Local Government Effectiveness: Assessing the Role of Administrative Capacity

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Abstract

Organizational capacity is expected to contribute to a well-functioning government. However, the public management literature offers few objective measures of organizational capacity and scarce empirical analysis of the organizational capacity-government performance relationship. To address these gaps, this study objectively measures organizational capacity across three dimensions – capability, expertise, and human resources – and tests the impact of organizational capacity on government effectiveness in securing infrastructure grants. The study relies on a data set of approximately 54,000 infrastructural grant proposals submitted by 340 (out of 345) Chilean municipalities during a nine-year period (2005-13), covering three mayoral administrations. Controlling for past performance and other grant and municipal features, results suggest that municipal effectiveness is positively influenced by both administrative capacity and political factors. Findings are robust across alternative model specifications.

Introduction

Subnational organizational capacity is one of the most important factors in the effective functioning of government across the world (World Bank 2001, United Nations 2009). In developing and centralized unitary countries, the recent adoption of political, fiscal, and administrative decentralization has provoked a lively debate about the capacity of local and subnational governments to manage, finance, and plan for their new set of responsibilities. Despite the generalized understanding of both the importance of administrative capacity and its contributing role in organizational production, public management literature has generally ignored capacity and its relationship to public organizations' performance. Still fewer studies have examined the link between capacity and government effectiveness (Andrews and Boyne 2010, Wimpy et al. forthcoming).

While a growing body of studies explores management capacity (e.g., Ingraham 2007, Ingraham et al. 2003), its determinants (e.g., Knack 2002), and its effect on stakeholders' assessment of performance (Andrews et al. 2010), very few studies measure organizational capacity with objective indicators and test its influence on organizational performance (Avellaneda 2012). The few available studies provide scarce consideration of the impact of capacity in contexts other than U.S. state governments, rely on subjective measures of capacity and performance, and are based on cross-sectional rather than longitudinal analyses (Andrews and Brewer 2013, Andrews and Boyne 2011). Although organizational capacity is desirable at all levels of governments, local governments are more likely to be targeted as having insufficient organizational capacity to perform their tasks (Brown and Potoski 2003). Therefore, more quantitative and qualitative research is needed at the local government level to better understand how capacity translates into greater government effectiveness.

In the present study, we explore whether administrative capacity influences government effectiveness in acquiring and implementing funds for infrastructure projects. In the United States, previous fiscal federalism literature has studied how local governments' capacity explains who gets competitive Community Development Block Grants (CDBG) (Rich 1993, Collins and Gerber 2006, 2008, Hall 2008, Collins, Andrew, and Khunwishit 2015; Blair, Deichert, and Drozd 2008; Handley 2008). However, this literature has relied on aggregated measures of organizational capacity (financial and human resources) and has concentrated on explaining government inputs derived from total grants. Consequently, these studies fail to separate governments' demand for funds from their abilities to secure funds. Likewise, these studies have not explored the grant acquisition effects of different dimensions of capacity.

In addressing these gaps, we compiled a data set of infrastructure grant proposals submitted by 340 (out of 345) Chilean municipalities over a nine-year period (2005-2013), which covers three municipal administrations. We also draw on data from interviews with local government administrators, grant reviewers, and regional authorities, in an effort to better understand the causal mechanisms behind municipal effectiveness in securing grants. Government effectiveness is operationalized through the percentage of municipal grant projects approved, measured with two indicators: percentage of grants obtained in relation to the total number of grant proposals submitted, and percentage of money secured in relation to the total amount requested. Organization capacity is measured across three dimensions: human resources (total administrative personnel), capability (inter-organizational cooperation for grant submission), and expertise (middle-level managers' grant-related expertise). After controlling for the municipal political context, past performance, and other grant proposal and municipal features, results suggest that administrative capacity positively affects government effectiveness

in acquiring grants. Political factors and electoral cycle also appear to influence municipal grant acquisition.

This study contributes to the currently limited body of research on the role of capacity in government effectiveness. It does so by addressing four research needs. First, this study defines and measures organizational capacity across three dimensions: capability, expertise, and human resources. Indeed, results suggest that employees' expertise and gains in local capability through intergovernmental collaboration make local governments more effective in securing grants. Second, as studies on fiscal federalism have neglected effectiveness measures, this study allows us to separate governments' motivations for acquiring funds from their abilities to secure funds, permitting a more credible link between capacity and grant acquisition. Third, this study shifts the research focus on capacity and effectiveness from U.S. states and English local governments to a Latin American setting, with a data-rich context to test previous hypotheses tested in the U.S. fiscal federalism literature.

The first section of this paper draws on existing literature on local governments' effectiveness in the context of intergovernmental transfers. The second section defines organizational capacity and discusses its role in government effectiveness in order to develop the testable hypotheses. Subsequently, case selection, units of analysis, data, and measures are outlined. We then present the multivariate statistical results from the panel data, and end with a discussion of the results, and the conclusions.

Previous Research on Local Governments' Effectiveness

Defining effectiveness is not without controversy (Mitchell 2012). Two main approaches have been used to study effectiveness: the goal-attainment approach and the system resources approach (Forbes 1998). Organizational effectiveness is usually defined as the extent to which an

organization achieves its objectives (Miles 1980, Price 1972). For example, a widely used effectiveness measure in public management research is the percentage of pupils passing a specified exam. The systems resource approach, on the other hand, defined effectiveness as the ability of organizations to exploit resources in their environments. Assessing effectiveness provides two advantages: the researcher can directly measure the degree of attainment of a particular objective (Rainey 2009), and examining effectiveness is considered a logical approach since organizations try to attain a certain level of outputs, outcomes, or inputs (Daft 2010). [1]

From a systems resource point of view, government effectiveness also can be assessed in terms of acquiring resources, or inputs, that support the organization's survival. As Seashore and Yuchtman (1967) assert, good performance involves "the ability to exploit [the organization's] environment in the acquisition of scarce and valued resources to sustain its functioning" (393). To this end of sustaining the organization's functioning, an organization's inputs can be more critical than its outputs. Moreover, regardless of the organization's accomplishments, it must have the resources required to operate. Therefore, effectiveness in acquiring resources (e.g., funds) could be the most important indicator of performance (Selden and Sowa 2004).

A large body of research on local government effectiveness has examined U.S. school districts and British municipalities. In these contexts, local effectiveness primarily has been

[1] The relationship between effectiveness and performance is so strong that scholars often use the terms "effectiveness" and "performance" interchangeably to describe the same concept (Selden and Sowa 2004). Similarly, effectiveness is a fundamental measure of performance, no matter the model of performance used by academics or practitioners. Hence, a considerable number of performance models draw upon the "3Es" model of economy, efficiency, and effectiveness of services and the 'IOO' model examining the sequence of inputs, outputs, and outcomes (Boyne 2002, Walker et al. 2010). In the public management literature, effectiveness has been used to assess schools (Meier and O'Toole 2001), job training programs (Heinrich 1999), public bureaucracies, state governments (Selden and Sowa 2004, Ingraham and Moynihan 2001), and local governments (Avellaneda 2009, Petrovsky and Avellaneda 2014).

measured in terms of educational performance. More recently, studies have assessed effectiveness in Latin American municipal governments in terms of educational enrollment (Avellaneda 2009), tax collection (Petrovsky and Avellaneda 2014), and coverage of service delivery (Avellaneda 2015). Similarly, intergovernmental relations literature has studied government effectiveness in terms of goal-attainment, emphasizing actual program implementation (O'Toole 2000). Studies addressing how U.S. states implement federal programs suggest that program success is a function of aligning incentive structures through grant funding levels, design, and oversight (Chubb 1985, Hines and Thaler 1995, Kassekert et al. 2012). This research also identifies some program characteristics, such as complexity or clarity, as drivers of implementation (Goggin et al. 1990; Carley, Nicholson-Crotty, and Fisher 2015). Recent studies examine implementation effectiveness in terms of timely implementation (Terman and Feiock 2015, Terman et al. 2016, Terman and Feiock 2014).

A second set of fiscal federalism studies uses a methodology closer to the systems resource approach, centering on how local governments' capacity impacts who gets competitive grant awards (Rich 1993, Collins and Gerber 2006, 2008, Hall 2008, Collins, Andrew, and Khunwishit 2015, Blair, Deichert, and Drozd 2008, Handley 2008). This body of work argues that local capacities, need, and political alignment determine who gets grant awards. This vein of research largely has focused on the United States' Community Development Block Grant (CDBG), whose funds target infrastructural projects and service delivery for low income populations. By only studying the total number of awards, without considering the number of applications, these studies have not assessed local effectiveness, as they presume all local governments have some level of demand for these funds (Collins and Gerber 2006).

Consequently, these studies fail to differentiate between demand for funds and abilities to secure funds. That is, they fail to explain local governments' actual achievement of goals.

Administrative Capacity and Organizational Effectiveness

In 2010, Andrews and Boyne lamented over the status of the evidence linking performance and organizational capacity, noting that studies have mainly focused on explaining policy adoption rather than organizational effectiveness or effectiveness in service delivery. The scarcity in this line of research is, in part, due to the variety of different capacities addressed. While some studies refer to "organizational/government capacity" (Berman and Wang 2000), others opt to focus on "administrative capacity" (Wimpy et al, forthcoming), and a few others center on "management capacity" (Andrews and Boyne 2010, Andrews and Brewer 2013, Wang et al. 2015). Along with this variation in terminology, the empirical studies also vary in concept operationalization. For example, Berman and Wang (2010) assess government capacity for implementing performance management systems by operationalizing it with counties' stakeholder support and technical infrastructure. Wimpy et al. (forthcoming) examine administrative capacity in African countries using the World Bank's quality-of-government indicators. Even among studies using the same terminology, their operationalization varies. Wang et al. (2015) assess management capacity with a survey of elite opinion assessments of three components – managing government's operations, insuring quality in policy implementation, and coordinating human resource management outside of the core government administration. On the other hand, Andrews and Brewer (2013) and Andrews and Boyne (2010) assess management capacity across five management systems: financial management, human resource management, information technology, capital management, and leadership.

In the fiscal federalism literature, some empirical studies explore the role of local governments' administrative capacity. For instance, scholars have investigated how the selection of recipients for competitive grants (e.g., CDBGs) is determined by local governmental capacity and/or timely spending of federal funds (Collins and Gerber 2006, 2008, Hall 2008, Terman and Feiock 2015). These studies have largely relied operationalized government capacity with the number of total employees, government or number of financial administrators in the local government (Collins and Gerber 2008, Hall 2008, Hall 2010). These measures, however, seem to be general, as they fail to capture a qualitative assessment of employees in terms of their functions (Hall 2010). Measuring the number of grant writers would capture government capacity. However, no study has employed this measure for the population of local governments in the United States (Hall 2008).

Organizational capacity embraces the tenets of resource-based theory on organizational conditions necessary for performance (Andrews et al. 2015). In the existing literature, however, the terms of organizational capacity, capability, and competence have been used interchangeably (Andrews et al. 2015, Avellaneda 2012). This practice led Kolar Bryan (2011) to describe the different definitions of organizational capacity, identifying three different perspectives prevalent in the literature: capacity as resources, capacity as organizational capabilities, and capacity as organizational competency. Here we explore these three perspectives as potential explanations of effectiveness.

Capacity as Resources

Resources are the inputs into an organization's production process (Honadle 1981, Ingraham et al. 2003). The ability of an organization to realize its goals is a function of its capacity to obtain resources. This notion derives from open-system organizational theories,

which stress the importance of obtaining resources from the environment for organizational survival (Pfeffer and Salancik 1978). Organizational resources can be tangible (financial) or intangible (human capital: reputation, experience, expertise, knowledge, connections) (Avellaneda 2015; Burgess 1975). According to the resource-based view, an organization's set of tangible and intangible resources constitutes its competitive advantage (Rumelt 1984, Penrose, 1959).

The organizational performance literature takes the view that resources positively affect performance. Some scholars, however, suggest that both accountability and managerial/bureaucratic capacity condition the resource-performance relationship. Empirical analyses testing the resource-performance relationship abound. In 2003, Boyne identified 18 studies testing the effect of financial resources on service performance and 26 studies testing the influence of human resources (staff quality and quantity) on different dimensions of performance.

Other studies have related administrative capacity to employee stability, as bureaucratic permanence is considered an intangible resource. Wimpy et al. use a measure of organizational capacity determined through public administrative resources that "assesses the extent to which civilian central government staff is structured to design and implement government policy and deliver services effectively" (forthcoming, 13). Despite diverse indicators used to operationalize capacity, most of the studies rely on a measure of human resources, specifically the size of the administrative staff (Huber and McCarthy 2004; Hall 2008). Consequently, we propose that

H1: The more human resource capacity an organization has, the higher its effectiveness.

Capacity as Organizational Capabilities

As Piening writes, “While resource refers to an input to production that a firms owns . . . a capability describes the firm’s capacity to deploy resources to achieve a desired outcome” (Piening 2013, 212; see also Helfat and Peteraf 2003). In other words, resources alone do not constitute capacity (Kolar Bryan 2011, 12), because organizations also must have access to the skills and processes needed to convert inputs into outputs (Dess et al. 2007) by managing resources effectively (Honadle 1981, Ingraham et al. 2003). According to Ingraham et al. (2003), administrative “know how” constitutes managerial capacity. This perspective of managerial capacity is also reinforced by Helfat et al., who assert that capability is “the ability of an organization to perform a coordinated set of tasks, utilizing organizational resources, for the purpose of achieving a particular end result” (2007, 999) and by Harvey et al., who state that capabilities “emphasize the key role of strategic management in adapting, integrating, and reconfiguring internal and external skills, resources, and functional competences to match requirements with the changing environment” (2010, 83).

For others, such as Andrews et al. (2015), organizational capability is associated with structural configuration, including department size, structural complexity, agencification, personnel stability, and use of temporary employees. In their qualitative comparative analysis of U.K. central government departments, Andrews et al. (2015) find that high-capability departments exhibit two organizational configurations – low structural complexity and personnel stability – while low-capability departments are characterized by personnel instability, structural complexity, and departmental agencification.

In the public sector, intergovernmental cooperation/collaboration can be considered an organizational capability since “alliances strengthen a firm’s asset position by gaining access to new, external resources and capabilities” (Piening 2013, 212; see also Eisenhardt and Martin

2000 and Keil 2004). Indeed, Kolar Bryan and Roussin Isett's (2013) study, which included 56 interviews in four states, finds that the capability to collaborate with other organizations is critical to an organization's perceived ability to carry out its mission and agenda. In resource-scarce contexts, intergovernmental cooperation through technical assistance, for example, should contribute to resource acquisition and, in turn, to government performance. Collaborating with other organizations leads to organizational access to knowledge (Kelman et al. 2012) and complementary skills, new technologies, and the ability to provide a wider range of products and services beyond organizational boundaries.

Moreover, certain policy areas exist that are more likely to demand collaboration with other departments and governmental or nongovernmental organizations. In complex policy areas, intergovernmental collaboration becomes necessary (Agranoff & McGuire, 1998). Wang et al. (2015) illustrate the need for collaboration and coordination in implementing local green economic strategies, as an "effort to build human resource management capacity and practices" (6). Therefore,

> *H2: The more an organization engages in intergovernmental cooperation, the higher its effectiveness.*

Capacity as Organizational Competency

In addition to resources and capabilities, organizational capacity also is defined in terms of competency (Kolar Bryan 2011). This perspective understands capacity as those organizational resources and capabilities related to organizational effectiveness (Kolar Bryan 2011, 13). According to Bryson, "a competency is a capability, set of actions, or strategy that helps an organization perform well on its key success factors. In other words, an organization may have a competency, but if it does not help the organization do well on a key success factor,

it is not much of a competency" (2004, 126). In sum, competency refers to the ability to do something well.

For Hroník, managerial competence is a "bunch of knowledge, skills, experience" that supports the achievement of organizational objectives (2007, in Krajcovicova et al. 2012, 1120). Similarly, Krontorád and Trčka define competence as "a combination of knowledge, skills, abilities, and behaviors that an employee uses in carrying out [his or her] work" (2005, in Krajcovicova et al. 2012, 1120; see also Kolar Bryan 2011). These definitions characterize knowledge, experience, skills, and expertise as key managerial competencies.

Expertise, according to Ericsson, Krampe, and Tesch-Römer (1993), refers to "domain-specific skills and knowledge, which are important to attainment of expert performance" (365), and "is acquired slowly over a very long time as a result of practice" (366). They also argue that "[e]xperts are faster and more accurate … and their memory for representative stimuli from their domain is vastly superior to that of lesser experts, especially for briefly presented stimuli" (Ericsson, Krampe, and Tesch-Römer 1993, 365). Empirical research linking expertise and expert performance (Chi, Glaser, and Farr 2014, Ericsson and Smith 1991) has shown that experts' superior performance is acquired through long experience, and that the effect of practice on performance is large (Ericsson, Krampe, and Tesch-Römer 1993, 365–368). Likewise, Wang et al. (2015), referencing the work of Donalson (2001) and Mitzberg (1979), contend that "if a local government has a dedicated staff whose main task is to coordinate and manage certain efforts and strategies, it will enable the government to achieve the expected outputs/outcomes by gaining the benefit of specialization" (5). In sum, expertise is important for all policy and management areas (Wang et al. 2015, 5). Therefore,

H3: The higher an organization's specific task-related expertise/competence, the higher its effectiveness in that specific task.

Case Selection: Chilean Municipalities

We test our hypotheses using data from 340 (out of 345) Chilean municipalities, over a nine-year period (2005-2013). Chile is formally a unitary country organized into 15 regions and 345 municipalities. The majority of Chilean municipalities are relatively small: the municipal population average is about 48,000 residents, but its median population is18,000 inhabitants. The most populous municipalities (generally more than 100,000 residents) are concentrated in the capital (Santiago) and in a few regional capitals. Of all the municipalities, 75 percent have a population of less than 50,000 people.

We also rely on interviews with municipal planning managers, who are usually responsible for obtaining and managing infrastructure grants; regional government authorities in charge of providing assistance for municipal applications; and central government grant reviewers. We contacted these government employees through one of the authors' local connections. We interviewed three planning managers: one from a big and urban municipality, one from a small and rural municipality, and one from a medium size municipality. Two regional authorities were contacted, one from a far south region, and another from one of the central regions. Finally, we interviewed two grant reviewers based in Santiago, the capital. [2]

Equivalent in scope and structure to U.S. counties, Chilean municipalities enjoy extensive, constitutionally granted fiscal and political autonomy, including the authority to design, fund, and implement policies and programs. Chile, like most Latin American countries,

[2] Most of the interviews were conducted in person in December 2014 and January 2015, except for interviews with regional employees, who were contacted by email and phone during 2015.

has a particular form of local leadership: a "strong, elected mayor." Mayors are elected for four-year terms and may continuously serve consecutive terms if reelected. The Chilean Constitutional Law of Municipalities stipulates a legislative body must oversee a directly elected mayor. This municipal council is elected concurrently with the mayor for a four-year period and consists of six to 10 members, depending on the number of eligible voters in the municipality.

Similar to the U.S. but unlike in other Latin American countries, most Chilean municipal spending is financed through municipally collected funds. Municipal direct revenues – collected primarily from royalties, service provision, property tax, and sales of their own assets – can be spent in any sector. On average, approximately 60 percent of the municipal budget comes from local taxes, and 40 percent comes from transfers from a small number of rich municipalities to poorer ones (Bravo 2014). This transfer system is known as the Common Municipal Fund (*Fondo Común Municipal, or FCM*), used to redistribute revenue.

The primary responsibilities of local governments are operating social programs, such as public education (elementary schools and high schools) and public health. The law determines two types of functions for municipalities: "exclusive" (*privativas*) and "shared" (*compartidas*). Exclusive activities are those specific to the municipality without participation of any other agency or organization. Examples of such activities include enforcement of transportation rules, garbage collection, creation of local development plans, and enforcement of building codes. The shared activities involve other public and private organizations and include education, healthcare, social welfare, and recreation.

The primary source of revenue directed to fund infrastructure projects comes from the National Public Investment System, the most consolidated investment appraisal system in Latin America (Gomez-Lobo 2012). In Chile, by law, all public bodies, such as ministries, regional

governments, municipalities, publicly owned companies, or public services wishing to undertake an investment project or program using funding from the central government must apply to the National Public Investment System. Only initiatives evaluated through this system can be undertaken within the public sector. Depending on the type of project, an evaluation consists of either a cost-benefit analysis or a cost-effectiveness analysis. Once the project is approved, the regional authorities can prioritize the project, allocating resources in the first or second year following approval.[3]

Research Design

The unit of analysis in this study is the municipality-year. Data availability limited the study to a nine-year period (2005–2013), which covers four years of the 2005-2008 mayoral administration, four years of the 2009-2012 administration, and one year of the 2013-2016 administration. Mayoral inauguration normally occurs in December of the year before the administration commences. Because the beginning of the mayoral administration nearly coincides with the beginning of the calendar year, it is possible to associate annual municipal indicators with a specific mayoral administration.

Data were obtained from several sources. The National System of Municipal Indicators (*Sistema Nacional de Indicadores Municipales,* SINIM),[4] a centralized data warehouse for municipalities run by the central government's Integrated Projects Bank *(Banco Integrado de Proyectos,* BIP),[5] provided information on municipal applications. The Transparency System, a system similar to the Freedom of Information Act in the U.S., which applies to almost all public

[3] This system resembles to the Regulatory Impact Analysis required for proposing rules elaborated by regulatory agencies in the U.S. Unlike the U.S. system, the Chilean system applies to all public organizations.
[4] Available from www.sinim.cl.
[5] Available from http://bip.ministeriodesarrollosocial.gob.cl.

organizations in Chile, provided additional information requested by the authors. Additionally, data on political variables were collected through the National Electoral Service (SE).

Variable Definition and Operationalization

We assess organizational effectiveness through municipal effectiveness in securing infrastructure projects. We measure effectiveness with respect to projects implemented (number of projects awarded relative to total number of applications) and effectiveness in monetary terms (value of money awarded relative to total amount requested).

As explained in the previous section, any public organization in Chile interested in carrying out an infrastructure project must first present the project to the central government. Municipalities may use their own funds, but, on average, one infrastructure project is equivalent to about 10 percent of a municipality's annual revenues, so locally funding infrastructure projects are rarely feasible. Most municipalities must therefore apply to the central government for funds to invest in local projects, such as building a park, repairing a classroom in a local school, or paving a street. The funds awarded are earmarked, for they can only be used for the project presented by the municipality and cannot be redirected to cover other general expenses.

In theory, municipalities must reach agreement with their regional governments about the projects they plan to propose each year. Once municipalities and their regional governments agree on projects to fund the next year, each municipality must send its application to the Ministry of Social Development (MSD), which evaluates proposals based on technical and economic merit. Once the MSD approves a project, it is generally implemented one or two years later.

We collected data from the MSD regarding the status of approximately 54,000 municipal project applications since 2005. We limited our dataset to applications for new projects, excluding continuations of previous projects and funds that replicated previously funded projects within the same municipality, as these funding decisions were likely based on precedent and therefore related to previous rather than current administrative conditions.

Table 1 lists the descriptive statistics for all of the variables. The five excluded municipalities are the richest in Chile, possessing sufficient resources to fund their projects without the need for assistance from the central government.

Independent Variables

We measure capacity in three different ways, in line with our hypotheses. Capacity is measured as resources (administrative personnel), capabilities (collaboration), and competence (expertise).

Resources are operationalized as administrative personnel. Mayors and middle-level municipal managers have employees working directly under them. Because we do not have data on specific municipal teams' characteristics (i.e. number of proposal writers), for each year we use the total number of employees per municipality as a measure of municipal human resources, similar to approaches used in previous research (e.g. Hall 2008). We do not include a measure of financial resources as "capacity" since greater financial resources could be positively associated with funds acquisition by providing material inputs to the application process, yet more resources could also make the need for funds less pressing, reducing the incentive to apply for external resources. We instead use financial resources (revenues) as a control variable.

Organizational capability is operationalized as municipal-regional/central collaboration. As a proxy for inter-organizational collaboration, we measure the percentage of annual

applications for projects within a municipality that are submitted by an employee of the regional or central rather than the municipal government. This variable does not directly measure collaboration, but we expect that is correlated with it, because in order for regional or central government employees to review and submit an application pertaining to a particular municipality, they must have some degree of coordination with staff or leadership of that municipality. The willingness of actors outside of the municipality to undertake these activities also signifies a collaborative relationship.

The MSD is the only government agency with the authority to approve municipal projects. Neither the regional government nor other central government agencies participate in the official approval process. But, in general, both central government agencies and regional governments possess greater technical knowledge and experience in applications than municipalities (Espinoza, 2014) owing to their scope and human resources. For example, regional governments develop large, complex projects involving multiple localities (e.g., highways), and some have specialized project development teams.[6] Municipalities that form collaborative relationships with these agencies therefore have access to greater organizational capabilities than those that do not.

Organizational competence is operationalized as municipal projects-related expertise. The data from the Integrated Projects Bank includes the name of the person submitting the final version of each project application. We use this data to construct a proxy for local projects-related expertise. We counted the number of times within a study period that a submitter's name appears on successful past applications. In other words, this variable measures the number of times the employees of a given municipality have previously participated in effective project

[6] One of the author's interview with a Chilean regional planning manager, April 2015.

designs, development, and submission. That is, if three employees work on several projects in a given municipality-year, we counted the number of projects awarded by these three employees in prior years (since 2000), which could be five, 10 and 12 projects, respectively. We then calculated the average expertise of these three employees by dividing the total number of successful projects submitted by the total number of submitters ((5+10+12)/3) = 9.[7]

For a given municipality-year, we calculated the average expertise of all employees appearing as project submitters. This measure does not distinguish between middle-level managers' expertise and other employees' expertise, since the database does not clearly describe the position of the person sending the application. But the data do allow us to see that at least 35 percent of submitters are middle-level managers in charge of planning. The advantage of this variable is that it's available for the entire sample.

Control Variables:

The political context in which an organization operates is also expected to influence its performance. There are two working hypotheses for the co-partisan-intergovernmental grants relationship. One hypothesis considers the positive presidential political effect that grant acquisition may have in jurisdictions with a high number of swing voters (Lindbeck and Weibull 1987, Dixit and Londregan 1998). The alternative hypothesis suggests that due to risk aversion, grants tend to be allocated to jurisdictions already politically aligned with the president (Cox and McCubbins 1986). Additionally, evidence exists in the Chilean case that regional authorities, particularly regional council members, can have a strong influence in the application process

[7] We use data on applications since 2000, so applicants in the early years of our study period are not necessarily less experienced than those listed on later applications. In fact, there is no trend in the average experience in later years (e.g., 2013) compared to earlier years (e.g., 2005). Additionally, we include a year fixed-effects regressions in the appendix, which should control for any trend in the independent variables. The results do not change when compared to our main specifications.

(Espinoza, 2014). Regional authorities can assist municipalities with the preparation and design of projects before they are sent to the central government for final approval.[8] Regional government authorities are chosen by the president, therefore, the variable "*polipartisan alignment"* measures party alignment between the mayor and regional and central governments. This dummy variable is coded "1" when the mayor and the governor belong to the same political coalition; otherwise "0."[9]

In addition, partisan alignment also can be assessed with respect to the legislature. Government organizations operating under a divided government may perform differently from those operating under a unified government. Under divided government, it is more difficult for executives to pass legislation on spending (Alt and Lowry 1994, Clingermayer and Wood 1995), encouraging mayors to seek additional revenue sources that might specify targets for their use, thus avoiding the need for legislative approval. To account for this, we also measure *mayor and municipal council partisan alignment*. Council members also are elected at the local level. We include this variable to address the possibility that mayors performing in politically divided governments may face difficulty in obtaining the council's support for their projects. Under these circumstances, mayors may be more aggressive in seeking national and/or state funding, as these

[8] Neither presidential nor gubernatorial elections are concurrent with mayoral elections. The study covers three presidential terms (2000-2006, 2006-2010 and 2010-2014), during which the center-left coalition, Concertacion, headed government in the first two periods, and the center-right coalition, Alianza, headed government in the last period. For the period covered in this study, presidential elections took place in 2005, 2009 and 2013, with presidents commencing their administrations in March of the following year.

[9] Despite the fact that there are more than 10 parties in Chile (depending on the election), two coalitions have been sustained since Pinochet's dictatorship. The *Concertacion* represents the center-left electorate, and includes four parties: the traditional Socialist party, the Partido por la Democracia, the Partido Demócrata Cristiano, and the Partido Radical. These four parties formed a coalition when Pinochet's dictatorship called for elections, and maintained the same parties until 2014, when the Communist party joined them. They were successful in presidential elections from 1990 to 2010. The *Alianza* represents the center-right electorate, and includes the Union Democrata Independiente, Renovacion Nacional, and the Partido Regionalista. These parties joined the coalition after Pinochet was defeated and had to call for general elections. All remaining parties are minor, more radical left-oriented groups.

funds may not require the council's oversight. This measure is a continuous variable reporting the percentage of council members politically aligned with the mayor.

In competitive or conflictual environments, managers may seek to gain support from as much of the population as possible. They may pursue more aggressive approaches to expanding organizational revenue in order to deliver more services, thus boosting performance. This model aligns with the electoral competitiveness hypothesis, which suggests that when elections are tight, incumbents have incentive to provide more services in order to gain support from many segments of the population (Key 1949). Conversely, as Sharpe and Newton observe, "Where there is little or no competition, parties in power [can] rest on their laurels" (1984, 180). Although the party competition hypothesis has received some support (Holbrook and Van Dunk 1993), other quantitative studies of U.S. state politics (Dye 1966) and Latin American municipal politics (Avellaneda 2009a, 2009b) conclude that party competition has little or no impact on service delivery. *Electoral competitiveness* is assessed in terms of the margin of victory, given as a percentage, between the winner and the runner-up in mayoral elections.

To avoid misattributing municipality effects to any of the independent variables and to avoid omitted variables, our study also controls for additional municipal and grants characteristics. We control for mayors' ideology (coalition), since some empirical studies (Alt and Lowry 1994) have shown that while conservatives prefer low spending and low taxes, liberals prefer high spending and high taxes. Consequently, liberals are expected to seek more revenue in order to have more resources to spend. In line with fiscal federalism literature (Collins, Andrew, and Khunwishit 2015; Collins and Gerber 2006, 2008), we control for

localities' need (poverty, rurality, earthquake), municipal size (population), and financial capacity (revenues).[10]

We control for number of grants submitted in the previous year, and whether a grant is submitted as a design project (first phase) or execution project (second phase). When a grant is presented, it may have to be presented first as a "design project," then if approved, it will be presented as an "execution" project, which will present more details about implementation. We control for the number of grants in the "execution" category, as we expect these grants are more likely to be approved since they already received approval in the design phase. We also control for the average cost per year of all municipal grants submitted by each municipality. We expect that the larger the average amount of grants submitted, the harder for the grants to be approved. Additionally, we control for the funding institutions for each proposed grant. Grants can be funded by either the regional government or the central government, although they still need to go through the central government approval process. According to one of the middle-level managers we interviewed, grants presented to each level of government differ significantly in terms of characteristics, requirements, and review process. We also control for the number of grant applications related to education, justice, or sports policy because the central government requires regional governments to devote at least 2 percent of their budgets to these three areas. Given this target, there might be more pressure to approve grants within these categories. Finally, we control for administration-year because grant applications may be contingent on the

[10] The February 2010 earthquake, the fifth-largest recorded earthquake in world history, leveled many buildings and infrastructure in the Chilean fifth, sixth, seventh, and eighth regions. This catastrophe destroyed significant public infrastructure, such as schools, roads, and bridges, creating the need for larger investment in the affected municipalities. We construct a dummy variable taking the value of "1" in municipalities where the intensity was beyond seven on a MSK-64 scale that measures damage and destruction for years 2010, 2011, and 2012.

electoral cycle. This is a categorical variable, and the model includes the second, third and fourth administration years, which are compared to the first administration year, the excluded category.

[Table 1 about here]

Analysis and Results

Tables 2 and 3 provide estimations for two dependent variables: effectiveness in funds acquisition as the number of projects approved relative to the total number of applications, and total money awarded relative to total money requested.[11] The unit of analysis is the municipality-year. The same independent variables are used in both models, since we want to test for differences in the factors that influence the percentage of the number of projects approved and the percentage of money awarded. For each dependent variable, we use fixed-effects, random-effects, and Arellano-Bond estimations. The variance inflation factor (VIF) suggests that multicollinearity is not an issue. Because we used a panel data set, our preferred estimation model is fixed-effects, which allows us to control for time-invariant unobserved characteristics at the municipal level.[12] The Arellano-Bond estimates allow us to control for the "stickiness" in the process, to address the possibility that project preparation in a given year can build upon previous years' work. All regressions use cluster-consistent standard errors to correct for heteroscedasticity and serial correlation within clusters. The R-squared shows that our models can predict 20 to 32 percent of the variation in effectiveness.

[11] The amount awarded is the cost of the project as it appears in the application. This is an estimate made by the municipality, and could differ from the actual cost of the project. For example, some projects could end up taking longer and need more money, in which case the municipality might need to apply again for funding or use its own funds.

[12] We run a Hausman test, which did not reject the null hypothesis, suggesting the difference in coefficients between fixed effects (FE) and random effects (RE) is not systematic. However, the idea underlying Hausman specification test is that both RE and FE estimators are consistent if there is no correlation between the error and the explanatory variables. In practice, this assumption cannot be verified, so we prefer to present both results.

[Table 2 about here]

Effectiveness in funds acquisition (projects approved over total number of applications)

Our administrative capacity hypothesis receives strong support with respect to local effectiveness in funds acquisition. Models 1, 2, and 3 in Table 2 report the estimations for the effectiveness in infrastructure funds acquisition as the total number of projects approved in a given year. Results are consistent across the three models. All measures of administrative capacity are significant at the 1 percent level and with the expected signs. For instance, holding all else constant, one additional employee increases funds acquisition effectiveness by 0.05 percentage point, whereas one additional unit of expertise (one more previously funded project in the past) increases effectiveness by 1 percentage point. Similarly, collaborating with regional and central governments increases municipal effectiveness: a 1 percent increase in the percentage of projects with inter-organizational cooperation increases the effectiveness by 0.68 percentage points (regional government) and 0.4 percentage points (central government), all other things being equal. Therefore H1, H2, and H3 receive empirical support.

Political factors seem to play an important role with respect to the party alignment. On average and all else equal, when the mayor and the governor ideologically align, there is a 0.04 percentage point increase in effectiveness. Overall, the *polipartisan alignment* variable receives support for both dependent variables.

Effectiveness in obtaining grant approval increased during the second and third administration-years, by 5 and 7 percentage points, respectively. The average cost of the project appears to have a negative impact on effectiveness, each additional million pesos (about $2,000) is associated with a decrease of 0.002 percentage points. With respect to contextual variables, it is interesting to see the 2010 earthquake reduced municipalities' effectiveness in obtaining

funding by 8 percentage points for areas affected by the catastrophe. Similarly, the source and stage of the projects influence the likelihood of approval. While having funding directly from the central government increases effectiveness in grant approval by 23 percentage points, having a project in a more advanced stage (execution phase) increases effectiveness by 11 points.

Effectiveness in funds acquisition (money acquired over total money requested)

Results are similar when analyzing effectiveness in terms of money awarded. Models 1, 2 and 3 in Table 3 report estimations for effectiveness measured in money awarded relative to money requested. Results are consistent across the three models. Again, all our measures of administrative capacity are significant at the 1 percent level and with the expected signs. Holding all else constant, one additional employee increases funds acquisition effectiveness by 0.07 percentage point, whereas one additional unit of expertise increases effectiveness by 1 percentage point. Similarly, collaborating with regional and central governments increases municipal effectiveness: a 1 percent increase in the percentage of projects on which there is inter-organizational cooperation increases the effectiveness by 0.7 percentage points (regional government) and 0.4 percentage points (central government), all other things being equal. Therefore H1, H2, and H3 also receive empirical support when the measure of effectiveness is calculated in terms of money obtained.

Political factors seem to play an important role, although in this model not only the party alignment measure is significant, but the legislative support variable also shows significance. One additional point of legislative support is associated with a reduction in effectiveness of 0.1 percent.[13] Other control variables show coefficients similar to the effectiveness in the number of projects approved.

[13] We performed robustness checks by estimating two-way fixed effects (year and municipality fixed-effects) for our two dependent variables, and the results do not change significantly (results can be provided upon request). These

Discussion and Limitations

Results provide empirical evidence for the proposed impacts of our measures of capacity on grant acquisition effectiveness. Whether it's acquiring more expertise, collaborating with other government layers, or bringing more employees to the organization, each dimension of capacity contributes to local effectiveness in securing infrastructural grants. The potential of a more capable administration should not be underestimated, particularly when funds are scarce. Acquiring external funds can be extremely challenging for some local governments but can have a large impact on the communities. In one of our interviews, a planning manager complained that he had insufficient staff to develop projects, as his five employees spent most of their time on previously approved projects, leaving little time to apply for new funds. [14]

Unlike previous studies, our study provides a more complete and objective measure of capacity. By using three measures of capacity, our study is able to show that capacity can matter in three different ways. First, and as previous studies have shown, having more resources (such as human resources), can make organizations more effective. Additionally, having more expertise, such as grantsmanship, can also influence organizational effectiveness. This concept has been previously discussed in fiscal federalism literature, but is largely missing in empirical studies, despite its importance. Finally, findings also show that acquiring knowledge and resources through intergovernmental collaboration can boost municipal effectiveness. This is particularly relevant for lower performing municipalities; as many lack organizational capacity to design and present infrastructure projects, for they have neither the technical knowledge nor the access to resources to carry out thorough cost-benefit analysis and project evaluation

models forces us to drop the administrative years as control variables, since they create perfect multicollinearity with the year-fixed effects, and for that reason they are not part of our preferred specification.

[14] One of the authors' interview with a Chilean municipal planning manager, December 2014.

(Espinoza, 2014). According to one of the regional managers we interviewed, this deficiency is the main barrier to obtain funding, particularly for small municipalities, and sometimes relying on regional government's guidance and technical assistance in crafting larger infrastructure projects is the only resource available for them. [15]

With regard to our control variables, a few relationships are worth noting. As we theorized, a more competitive environment might encourage mayors to look for additional revenue sources and seek public support through infrastructure projects. By comparing our two measures of effectiveness, it appears when mayors face less legislative support, they focus on securing greater amounts of funding but not necessarily greater numbers of projects, likely directing their attention to larger, more visible projects that may gain them electoral support. The average cost of the project appears to have a negative impact on effectiveness in obtaining project approval, possibly because these projects involve more demanding designs. Additionally, even though municipalities affected by the earthquake increased their applications, the level of municipal needs post-earthquake likely overwhelmed local managers, making project applications more difficult to prepare. Finally, effectiveness in obtaining approval increased during the second and third administration-years, likely due to learning after the first year and/or the incentive to obtain funding while time is still available for it to be spent during the administration.

This study is not without limitations. Despite using panel data for a relatively lengthy period of time, the use of municipal-level fixed effects to control for time invariant municipal characteristics and year-level fixed effects to control for common shocks, there are still potential

[15] One of the author's email exchange with a Chilean regional planning manager, April 2015.

time-varying unmeasured variables that could influence municipal effectiveness and confound our estimations. Another limitation of this study concerns the relationship between effectiveness and the quality and quantity of services provided by local governments. Obtaining funds for infrastructure projects does not guarantee the projects will be implemented completely and/or with the level of quality expected by stakeholders. In a similar vein, the effectiveness measure does not consider the quality of the final project.

Conclusions

This study contributes to the currently limited body of research on the role of capacity in government effectiveness by (i) objectively measuring organizational capacity across three previously recognized dimensions of capacity, (ii) objectively measuring effectiveness in the context of intergovernmental grant acquisitions; and (iii) testing the proposed relationships in a Latin American setting.

This study measures organizational capacity across three dimensions of capacity that have been ignored when studying effectiveness: capability, expertise, and administrative personnel. Even though previous research has studied factors explaining why some local governments are rewarded with grants, these studies use an aggregated measure of human resources, thus failing to distinguish between different dimensions of capacity. Here, we show dimensions, such as employee expertise and the capability to acquire resources through intergovernmental collaboration, can make governments more effective. Additionally, as measures of effectiveness have been neglected by fiscal federalism studies, this research allows us to separate the grant approval effects of demand for funds from local capacity abilities to secure funds, thus creating a more credible link between capacity and grant acquisition. Similarly, by using an objective measure of effectiveness, our research avoids common-method

bias. Objective measures are traditionally viewed as the "gold standard" of public management research (Walker et al. 2010); nevertheless, to our knowledge, scarce research has used objective measures of both administrative capacity and performance. Finally, this study provides a new data-rich context to test previous hypotheses tested in the U.S. fiscal federalism literature.

Our results suggest that administrative capacity does influence local government effectiveness. Localities with greater human resources and intergovernmental collaboration practices secure more infrastructure grants. After controlling for past performance, project and municipal features, and several empirical specifications, results suggest that administrative capacity is a strong predictor of effectiveness in securing grants (both in terms of number of projects approved and percentage of money awarded). Hence, our three measures of administrative capacity are significant at the 1 percent level for our two measures of effectiveness with the expected positive signs.

This research adds to the body of literature suggesting that administrative capacity plays a role in government effectiveness. It does so by taking a closer look into the "black box" of public management, and suggesting how employees' expertise and collaboration with other organizations can promote government effectiveness. The use of extensive controls, fixed effects, and a set of interviews with local actors, collectively provides credible evidence for the importance of administrative capacities in government effectiveness. If improving government capacities holds promise for creating more effective governments, then a better understanding and more thorough testing of the determinants of this process can provide useful knowledge for both scholars and practitioners.

Table 1: Descriptive Statistics

VARIABLES	(1) N	(2) mean	(3) sd	(4) min	(5) max
Dependent variables					
Effectiveness (number)	2,893	41.79	29.89	0	100
Effectiveness (money)	2,893	43.78	35.42	0	100
Administrative capacity					
Administrative personnel	3,048	105.5	158.7	2	1,952
Expertise	2,887	5.217	11.64	0	210
Collaboration-Regional	2,893	9.346	18.74	0	100
Collaboration-Central	2,893	1.166	8.449	0	100
Political factors					
Party alignment	3,105	48.82	49.99	0	100
Legislative support	3,105	46.64	19.38	0	100
Electoral competitiveness	3,105	16.44	13.76	-3.225*	82.72
Controls					
Population (log)	3,105	9.906	1.378	5.493	13.74
Poverty	3,001	17.15	8.764	0**	58.33
Earthquake	3,105	0.113	0.317	0	1
Rurality	3,105	37.89	30.03	0	100
Revenues (billion Ch$)	3,091	5.928	11.59	0.0957	172.6
Average cost (million Ch$)	2,893	428.5	736.9	2.375	26,930
Execution phase	2,893	0.763	0.254	0	1
Central funding	2,893	0.095	0.187	0	1
Self-funding	2,893	0.026	0.099	0	1
Specific sectors	2,893	0.354	0.277	0	1
Right's ideology	3,105	0.358	0.480	0	1
Second Administration year	3,105	0.222	0.416	0	1
Third Administration year	3,105	0.222	0.416	0	1
Fourth Administration year	3,105	0.222	0.416	0	1
Total number of applications	2,893	7.510	6.501	1	69
Number of municipalities	340	340	340	340	340

* In one municipality, the mayor died after being elected. The second winner took his place, having in practice a negative margin of victory.

** Two municipalities have an effective poverty rate of zero.

Table 2: Effectiveness in Infrastructure Grants Approved (projects approved/projects requested)

VARIABLES	(1) Fixed effects	(2) Random effects	(3) Arellano Bond
Effectiveness lagged			0.069**
			(0.030)
Administrative capacity			
Administrative personnel	0.051***	0.019***	0.037***
	(0.017)	(0.006)	(0.013)
Expertise	1.130***	0.963***	1.276***
	(0.125)	(0.110)	(0.146)
Collaboration-Regional	0.685***	0.672***	0.719***
	(0.035)	(0.030)	(0.043)
Collaboration-Central	0.407***	0.344***	0.262**
	(0.112)	(0.111)	(0.120)
Political factors			
Party alignment	0.036***	0.028**	0.019
	(0.012)	(0.011)	(0.017)
Legislative support	-0.043	-0.038	0.041
	(0.045)	(0.032)	(0.057)
Electoral competitiveness	-0.054	0.005	0.052
	(0.056)	(0.046)	(0.078)
Controls			
Population (log)	-14.901	0.119	-49.517**
	(16.605)	(0.876)	(24.384)
Poverty	0.216*	0.011	0.388**
	(0.115)	(0.068)	(0.179)
Earthquake	-8.266***	-8.162***	-8.783***
	(2.047)	(1.678)	(2.542)
Rurality	0.022	0.014	0.419
	(0.278)	(0.033)	(0.474)
Revenues	-0.109	-0.292**	0.553
	(0.254)	(0.126)	(0.362)
Total number of applications (lag)	0.007	-0.047	0.270**
	(0.092)	(0.071)	(0.108)
Average cost (million Ch$)	-0.002***	-0.001***	-0.002***
	(0.001)	(0.001)	(0.001)
Execution phase	11.035***	10.275***	14.927***
	(2.638)	(2.371)	(3.538)
Central funding	22.686***	22.797***	22.488***
	(4.035)	(3.811)	(4.425)
Self-funding	-3.256	1.958	-5.497

	(6.212)	(5.774)	(10.930)
Specific sectors	0.091	1.056	1.281
	(2.319)	(2.163)	(2.643)
Right's ideology	-2.173	-0.973	-4.408*
	(1.596)	(1.186)	(2.393)
Second Administration year	5.637***	5.528***	6.150***
	(1.448)	(1.412)	(1.477)
Third Administration year	7.078***	7.322***	6.456***
	(1.419)	(1.358)	(1.540)
Fourth Administration year	1.129	1.156	0.067
	(1.320)	(1.262)	(1.424)
Constant	159.302	16.573	475.781*
	(168.314)	(10.287)	(247.151)
Observations	2,631	2,631	2,217
R-squared	0.325	0.320	
Number of municipalities	340	340	334

Cluster Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 3: Effectiveness in Approval of Infrastructure Grants (money acquired/money requested)

VARIABLES	(1) Fixed effects	(2) Random effects	(3) Arellano Bond
Effectiveness lagged			0.006
			(0.028)
Administrative capacity			
Administrative personnel	0.070***	0.017**	0.046*
	(0.024)	(0.008)	(0.024)
Expertise	1.050***	0.882***	1.234***
	(0.141)	(0.125)	(0.166)
Collaboration-Regional	0.700***	0.692***	0.749***
	(0.039)	(0.033)	(0.049)
Collaboration-Central	0.382***	0.311***	0.187
	(0.115)	(0.113)	(0.114)
Political factors			
Party alignment	0.039**	0.022	0.021
	(0.015)	(0.014)	(0.021)
Legislative support	-0.114**	-0.088**	-0.095
	(0.056)	(0.038)	(0.076)
Electoral competitiveness	-0.109	0.013	0.062
	(0.073)	(0.056)	(0.104)
Controls			
Population (log)	2.837	-0.140	-12.196
	(18.589)	(0.973)	(30.425)
Poverty	0.417***	0.084	0.638***
	(0.135)	(0.078)	(0.212)
Earthquake	-12.662***	-12.257***	-17.545***
	(2.545)	(2.069)	(3.325)
Rurality	-0.101	-0.007	0.636
	(0.375)	(0.038)	(0.701)
Revenues	-0.091	-0.217	0.065
	(0.306)	(0.152)	(0.538)
Total number of applications (lag)	0.189	0.009	0.482***
	(0.128)	(0.092)	(0.156)
Average cost (million Ch$)	-0.001	-0.002***	-0.000
	(0.001)	(0.001)	(0.001)
Execution phase	7.439**	4.822*	10.075***
	(3.142)	(2.773)	(3.910)
Central funding	21.628***	22.721***	21.826***
	(4.529)	(4.237)	(4.929)
Self-funding	-0.306	4.561	0.844

	(7.878)	(6.911)	(13.039)
Specific sectors	1.283	2.505	2.754
	(2.827)	(2.528)	(3.413)
Right's ideology	0.100	0.414	-2.717
	(2.083)	(1.412)	(3.367)
Second Administration year	6.703***	5.972***	8.103***
	(1.863)	(1.846)	(1.928)
Third Administration year	4.545**	4.274**	5.229***
	(1.774)	(1.702)	(1.902)
Fourth Administration year	1.226	1.054	1.757
	(1.751)	(1.678)	(1.873)
Constant	-13.735	27.182**	100.688
	(188.407)	(11.476)	(308.511)
Observations	2,631	2,631	2,217
R-squared	0.21	0.21	
Number of municipalities	340	340	334

Cluster Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

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