these questions (Mondak 2001). By assigning one point for each correct answer, respondents who scored higher than three are classified as having a high political knowledge. To gauge the internal consistency of our political knowledge questions, we estimate a Cronbach's alpha of 0.79, which is well above what is generally held to be an acceptable threshold for this measure (Nunnally 1978).

Controls

A series of control variables are included in the survey: gender, age, ethnicity, education, income, and partisanship. Including such questions in our survey allows us to check whether our randomization worked properly.

Statistical Models

Given that we have two types of dependent variables—one dichotomous, *Incumbent vote intention*, and the others continuous, *Performance expectations* (*construction* and *management*) and *Performance assessment*—we estimate two different types of models. For models with the dichotomous *Incumbent vote intention* dependent variable, we estimate a linear probability model (LPM) with robust standard errors (Angrist and Pischke 2008).[5] For models with the continuous *Performance expectations, construction*, *Performance expectations, management* and *Performance assessment, construction* dependent variables, we estimate ordinary least squares (OLS) regression models with robust standard errors.

Results

We perform a series of comparison of means tests in order to investigate whether experimental groups differ across demographic characteristics. Supplementary table A1, included in the supplementary appendix, reports the demographic characteristics of our sample, by treatment level. For each of the treatments, the experimental groups are not statistically different in terms of gender, age, ethnicity (proportion of white/Caucasian subjects), education (proportion of subjects with high school as the highest degree attained), income (proportion of subjects with an income lower than $50,000), and political knowledge (proportion of subjects with a high level of political knowledge). Table 1 reports descriptive statistics of our main outcomes.

Treatment Effects: Before Performance Information about Construction Is Released

Table 2 reports results from our linear probabilistic and ordinary least squares regression models, by outcome. Each column demarcates a separate regression. Results from an LPM show, before performance information about the construction phase is released, that a hybrid mode of public service delivery increases the probability of respondents expressing intention to support the incumbent with respect to both full public management and full private management. In particular, *ceteris paribus*,

5 We use an LPM as opposed to a logistic model given that the latter does not recover unbiased estimates of the treatment effects in experiments, except under very restrictive assumptions (Freedman 2008). We thank an anonymous reviewer for this suggestion.

the probability of expressing intention to support the incumbent decreases by 7 percentage points (p = .054) when full public management is adopted and by 4 percentage points (p = .201) when full private management is adopted, compared to a hybrid arrangement. This means that prior to performance information about the project being released, our results do not support hypothesis 1 (*Consequentialism*) to the degree that respondents *are* in fact sensitive to the public or private construction/management of the asset when it comes to their voting intentions. Furthermore, both of our competing hypotheses 2 (*Publicness*) and 3 (*Anti-public management*) enjoy only partial support in our data, as voters seem to reward a mixture of public and private delivery.

By contrast, OLS models show that performance expectations about the construction phase are 4.76 points higher (about 1/6 of a standard deviation [SD], p = .019) with full private management and performance expectations about the management phase are 5.38 points lower (about 1/4 of an SD, p = .005) when full public management is adopted, compared to hybrid arrangement. Participants in our sample expect the private sector to perform better in both phases of the project. However, a hybrid mode of public service delivery seems to be the most effective way for politicians to capitalize on votes by delivering a project.

Table 1. Mean and SDs of Outcomes

	Mean	SD
Before performance information about building phase is released		
Support for incumbent (proportion)	0.72	0.451
Performance expectations about the building phase	52.8	27.43
Performance expectations about the management phase	59.3	25.50
After performance information about building phase is released		
Support for incumbent (proportion)	0.66	.472
Performance assessment of the building phase	60.2	28.57
Performance expectations about the management phase	57.1	26.94
N	1,057	1,057

The type of project does not affect these estimates. Indeed, we randomize on the type of project—toll road or water treatment center—precisely so as to avoid a situation whereby our results could be driven by the sector or nature of the project rather than the mode of delivery itself. If we estimate our results controlling for the type of project (i.e., whether the respondent was exposed to the toll road or water treatment center vignette) we observe that while on average the toll road project, as compared to the water treatment center, entails significantly lower propensity to support the incumbent (as seen in table 3, row 3/column 1) and lower performance expectations about both phases of the project (table 3, row 3/columns 2 and 3), we observe the same pattern of results regarding the effects of different modes of public service delivery on our outcomes (table 3, rows 1 and 2/columns 1–3). This is especially heartening in that we see that even in a policy area that might be seen as divided along party lines—for example, with pro-market Republicans perhaps being more inclined to support toll roads than Democrats (NCHRP 2008)—the effects of different modes of public service delivery remain constant.

Treatment Effects: After Performance Information about Construction Is Released

After performance information about the construction phase is released, participants have more information on which to base their decisions. Once performance information is released, participants seem to be less concerned about the form of public service delivery and also seem to pay more attention to performance in public service delivery. Incumbent vote intention, performance assessment of the construction phase, and performance expectations regarding the management phase do not differ depending on the mode of public service delivery. By contrast, participants exposed to the late (2 years more than planned) construction phase were less likely to express intention to support the incumbent (by 25 percentage points, p < .001), score lower on performance assessment of the construction phase (Δ = −28.23, about 1 SD, p < .001), and have lower performance expectations about the management

Table 2. Treatment Effects, Before Performance Information about Construction Was Released

	Incumbent Vote Intention (Change in Probability)	Performance Expectations, Construction	Performance Expectations, Management
Private/private	−0.04	4.76	0.01
	(0.201)	(0.019)	(0.995)
Government/ government	−0.07	−1.10	−5.38
	(0.054)	(0.600)	(0.005)
N	1,057	1,063	1,070

Note: p Values in parentheses (robust standard errors).

Table 3. Effects of Different Modes of Public Service Delivery, Controlling for Type of Project

	Incumbent Vote Intention (Change in Probability)	Performance Expectations, Construction	Performance Expectations, Management
	(1)	(2)	(3)
Private/private	−0.04	4.87	0.11
	(0.212)	(0.015)	(0.954)
Government/ government	−0.07	−1.15	−5.40
	(0.046)	(0.579)	(0.005)
Toll road	−0.11	−6.41	−4.32
	(0.000)	(0.000)	(0.005)
N	1,057	1,063	1,070

Note: p Values in parentheses (robust standard errors).

Table 4. Treatment Effects, After Performance Information about Construction Was Released

	Incumbent Vote Intention (Change in Probability)	Performance Assessment, Construction	Performance Expectations, Management
Private/private	0.03	1.71	0.90
	(0.476)	(0.428)	(0.657)
Government/ government	−0.02	1.42	−1.45
	(0.528)	(0.510)	(0.471)
Late on construction	−0.25	−28.23	−13.80
	(0.000)	(0.000)	(0.000)
N	1,059	1,064	1,060

Note: p Values in parentheses (robust standard errors).

phase (Δ = −13.8, about half of an SD, $p < .001$) with respect to participants exposed to a construction phase that was completed on time. Table 4 reports results from our linear probabilistic and ordinary least squares regression models, by outcome and treatment.

In other words, the mode of public service delivery seems to affect voters' intentions only *before* the public service is delivered. Once the public service is delivered, consistent with a consequentialist perspective, voters will be concerned only by the performance of the delivery process, regardless of the actors involved in the process. Thus, once performance information is released, hypothesis 1 (*Consequentialism)* finds support in our data, with respondents' voting intentions being affected only by the performance of the public service delivery with negative (positive) performance being associated with decreased (increased) likelihood of expressing intention to vote for the incumbent.

Analyses by subgroups of participants reveal that subjects with high political knowledge are particularly influenced by the form of public service delivery, although in a different way from the rest of the sample population. Table 5 reports linear probability and regression models with interactions between the form of public service delivery and political knowledge, before performance information is released and after performance information is released, by performance levels. Table 6 reports how political knowledge moderates the effect of different performance levels in the construction phase on our outcomes.

Before performance information about the construction phase is released, subjects with high political knowledge are less likely to express intention to support the incumbent (by 14 percentage points, $p = .031$)[6] when full private management is adopted, compared to the hybrid arrangement, but we do not detect any significant difference between the latter and full public management. Thus, as in the general population, before performance information is released, high political knowledge subjects prefer a mixture of public and private service delivery, but they differ in that they only discriminate against full private delivery. That is, among these respondents we do not find support for hypothesis 1 (*Consequentialism*) *before* performance information is released (respondents *are* sensitive to the mode of public service delivery). However, unlike in the general sample, we do find stronger support for hypothesis 2 (*Publicness*)—as opposed to the competing hypothesis 3 (*Anti-public management*)—with high political knowledge subjects being more likely to reward the incumbent with increased voting intention for partially or fully publicly delivered services. The same pattern can be seen in the case in which bad performance in the construction phase (2 years more than planned in order to build the project) information

6 Please see table 5 for these results.

Table 5. Moderating Effects of Political Knowledge

	Before PI Is Released			After PI Is Released (as Planned)			After PI Is Released (2 Years More Than Planned)		
	Incumbent Vote Intention (Change in Probability)	Performance Expectations, Construction	Performance Expectations, Management	Incumbent Vote Intention (Change in Probability)	Performance Assessment, Construction	Performance Expectations, Management	Incumbent Vote Intention (Change in Probability)	Performance Assessment, Construction	Performance Expectations, Management
Private/private	0.02	5.68	4.73	0.02	2.18	3.00	0.12	6.25	5.27
	(0.588)	(0.031)	(0.059)	(0.696)	(0.530)	(0.371)	(0.104)	(0.129)	(0.189)
Government/ government	−0.04	1.80	−1.17	−0.06	1.15	−3.53	−0.01	2.62	4.11
	(0.395)	(0.524)	(0.653)	(0.359)	(0.757)	(0.350)	(0.944)	(0.491)	(0.285)
High political knowledge	0.03	−6.88	0.79	0.08	7.81	−0.54	−0.04	−8.03	−3.58
	(0.479)	(0.017)	(0.762)	(0.196)	(0.035)	(0.881)	(0.554)	(0.041)	(0.372)
High political knowledge × Private/private	−0.14	−2.77	−10.35	−0.04	−0.23	−2.45	−0.17	−11.23	−13.10
	(0.031)	(0.493)	(0.005)	(0.672)	(0.961)	(0.628)	(0.118)	(0.048)	(0.025)
High political knowledge × Government/ government	−0.05	−7.01	−9.13	0.04	−0.71	−2.38	0.01	−1.44	−5.75
	(0.455)	(0.089)	(0.019)	(0.669)	(0.889)	(0.659)	(0.912)	(0.792)	(0.312)
N	1,057	1,063	1,070	532	536	534	527	528	526

Note: p Values in parentheses (robust standard errors).

Table 6. Moderating Effects of Political Knowledge, After Performance Information Is Released

	Incumbent Vote Intention (Change in Probability)	Performance Assessment, Construction	Performance Expectations, Management
Late build	−0.17	−18.91	−10.13
	(0.000)	(0.000)	(0.000)
High political knowledge	0.08	7.35	−2.40
	(0.027)	(0.000)	(0.261)
High political knowledge × Late build	−0.17	−19.58	−7.44
	(0.002)	(0.000)	(0.020)
N	1,059	1,064	1,070

Note: p Values in parentheses (robust standard errors).

is released to subjects: the probability of expressing intention to support the incumbent decreases by 17 percentage points (p = .118) for subjects with high political knowledge in the full private management condition. The coefficient is not statistically significant at conventional levels, but this is likely due to low power.[7]

We see, then, that subjects with high political knowledge are more sensitive to the need for government involvement in the delivery of public goods than the general sample population. This is in line with existing evidence from Colombia that shows that voters are sensitive to the quality of PPPs' implementation, with vote intention for the incumbent decreasing as experience with PPPs—which has been negative and salient in that country—grows (Angulo Amaya, Bertelli, and Woodhouse 2020). The intuition here is that those individuals who are more politically engaged are more likely to be aware of the risks that come with projects that have high private sector involvement. This is explored in greater detail in the discussion section that follows.

Performance expectations about the construction phase do not differ between the hybrid and the full private management arrangement, but they are 7.01 points lower (about 1/4 of an SD, p = .089) when the full public management arrangement is adopted. Performance expectations about the management phase are 10.35 points lower (about 1/3 of an SD, p = .005) when full private management is adopted and 9.13 lower (about 1/3 of an SD, p = .019) when full public management is adopted. Therefore, performance expectations and voting behaviors across different public service delivery arrangements do not seem to go in the same direction among subjects with high political knowledge who have much less of an appetite for private involvement in public service delivery than the broader sample population. After bad performance in the construction phase (2 years more than planned in order to build the project) is released, these subjects under the full private management condition score 11.23 lower on performance assessment of the construction phase (about 2/5 of an SD, p = .048) and have lower performance expectations about the management phase by 13.10 points (about half of an SD, p = .025).

It is noteworthy that, overall, after performance information about the construction phase is released, subjects with high political knowledge are those who judge the bad performance condition in the construction phase (2 years more than planned in order to build the project) most harshly. In particular, with respect to their peers with lower political knowledge, they are less likely to express intention to support the incumbent (by 17 percentage points, p = .002),[8] they score lower on the performance assessment of the construction phase (Δ = −19.58, about 3/4 of an SD, p < .001), and they have lower performance expectations about the management phase (Δ = −7.44, about 1/4 of an SD, p = .020). Overall, then, we find support for hypothesis 4 (*Political knowledge*) in that voters with higher levels of political knowledge are more likely to exhibit the relationships in hypothesis 1–hypothesis 3. Additionally, we uncover a lack of appetite for private involvement in the delivery of public services among high political knowledge respondents that does not manifest in the general sample.

Robustness Tests

Given that there is a slight overrepresentation of Democrats as compared to Republicans in our sample—as is the case for many online survey experiments—we replicate all models controlling for partisanship[9] and find no changes to our results. Theoretically, one might

7 Approximately 80 subjects have high political knowledge under the full private management condition.

8 Please see table 6 for these results.

9 We ask respondents "As of today, do you consider yourself to be a Republican/a Democrat/an Independent?," if they choose "an Independent" we then ask them "Do you lean more toward the Republican Party, or the Democratic Party?." To create the *Democratic* variable and avoid losing too much power we leverage both of these responses. We code as 0 those respondents who replied "Republican" to the first question and, if they answered "Independent" to the first question, as 0 if they responded "Republican" to the second question. We then replicate the same process for Democrats, coding them as 1 in the same manner.

be concerned about our results regarding the political knowledge of respondents. The intuition here is that one might imagine that political knowledge is correlated with political ideology, meaning that liberal individuals would be more likely to fall into the high political knowledge group of respondents. In the supplementary tables A2 and A3, we show both that controlling for one's partisanship does not change any of our results (main, construction performance, management performance, or political knowledge) and that the share of Democrats and Republicans is not significantly different in the high political knowledge group as compared to the main sample.

We emphasize that our treatments are randomized and, as shown in our balance tests (supplementary table A1), respondents of different partisanships are distributed comparably across treatment groups, thus it is unsurprising that our results are robust to controlling for partisanship. Moreover, the survey was designed so as to make reference to a generic incumbent figure—rather than an incumbent of a specific political party—and, to the best of our knowledge, there is no strong theoretical reason to believe that Republicans or Democrats should be systematically more disinclined to vote for the incumbent.

As noted above, we perform a series of robustness tests where we change the cut point for voting intention. As we report in the supplementary table A4, changes around the threshold of 50 do not change our main pattern of results and the continuous dependent variable model also yields comparable results.

Discussion

Our experimental design allows us to test three competing theoretical perspectives regarding the effects of different modes of public service delivery on intention to support the incumbent politician: the *consequentialist*, *publicness*, and *anti-public management* perspectives. Our findings suggest that the *publicness* and *anti-public management* perspectives partially succeed in explaining individual choices, but only before performance information about the infrastructure project is available. In particular, the *anti-public management* perspective is visible in performance expectations about the infrastructure project, with private companies being expected to deliver higher performing services. However, this does not translate into different voting intentions. By contrast, our results suggest that in the US context, an incumbent politician can increase support among voters by offering a hybrid form of public service delivery as compared to a full private or full public one. In other words, before performance information is available, a mixed form of public service delivery seems to be the most effective way, on the one hand, to leverage higher performance expectations, given the involvement of private companies and, on the other hand, to claim credit for the delivery process, given the direct involvement of the government. However, once performance information is available, a consequentialist perspective seems to be the most effective perspective in explaining subjects' behavioral intentions, as differences in performance significantly affect individual choices while variation in the mode of public service delivery loses its explanatory power.

In order to shed further light on our findings, as part of our survey we ask respondents to explain their choice of expressing an intention to vote for the incumbent. These answers can help to illuminate the thought processes of the respondents and bolster our theoretical claims regarding why citizens may react differently to the same public good being delivered in different forms. Before delving deeper into these qualitative responses, we first present the results of a sentiment analysis exercise[10] performed on the respondents' open-ended answers in order to give a more systematic picture of the nature of their feelings toward the incumbent in light of the experimental vignette. Given our research question, our main intersection of interest is that between respondents who explicitly mention the government or the private sector in their explanation of why they feel more/less likely to express support for the incumbent and whether such references are positive or negative.

Perhaps the most salient finding to emerge from the sentiment analysis is that strong support for the anti-public management perspective emerges from these analyses too. Indeed, we see that of those respondents who explicitly mention the government in their open-ended answers, 71% are negative and only 15% are positive.[11] However, what is interesting is that a non-trivial number of respondents express negativity toward the private sector too. Indeed, of those respondents who explicitly mention the private sector in their open-ended answers, 57% are negative and 25% are positive. Thus, while it is certainly true that respondents in our sample tend to view the government more negatively when it comes to the delivery of public goods—as reflected in our main findings about performance expectations—it is also true that the private sector is by no means immune from negativity and criticism on the part of the general public. Indeed, this is borne out by our corruption category in the sentiment analysis where we see that a very similar share of respondents who explicitly mention the public/private sector reference corruption in their answers (5% of respondents who mention the government and 6% of respondents who mention the private sector).

We can now consider these open-ended responses qualitatively. With reference to the *consequentialist*

10 This is detailed in the supplementary appendix.

11 The percentages do not add up to 100 as the remaining responses are coded under generic or orthogonal categories, as explained in the supplementary appendix.

theoretical perspective, we see evidence that respondents are in general favorable to the provision of infrastructure in their district. However, this is shaped by all manner of considerations that relate to districts' specific infrastructural needs. To cite just a few examples, respondents state that: "The water treatment plan sounds like it would be a good idea, especially for future growth," "We need clean water," "I love this project, get [sic] good benefits," "Infrastructure is an excellent investment in our future," "Clean Water is very [sic] important topic for me and my family, thats [sic] why I [sic] would support this project," "It sounds like a good investment that will repay its worth to the community and provide a necessary service." However, as aforementioned, these considerations are often location-specific: "Living in Arizona where water is gold, I am all for doing everything possible to find water resources and run the project in the most effective way," "I think they should build jobs [sic] low income housing," "No need for a toll road in my district," "The infrastructure in our state is in dire need of repairs. I approve of my representative's support of a project for improvement." This provides us with some support for our *consequentialist* perspective in that citizens seem to be in favor of receiving infrastructure, but as we will see when addressing the *anti-public management* perspective, there is much reason to believe that citizens do not care *only* about performance, but very much shape their views according to the actors involved in the delivery process.

With respect to the *publicness* perspective, we see that some respondents like the idea of a hybrid form of public service delivery *per se*: "Regardless of how effective the project is, it is still a good concept to support," "I approve of partnering with the private sector and them paying the costs," "the government controls it private individuals manage at [sic].... As long as they are doing a good job things are working well with the government and the private sector and it's beneficial to the citizens the process should work hopefully." That being said, some respondents show skepticism about leaving the process entirely in the hands of private companies. This corroborates the idea that greater involvement of the government can pay off for incumbent politicians. Examples include: "I don't like the idea of non-governmental entities (private companies) being responsible for my water quality," "Private companies are usually no good." Clearly, the survey responses offered by our respondents cannot speak to politicians' own intentions and behavior. Therefore, we cannot comment on the extent to which these hybrid forms of public service delivery and their varying degrees of publicness are explicitly considered as an effective credit-claiming strategy by politicians themselves.

Turning to the *anti-public management* perspective, many of those respondents who were unlikely to vote for the incumbent under a government–government or government–private condition expressed doubts about the government's efficiency in delivering infrastructure. For example, many cited concerns about the government's ability to deliver quality public goods when justifying their decision not to vote for the incumbent, here are just a few examples: "Govt. [sic] run projects always seem to take longer and is [sic] always more expensive than planned for," "I have a lot of trouble trusting govt [sic] officials," "The government cannot do anything correctly the government is useless," "I don't trust government. They make promises they can't deliver," "Government projects [sic] typically over budget and late," "Nothing run by the government is done efficiently or at a cost that is worth what is done," "Anytime government is involved it always seems to be a failure," "Government has a history of not doing well with regard to maintaining projects." Some, indeed, make direct comparisons with the private sector: "Construction would be done much more efficiently and for less money if done by the private sector," "Anything the government builds is more expensive and less efficient than private enterprise. A private company can adjust to use the latest products and technology while government sticks with antiquated [sic]."

Interestingly, when looking only at those respondents with high political knowledge under the hybrid private–government condition, we see explicit evidence in support of our hypothesis that the more citizens know about politics, the more sophisticated their understandings of the link between electoral accountability and the delivery mode or performance evaluation of public services will be. Indeed, those individuals who are more politically knowledgeable seem to be more aware of the risks that come with projects that have high private sector involvement. For example, respondents state: "[there is] too much room for overcharging or lax work after completion of [sic] project if there is no government oversight," "I am just not a fan of these privately run toll roads. They always seem to be mismanaged and the companies repair things and clean things for a few years and then they just rake out the profits a their [sic] contracts wind down … and when their contract is over the taxpayer is left with a road in disrepair and another expense," "private enterprise's [sic] need monitoring," "I have little faith in a privately run enterprise that services the general public. The private company, while using government funds, will still try to maximize profit at the expense of the general public." There is, in fact, evidence among these high political knowledge respondents of an awareness the risk for corruption that exists at the intersection of

government and business interests: "I expect graft and corruption to be the focal point," "private companies have a [sic] easy route around checks and balances by people in government they pay off," "…the project has a high probability of being a boondoggle," "Any time the government is involved, everyone wants a piece of the pie," "It seems these program [sic] from federal to private businesses always have some corruption associated to it [sic]." There is certainly, then, some skepticism and sanctioning behaviors among the high political knowledge respondents when it comes to private involvement in the delivery of public goods. These respondents seem to be better able to appreciate the risks that come with privatizing elements of key services that have traditionally been delivered by the public sector and this is reflected in their higher propensity to sanction private involvement in the delivery of public goods, as reflected in our main findings and in the qualitative analysis of respondents' open-ended answers.

Additionally, in the full respondent sample there is also some kickback against private companies in addition to the (more prevalent) anti-public management that we find. For example, respondents state that: "privatization only leads to kickbacks and assholes getting rich off of taxpayers," "Most of the time this is nothing but a kick back to donors or a "we need more money to maintain this" and then go to the ever drying up well of the american [sic] tax payers. IM [sic] SICK OF IT," "Private companies by nature are driven by profit, not mandate," "Generally private companies have little to no oversight. They typically do just enough to get by, cut corners, to increase their profits," "Privatization of vital public functions leads to corners being cut and public needs inadequately met. Such functions should be administered by the government."

In short, we find ample qualitative evidence in our respondents' answers in support of our *consequentialist* and *anti-public management* perspectives. We also glean important information regarding the ability of high political knowledge respondents to make links between the mode of service delivery and the performance of a public good, and present evidence of distrust of private companies among the population more broadly (even if this is less common than the anti-public management sentiment). A shortcoming of our data is that we cannot speak to how *politicians* see the publicness and strategic electoral potential of a project. This limitation, however, leaves open an important avenue for future research that could address how politicians perceive the likelihood of receiving credit for different types of public goods. This could take the form either of in-depth interviews with politicians or of survey- or laboratory-based experimentation that explores politicians' tendencies to use certain instruments of public service delivery or types of public goods themselves. We hope that future research will continue to probe citizens' reactions to the delivery structures that provide public goods, as there is much room to clarify how the phenomena we identify here obtain in other countries and regions.

With reference to how we expect our findings to transfer to other contexts, we face the inevitable internal–external validity trade-off in that we can be confident in ruling out alternative explanations for our results within our sample due to our research design and randomized treatments, but one might cast aspersions on whether they would generalize to a broader population. Given our representative sample, we can be relatively confident that our findings would extrapolate to the US population. However, in terms of generalizability to other contexts, conditions for results such as ours to obtain include: competitive, democratic elections where representatives vie for votes using distributive politics, as opposed, for example, to cash-for-votes; an electoral system that directly links a representative's electoral fate to a specific district, rather than country-wide constituencies where the link between the representative and a given locality is less direct; and a regulatory environment stable enough that private actors would be interested and able to collaborate meaningfully with the government to deliver public goods, that is, with political constraints in place such that businesses trust the government to respect its contractual obligations (Henisz 2000).

Conclusion

We present experimental evidence that modes of public service delivery that blur the lines between public and private increase the probability that respondents will express intention to support the incumbent as compared to both full public management and full private management modes. Once performance information is released, participants are less concerned about the mode of public service delivery and pay more attention to performance in public service delivery, with incumbent vote intention not changing depending on the mode of public service delivery. Subjects with high political knowledge are less likely to express intention to support the incumbent when full private management is adopted, compared to the hybrid arrangement, and this is also the case for the bad construction performance condition, where the probability of expressing intention to support the incumbent also decreases for subjects with high political knowledge in the full private management condition. This last finding speaks directly to our hypothesis that political knowledge can help respondents to make connections between the mode of public service delivery and the performance of

a public good. The implication of this is that respondents express an intention to sanction incumbents for what they see as risky choices in the mode of public service delivery.

Our results contribute to our understanding of how voters respond to different delivery structures for public goods. We show that citizens are indeed sensitive to the way in which their public goods are delivered and that this offers electoral advantages to incumbents who can exploit the mode of delivery as well as the type of public good they offer their constituents. We have also unveiled heterogeneity in how different types of voters respond to hybrid governance. Our finding that more politically knowledgeable individuals are more skeptical regarding private involvement in public service delivery aligns with literature showing that more informed voters can lead to better governance outcomes (Pande 2011). This is in the sense that voters are not blind to the risks that come with private involvement in sectors traditionally inhabited solely by the government. It is particularly interesting that the finding of Lerman and Acland (2020)—that political sophistication does not influence citizens' confirmatory biases that the government delivers low quality services—does not translate into the specific case of PPPs. The kinds of failures that have come alongside many New Public Management reforms, particularly in the realm of infrastructure delivery (Bertelli, Whitford, and Mele 2020), are clearly not lost on voters and our results provide further evidence that making information easily accessible to citizens, encouraging their engagement in politics, and ensuring that accurate information about government performance is available to the wider public are all essential policy initiatives if we want to foster good governance.

The questions that our results raise with respect to the role of the private sector in delivering essential public goods are especially relevant in the times of extreme uncertainty we are currently living in. There are contradictory voices calling both for more and less private involvement in governance. Some advocate greater reliance on PPPs for, for example, the sharing of data in order to monitor and respond to the spread of Covid-19 (DDP 2020), while others decry the role that, they argue, public–private collaborations had in slowing down governments' ability to respond in a timely fashion to the virus (Monbiot 2020; Saviano 2020). Such decisions must, of course, be made on a case-by-case basis according to the particular conditions faced by specific combinations of governments, sectors and private actors with the utmost care if they are to deliver value for public money and quality goods.

Our results contribute to the growing public administration literature that provides us with insights into how the locus of responsibility for service provision (James et al. 2016; Mortensen 2016) and different delivery structures affect fundamental governmental outputs such as willingness to coproduce with (James and Jilke 2020) and vote for the standing government. We also think that our findings can stimulate a new area of the robust research agenda on congressional distributive politics (Lee 2001, 2003; Rundquist and Carsey 2002; Stein and Bickers 1997). Specifically, the role that modes of service delivery might play in the credit-claiming strategies of legislators (Mayhew 1974) is fertile ground for future research. For instance, unreported results suggest that controlling for legislator characteristics associated with their ability to bring distributive goods such as their status as newly elected "freshmen," electoral margins, and their shared partisanship with respondents can both clarify and strengthen the experimental results we have reported. Future experimental work that can randomize at the congressional district level has the potential to understand whether accepted patterns of pork barrel politics change under different modes of providing benefits to constituents.

In the end, we hope that our article will open an avenue of research exploring in greater depth how voters think about the way in which public goods are delivered and whether or how political elites capitalize on such responses for electoral ends. It is becoming clear that the way in which citizens interact with the structures of government and receive public goods informs their view of government and is anything but neutral.

Supplementary Material

Supplementary data are available at *Journal of Public Administration Research and Theory* online.

Data Availability

The data underlying this article are available in the Harvard Dataverse, at https://doi.org/10.7910/DVN/O6EDYE.

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