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Effective Resource Management of Governments and Corruption

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Abstract

This paper shows theoretically and empirically that public officials' corruption is likely to degrade the quality of government management practices. By shedding light inside the classic "black box" idea of management, we explain how public corruption exerts a bad influence upon leadership, use of information and resource allocation. This bad influence of public corruption, as a consequence, will deteriorate the overall management quality of governments by weakening the integration of management subsystems. Data support our arguments by showing that increase in public corruption in an American state government decreases the probability significantly that the state may maintain its management excellence. The paper also demonstrates that infrastructure management of state governments is most vulnerable to corruption. Two-stage least squares instrumental variable (2SLS-IV) regressions support the robustness of our model and the empirical results.

This study seeks to understand the potential impact of public officials' corruption on government management quality. It also contributes to empirical work linking public corruption to governmental management capacity using data on the American states. Although most aspects of government management are affected by public officials' corruption, studies on the influence of public corruption on government management quality are lacking. We contribute to fill the gap in the literature. This paper argues that public officials' corruption worsens the quality of government management. Beyond explaining theoretically how public corruption can deteriorate government management, we also provide empirical evidence of U.S. state governments. We note which management sectors of U.S. state governments are most vulnerable to corruption and suggest some policy implications accordingly.

Following Mauro (1995), we define public corruption as the "misuse of public office for private gain." Corruption seems to exist everywhere at all times and affects government policy in

various ways. The impact of public corruption on economic and political variables is of special interest for researchers (Liu and Mikesell 2014). To our knowledge, however, theoretical and empirical studies on public corruption are scarce in U.S. public management and public administration fields. In particular, research on the association between public corruption and the quality of government management is wanting. Our corruption indexes calculate the number of U.S. public employees who are convicted of violations of the federal corruption-related laws. The U.S. Department of Justice publishes the numbers across the states annually.

For our theoretical argument, we benchmark the classic "black box" idea of management and shed *some* light inside the box. The original idea explains that the quality of government management will be affected by the integration of management subsystems, including human resource management, financial management, capital management and information technology. Moreover, the integration of these subsystems is affected by three key activities of management: "leadership, use of information, and resource allocation" (Ingraham and Donahue 2000). By integrating principal agent theory, bureau information monopoly model and rent-seeking model, we explain that public corruption distorts the three key activities of management, which implies that public officials' corruption will deteriorate government management quality consequentially by hampering the ideal integration of management subsystems. The empirical results show that U.S. states with a higher level of public corruption are likely to have a lower grade of overall management quality, measured by the Government Performance Project (GPP). By applying various methods including two-stage least squares instrumental variable (2SLS-IV) regressions, we take into account the potential endogeneity of our corruption variable and show that our model and empirical results are robust.

Our ultimate future goal is to explore the determinants of governmental performance. However, it is beyond this study, which is concerned primarily with the efforts linking governmental management capacity to policy performance (Hou, Moynihan, and Ingraham 2001). This effort may work like a stepping stone, which will be meaningful because government management can profoundly influence the outcomes and performance of governmental activities, which is an enduring concern of public management and public administration (Coggburn and Schnider 2003).

Lynn, Heinrich and Hill (2000) underline the importance of management quality to an understanding of government performance: "there is virtually always a need for management with respect to public sector activity, and, therefore, managerial behavior is almost always a factor in government performance." There is little systematic investigation of the factors associated with state governments' management capacity (Knack 2002). We build a model and find the determinants of governments' management quality, which illustrates the impact of public corruption on management in the end.

In this study, we try to answer three questions: What are the determinants of U.S. state governments' management quality? How can public corruption affect government management quality? Which sector of government management is most vulnerable to public corruption in American states?

This article is composed of six sections. The first section provides a literature review on issues related to government management quality and public officials' corruption. Second, we hypothesise the influence of public corruption on government management quality by benchmarking the "black box" idea of management. Third, we explain the research model,

methodology and data. Fourth, we present empirical estimates of the impact of public corruption on U.S. state governments' management quality. Fifth, we interpret the regression results. Our conclusion provides some policy implications, notifying the most vulnerable sector of management to public corruption.

Literature Review

Lack of Study on the Association between Corruption and Management Variables

There are many studies on the effect of corruption on political and economic variables (Liu and Mikesell 2014). Public corruption is harmful to investment, economic growth, procurement, productivity, income equality, poverty and international trade. (The association between corruption and various political variables such as political institutions, democracy, freedom of press, campaign funds, decentralisation and interest groups is controversial, overall (

There exists a general consensus that reducing public corruption is one of the fundamental objectives of public administration (Themudo 2014). However, study on the association between corruption and the variables of public administration and public management is scarce. To our knowledge, only a couple of studies describe some of the implications of corruption on governmental organisations. For Felps, Mitchel and Byington (2006), "Bad apples can spoil the barrel," noting some negative impacts of "dysfunctional" members on group processes and outcomes of organisations. Jancsics and Javor (2012) also demonstrate a harmful influence of corruption on network structures. Gould and Amaro-Reyes (1983) argue that corruption deteriorates administrative performance by subverting trust, inhibiting innovation and reform, encouraging violations of rules and regulations and intimidating honest civil servants into silence.

We suspect a couple of reasons why studies on the impact of corruption on management variables are rare. First, scholars have failed to find a complete definition and a perfect measure of public corruption (Collier 1999; Johnston 1994, 1999; Kaufmann 1998; Lancaster and Montinola 1997). Second, it is not easy to define and measure the important aspects of "management in organisations" completely. Management variables incorporate various efforts in organisations including the conscious efforts of actors and resources to carry out collective objectives (O'Toole 2000). Public sector management also includes the comprehensive practice of functions such as leading, organising, motivating, planning and strategy making, evaluating effectiveness and communicating (Rainey 2009). The public management literature does not provide specific theories explaining a seemingly obvious association between corruption and management variables. Third, the endogeneity of corruption is a headache of an empirical corruption study.

To address the first problem, we follow suggestions in the corruption literature, i.e. we choose the most useful definition of corruption appropriate for our "particular concern and disciplinary taste." Concluding that a further effort to find a complete and universal definition of corruption will be futile, many scholars recommend this approach in any corruption study (Collier 1999; Kaufmann 1998; Lancaster and Montinola 1997; Meier and Holbrook 1992). This paper contributes further to the literature by addressing below the other potential problems mentioned.

Determinants of Government Management Quality[1]

Some scholars define management capacity and certain factors in order to have a better understanding of government management (Brown and Potoski 2003; Donahue, Selden, and

[1] As in the literature, we do not make a clear distinction between management capacity and management quality but use them interchangeably.

Ingraham 2000; Ingraham and Donahue 2000; Wise 1997). However, there still remains room for further research.

Government management capacity is defined as "government's intrinsic ability to marshal, develop, direct, and control its human, physical, and information capital to support the discharge of its policy direction." It is a government's ability to place "the right resources in the right places at the right time." It is not one-dimensional quality but embedded in a government's core management functions, such as human resource management, financial management, capital management and information technology (Donahue, Selden, and Ingraham 2000; Ingraham and Donahue 2000). There are several studies underlining the importance of management in understanding government performance. It is necessary to make a government effective because it shapes and supports its longer-term performance capabilities (Deller and Rudnicki 1992; Donahue, Selden, and Ingraham 2000; Ingraham and Donahue 2000; Sokolow 1981). Government programmes tend to be more successful in states with greater capacity (O'Leary and Yandle 2000). Meier (1988) argues that bureaucratic capacity is required for good public policy.

The existing literature finds some factors which are assumed to affect the management quality of governments. King, Zeckhauser and Kim (2002) examine the relationship between management quality and a set of features of U.S. state governments. These features include government institutions, political and social environments and business environment. Social capital is noted as a key factor affecting the management quality of a state government. The importance of social capital to government management is also underlined by other studies (Knack 2002; Putnam 2000). Lynn, Heinrich and Hill (2000) provide a conceptual framework relating governance and management. It is a comprehensive model covering environmental factors, client characteristics, treatments, structures and managerial roles and actions.

Conceptual Framework and Hypothesis

"*Dissecting the Black Box of Management"*

To explain the impact of public corruption on government management quality, we explore the classic "black box" idea of management popularised by Easton (1965). The classical idea compares government administrative structures and arrangements to a black box in which various inputs and resources are transformed into outputs and outcomes but the processes cannot be seen. Scholars "dissected" and "revisited" the black box theory to understand how public management influences government activities and performance and what occurs within the box. They assumed that public management links inputs and results and government cannot perform effectively if the link does not function well (Coggburn and Schneider 2003; Donahue, Selden, and Ingraham 2000; Ingraham and Donahue 2000).

Management system linking inputs and results inside the black box comprises various subsystems such as financial management, human resource management, information technology and capital management. These subsystems are crucial to the quality of management system which will affect the accomplishment of the ultimate goals of public policy. Although such subsystems have been considered as separate functions, management quality is concerned with the extent to which they "are integrated, perform within, and contribute to a holistic management system." The management quality of a government is determined by its ability to integrate these distinct subsystems within the context of government management ("the degree of integration") and make them contribute to planned outcomes ("managing for result"). Three key activities affecting integration are "the exercise of leadership; the use of information; and the strategic allocation of resources" (Ingraham and Donahue 2000).

Shedding Light Inside the "Black Box"

As aforementioned, Ingraham and Donahue (2000) "dissect" and "revisit" the black box idea of management and help public management students understand what management capacity is, what constitutes effective management quality and how management links inputs, outputs and outcomes. Still, however, more light can be cast inside the black box of management. This study identifies a factor influencing the three key activities affecting integration of management subsystems, i.e. leadership, use of information and resource allocation. The factor we suggest is public officials' corruption. Conceptual frameworks explaining how public corruption may affect the three activities follow. They will shed light inside the black box of government management.

Corruption and Leadership: Principal Agent Theory and Public Corruption

The concept of public leadership is broad and multi-dimensional. It encompasses a public leader's ability to define the mission and vision of her agency; to communicate, persuade and motivate members so that they may work for the defined values of the organisation; to make decisions giving guidance to the agency and its members; to accomplish expected outcomes effectively and realise policy makers' intent; and to coordinate the activities of the public organisation consistent with broader public values and the principal's utility (Ingraham and Donahue 2000). This implies that the malfeasance of leaders and ineffective leadership will exert a bad influence upon the quality of government management.

We argue that corrupt officials' behaviours will violate the ideal leadership practices defined above. This recalls the classical principal-agent theory of corruption. Public officials are agents obliged to work on behalf of the public, the principal, making decisions and implementing public policies. The theory assumes that corruption occurs when the agent violates the ideal

principal-agent relationship and seeks his own interest at the cost of the principal given information asymmetry. Corrupt leaders tend to sacrifice the interest of principals for personal gains (Alam 1989; Groenendijk 1997; Kliggard 1988; Rose-Ackerman 1999). This implies that public corruption can deteriorate government accountability and corrupt officials fail to maximise citizens' interests while responding to their personal interests, which, as a consequence, worsens the quality of government management.

Knack (2002) notes that "accountability is meaningful to monitor government and protest against incompetence or malfeasance." Ashforth and Anand (2003) describe effectively how leadership can make corruption institutionalised[2] within an organisation. Corrupt leaders may engage in corruption by acting as role models for organisational members whose decisions and behaviours influence other members seriously. They may also "reward, condone, ignore, or otherwise facilitate corruption." Moreover, leaders may play a role in "authorizing" and "encouraging" corruption (Ashforth and Anand 2003).

Bureaucratic corruption, so-called "petty corruption", refers to corrupt behaviours of low-level public officials. People may experience this corruption through daily administrative services from agency bureaucrats, immigration officials, custom clerks, policemen, and the like (Andvig and Fjeldstad 2001). It is argued that corrupt officials are likely to make administrative processes inefficient, increase red tape and delay procedures in demanding bribes (Jain 2001). Thus, these cases also verify that corruption can hamper the exercise of leadership.

[2] Institutionalisation of corruption is defined as "where an initial corrupt decision or act becomes embedded in structures and processes and thereby routinized" (Ashforth and Anand 2003).

Hypothesis 1*: Public corruption is expected to worsen the quality of government management because corrupt officials may fail to meet the accountability standard and conduct ideal leadership behaviours.*

Corruption and Use of Information: Transparency, Bureaucracy Model

The issues related to use of information also affect the overall integration of the management subsystems (Ingraham and Donahue 2000). They include how freely, consistently and quickly managers cause information to flow through a government; how attentively managers handle data and information; and how much managers are willing to share knowledge (Ingraham and Donahue 2000). Thus, misuse of information, malfunction of information technology and ill-intentioned application of information will deteriorate the management quality of a government.

To explain corrupt officials' behaviour related to use of information, we apply the bureau information monopoly model, developed by William Niskanen (1971). The two major assumptions of this theory are: first, bureaucrats desire maximised budgets because the size of budgets means "power, pay, and prestige" to them. Second, bureaucrats have monopolistic information on the actual costs of public programmes and projects, compared with other politicians and the public. Self-interested bureaucrats are willing to use this information on monopoly power in seeking personal gains. The selfishness of bureaucrats tends to make many of their public decisions inefficient. For example, they cause public budget size to be elevated artificially and "excessive", which means larger than the "optimal" (Berry and Lowery 1987).

We define public corruption as "misuse of public office for private gain." Corrupt bureaucrats are likely to pursue selfish interests to the extreme. They can seek personal interests even by violating laws and regulations, which are called "predatory" and illegal behaviours. If the

bureau information monopoly model assumes that the selfishness of common bureaucrats results in inefficient use of information, we may argue that public corruption, extreme selfishness, will also make the use of information inefficient, or even worse.

In addition, corrupt public officials have to hide their malfeasance so as not to be detected and punished. Thus, they are less likely to share information transparently, or they have personal incentives to distort information for their own benefits, which should result in misuse of information and malfunction of information technology (Liu and Mikesell 2014).

Hypothesis 2*: Public corruption is expected to worsen the quality of government management because corrupt officials may fail to use information efficiently and transparently in pursuit of their personal gain through information.*

Corruption and Resource Allocation: Rent-seeking Model

Efficient resource allocations also promote the integration of the management subsystems, which is crucial to the maintenance of government management quality (Ingraham and Donahue 2000). Public officials should make a series of decisions regarding how to collect resources necessary for governmental operations, how to allocate public resources to various government projects, and in which criteria public resources should be distributed. Regarding this, Ingraham and Donahue (2000) identify two fundamental examples of public resource allocation: budgeting process and personnel management. Financial resources are allocated through budgeting process. Human resources are distributed and located through personnel management. Misallocation and distorted allocation of financial and human resources must result in the deterioration of the quality of government management.

Concerning the impact of public corruption on resource allocation, we apply the "rent-seeking explanation". The rent-seeking literature explains that public corruption may distort resource allocation, because corrupt officials are more likely to spend public resources on items from which they can levy larger bribes or rents. They take advantage of their discretionary power on resource allocation for their private gain. In particular, many studies show that public corruption distorts resource allocation in budgeting processes such as education, health, defence, infrastructure, military and social welfare expenditures (Baraldi 2008; Delavallade 2006; Hessami 2010; Mauro 1998; Shleifer and Vishny 1993). Recently, Liu and Mikesell (2014) found that U.S. states with a higher level of corruption are likely to spend more on construction, capital, highways and police protection, at the cost of social sector spending such as education, health and hospitals, because these items are more "bribe-generating" for corrupt officials.

Likewise, corruption has a harmful influence on human resource allocation. Biased human resource allocations are historical practices of public corruption. Instead of applying the merit-based standard, corrupt leaders are likely to give positions to those with whom they have personal connections. Although they are often interchangeably used, favouritism, clientelism, cronyism, nepotism and patrimonialism are all related to the distortionary impact of corruption on human resource allocation (Amundsen 1999; Andvig and Fjeldstad 2001; Lancaster and Montinola 1997).

Hypothesis 3*: Public corruption is expected to worsen the quality of government management because corrupt officials may distort public allocation of both financial and human resources. Corrupt officials are likely to allocate public resources to items from which they can collect higher rents.*

Our benchmark hypothesis integrating these sub-hypotheses regarding the association between public corruption and government management quality is as follows:

Hypothesis 4*: By integrating all three hypotheses above, we expect that states with a higher level of public corruption are likely to have a lower overall quality of management. It will happen because public corruption will deteriorate the three major activities of government crucial to the effective integration of management subsystems and the maintenance of high quality of management consequentially: exercise of leadership, use of information and resource allocation.*

Data

Dependent Variable: Management Quality of U.S. State Governments

We use the Government Performance Project (GPP) data to assess the level of management quality of the 50 U.S. state governments. The Pew Center on the States and Syracuse University manage the data. The management quality data of 50 states are available for 1998, 2000, 2005 and 2008. Like all other data sources, the GPP data are not free from critics (Kirlin 2001), but various studies have used them. It is alleged that the GPP management quality grades provide "detailed, general, criteria that clearly define good management practice" of American states. They represent the "best, criteria-based, multidimensional measure" (Borins 2005; Ingraham, Joyce, and Donahue 2003). The GPP data make it possible for many public management studies to operationalise theoretical concepts systematically and provide practical insights based on empirical evidence (Brudney, O'Toole, and Rainey 2000; Burke and Wright 2002; Coggburn and Schneider 2003; Donahue, Selden, and Ingraham 2000; Knack 2002; Heckman 2012).

The GPP data provide letter-grade scales, A to F, on the quality of state governments' management. Grades are available both on their "overall performance" and five specific

management areas: financial management, capital management, human resource management, managing for results and information technology. The change in subcategories of information, people, money and infrastructure in 2005 and 2008 data can present a challenge for comparing the subcategory grades over four data sets. However, the Pew Center explains that comparison of the "overall" grades should not be of a serious concern[3] (Heckman 2012; Pew Center for the States 2008).This study uses the "overall performance" grades as dependent variables of the regression models. We convert the letter-grade scale, A, A-, B+, etc., to a numerical scale. A maximum possible value is 12 for an A. A minimum possible value is one for an F.

Table 1 displays the ranking of 50 states based on the GPP "overall performance" grades on average over the period 1998–2008. The most capable states, or those with the best management quality over this period, are Utah, Virginia, Washington, Michigan, Missouri, Delaware, Iowa, Kentucky, Maryland, and Texas. The least capable states, or those with the worst management quality, are Oklahoma, Wyoming, Alaska, Arkansas, Hawaii, California, New Hampshire, Rhode Island, and Alabama. Figure 1 illustrates the ranking of 50 states by a map according to management quality over the period 1998–2008 on average.

(Insert Table 1 and Figure 1 here.)

Key Independent Variable: Public Officials' Corruption

To measure the extent of public corruption of each state, we use *Report to Congress on the Activities and Operations of the Public Integrity Section (PIS)* published by the U.S. Department of Justice. The Department reports the number of public officials who are convicted of violations of the federal corruption-related laws across the states annually. All federal, state and local

[3] This was also confirmed by personal communication with N. Johnson, April 22, 2010 (Heckman 2012).

governors, legislators, judges and other public employees are subjects of the investigation. Multi-year panel data of 50 states are available, from which we collect data over the period 1998–2008 for this study. The data are appropriate because the report defines public corruption as "crimes involving abuses of the public trust by government officials", which is similar to the academic definition of corruption – "misuse of public office for private gain" (DOJ 2002).

Relevance and Validity of the Corruption Variable

We benchmark the methodology used by Liu and Mikesell (2014) to show the relevance and validity of our key independent variable, or public corruption in each state. Regarding relevance, we argue that the number of convictions should be highly related to the extent of corruption in each state. Previous studies using the same data show that the state conviction rankings correspond to the general perceptions on government corruption in America (Glaeser and Saks 2006; Meier and Holbrook 1992).

We rank the 50 states according to our indexes of corruption by averaging state corruption over the period 1998–2008 (see Table 1). One indicates the number of convictions per 100,000 population, while the other implies the number of convictions per 10,000 public employees. The lower the ranking, the less corruption in the state. According to the first index, or number of convictions per 100,000 population, the 10 least corrupt states over the period are Oregon, New Hampshire, Nebraska, Colorado, Minnesota, Utah, Iowa, Kansas, Washington and Nevada. The 10 most corrupt states are North Dakota, Louisiana, Mississippi, Alaska, South Dakota, Kentucky, Missouri, Alabama, Illinois, and Montana. Overall, the result corresponds to the ranking from the other index, or the number of convictions per 10,000 public employees. Figure 2 illustrates the corruption map of states according to our first public corruption index.

(Insert Figure 2 here)

Related to the validity of the corruption variable, we run multivariate panel regressions of the two conviction measures on variables measuring the extent of federal prosecution, law enforcement and slackness and court resources. These variables include work hours of U.S. attorneys per population (per public employee), number of federal judges per population (per public employee), amount of court caseloads per judge and pending rates per judge. None of these variables has a statistically significant relationship with the conviction measure. Our conviction measures do not reflect simply the extent of judicial resources, U.S. attorneys' workloads and enforcement/slackness. Rather, they reveal the extent of public officials' corruption in each state.

Advantages of the PIS Data

Previous studies demonstrate some comparative advantages of the conviction measure from the PIS data over other available corruption-related indexes (Depken and LaFountain 2006; Glaeser and Saks 2006; Meier and Holbrook 1992). First, the PIS data provide consistent conviction measures across time and states because the U.S. Department of Justice has applied federal laws to all states over the period, not local and state laws. Second, compared with perception-oriented corruption indexes, the conviction measures based on the PIS data provide more concrete and objective numbers. These perception-oriented corruption indexes tend to be constructed by opinion surveys. They are susceptible to the subjective meaning of corruption which is diverse and inconsistent across societies and time (Liu and Mikesell 2014).

Management Quality of Neighbouring State Governments

American states learn from each other and compete with each other in making public policies. This variable measures the potential spill-over effects of policy innovations among states. It calculates

the average of "overall performance" GPP grades of all neighbouring states. States are considered as neighbours if they share borders. For example, the neighbours of the State of Indiana are Illinois, Kentucky, Michigan and Ohio. We expect that states surrounded by well-performing states are likely to have a higher level of management quality because they learn from nearby successes.

Social Capital of U.S. States

Popularised by Coleman (1990), social capital received considerable attention as a sociopolitical variable affecting policy-related outcomes of governments (Helliwell 2006; Helliwell and Putnam 2004; Herian et al. 2014; Kawachi et al. 2008). Putnam (1993) defines social capital as "features of social organization, such as trust, norms, and networks, that can improve the efficiency of society by facilitating coordinated efforts." We expect that states with high levels of social capital perform better because trust, shared norms and networks can help governments govern residents in these jurisdictions more efficiently, and who are expected to act in the broader social interest (Knack 2002; Putnam 2000).

The social capital of American states can be measured by a number of methods, including census response, volunteering, social trust and the extent of participation in good government groups[4] (Herian et al. 2014; King et al. 2000; Knack 2002; Lochner et al. 1999; Putnam 2000). Lochner et al. (1999) find that the indicators of social capital are strongly correlated with each other. Due to the strong collinearity between indicators, it is not a good idea to add all the indicators in regression equations (Herian et al. 2014). In this paper, we use the census response rate as a proxy for social capital of states because its annual values are available historically. Political

[4]They include groups which are interested in better government such as the League of Women Voters. The percentage of survey respondents who have been members is used as a proxy for social capital, which fails to show a significant association with state government performance (Knack 2002).

scientists explain that people's cooperation with the census should be viewed as a public good and its response rate as a reasonable proxy for social capital measuring citizens' cooperative attitudes which can improve governmental performance (Knack 2002). It is found that there exists a statistically-significant association between U.S. state government performance, measured by the GPP overall performance grades, and the U.S. Census response rate, or proxy for social capital of states (Knack 2002). Compared with other indicators of social capital based on opinion surveys, an empirical advantage of the census response rate data is that they provide concrete and objective numbers of the extent of social capital.

Annual census response rates are available from the American Community Survey conducted by the U.S. Census Bureau. The American Community Survey produces demographic, housing, social and economic data annually. The data correspond to the traditional census data collected every 10 years during the decennial census on a "long form." According to the U.S. Census Bureau , "the proposed design of the American Community Survey will produce annual estimates for all states, as well as for all cities, counties, metropolitan areas, and population groups of 65,000 or greater" (Griffin et al. 2001). The average sample size of the survey is 2,181,250 over the period 2000–2012[5].

Personal Income

There are controversial explanations for the impact of personal income on government management quality. On the one hand, high-income citizens with higher education are likely to demand more efficient government. States with higher-income citizens obtain a larger tax base, which means that they may hire more capable employees by offering higher salaries and purchase

[5] Calculated by the authors of this paper.

better equipment to improve their efficiency (Knack 2002). In the present paper, we call this the 'wealth-effect' of personal income. On the other hand, high income citizens may not rely on public systems to receive services such as education and security, etc., because they can afford to purchase these services privately. This can reduce pressures on state government to operate efficiently (Knack 2002). Let us call this the 'substitution effect' of personal income on government management. Also, based on Wagner's Law, the size of government tends to increase as the personal income of residents increases. The size of governments can work as a barrier to efficient management. Separating from the 'wealth-effect' and 'substitution effect', we call this the 'size effect' of personal income on government management quality.

Unemployment Rate

The economic environment will affect the overall operation of a state government. Good economy implies the increase of tax revenue, which can be used as resources by state governments. A climate of entrepreneurship and lively economy tend to be a force for effective government (King et al. 2002). We use unemployment rates as proxy for states' economy. We expect a negative relationship between unemployment rates and state governments' management quality.

Governor's Institutional Power

The governor is the most powerful political player in a state, and who influences the efficiency and management of the state government. Governor's institutional power and influence vary across the states. We expect that the extent of governor's institutional power should be associated positively with government management quality in general. However, we also have to consider the possibility that a governor's political power could be detrimental to the efficient and lively

operation of the government through excessive controls over bureaucracy and unfair patronage (King et al. 2002).

We use Beyle's (1992) index of "Gubernatorial Institutional Power" to measure governors' institutional power. He considered three factors to construct the ratings: "a governor's budgetary power, appointive power, and whether a governor's cabinet is separately elected" (Beyle 1992). Beyle measured the three characteristics on a 1 to 5 scale separately. The three separate ratings are combined to construct the score of a governor's institutional power in a 0 to 1 scale[6]. The higher the ratings, the stronger the gubernatorial power.

Political Competition

Political competition means polarised preferences and interests among state politicians. Political support and cooperation from politicians and lawmakers are crucial to efficient management of state governments. Fierce competition among politicians in a state can work like "gridlock" in the state government. On the other hand, healthy and productive political competition can make state government more accountable. Whether the influence of political competition on government management is either positive or negative is an empirical issue (Knack 2002).

We benchmark Clingermayer and Wood (1995) to measure the extent of political competition in the states. They suggest that "1 minus the absolute value of the average annual proportionate partisan majority in the chambers of the state legislature." The higher a value, the more politically-split a government.

[6] Beyle (1992) uses principal factors analysis with Varimax rotation. A unique factor is identified with each characteristic: 0.338 for budgetary power, 0.459 for appointment power and 0.508 for separately elected teams (King et al. 2002).

Government Ideology and Citizen Ideology

Political scientists generally assume that Republicans were associated with progressive reforms in state and local governments historically, while Democrats were more inclined to patronage, especially in the South, which made government operation inefficient (Knack 2002). We use the indexes of a state government's political ideology and citizens' political ideology constructed by Berry et al. (1998). Both scores range from 0 to 100. A value of zero means that political ideology in the state is extremely conservative but a value of 100 extremely liberal.

Ethnic Diversity

Similar to political competition, polarised preferences and interests due to racial heterogeneity can make governing more difficult (Knack 2002). Ethnic diversity can be measured by Hirshman-Herfindal Index:

$$\text{Ethnic Diversity} = \frac{1 - \sum_{i=1}^{n} R_i^2}{1 - (\frac{100\%}{n})} \quad (1)$$

where, R_i: share of ith component out of n types of ethnicity based on the classification by the U.S. Census Bureau. The larger a value, the more heterogeneous a racial composition in the state. We expect a negative association between ethnic diversity and government management quality.

Table 3 demonstrates how we measure all the variables, what we expected on the sign of the regressors in our benchmark regression model and where the data were collected.

(Insert Table 3 here)

Empirical Model and Methodology

Econometric Model

Our econometric model explaining the impact of public officials' corruption on management quality of state governments is as follows:

Government Management Quality = f(Public Corruption; Management Quality of Neighboring States; Personal Income per Capita; Unemployment Rate; Government Ideology; Citizen Ideology; Political Competition; Social Trust; Governor's Institutional Power; Ethnic Diversity; Year Dummies).

Table 4 demonstrates the descriptive statistics of the variables.

(Insert Table 4 here)

The regression equation is as follows:

$$(\text{GPP Ratings})_{i,t} = \alpha_1(\text{Corruption})_{i,t} + X'_{i,t}\beta + \mu_i + v_{i,t} \qquad (2)$$

where *(GPP Ratings)$_{i,t}$* is state *i*'s "overall performance" score from the Government Performance Project in year *t* (1998, 2000, 2005 and 2008), and *(Corruption)$_{i,t}$* is the extent of public officials' corruption in state *i* at year *t*. We apply two measures of public corruption in this study; the number of convictions per 100,000 population and the number of convictions per 10,000 public employees including all federal, state and local public officials[7]. $\boldsymbol{X'_{i,t}}$ is a column vector of explanatory variables controlling for the management quality of neighbouring states on average, personal

[7] Both indexes come with consistent regression results. Following previous studies, our benchmark regression model uses the number of convictions per 100,000 population.

income, unemployment rate, political ideology of government and citizen, political competition, social trust, governor's institutional power, ethnic diversity and year dummies. $\boldsymbol{\beta}$ is a vector of coefficients. μ_i and $v_{i,t}$ represent unobserved state fixed effects and idiosyncratic errors, respectively. Subscripts *i* and *t* index state and year, respectively.

The Benchmark Model: Ordered Outcome Logit Regression

We use an ordered logit model with robust standard errors as the benchmark model of this study because the dependent variable, the GPP ratings of state government management quality, is ordered from F to A. The following explains the benchmark model and uses notations used by Cameron and Trivedi (2010, 527–29).

The ordered outcomes, noted *y* here, arise sequentially as a latent variable, *y**, crosses increasingly higher thresholds. In this study, *y** is an unobserved value of management quality of state governments determining the letter grade of management quality, or *y*. Different from *y**, *y* means an observed measure of government management quality from the GPP ratings. For individual state *i*, we specify

$$y_i^* = x_i'\gamma + u_i \tag{3}$$

For a q-alternative ordered model, we define

$$y_i = p \text{ if } \alpha_{p-1} < y_i^* \leq \alpha_p, \qquad p = 1, \ldots, q \tag{4}$$

Where $\alpha_0 = -\infty$ and $\alpha_q = \infty$. Then

$$\Pr(y_i = p) = \Pr(\alpha_{p-1} < y_i^* \leq \alpha_p) = F(\alpha_p - x_i'\gamma) - F(\alpha_{p-1} - x_i'\gamma) \tag{5}$$

where F(·) is the cumulative distribution function of u_i which is logistically distributed with F(z) = e^z / (1+e^z). The (q-1) threshold parameters, $\alpha_1, \ldots, \alpha_{q-1}$, are obtained by maximising the log-likelihood function. The regression parameters, γ, are also obtained by maximising the log likelihood function. The sign of the regression parameters can be interpreted as determining whether the latent variable y^*, not y, increases with the regressors.

The interpretation of coefficients of regressors is as follows. If β_k is negative, this means that an increase in x_{ik}, or kth regressor of ith state, necessarily increases the probability of being in the lowest category of the dependent variable and decreases the probability of being in the highest category of the dependent variable. Note that the parameters of ordered outcome model are generally not directly interpretable from the coefficients. Instead, we should compute marginal effects (MEs) of each regressor. The ME on the probability of choosing alternative l when regressor x_k changes is given by

$$\mathrm{ME_{kil}} = \frac{\partial \Pr(\mathrm{y_i = l})}{\partial \mathrm{x_{ki}}} = \{\mathrm{F'}(\alpha_{\mathrm{l-1}} - \mathrm{x_i'}\gamma) - \mathrm{F'}(\alpha_{\mathrm{l}} - \mathrm{x_i'}\gamma)\}\beta_{\mathrm{k}} \qquad (6)$$

It implies that a one-unit change in kth regressor will increase/decrease by ME_{kil} the probability that management quality of state i, or y_i, may be equal to l.

Empirical Findings

Table 5 displays the empirical results. Model I is our benchmark model. Since the dependent variable, or "overall performance" scores of the GPP data, is ordinal, the ordered logit estimation with robust standard errors is chosen as our benchmark regression model. The ordered logit model estimates the parameters through maximum likelihood method. In sum, the statistically significant determinants of U.S. state governments' management quality are public corruption, personal

income and governor's institutional power, which is consistent with the hypothesis and previous research on government management.

(Insert Table 5 here)

Public Corruption on Management Quality

Model I of table 5 shows that public officials' corruption is one of the statistically significant determinants of the management quality of U.S. state governments. The coefficient of public corruption is negative (= -1.24) and statistically-significant at 1% significance level. The significantly-negative coefficient of corruption variable implies that increase in public corruption necessarily increases the probability of being in the lowest outcome of government management quality and decreases the probability of being in the highest category of government management quality. As expected in the hypothesis, state governments' management quality is likely to get aggravated in states with a higher level of corruption.

The parameters of ordered logit models are generally not directly interpretable (Cameron and Trivedi 2010). Instead, we compute marginal effects, MEs. First, we obtain seven predicted probabilities because there are seven alternatives outcomes given the regression results. Table 6 displays the predicted probabilities of all outcomes from 1 to 7. Based on their mean probabilities, we assume that the three outcomes from the highest, or when outcomes are 5, 6 and 7, indicate state governments ranked the highest management quality. We compute the average predicted probability of all outcomes from 1 to 7 case by case.

(Insert Table 6 here)

Second, table 7 displays the marginal effects of determinants for only the best management quality outcome cases (when outcomes = 5, 6 and 7). Model I, II and III demonstrate the marginal effects of the regressors on management quality of state governments when the outcomes of management quality are equal to 7, 6 and 5, respectively.

(Insert Table 7 here)

The marginal effects of all regressors on management quality of state governments show consistent results with those of table 5 showing only estimates of regressor coefficients. Table 7 reads as follows. A one-unit increase in public corruption decreases by 0.06 the probability (6%) that state governments' management quality may be the highest (Model I). A one-unit increase in public corruption decreases by 0.102 (10.2%) the probability that state governments' management quality may be the second highest (Model II). A one-unit increase in public corruption decreases by 0.076 (7.6%) the probability that state governments' management quality may be the third highest (Model III). On average, a one-unit increase in public corruption decreases by 0.079 (7.9%) the probability that state governments' management quality may be the most capable.

Personal Income

Model I of table 5 shows that personal income is also one of the statistically significant determinants of the management quality of U.S. state governments. The coefficient of personal income is negative (= -2.262) and statistically-significant at 1% significance level. The significantly-negative coefficient of personal income variable implies that increase in personal income necessarily increases the probability of being in the lowest outcome of government management quality and decreases the probability of being in the highest category of government management quality. We expected controversial impacts of personal income on government

management quality, i.e. 'wealth-effect', 'substitution-effect' and 'size-effect.' The empirical evidence suggests that the association between personal income and management quality is negative, which supports the substitution effect or size effect. An affluent state in which citizens are able to find private substitutes for public services easily is less likely to face strong pressure to operate efficiently. It can be also explained that increase of size of government may hamper efficient management of government.

Table 7 shows that a one-unit increase in the natural log of personal income decreases by 0.11 the probability (11%) that state governments' management quality may be the highest (Model 1). A one-unit increase in public corruption decreases by 0.186 (18%) the probability that state governments' management quality may be the second highest (Model II). A one-unit increase in public corruption decreases by 0.14 (14%) the probability that state governments' management quality may be the third highest (Model III). On average, a one-unit increase in personal income variable decreases by 0.145 (14.59%) the probability that state governments' management quality may be the most capable.

Governor's Institutional Power

Model I of table 5 shows that governor's institutional power is the other statistically significant determinant of the management quality of state governments. The coefficient of governor's institutional power is positive (= 2.034) and statistically-significant at 1% significance level. The significantly-positive coefficient of governor's institutional power variable indicates that increase in gubernatorial power necessarily increases the probability of being in the highest outcome of government management quality and decreases the probability of being in the lowest category of government management quality. This result is consistent with our expectation that the governor

is the most influential political player in a state whose institutional power should be crucial to efficient management of the state government.

Table 7 shows that a one-unit increase in governor power variable increases by 0.099 the probability (9.9%) that state governments' management quality may be the highest (Model I). A one-unit increase in governor power variable increases by 0.167 (16.7%) the probability that state governments' management quality may be the second highest (Model II). A one-unit increase in governor power variable increases by 0.126 (12.6%) the probability that state governments' management quality may be the third highest (Model III). On average, a one-unit increase in gubernatorial power variable increases by 0.13 (13%) the probability that state governments' management quality may be the most capable.

Other Determinants

Table 5 also demonstrates the association between state government management quality and other determinants. They include unemployment rate, government ideology, citizen ideology, political competition, social trust and ethnic diversity. Different from public corruption, personal income and governor's institutional power, the impacts of these variables on state government management quality are not statistically significant. However, the signs of the regressors are coherent with our expectations and results from the existing literature (King et al. 2002; Knack 2002; Moynihan and Ingraham 2003).

Robustness of the Benchmark Model and Regression Results

To check the robustness of our regression model and empirical results, we apply three strategies. First, we measure the extent of public corruption in each state by an alternative method, or the number of convictions per 10,000 public employees, instead of the number of convictions per

100,000 population. Second, we estimate the regressors by using pooled panel estimation methods, instead of ordered logit estimation. Third, we use two-stage least squares instrumental variable (2SLS-IV) regressions to correct for potential endogeneity of the corruption variable.

Number of Convictions per 10,000 Public Employees

Model II in table 5 displays the empirical results when we measure the public corruption of each state by the number of convictions per 10,000 public employees. We consider the possible argument that the extent of public officials' corruption across states should be compared based on the size of public employees, not on the size of population. Even after we apply this alternative measurement of corruption, however, the regression results do not change substantially. Consistent with the result of Model I in table 5, public corruption (negative coefficient, 5% significance level), personal income (negative coefficient, 1% significance level) and governor's institutional power (positive coefficient, 1% significance level) are the statistically-significant determinants of state government management quality. In sum, the significantly-negative coefficients of corruption variable and personal income means that increase in public corruption and personal income necessarily increases the probability of being in the lowest management quality of state governments and decreases the probability of being in the highest management quality of state governments. In contrast, the significantly-positive coefficient of governor's institutional power variable implies that increase in gubernatorial power necessarily increases the probability of being in the highest management quality and decreases the probability of being in the lowest management quality[8].

[8] The marginal effects (MEs) of the regressors are consistent with those of the benchmark model shown in Table 7, which are not reported here.

Pooled Panel Estimations

We estimate the regressors by using two pooled panel regressions instead of ordered logit regression like the benchmark model. Model III in Table 5 uses the number of convictions per 100,000 population as corruption variable. Model IV in Table 5 uses the number of convictions per 10,000 public employees. Both regressions use robust standard errors. Since the within variations of "overall performance" scores of the GPP data, or our dependent variable, do not vary sufficiently, we use pooled panel regressions rather than fixed effect estimations following the recommendation of the statistical package. Model III and IV also show consistent results with those of Model I. Public officials' corruption (negative), personal income (negative) and governor's institutional power (positive) are the statistically-significant determinants of U.S. state governments' management quality.

Two-stage Least Squares Instrumental Variable (2SLS) Regression

A reliable study on corruption should address concerns of endogeneity. To deal with such a problem, we use the efficient two-stage least squares instrumental variable (2SLS-IV) estimation. We reiterate, at this point, our regression equation again:

$$(\text{GPP Ratings})_{i,t} = \alpha_1(\text{Corruption})_{i,t} + X'_{i,t}\beta + \mu_i + v_{i,t} \qquad (2)$$

In this equation, our key independent variable, $(Corruption)_{i,t}$, is assumed to be endogenous with the error term, $\varepsilon_{it} = (\mu_i + v_{i,t})$. We deal with this problem using valid instruments of public corruption. Some potential valid instrumental variables of public corruption should be correlated with the current value of corruption, but not with the current error term.

We suggest two first-*lead* variables of U.S. Attorneys' work hours per population and number of federal judges per population as instruments of the current extent of corruption. In other words, state *i*'s public corruption at time *t*, $(Corruption)_{i,t}$, is instrumented by U.S. attorneys' work hours per population and number of federal judges per population of state *i* at time *(t+1)*, not *t*. They proxy for some potential future change in judiciary system of states at time *(t+1)*.

The logic supporting the instruments is that states facing a higher occurrence of public corruption in the current year are likely to increase the extent of detection and punishment in the future year to reduce public corruption, which implies that the current level of corruption should be correlated with some variables measuring the change in judiciary system in the future year. However, we do not expect that any potential change in judiciary system in the future year will be associated with the current error term of the regression equation, $\varepsilon_{it} = (\mu_i + v_{i,t})$, at equation (2) above.

For a specified instrumental variable regression, we have to check a couple of tests. They are endogeneity, overidentifying and weak-instrument tests. First, table 8 shows that our corruption variable is endogenous as we expect. The null hypothesis of exogeneity is rejected both by Durbin and Wu-Hausman test at 0.1% significance level.

(Insert Table 8 here)

Second, table 9 demonstrates the test results of overidentifying restrictions. We check this because we use two instrumenting variables for an instrumented variable. The null hypothesis implies that all instruments are valid. Both Sargan test and Basman test failed to reject the null hypothesis at the conventional significance levels (1%, 5%, and 10%), which implies the overidentifying restriction is valid.

(Insert Table 9 here)

Third, we check the weak instrument tests. Table 10 displays first-stage regression summary statistics. Note that F statistic, or 12.549, is greater than the rule of thumb value of 10 that is sometimes suggested to check the weakness of instruments. Thus, our instruments do not seem to be weak (Cameron and Trivedi 2010, 198). In addition, the first stage regression results show that the association between corruption variable and our instrumenting variables are statistically significant at the conventional significance levels, shown in Table 11.

(Insert Table 10 here)

We use a two-stage least squares instrumental variable regression (2SLS-IV) to handle the potential endogenity problem of our key independent variable, public corruption. The 2SLS-IV estimator is assumed to be efficient compared with other estimators. In sum, note that our instrumental variable regression satisfies all the tests of endogeneity, overidentification and weak instruments as proven above.

Table 11 shows the 2SLS-IV regression results. They are consistent with those of the benchmark model, or Model I in table 5 and Model 1 in table 7. Statistically-significant determinants of state government management quality are public corruption, personal income, citizen's political ideology and governor's institutional power. States with a higher level of public corruption, personal income and citizen's political ideology are likely to manage their governments less efficiently, compared with states where these variables are evident to a lower extent. On the contrary, states whose gubernatorial institutional power is stronger tend to manage their government more efficiently.

All these prove that the regression results of our benchmark model are consistent and robust. They also match with the proposed hypothesis.

(Insert Table 11 here)

Conclusion and Policy Implication

Despite a consensus on the significance of public corruption in public management and public administration, the impact of public officials' corruption on the management quality of the U.S. state governments has not been investigated. To explain the potential harmful impact of public corruption on government management quality, we began our discussion from the classical "black box" idea of management. Government management links inputs and results, but the processes are not seen fully. Scholars "dissect" and "revisit" this idea and find that government management quality is determined by the integration of management subsystems such as human resource management, financial management, capital management and information technology. They also note that three key activities affect the integration of these management subsystems, which are the exercise of leadership, use of information and resource allocation (Ingraham and Donahue 2000). Here, we presented a context within which we could hypothesise the impact of public corruption on government management quality.

This study cast light inside the "black box" of government management by showing how public corruption affects government management quality. We hypothesised that state public officials' corruption deteriorates the management quality of state governments because public corruption can worsen the three key activities of governments and impede ideal integration of management subsystems. Corruption means the "misuse [of] public office for private gain." Corrupt officials may fail to meet the accountability standard and conduct ideal leadership

behaviours. They may also take advantage of information monopoly power in pursuit of private interests, which hampers effective and transparent use of information, and distort public resource allocation because they are likely to distribute resources on items from which they can collect higher rents. To support our arguments, we adopted principal-agent theory, bureau information monopoly theory and rent-seeking theory, which have received substantial recognition in the literature.

Empirical results support our arguments. The probability that a state will maintain the highest management quality will decrease if the state suffers from a higher degree of corruption among its public officials. We show that our model and empirical results are robust through multiple rigorous methods including efficient two-stage least squares instrumental variable (2SLS-IV) regressions.

The policy implication of this study is clear. Corruption is harmful on government management quality, which results in the deterioration of policy performance. We noted that the ultimate goal of this study is to find determinants enhancing government performance. The literature finds that government management quality affects policy performance and programme outcomes (Coggburn and Schnider 2003; Hou, Moynihan, and Ingraham 2001; Lynn, Heinrich, and Hill 2000). Thus, there might exist a vicious domino effect in terms of public corruption, government management and policy performance. Policy makers should pay close attention to the behaviours of public officials so that they do not use their public office for private gain. The principal-agent theory suggests that governments should create an incentive structure in which the negative payoffs of corruption are higher than the returns (Jancsics and Jávor 2012; Rothsetein 2011). This will work to promote the outcomes and performance of government programmes and projects.

Which management sector is most vulnerable to public corruption among subsystems of government management? We argue that infrastructure management is the most vulnerable sector. The Government Performance Project changed subcategories of ratings from financial management, capital management, human resources, managing for results and information technology to information, people, money and infrastructure. Applying our benchmark model and two-stage least squares instrumental variable model, we found a statistically-significant negative association between public corruption and infrastructure management (see table 12).

(Insert Table 12 here)

The result is consistent with literature on misallocation of public resources due to corruption (Kenny 2007; Mauro 2004; Shleifer and Vishny 1993). In particular, a recent study showed that the U.S. state governments with a higher degree of corruption are likely to spend their resources more on construction, infrastructure and highways, because corrupt officials can levy higher bribes on these items (Liu and Mikesell 2014). Policy makers' special attention on the items vulnerable to corruption is required. Infrastructure management is one of the items which require special attention. From this perspective, the new categorisation of ratings by the GPP will help policy makers to supervise the corruption-prone sectors.

References

Alam, M. S. 1989. Anatomy of Corruption: An Approach to the Political Economy of Underdevelopment. *American Journal of Economics and Sociology* 48 (4): 441-56.

Amundsen, Inge. 2001. Political Corruption: An Introduction to the Issues. Technical Report. Chr. Michelsen Institute.

Andvig, Jens Chr and Odd-Helge Fjeldstad. 2001. Corruption: A Review of Contemporary Research. Technical Report. Chr. Michelsen Institute.

Ashforth, Blake E. and Vikas Anand. 2003. The Normalization of Corruption in Organizations. *Research in Organizational Behavior* 25: 1-52.

Baraldi, Laura. 2008. Eff ects of Electoral Rules, Political Competition and Corruption on the Size and Composition of Government Consumption Spending: An Italian Regional Analysis. *B.E. Journal of Economic Analysis and Policy* 8 (1): 1–37.

Bardhan, Pranab. 1997. Corruption and Development: A Review of Issues. *Journal of Economic Literature* 35 (3): 1320-46.

Berry, William D. and David Lowery. 1987. *Understanding United States Government Growth: An Empirical Analysis of the Postwar Era.* New York: Praeger.

Berry, William D., Evan J. Ringquist, Richard C. Fording, and Russell L. Hanson. 1998. Measuring Citizen and Government Ideology in the American States, 1960–93. *American Journal of Political Science* 42 (1): 327–48.

Beyle, Thad L. 1992. The Governor. In *Politics in the American States: A Comparative Analysis*, 7th ed., edited by Virginia Gray, Russell L. Hanson, and Herbert Jacob. Washington D.C.: CQ Press.

Borins, Sandford. 2005. Grading the Graders. [Review of the Book Government Performance: Why Management Matters]. *Journal of Public Administration Research and Theory* 15 (3): 463–66.

Brown, Treor L. and Matthew Potoski. 2003. Contract-Management Capacity in Municipal and County Governments. *Public Administration Review* 63 (2): 153-164.

Brudney, Jeffrey L., Laurence J. O'Toole, Jr., and Hal G. Rainey. 2000. *Advancing Public Management: New Developments in Theory, Methods, and Practice*. Washington, DC: Georgetown University Press.

Brunetti, Aymo, and Beatrice Weder. 1998. Investment and Institutional Uncertainty: A Comparative Study of Different Uncertainty Measures. *Review of World Economics* 134 (3): 513–33.

Brunetti, Aymo, Gregory Kisunko, and Beatrice Weder. 1998. Credibility of Rules and Economic Growth: Evidence from a Worldwide Survey of the Private Sector. *World Bank Economic Review* 12 (3): 353–84.

Burke, Brendan F. and Deil S. Wright. 2002. Reassessing and Reconciling Reinvention in the American States: Exploring State Administrative Performance. *State and Local Government Review* 34:7–19.

Cameron, Colin A. and Pravin K. Trivedi. 2010. Microeconometrics Using Stata. Rev. ed. College Station, TX: Stata Press.

Celentani, Marco, and Juan-José Ganuza. 2000. Corruption and Competition in Procurement. Technical report, Department of Economics, Universitat Pompeu Fabra.

Clingermayer, James C. and B. Dan Wood. 1995. Disentangling Patterns of State Debt Financing. *American Political Science Review* 89(1): 108–20.

Coggburn, Jerrell D. and Saundra K. Schneider. 2003. The Quality of Management and Government Performance: An Empirical Analysis of the American States. *Public Administration Review* 63 (2): 206-13.

Coleman, James. A. 1990. *Foundations of Social Theory*. Cambridge: Belknap.

Collier, Michael W. 1999. Explaining Political Corruption: An Institutional-Choice Approach. Working Paper. 40th Annual Convention. International Studies Association. Washington D.C.

Delavallade, Clara. 2006. Corruption and Distribution of Public Spending in Developing Countries. *Journal of Economics and Finance* 30(2): 222–39.

Deller, Steven C. and Edward Rudnicki. 1992. Managerial efficiency in local government: Implications on jurisdictional consolidation. *Public Choice* 74: 221-231.

Depken, Craig A. II, and Courtney LaFountain. 2006. Fiscal Consequences of Public Corruption: Empirical Evidence from State Bond Ratings. *Public Choice* 126 (1–2): 75–85.

Diamond Larry and Marc F. Plattner. 1996. *The Global Resurgence of Democracy*. Baltimore: Johns Hopkins University Press.

DOJ (The U.S. Department of Justice). 2002. Reports to Congress on the Activities and Operations of the Public Integrity Section. Washington, DC: Public Integrity Section, Criminal Division, the U.S. Department of Justice.

Donahue, Amy K., Sally C. Selden, and Patricia W. Ingraham. 2000. Measuring Government Management Capacity: A Comparative Analysis of City Human Resources Management Systems. *Journal of Public Administration Research and Theory* 10 (2): 381-411.

Easton, David. 1965. A Framework for Political Analysis. Englewood Cliffs, NJ: Prentice Hall.

Elliott, Kimberly Ann. 1997. Corruption as an International Policy Problem: Overview and Recommendations. In *Corruption and the Global Economy*, edited by Kimberly Ann Elliott, 175–233. Washington, DC: Institute for International Economics.

Felps, Will, Terence R. Mitchell, and Eliza Byington. 2006. How, When, and Why Bad Apples Spoil the Barrel: Negative Group Members and Dysfunctional Groups. *Research in Organizational Behavior* 27: 175–222.

Fisman Raymond and Roberta Gatti. 2002. Decentralization and Corruption: Evidence across Countries. *Journal of Public Economics* 83 (3): 325-45.

Glaeser, Edward L. and Raven Saks. 2006. Corruption in America. *Journal of Public Economics* 90 (6–7): 1053–72.

Goldsmith, Arthur A. 1999. Slapping the Grasping Hand: Correlates of Political Corruption in Emerging Markets. *American Journal of Economics and Sociology* 58 (4): 865 – 83.

Gould, David J., and Jose A. Amaro-Reyes. 1983. The Effects of Corruption on Administrative Performance: Illustrations from Developing Countries. Working Papers Number 580 Management And Development Series Number 7. Washington D.C.

Griffin, Deborah H., Donald P. Fischer, and Michael T. Morgan. 2001. Testing an Internet Response Option for the American Community Survey. Unpublished paper presented at the annual conference of the American Association for Public Opinion Research (Montreal, Quebec, Canada, May 17-2-, 2001): U.S. Bureau of the Census

Groennendijk, Nico. 1997. A Principal-agent Model of Corruption. *Crime, Law & Social Change* 27: 207 – 29.

Gupta, Sanjeev, Hamid Davoodi, and Rosa Alonso-Terme. 1998. Does Corruption Affect Income Inequality and Poverty? Working Paper no. 98/76, International Monetary Fund.

Hall, Robert E. and Charles I. Jones. 1999. Why Do Some Countries Produce So Much More Output per Worker than Others? *Quarterly Journal of Economics* 114 (1): 83–116.

Heckman, Alexander C. 2012. Desperately Seeking Management: Understanding Management Quality and Its Impact on Government Performance Outcomes under the Clean Air Act. *Journal of Public Administration Research and Theory* 22 (3): 473 – 96.

Heinrich, Carolyn J. 1999. Do government bureaucrats make effective use of performance management information? *Journal of Public Administration Research and Theory* 9 (3):363–93.

Hellman, Joel S., Geraint Jones, Daniel Kaufmann, and Mark Schankerman. 2000. Measuring Governance, Corruption and State Capture. Policy Research Working Paper no. 2312, World Bank.

Helliwell, John F. 2006. Well-being, Social Capital, and Public Policy: What's New? *The Economic Journal* 116: C34-C45.

Helliwell, John F. and Shun Wang. 2010. Trust and Wellbeing. *International Journal of Wellbeing* l: 42-78.

Helliwell, John F. and Robert D. Putnam. 2004. *The Social Context of Well-being*. Philosophical Transactions of the Royal Society 359: 1435-46.

Herian, Mitchel N., Louis Tay, Joseph A. Hamm, and Ed Diener. 2014. Social Capital, Ideology, and Health in the United States. *Social Science & Medicine* 105: 30 – 37.

Hessami, Zohal. 2010. Corruption and the Composition of Public Expenditures: Evidence from the OECD Countries.

Hou, Yilin, Don Moynihan, and Patricia Ingraham. 2001. *Capacity, Management, and Performance:Exploring the Links*. Syracuse University: The Maxwell School of Public Management.

Ingraham, Patricia W. and Amy Kneedler Donahue. 2000. Dissecting the Black Box Revisited: Characterizing Government Management Capacity. *Governance and Performance: New Perspectives*. Ed. By Carolyn J Heinrich and Laurence E. Lynn: Georgetown University Press

Ingraham, Patricia W., Philip G. Joyce, and Amy E. Kneedler Donahue. 2003. *Government Performance: Why Management Matters.* Baltimore, MD: Johns Hopkins Univ. Press.

Jain, Arvind K. 2001. Corruption: A Review. *Journal of Economics Surveys* 15: 71-121.

Jancsics, David, and István Jávor. 2012. Corrupt Governmental Networks. *International Public Management Journal* 15 (1): 62-99.

Johnson, Simon, Daniel Kaufmann, and Andrei Shleifer. 1997. The Unofficial Economy in Transition. Brookings Papers on Economic Activity 28 (2): 159–240.

Kaufmann, Daniel. 1998. Challenges in the Next Stage of Anti-corruption. Technical Report. World Bank.

Kaufmann, Daniel, Aart Kraay, and Pablo Zoido-Lobaton. 1999. Governance Matters. Policy Research Working Paper no. 2196, World Bank.

Kawachi, Ichiro, SV Subramanian, and Daniel Kim. 2008. Social Capital and Health: a Decade of Progress and beyond. In Ichiro Kawachi, SV Subramanian, and Daniel Kim (Eds.), *Social Capital and Health* (pp. 1-25). New York: Springer.

King, David C., Richard J. Zeckhauser, and Mark T. Kim. 2002. The Management Performance of the U.S. States. Unpublished paper.

Kirlin, John J. 2001. Big Questions for a Significant Public Administration. *Public Administration Review* 61 (2): 140–43.

Klitgaard, Robert. 1997. Cleaning Up and Invigorating the Civil Service. *Public Administration and Development* 17 (5): 487–509.

Klitgaard, Robert. 1988. *Controlling Corruption*. Berkeley: University of California Press.

Knack, Stephen. 2002. Social Capital and the Quality of Government: Evidence from the States. *American Journal of Political Science* 46 (4):772–85.

Knack, Stephen and Philip Keefer. 1996. Institutions and Economic Performance: Cross-Country Tests Using Alternative Institutional Measures. *Economics and Politics* 7: 207-27.

Kurtz, Karl. 1991. Understanding the Diversity of State Legislatures: The Red, White, and Blue Legislatures. Denver, CO: National Conference of State Legislatures.

Lancaster, Thomas D. and Gabriella R. Montinola. 1997. Toward a Methodology for the Comparative Study of Political Corruption. *Crime, Law and Social Change* 27 (3): 185-206.

Leite, Carlos, and Jens Weidmann. 2002. *Does Mother Nature Corrupt? Natural Resources, Corruption, and Economic Growth.* Washington, DC: International Monetary Fund.

Liu, Cheol and John L. Mikesell. 2014. The Impact of Public Officials' Corruption on the Size and Allocation of U.S. State Spending. *Public Administration Review* 74 (3): 346 – 59.

Lochner, Kimberly, Ichiro Kawachi, and Bruce P. Kennedy. 1999. Social Capital: A Guide to Its Measurement. *Health & Place* 5: 259-70.

Lui, Francis T. 1985. An Equilibrium Queuing Model of Bribery. *Journal of Political Economy* 93: 760-81.

Lynn, Laurence E. Jr., Carolyn J. Heinrich, and Carolyn J. Hill. 2000. Studying Governance and Public Management: Challenges and Prospects. *Journal of Public Administration Research and Theory* 10 (2): 233-61.

Manor, James. 1999. *The Political Economy of Democratic Decentralization*. Washington D.C.: World Bank.

Mauro, Paolo. 1995. Corruption and Growth. *Quarterly Journal of Economics* 110(3): 681–712.

———. 1997. Chapter 4. The Effects of Corruption on Growth, Investment, and Government Expenditure: A Cross-Country Analysis. In *Corruption and the Global Economy*, edited by Kimberly Ann Elliott: Institute for International Economics.

———. 1998. Corruption and the Composition of Government Expenditure. *Journal of Public Economics* 69 (2): 263–79.

———. 2004. The Persistence of Corruption and Slow Economic Growth. IMF Staff Papers 51 (1): 1–18.

Meier, Kenneth J. 1988. *The Political Economy of Regulation: The Case of Insurance*. Albany: State University of New York Press.

Meier, Kenneth J. and Thomas M. Holbrook. 1992. "I Seen My Opportunities and I Took 'Em": Political Corruption in the American States. *Journal of Politics* 54 (1): 135–55.

Meier, Kenneth J. and Laurence J. O'Toole Jr. 2002. Public Management and Organizational Performance: The Effect of Managerial Quality. *Journal of Policy Analysis and Management* 21 (4): 629-43.

Mo, Pak Hung. 2001. Corruption and Economic Growth. *Journal of Comparative Economics* 29 (1): 66–79.

Niskanen, William A. Jr. 1971. *Bureaucracy and Representative Government*. Chicago: Aldine, Atherton.

O'Leary, Rosemary, and Tracey Yandle. 2000. Environmental Management at the Millennium: The Use of Environmental Dispute Resolution by State Governments. *Journal of Public Administration Research and Theory* 10 (1): 137–55.

O'Toole, Laurence J., Jr. 2000. Different Public Managements? Implications of Structural Context in Hierarchies and Networks. In *Advancing Public Management: New Developments in Theory, Methods, and Practice*, edited by Jeffrey L. Brudney, Laurence O'Toole, and Hal G. Rainey. Washington, D.C.: Georgetown University Press: 19-32.

Paldam, Martin. 1999. The Big Pattern of Corruption: Economics, Culture, and the Seasaw Dynamics. Working Paper No. 1999-11. Department of Economics, University of Aarhus.

Pew Center of the States. 2008. *Grading the States*.

Putnam, Robert (with Robert Leonardi and Raffaella Y. Nanetti). 1993. *Making Democracy Work: Civic Transitions in Modern Italy*. Princeton: Princeton University Press.

Putnam, Robert. 2000. *Bowling Alone: Collapse and Revival of American Community*. New York: Simon & Schuster.

Rainey, Hal G. 2009. *Understanding and Managing Public Organizations.* Fourth edition. Jossey-Bass: San Francisco. CA.

Rose-Ackerman, Susan. 1997. The Pursuit of Absolute Integrity: How Corruption Control Makes Government Ineffective. *Journal of Policy Analysis and Management* 16 (4): 661–64.

———. 1999. *Corruption and Government: Causes, Consequences, and Reform*. Cambridge: Cambridge University Press.

Shleifer, Andrei, and Robert Vishny. 1993. Corruption. *Quarterly Journal of Economics* 108 (3): 599–617.

Sokolow, Alvin.D. (1981). Local Governments: Capacity and Will. In Hawley and Mazie (Eds.), *Nonmetropolitan America in Transition*. Chapter 19. Chapel Hill: University of North Carolina Press.

Tanzi, Vito, and Hamid R. Davoodi. 1997. Corruption, Public Investment, and Growth. Working Paper no. 97/139, International Monetary Fund.

Themudo, Nuno S. 2014. Government Size, Nonprofit Sector Strength, and Corruption: A Cross-National Examination. *The American Review of Public Administration* 44 (3): 309-23.

Treisman, Daniel. 2000. The Causes of Corruption: A Cross-National Study. *Journal of Public Economics* 76 (3): 399-457.

Wei, Shang-Jin. 2000. Negative Alchemy? Corruption and Composition of Capital Flows. Working Paper no. 8187, National Bureau of Economic Research.

Appendix

Table 1. Ranking of U. S. States (on Average, 1998-2008)
Management Quality (GPP), Corruption per Population, Corruption per Public Employee

Ranking	Management Capacity (GPP)	Ranking	Corruption (Population)	Corruption (Employee)
1	Utah	1	Oregon	Nebraska
2	Virginia	2	New Hampshire	Oregon
2	Washington	3	Nebraska	New Hampshire
3	Michigan	4	Colorado	Minnesota
4	Missouri	5	Minnesota	Iowa
5	Delaware	6	Utah	Colorado
6	Iowa	7	Iowa	Utah
6	Kentucky	8	Kansas	Kansas
6	Maryland	9	Washington	Washington
6	Texas	10	Nevada	Wisconsin
7	Minnesota	11	Wisconsin	North Carolina
7	Pennsylvania	12	North Carolina	Vermont
7	South Carolina	13	Michigan	New Mexico
8	Nebraska	14	Indiana	Wyoming
8	Ohio	15	New Mexico	Michigan
8	Georgia	16	Vermont	Nevada
8	Kansas	17	South Carolina	Indiana
8	Louisiana	18	Arkansas	Arkansas
9	North Carolina	19	Arizona	South Carolina
9	Vermont	20	California	Idaho
9	Wisconsin	21	Rhode Island	Maine
10	North Dakota	22	Idaho	Georgia
11	Florida	23	Maryland	Arizona
11	Indiana	24	Connecticut	Texas
11	Tennessee	25	Maine	California
12	Arizona	26	Texas	Connecticut
12	Idaho	27	Georgia	Oklahoma
12	Illinois	28	Massachusetts	Rhode Island
12	New Jersey	29	Oklahoma	Maryland
12	South Dakota	30	Wyoming	Massachusetts
13	Montana	31	West Virginia	West Virginia
13	Oregon	32	Virginia	Virginia
14	Colorado	33	Pennsylvania	New York
14	Maine	34	Tennessee	Hawaii
14	Massachusetts	35	New York	Montana
14	Mississippi	36	Hawaii	New Jersey
14	Nevada	37	New Jersey	Tennessee
14	New York	38	Ohio	Alaska
15	Connecticut	39	Florida	Ohio
15	New Mexico	40	Delaware	Delaware
15	West Virginia	41	Montana	Alabama
16	Oklahoma	42	Illinois	Pennsylvania
16	Wyoming	43	Alabama	South Dakota
17	Alaska	44	Missouri	Missouri
18	Arkansas	45	Kentucky	Illinois

18	Hawaii	46	South Dakota	Florida
19	California	47	Alaska	Kentucky
19	New Hampshire	48	Mississippi	North Dakota
19	Rhode Island	49	Louisiana	Mississippi
20	Alabama	50	North Dakota	Louisiana

Sources: Government Performance Project's *Grading the States* (1998, 2000, 2005, and 2008 reports), U.S. Department of Justice, *Reports to Congress on the Activities and Operations of the Public Integrity Section* (1998-2008)

Figure 1. Ranking of States: Management Quality, 1998-2008 on Average GPP

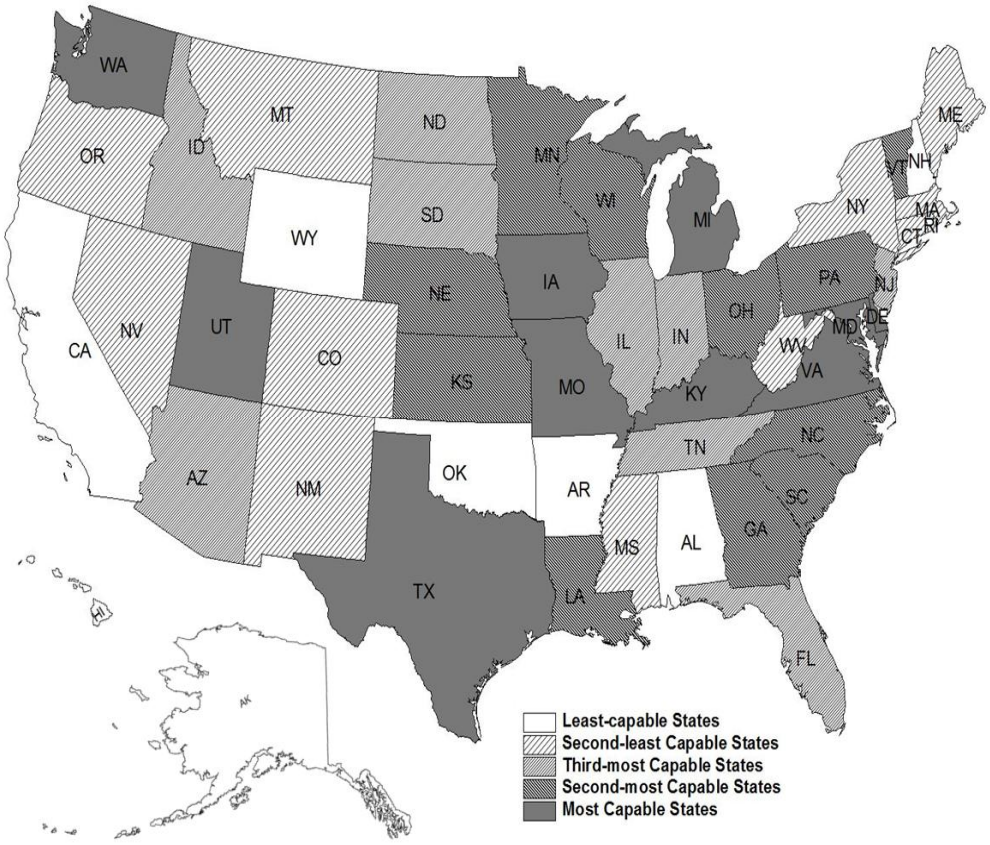

Figure 2. Ranking of States: Corruption, 1998-2008 on Average Convictions per 100,000 Populations

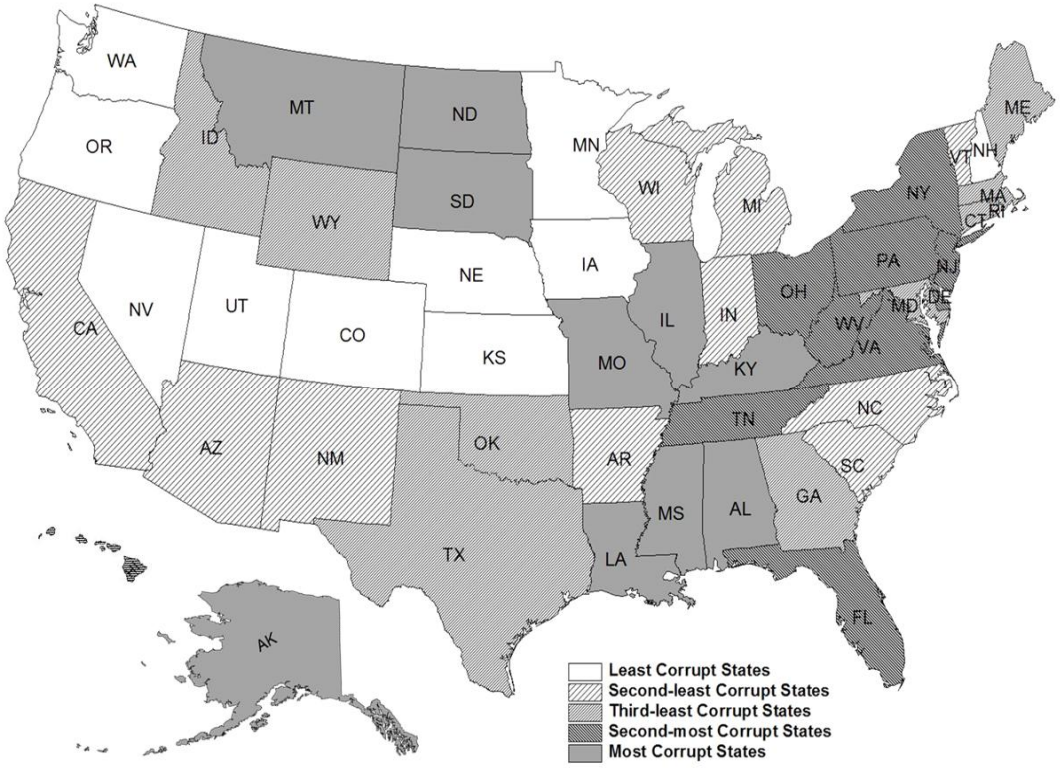

Table 2. Judicial Resources and Corruption Convictions
Panel Data Fixed Effect Model with Robust Errors, 1998-2008

Variables	Dependent Variables	
	Corruption (per Population)	Corruption (per Public Employee)
Ln(Caseloads per Judge)	0.05 (0.208)	0.118 (0.29)
Ln(Pending Rate per Judge)	-0.069 (0.151)	-0.188 (0.191)
Attorneys' Work Hours (per Population)	0.208 (0.164)	
Number of Judges (per Population)	-0.35 (1.051)	
Attorneys' Work Hours (per Employee)		0.171 (0.12)
Number of Judges (per Employee)		-0.076 (0.09)
Constant	0.267 (0.923)	0.879 (1.303)
Year Dummies	included	included
Observations	196	198

Robust errors in parentheses.
* p < .05; ** p < .01; *** p < .001

Table 3. Determinants of Government Management Quality

Variables	Measurement	Data Source
Public Corruption	1) (number of convictions of public officials / number of state population)*100,000; 2) (number of convictions of public officials / number of public employees)*10,000	U.S. Department of Justice, *Report to Congress on the Activities and Operations of the Public Integrity Section*
Management Quality of Neighboring States	Average of neighboring states' "overall performance" scores	Government Performance Project, the Pew Center of the States, Syracuse University
Social Capital	States' response rate to the American Community Survey by the U.S. Census Bureau	U.S. Census Bureau, American Community Survey
ln(Personal Income)	Natural log of real per capita personal income	U.S. Bureau of Economic Analysis
Unemployment Rate	States' unemployment rate in percentage	U.S. Bureau of Labor Statistics
Governor's Institutional Power	Measures governor's budgetary power, appointive power, and whether a governor's cabinet is separately elected. Use principal factors analysis with Varimax rotation. A unique factor is identified to each characteristic: 0.338 for budgetary power, 0.459 for appointment power, and 0.508 for separately elected teams	Beyle (1992) and updated data
Political Competition	1 minus the absolute value of the average annual proportionate partisan majority in the chambers of the state legislature	National Conference of State Legislature (NCSL)
Government Ideology	$GOVTIDEO_{s,t} = (.25)[(POW:DEM:LOW_{s,t})(ID:DEM:LOW_{s,t}) + (POW:REP:LOW_{s,t})(ID:REP:LOW_{s,t})] + (.25)[(POW:DEM:UPP_{s,t})(ID:DEM:UPP_{s,t}) + (POW:REP:UPP_{s,t})(ID:REP:UPP_{s,t})] + (.50)[ID:GOV_{s,t}]$, where $GOVTIDEO_{s,t}$ is the overall ideology of government in state *s* in year *t*. $(POW:DEM:LOW_{s,t})$, $(POW:REP:LOW_{s,t})$, $(POW:DEM:UPP_{s,t})$, and $(POW:REP:UPP_{s,t})$ are the Democrats' and Republicans' proportions power within a state's lower and upper chambers, respectively (the proportions sum to 1 in each chamber). $(ID:DEM:LOW_{s,t})$, $(ID:REP:LOW_{s,t})$, $(ID:DEM:UP_{s,t})$, and $(ID:REP:UPP_{s,t})$ are the average ideology scores of Democrats and Republicans in a state's lower and upper chambers, respectively. $(ID:GOV_{s,t})$ is the governor's ideology, equal to the average ideology score of all members of the state legislature in the governor's party.	Berry et al. (1998). Updated data provided directly from Evan Ringquist.
Citizen Ideology	$CITIDEO_{d,t} = (INCSUPP_{d,t})(INCIDEO_{d,t}) + (CHALSUPP_{d,t})(CHALIDEO_{d,t})$, where $CITIDEO_{d,t}$ means citizen ideology in district *d* at year *t*. $INCSUPP_{d,t}$ is the share of the electorate at year *t* supporting district *d*'s incumbent, and CHALSUPP is the share of the electorate supporting the challenger. $INCIDEO_{d,t}$ is the ideology score for district *d*'s incumbent at year *t*, and CHALIDEO is the ideology score for the challenger.	Berry et al. (1998). Updated data provided directly from Evan Ringquist.
Ethnic Diversity	Hirshman-Herfindal index	U.S. Census Bureau

Table 4. Descriptive Statistics: Determinants of Government Management Capacity, 1998-2008

Variable		Mean	Std. Dev.	Min	Max	Observations
Management Quality("Overall Performance" ratings of the GPP data)	overall	7.865	1.587	3.000	11.000	N = 200
	between		1.426	5.000	11.000	n = 50
	within		0.719	5.865	9.865	T = 4
Corruption (per Population)	overall	0.331	0.298	0.000	2.548	N = 793
	between		0.178	0.086	0.842	n = 50
	within		0.241	-0.512	2.242	T-bar = 15.86
Corruption (per Public Employee)	overall	0.491	0.403	0.000	2.732	N = 795
	between		0.244	0.126	1.095	n = 50
	within		0.322	-0.411	2.509	T-bar = 15.9
Neighboring States' Management Capacity	overall	7.870	0.875	4.000	9.800	N = 200
	between		0.769	5.750	9.400	n = 50
	within		0.428	6.120	9.620	T = 4
Ln(Personal Income)	overall	6.081	0.353	5.293	7.004	N = 800
	between		0.341	5.453	6.845	n = 50
	within		0.104	5.828	6.397	T = 16
Unemployment Rate	overall	4.887	1.236	2.300	10.400	N = 800
	between		0.868	3.063	6.856	n = 50
	within		0.888	2.606	9.056	T = 16
Government Ideology	overall	48.303	26.884	0.000	98.125	N = 800
	between		19.924	7.078	86.133	n = 50
	within		18.255	-0.143	102.824	T = 16
Citizen Ideology	overall	49.974	15.599	8.450	95.972	N = 800
	between		14.162	25.457	80.115	n = 50
	within		6.820	24.440	76.170	T = 16
Political Competition	overall	0.341	0.120	0.000	0.500	N = 800
	between		0.032	0.245	0.384	n = 50
	within		0.115	-0.043	0.572	T = 16
Social Trust (Census Response Rate)	overall	97.298	1.510	91.600	99.400	N = 200
	between		0.945	94.975	98.725	n = 50
	within		1.184	93.273	99.423	T = 4
Governor's Institutional Power	overall	3.458	0.424	2.500	4.300	N = 250
	between		0.395	2.660	4.120	n = 50
	within		0.160	2.778	4.098	T = 5
Ethnic Diversity	overall	0.235	0.135	0.012	0.715	N = 800
	between		0.035	0.157	0.313	n = 50
	within		0.131	-0.007	0.654	T = 16

Table 5. Impact of Public Corruption on U.S. State Governments' Management Quality

	I	II	III	IV
	Ordered Logit	Ordered Logit	Pooled OLS	Pooled OLS
Corruption (per Population)	-1.235**		-0.846**	
	(0.457)		(0.304)	
Corruption (per Public Employee)		-0.909*		-0.599*
		(0.458)		(0.299)
Neighbors' Management Quality	-0.036	-0.021	-0.017	-0.010
	(0.21)	(0.206)	(0.176)	(0.175)
Ln(Personal Income)	-2.262**	-2.127**	-1.510**	-1.442**
	(0.747)	(0.745)	(0.467)	(0.470)
Unemployment Rate	-0.120	-0.147	-0.151	-0.164
	(0.272)	(0.281)	(0.177)	(0.181)
Government Ideology	-0.0002	0.002	0.0008	0.002
	(0.009)	(0.009)	(0.007)	(0.006)
Citizen Ideology	-0.024	-0.025	-0.020	-0.020
	(0.016)	(0.016)	(0.012)	(0.012)
Political Competition	-3.400	-3.160	-2.078	-2.046
	(1.925)	(1.873)	(1.350)	(1.331)
Social Trust	-0.166	-0.136	-0.161	-0.135
	(0.162)	(0.167)	(0.127)	(0.130)
Governor's Institutional Power	2.034**	1.986**	1.278**	1.295**
	(0.747)	(0.719)	(0.408)	(0.400)
Ethnic Diversity	-0.834	-0.910	-0.214	-0.313
	(1.741)	(1.748)	(1.123)	(1.236)
Constant			31.639*	28.543
			(14.62)	(14.841)
Year Dummies (1998, 2000, 2005, 2008)	included	included	Included	Included
Log-likelihood	-160.482	-164.977		
Wald Chi2 (11)	29.84	23.06		
Prob. > Chi2	0.002	0.017		
F-value			3.6	2.65
Prob. > F-value			0.001	0.006

Robust standard errors in parentheses

* p < .05; ** p < .01; *** p < .001

Table 6. Predicted Probability of Each Outcome of Management Quality

Predicted Probability	Mean	Standard Deviation	Min	Max
Outcome=1 (Lowest Management Quality)	0.030	0.040	0.001	0.276
Outcome=2	0.127	0.104	0.007	0.460
Outcome=3	0.283	0.098	0.034	0.410
Outcome=4	0.197	0.049	0.036	0.240
Outcome=5	0.180	0.073	0.015	0.267
Outcome=6	0.128	0.083	0.006	0.354
Outcome=7 (Highest Management Quality)	0.055	0.057	0.002	0.394

Table 7. Marginal Effects (MEs) of Corruption on Management Quality
Highest Management Quality Outcomes (Outcome= 7, 6, and 5)

	I	II	III
	Outcome = 7	Outcome = 6	Outcome = 5
	dy/dx	dy/dx	dy/dx
Corruption (per Population)	-0.060	-0.102*	-0.076*
	(0.032)	(0.043)	(0.030)
Neighbors' Management Quality	-0.002	-0.003	-0.002
	(0.010)	(0.017)	(0.013)
Ln(Personal Income)	-0.110	-0.186**	-0.140**
	(0.058)	(0.065)	(0.046)
Unemployment Rate	-0.006	-0.010	-0.007
	(0.014)	(0.023)	(0.017)
Government Ideology	-0.00001	-0.00002	-0.00001
	(0.0004)	(0.001)	(0.001)
Citizen Ideology	-0.001	-0.002	-0.001
	(0.001)	(0.001)	(0.001)
Political Competition	-0.165	-0.279	-0.210
	(0.107)	(0.160)	(0.125)
Social Trust	-0.008	-0.014	-0.010
	(0.009)	(0.014)	(0.010)
Governor's Institutional Power	0.099	0.167*	0.126**
	(0.052)	(0.066)	(0.042)
Ethnic Diversity	-0.041	-0.069	-0.052
	(0.085)	(0.142)	(0.105)
Year Dummies	included	included	included

p* < .05; p** < .01; p*** < .001
Delta-method standard errors in parentheses

Table 8. Tests of Endogeneity of Corruption

Ho: Variables are exogenous	
Durbin (score) Chi2 (1)	= 16.437 (p=0.0001)
Wu-Hausman F(1, 85)	= 17.129 (p=0.0001)

Table 9. Tests of Overidentifying Restrictions

Ho: All instruments are valid	
Sargan (score) chi2(1)	= 0.208 (p = 0.649)
Basmann chi2(1)	= 0.180 (p = 0.671)

Table 10. First-stage Regression Summary Statistics

Variable	R-square	Adjusted R-sq.	Partial R-sq.	F(2, 85)	Prob. > F
Corruption per 100,000 populations	0.307	0.210	0.228	12.549	0.000

Table 11. 2SLS-IV Regression of State Government Management Quality

First Stage Regressions		*2SLS-IV Regression*	
F (12, 85):	3.14	Wald Chi2 (11):	28.090
Prob. > F:	0.001	Prob. > Chi2:	0.003
R-squared:	0.307	Root MSE:	1.634
Adjusted R-sq.:	0.210		
Root MSE:	0.326		
Dependent Variable	Corruption (per Pop.)	Dependent Variable	Management Quality
Neighbors' Management Quality	0.032 (0.046)	Corruption (per Population)	-3.693*** (1.001)
Ln(Personal Income)	0.050 (0.115)	Neighbors' Management Quality	-0.016 (0.229)
Unemployment Rate	0.050 (0.037)	Ln(Personal Income)	-1.685** (0.564)
Government Ideology	0.0006 (0.002)	Unemployment Rate	-0.054 (0.187)
Citizen Ideology	-0.004 (0.003)	Government Ideology	0.002 (0.008)
Political Competition	-0.066 (0.328)	Citizen Ideology	-0.034* (0.016)
Social Trust	-0.052 (0.032)	Political Competition	-1.638 (1.637)
Governor's Institutional Power	0.059 (0.095)	Social Trust	-0.333 (0.172)
Ethnic Diversity	-0.215 (0..258)	Governor's Institutional Power	1.529** (0.483)
Attorneys' Work Hours per Population (next year)	0.224** (0.082)	Ethnic Diversity	-1.077 (1.312)
Number of Federal Judges per Population (next year)	0.848* (0.388)	Constant	49.964** (19.019)
		Year Dummies	Included
Constant	4.190 (3.608)		
Year Dummies	Included		

Instrumented: Corruption per 100,000 populations
Instruments: Neighbors' management quality, log of personal income, unemployment rate, government ideology, citizen ideology, political competition, social trust, social trust, governor's institutional power, ethnic diversity, year dummies, future value of U.S. Attorneys' work hours per population, and future value of number of federal judges per population
* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; Standard errors in parentheses.

Table 12. Impact of Public Corruption on Infrastructure Management

	I	II
	Ordered Logit	2SLS-IV
Corruption (per Population)	-1.965**	-3.528**
	(0.735)	(1.333)
Neighbors' Management Quality	-0.052	0.112
(Infrastructure Management)	(0.333)	(0.275)
Ln(Personal Income)	-1.933	-1.749*
	(1.252)	(0.774)
Unemployment Rate	-0.209	-0.244
	(0.307)	(0.246)
Government Ideology	-0.022	-0.019
	(0.011)	(0.012)
Citizen Ideology	0.023	0.015
	(0.023)	(0.022)
Political Competition	1.685	1.759
	(3.003)	(2.556)
Social Trust	-0.261	-0.218
	(0.338)	(0.248)
Governor's Institutional Power	1.966*	1.679*
	(0.975)	(0.671)
Ethnic Diversity	0.482	-1.348
	(2.760)	(2.141)
Constant		35.722
		(26.477)
Year Dummies	Included	Included
Log-likelihood	-90.611	
Wald Chi2 (10)	22.260	22.610
Prob. > Chi2	0.014	0.012
R-squared		0.230
Root MSE		1.650

Robust standard errors in parentheses. The first-stage regression summary statistics of Model II are not reported. At the first-stage, both instruments are associated significantly-positively with the instrumented. Model II passes the weak instrument test with F (2, 38) > 10. Model II also passes the tests of over-identifying restrictions based on Sargan and Basman tests which fail to reject the null of valid instrument.

*p < .05; ** < .01; *** p < .001