How Does Bribery Affect Public Service Delivery?

Micro-Evidence from Service Users and Public Officials in Peru

Daniel Kaufmann
Judit Montoriol-Garriga
Francesca Recanatini

Abstract

When seeking a public service, users may be required to pay in bribes more than the official price. Consequently, some users may be discouraged and choose not to seek a service due to the higher price imposed by the bribery "tax." This paper explores the price and quantity components of the relationship between governance and service delivery using micro-level survey data.

The authors construct new measures of governance using data from users of public services from 13 government agencies in Peru. For some basic services, low-income users pay a larger share of their income than wealthier ones do; that is, the bribery tax is regressive. Where there are substitute private providers, low-income users appear to be discouraged more often and not to seek basic services. Thus, bribery may penalize poorer users twice – acting as a regressive tax and discouraging access to basic services.

The paper explores the characteristics of households seeking public services. Higher education and age are associated with higher probability of being discouraged. Trust in state institutions decreases the probability of being discouraged, while knowledge of mechanisms to report corruption and extent of social network increase it, suggesting that households may rely on substitutes through networks. The study complements the household analysis with supply-side analysis based on data from public officials, and constructs agency-level measures for access to public services and institutional factors. Econometric results suggest that corruption reduces the supply of services, while voice mechanisms and clarity of the public agency's mission increase it.

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Daniel Kaufmann, Judit Montoriol-Garriga and Francesca Recanatini[1]

1. INTRODUCTION

The quality of public sector institutions plays a critical role in access to and costs of the public services provided by a government to its citizens. Poor governance can affect greatly public service delivery, both directly through higher price, and indirectly through lower quality or quantity available. When seeking a public service, some users may be discriminated against and pay more than what is officially set (because of corruption)[2]. Consequently, some users may get discouraged and choose not to seek the service needed due to the higher price imposed by the bribery "tax." In this paper we explore both aspects of the relationship between governance and services delivery using micro-level survey data: the potential regressive impact of "bad governance" and the "discouraged user effect" of such bribery tax. Its main contribution is to provide preliminary evidence on the regressiveness of corruption and to link empirically access to public services and quality of governance.

Three elements can be used to characterize public service delivery and may lead to greater inequality among citizens: the quality of the service, its cost (official and unofficial) and its availability. Empirical research has shown that bad governance and corruption reduce the quality of publicly provided services and investment in the public sector (Gupta, Davoodi, Alonso-Terme, 1998; Davis, 2004). Overall, service delivery is weakened by bad governance, since the latter reduces the ability and incentives of policymakers and users to monitor providers (World Development Report, 2004).

The quality of the service provided is not the only dimension through which bad governance may affect users. Bad governance, by promoting mis-allocation of resources and poor accountability, may raise the cost of services (both official and unofficial) and limit the access of users to public services. Users with lower income or firms of different size may pay less or more in term of bribes than others to obtain the same public service (Hunt and Laszlo, 2005; Svensson, 2003).

Yet, there is limited systematic, empirical work about the impact of bad governance on users and the link between bad governance and service delivery. The purpose of this paper is to begin filling this void by focusing on the relationship between quality of governance, cost for different users and access to public services. In doing so, the paper complements the existing empirical literature on governance and public service provision.

The difficulty of measuring (official and unofficial) costs and access to a particular public service is one of the major culprits of the lack of empirical studies on these issues. Recently, however, data collection efforts have been supported in several developing countries by the World Bank to gather country-specific surveys of thousands of households, enterprises and public officials. These efforts have allowed local government to compile in-

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[2] A recent article from the New York Times offers some evidence of the costs of bad governance, especially for poorer citizens in the Third World. In particular, petty bribery acts as a hidden regressive tax, according to research completed by the World Bank Institute. In Zambia, for example, poor people paid 17 percent of their incomes in bribes for medical care, while the middle class paid only 3 percent. The comparable figures for Paraguay were 7 percent for the poor and only 1 percent for the middle class. For the complete article, please visit: http://www.iht.com/articles/2005/08/29/news/corrupt.php

depth, country-specific information on the quality of governance and of the public sector performance and draft action plans to improve governance.

Using responses from 1123 Peruvian public officials and 1696 Peruvian households, we focus on the costs of bad governance and the relative importance of various governance determinants on access to public services. We begin exploring the costs bore by users to obtain 13 different public services[3]. The evidence suggests that for certain basic services low-income users pay a larger share of their income that wealthier ones. In addition, low-income users are more likely to be discouraged and not to seek a service than wealthier ones especially when in need of a basic service (as education, water and the police). Thus, bribery appears to penalize twice poorer users, both acting as a regressive tax and as a discriminating mechanism for access to basic services.

We then explore the household's behavior when attempting to obtain a public service. The survey data allows us to carry out empirical exploration at two levels: at the household level and at the public agency level, as in Kaufmann et al. (2002). At the household level, we use the users' evaluation of access to public services. Households report whether they decided not to seek a specific public service when needed, because of bad governance. This provides us with detail, experience-based information on access to public services. We combine this information with demographic data on household's characteristics from the LSMS survey.

Our analysis suggests that individual characteristics, such as education and age, matter in the decision of whether or not to seek a service when needed: higher education attainments and middle-income users are associated with a higher probability not to seek a public service. Governance, measured as trust in state institutions, also influences the user's behavior. Finally knowledge to report corruption and social network increases the probability to be discouraged.

We complement the household level analysis with a public official analysis. At the agency-level, the public officials' data allows us to construct agency-level indices for both access to public services and institutional factors, namely the existence of audit mechanisms, the quality of rules governing each agency, the individual's understanding of the agency mission, availability of resources and the extent of different forms of corruption, as reported by public officials. The simple OLS results suggest that corruption reduces access to services, while voice mechanisms and understanding of the agency's mission increases it.

Overall, these findings reinforce the notion that poor governance affects greatly public service delivery, both directly through higher price, and indirectly through lower quality or quantity available. This country-specific evidence is however only the starting point, and more work is needed to test the robustness of these results in other countries.

The paper is organized as follows. Section 2 discusses the link between bad governance and access to public services. Section 3 and 4 introduce a detailed description of the survey data used and provides information on how each variable has been constructed. The discussion in Section 2 sets the stage for the discussion in Section 5 and 6. Section 5 introduces the estimation model and the results of the household level analysis are discussed in Section 6. Section 7 complements the household analysis by focusing on the supply side

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[3] The thirteen public services include: the local motor vehicle administration; the immigration office; the National Registry for Identification Cards; public registry; National Police; public schools; public hospitals; National Bank; local revenue services; local Water Companies; Social Security; National Tax Administration.

of service delivery. Section 8 concludes with suggestions for strengthening and expanding research on this issue.

2. HOW BAD GOVERNANCE AFFECTS THE USERS OF PUBLIC SERVICES: COSTS AND ACCESS

Over the past five years researchers have increasingly focused on the link between governance, growth and delivery of public services. The cross-country evidence has shown how bad governance can be harmful for the standard of living and the distribution of income among citizens, reducing income per capita, literacy, and increasing infant mortality.[4] Further, bad governance distort public expenditure and increase poverty reducing efficiency of investment. Governance has therefore begun to be seen as a key intermediate input to social and economic development, as well as a welfare-enhancing developmental outcome itself.

These empirical findings are in line with the theoretical literature on public service provision and bad governance. The price and the level of public services provided are affected by the presence of corruption (Shleifer and Vishny, 1993): more widespread corruption translates into higher prices and reduced offering of public services. At the same time, corruption can reduce government revenues, in turn eroding the quality of the services provided (Bearse, Gloom and Janeba, 2000). Furthermore, corruption within the public sector can lead to lower investment in human capital (Ehrlich and Lui, 1999). This in turn may lead to a 'vicious circle' (Alesina, 1999), in which users choose not to use publicly provided services, further reducing a country's tax base and its ability to improve the quality of the services.

The existing theoretical literature and the vast empirical research have focused especially on the link between governance and the public services provided, neglecting to study the distributional consequences of bad governance and its link with access to services. In this paper, we explore both relationships and focus on the institutional factors that may promote uneven pricing and access to public services, and discourage users of public services.

The direct impact of bribery on service delivery materializes through the price setting mechanism of the demand for services. The cost of publicly provided services may differ across users because of bribery. Poor accountability systems and limited transparency can allow public officials to set different prices for the same public service. Svensson (2003) explores the costs borne by private firms in Uganda and finds that more profitable firms pay larger bribes. Hunt and Laszlo (2005) focus on Peruvian citizens and the mechanisms of bribe payment. The authors find that public officials are more likely to 'move first' in the process leading to bribery and that bribe incidence is positively correlated with the users' income.

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[4] Kaufmann, D. "Governance and Anti-corruption", in *The Quality of Growth*, Vinod Thomas, ed. The World Bank, 2000; Knack S. and G. Anderson, *Is "Good Governance" Progressive? Institutions, Inequality, and Poverty Reduction,* paper presented at the 1999 Annual Meeting of the American Political Science Association, Atlanta; Gupta S., H. Davoodi, and R. Alonso-Terme, *Does Corruption Affect Income Inequality and Poverty?* IMF Working Paper, 1998; Gupta S., H. Davoodi and E. Tingson, 2000, *Corruption and the provision of health care and education services;* P. Mauro, 1995, *Corruption and Growth;* Bardhan, 1997, *Corruption and Development;* Kaufmann et al., 1999a; Wei, 1999; Johnson, Kaufmann, McMillan and Woodruff, 2000; Friedman, Johnson, Kaufmann and Zoido-Lobaton, 2000 and Levin and Satarov, 2000).

Figure 1 formalizes the distributional effect of bribery on service provision. We assume for simplicity that there are only two groups of citizens that differ in terms of income (low and high income). We also assume that the low-income group has a more inelastic demand for service curve than the high-income group. If public officials are able to impose a 'bribery tax' the cost of the service for the citizens increases, and the demand declines. However the change in demand will depend on the elasticity of the demand curve.

Figure 1- The effect of bribery
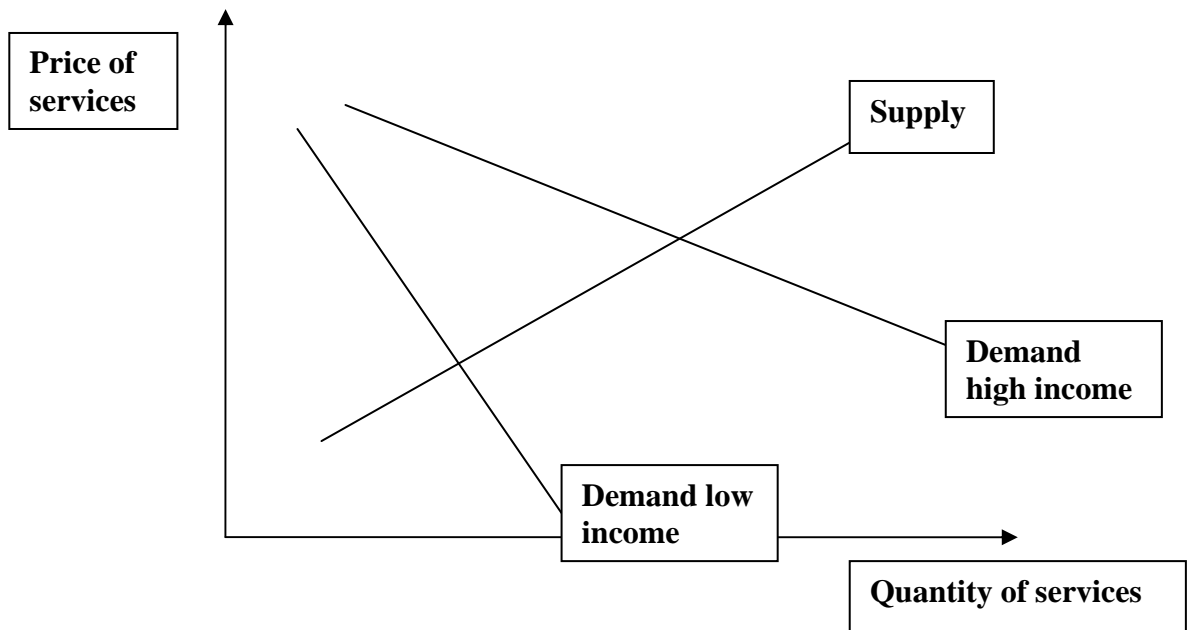
We explore the distributional consequences of poor governance using household data from Peru. We focus on two different aspects of poor governance: bribery and discouragement. First, we identify in our sample the citizens who paid a bribe to obtain a service, and the citizens who were discouraged. We then observe the distribution of bribery and discouragement by income. Table 2.1 describes the percentage of income spent on bribes by households, who were asked to pay a bribe while trying to obtain a service. The data indicates that bribery tends to act as a regressive tax for most public services in Peru, penalizing low-income citizens more than higher-income ones. [5]

<Table 2.1 around here>

Bribery can however affect service delivery also indirectly, by limiting the quantity of service available or reducing its quality. At this stage we choose to focus only on the quantity effect.[6] Table 2.2 reports the distribution of discouraged users by level of income. For basic services, poor governance affects low-income citizens more than high-income ones. Such regressive effect appears to be significant especially for the most basic public services, like water, police, hospitals, schools, and municipal services (area de rentas). This suggests that

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[5] The observed regressiveness of bribery appears to be robust to different sample of respondents. We obtain very similar results using the complete sample of households and the sample of households who contacted the agency, were asked to pay a bribe and decided to pay a bribe.

[6] We plan to explore further the link between bribery and quality of service delivered using additional data available from the survey.

poor governance penalizes households twice: first, it increases the costs of the services especially for the poorest citizens; and second, it may limit access to public service.

<Table 2.2 around here>

Misuse of public resources by officials for private gain may indeed promote uneven access or act as a barrier to entry for citizens, especially the poorest ones. In this framework, two main questions arise:

- Why would households be discouraged to seek a public service?
- Why would public officials have any incentive to exclude some individuals from the use of the public service that their agency provides?

Our approach to answer these two questions proceeds in stages in an attempt to exploit the richness of the data available from the two surveys of users and public officials. We begin in this Section by concentrating on the possible link between the users' behavior and institutional quality of the agency providing the service needed. We then complement our analysis focusing in Section 7 on the public officials only and exploring the link between access and institutional quality of the agency where the official works.

To answer our first question, namely why households may choose not to obtain a public service, we focus our analysis on the users and their decision of whether or not to seek a service when needed.[7] This decision can be affected by both the individual characteristics of the users and the quality of governance of the agency providing the service.

The individual characteristics of users can affect her/his decision not to seek a public service when needed. Income, for example, can affect user's decision to seek a public service. Poorer users may be less aware of their rights than wealthier ones and may not know where to go to file a complaint or to obtain a better service. In addition, wealthier users can use their income to increase their ability to obtain a service. Thus, we should observe a positive relationship between income and number of discouraged users. Education can also affect the user's decision. Awareness of her/his rights is likely to be higher for more educated people. Thus, we expect the number of reported discouraged users to increase with the level of education. Age, gender and nationality of the user may also play a role and are included in our analysis.

The individual characteristics of the users are not however the only factors affecting the decision not to seek a public service when needed. The quality of governance of the agencies providing the services can also contribute to discourage users from seeking a public service. We include a few dimensions of governance at the household's level: the perceived honesty/dishonesty of public institutions, the degree of trust in government institutions, and the citizen's knowledge of mechanisms to report a corrupt act.

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[7] We realize that in our analysis we should take into account the degree of necessity of a service. It could be the case, for example, that households do not use a service because they do not need it. In an ideal world we would have data to distinguish between two situations: (i) when a user needed a service and he obtained it, and (ii) when someone did not need a service. The data we have allows only distinguishing people who needed a service and did not receive from all the other cases. We do not believe however that this introduces a significant bias in our results. Ideally, we would have only data from users that needed a service, and classify them in two groups: the ones that get it and the ones that decide not to get it. In our dataset, instead, we have also data from users who did not need the service. Thus, our results could be biased toward zero, meaning that significant coefficients should be interpreted as the lower bound of the "true" effect.

$$\textbf{Discouraged Indicator} = \textbf{f} \textit{ (User Characteristics, Governance Characteristics)}$$
$$= \textbf{f} \textit{ (Income, Education, Age, Gender, Governance Characteristics)}$$

[Eq.1]

We are aware that the relationship between access and poor governance is more complex than our specification suggests and may be tinted by endogeneity and omitted variable bias. At the estimation stage, we discuss this possibility and introduce alternative specifications to reduce the potential biases.

The next sections introduce the data used and descriptive statistics, setting the stage for the discussion of the empirical model and results in Sections 5 and 6 respectively. The agency-level analysis is introduced and discussed in detail in Section 7.

3. DESCRIPTION OF THE DATA

We use country-specific data from two in-depth surveys: household and public official surveys. The data were collected through an in-depth governance assessment carried out in Peru, between February and March 2001, and covers over 1696 households and 1123 public officials[8]. Households were surveyed in their roles as users of public services, and were asked about the quality of public agencies and their experience with inappropriate procedures and behavior. The public official survey provides a wide range of information about governance, corruption and service delivery across 61 key institutions in the country. A similar survey was conducted for private enterprises, though this information is not used in this paper.

We choose two complementing units of observation for our empirical exploration: the household level and the public agency level. The household level analysis constitutes the core analysis of the paper. We use the household data to construct a set of household's characteristics and 'governance' features that may explain the individual's decision not to use a public service when needed. We complement the household analysis with a public-agency level analysis. This alternative level of analysis – the agency – aims to provide a supply side view of the issue of access to services. At the public-agency level, we use information on access to public services and quality of governance as reported by public officials.

The household level analysis is based on information on 1696 Peruvian households. The unit of observation is the individual household i. For each individual we know her/his characteristics, her/his assessment on selected governance issues and the number of public services needed but not sought. Working at the individual level allows us to identify, on the one hand, the relevant household characteristics (income, education, sex and age of the head of the household) that may affect the decision of whether or not to seek a public service when need it. At the same time, it permits us to explore the effect that the quality of governance may have on the household's decision to seek or not a public service.

We focus on a few survey questions that can proxy for the quality of governance at the household's level: the perceived honesty/dishonesty of public institutions, the degree of

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[8] For more details on the Survey used, please see the WBI report prepared at the request of the Peru Government, "Voices of the Misgoverned and Misruled: An empirical Study on Governance, Rule of Law and Corruption", September 2002. http://www.worldbank.org/wbi/governance/peru/results.html#reports

trust in the judicial system and in the government, and the citizen's knowledge of mechanisms to report a corrupt act. Table A.0 in the Appendix provides a detailed list of the questions used to construct these governance measures at the household level.

Our dependent variable at the individual level is constructed using a survey question that evaluates whether households in need of a service (based on a list of 13 public institutions) decided not to use it[9]. Using on this question, we construct two alternative dependent variables at the household level:

- DIS1, discouraged in at least one institution, is a dummy variable that takes value one if household reports to be discouraged in one or more than one institution, and takes value zero if the household did not mark any of the institutions; and

- DIS2, discouraged in at least two institutions, is a dummy variable equal to one if household reports to be discouraged in two or more than two institutions, and zero if household is discouraged in one or zero institutions.

A data problem has to be noted at this stage. The coding of the survey question on discouragement does not distinguish non-respondents from non-discouraged households, that is, households with none public institution selected. We choose to classify these households as non-discouraged households (impute a zero in variables DIS1 and DIS2). This choice can bias our results. Thus, we decide to infer the size of the non-respondent in our sample and quantify the potential bias due to the incidence of non-response in the following way. We focus on two questions – about the degree of honesty/dishonesty of the public institutions from the household survey and the quality of public service – and analyze the level of non-response in these cases. These questions include a similar list of public agencies as the question on discouragement. Our assumption is that individual respondents are as likely to answer the question on honesty of institutions and quality of public services as the question on discouragement.

Table 3.0 summarizes our results. We observe that on average 5.7 percent of the households did not answer the questions on the degree of honesty/dishonesty of institutions. The higher incidence of non-response corresponds to "Direccion Nacional de Inmigraciones" and "Banco de la Nación", hence, the results for these public institutions are likely to be the most affected by non-response bias. Table 3.0 also reports the percentage of non-response for the questions on the quality of specific public services. We observe that the average non-response for these questions is less than 1 percent, with only 2 or 3 households on average that did not answer. This second set of questions shows a higher response rate for specific public services than the questions on dishonesty of the institutions. In general, we observe that the non-response rate is less than 6 percent. Thus, we should expect that the actual non-response rate for the discouragement variable to be similar. We will, however, take these considerations into account when we interpret the results.

<Table 3.0 around here>

The agency-level analysis is based on information on 1123 public officials. The unit of observation is the agency j in region k. The agency-level analysis follows the approach introduced by Kaufmann, Mehrez and Gurgur's (2002) work for Bolivia using similar survey data. This approach allows us to minimize respondents' bias and measurement error due to individual differences in perceptions using factor analysis technique. We constructed several

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[9] The exact question reads: ¿En cuáles de las siguientes instituciones (MOSTRAR TARJETA) dejó de hacer trámites que debió o pudo haber realizado?

governance indices aimed to capturing different aspects related to the quality of governance, the presence of corruption within the institutions and the accessibility of public services provided to the citizens.

We begin selecting the survey questions from the public official survey that describe each governance dimension. Table A.1 in the Appendix provides a detailed list of the questions used to construct these indices. Typically, more than one question is used to construct each governance index. In the original survey all questions about individual perceptions were scaled from 1 to 7. We therefore rescaled them from 0 to 100, in order to facilitate percent interpretation (0 always meaning the lowest level of quality of governance, corruption, accessibility or service performance). We then average the responses from public officials working in the same public agency. Finally, for each governance dimension we synthesize the questions into agency-level indices using factor analysis technique.

To capture the idea that the quality of governance and corrupt practices within the same agency may differ in a significant way depending on the geographical location of the agency, we further separate agencies located in different cities and introduce them in the sample as different units of observation, one per region (departamento). This leads to a sample of 161 agency-region observations, and for each one we have constructed a measure of accessibility to public services – the dependent variable – and the governance indices –the explanatory variables.

Since all the data used at the agency-level is based on only public officials' responses, careful attention must be paid to the possibility of endogeneity biases at the estimation stage. As a first step to address this problem, we thoroughly reviewed and selected the survey questions used in the construction of our variables based on the most objective evaluation by public officials.

Following the literature on the determinants of corruption (Treisman, 2000; Gatti, 2001) we include two additional control variables at the agency-level analysis that in our view may affect also the decision about seeking or not a public service: the regional average household income level and the percentage of the population whose native language is other than Spanish.[10] The idea is that the institutional and economic development of a region may affect access to services and these two variables – the level of regional development and language stratification – have been shown to be significant proxies of these factors. Finally, we include a dummy capturing whether the agencies of the individual respondent are municipal or not, as well as a dummy distinguishing judicial public agencies from other types of institutions. We complete our set of explanatory and control variables by including regional dummies.

Table 3.1 provides the definitions of the dependent variables used at each level of analysis and the survey questions used to construct them. Table 3.2 provides the definitions of the explanatory variables (household characteristics, governance characteristics, corruption and governance indices, and other controls) used in the empirical analysis.

<Table 3.1 around here>
<Table 3.2 around here>

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[10] To construct these variables we use the data from the LSMS household survey done for Peru in 2001.

4. DESCRIPTIVE STATISTICS

The household level analysis uses information only from the household survey to construct a measure of discouraged users – the dependent variable – and household's characteristics –the explanatory variables. In Table 4.1 we provide the distribution of households that reported to be discouraged. 38 percent of the households (640 out of the interviewed 1696) have not been discouraged in any of the 13 public agencies included in the list. Of the remaining households interviewed, 62 percent reported to be discouraged in at least one agency. Moreover, a significant share of households appears to have been discouraged in one or more agencies. In particular, 628 households were discouraged in one out of the 13 agencies, 247 households have been discouraged in two out of 13 agencies, etc. At the upper extreme, we have two households that reported to be discouraged in 10 out of 13 agencies.

<Table 4.1 around here>

Table 4.2 provides the distribution of the dependent variable DIS1 –discouraged in at least one institution- by the type of public agencies included in the survey list. The lowest percentage of discouraged users appears to be in the "Secretaria Municipal de Transito" with a 3 percent of households reporting to be discouraged in this institution. At the other extreme, SUNAT shows the higher percentage of discouraged households (16.3 percent).

<Table 4.2 around here>

As emphasized in the previous Sections, poor governance can impair service delivery not only limiting citizen's accessibility to public services but also increasing the service's costs for particular groups of citizens. We therefore explore the distribution of the incidence of discouragement by type of agency depending on the household's characteristics. The results are summarized in Table 4.3. Households headed by a man, with medium income and with university education are the households with higher probability of being discouraged. The most interesting results come from the joint tabulation of discouragement and household income, as emphasized already in Section 2. Overall we observe that a higher proportion of low-income households is discouraged in at least one institution, compared to high-income households (61 percent compared to 59 percent)[11]. Thus, it appears that discouragement acts as a regressive tax for citizens in Peru.[12]

<Table 4.3 around here>

Table 4.4 provides the summary statistics for the governance variables. The variable on the honesty/dishonesty takes values from zero (household ranks all institutions as honest) to 42 (all institutions are ranked as dishonest). Only 3 percent of the surveyed households ranked all institutions as honest, and on average, households ranked as dishonest 17 public institutions out of 42. The variable Trust in State Institutions takes values from 1 (low trust in state institutions) to 7 (high trust). The average level of trust for the respondents on state institutions is 2.7 out of a 1 to 7 scale. We also include a variable that measures the knowledge that citizens have about government institutions. Sixty-six percent of the

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[11] We reject the null hypothesis of independence of the variables income and discouraged household at a significance level of 10 percent (p-value=0.099).
[12] We define regressiveness in this context as a higher proportion of discouraged for low income households than high income households.

households report that they do not know where to report a corrupt act and 82 percent of the respondents state that not knowing where to report a corrupt act was an important reason for not denouncing.[13]

<center><Table 4.4 around here></center>

In Table 4.5 we provide the distribution of the dependent variable DIS1 by the different values of these governance characteristics. We observe that households that are discouraged are also ranking more institutions as dishonest. In particular, 49 percent of the discouraged households are ranking 17 institutions (the average) or more as dishonest out of 42, compared to 37 percent of households that are not discouraged. Average dishonesty has the same effect: discouraged households have lower average value of the honesty of the institutions. In terms of trust on state institutions, we observe that discouraged households trust less state institutions that households that have not been discouraged. We observe that the proportion of households that knows where to report a corrupt act is larger for discouraged users that for non-discouraged (47 percent versus 39 percent).

<center><Table 4.5 around here></center>

The analysis at the agency-level uses information only from the public official survey to construct a measure of accessibility to public services – the dependent variable – and the governance indices –the explanatory variables. Table 4.6 provides the summary statistics for all these variables. The accessibility index varies from 17.5 - the lowest level which corresponds to Courts in Cuzco- to the highest accessibility score of 100 taken by 11 agency-regions (Peace Judges in Coronel Portillo, Popular Dining Room in Lima, Schools in Arequipa, etc.). The governance indices also display a large variation across institutions[14]. As for the other control variables, 22 percent of the agencies are municipal and 11 percent judicial. The regional distribution is 33 percent of the agencies in Lima, 21 percent in the jungle, 24 percent in the rest of the coast and 22 percent in the mountain range.

<center><Table 4.6 around here></center>

5. THE ESTIMATION MODEL

At the estimation stage we choose to focus on the link between bad governance and access to service, leaving aside the link between bad governance and costs of the public services. To test our hypothesis – bad governance limits access to public services – we proceed in stages. We begin focusing on the user-level analysis to evaluate the effects of household characteristics and governance factors on discouragement to use public services. The unit of observation in this case is the user i located in region k.

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[13] We also check whether the sample is nationally representative: Table 4.4 discusses the summary statistics obtained from the sample compared with the corresponding statistics from the 1993 census data. Our sample appears to be fairly representative of the Peru population, though it is slightly biased towards young people, while less educated people and single households are underrepresented. It is worth noting that the survey interviewed households in 14 departments from a total of 25 departments in Peru. As can be seen in Table 4.4, the majority of the households was interviewed in Lima (46 percent), which is consistent with the high percentage of Peruvian households in Lima.

[14] For a detailed description of the questions used, please see Appendix 1.

This approach however focuses only on the demand side of service delivery. To begin understand how governance may affect the supply side of service delivery we repeat our analysis using the public official's evaluation of quality of governance and access to public services. We aggregate the individual's responses at the agency level and construct agency indicators of governance and accessibility. Thus, our unit of observation becomes the agency j located in region k.

The decision of a user not to seek a service when needed can be influenced by both by the quality of the institutions providing the service (i.e. governance) and by individual characteristics. Equation 1 in Section 2 summarizes the factors that can affect this decision.

To test the relative importance of each factor we analyze the relationship between household's characteristics, governance factors and discouragement using the user's responses. As described in Section 4, we construct two user-level measures of discouragement: 1) discouraged in at least one institution -DIS1- and 2) discouraged in at least two institutions -DIS2. This allows us to study user's behavior on the basis of individual characteristics and governance features. Equation 1' summarizes the factors affecting a user's decision.

Discouraged in at least one (or two) agency $= \gamma_0 + \gamma_1$ *Middle Income* $+ \gamma_2$ *High Income* $+ \gamma_3$ *Secondary Education* $+ \gamma_4$ *University Education* $+ \gamma_6$ *Female* $+ \gamma_7$ *Age* $+$ $+ \gamma_8$ *Dishonesty of institutions* $+ \gamma_9$ *Lack of Trust in state institutions* $+ \gamma_{10}$ *Knowledge Corrupt* $+$ γ_{11} *Member Association* $+ \varepsilon_3$ **[Eq.1']**

We include in our specification the individual factors that may affect the user's behavior when seeking a public service, namely her/his income, education, age, and gender. We then add the governance variables – lack of trust in state institutions, dishonesty of institutions and knowledge of mechanisms to report corruption. These variables attempt to capture the impact of the quality of institutions on access to services. Finally, we include among the explanatory variables two variables that attempt to measure the degree of information and knowledge available to each individual: a variable indicating whether the head of the household belongs to a civic association, like a political party, neighbor, ecological, union; and a variable indicating whether the head of the household knows where to report a corrupt act.

6. REGRESSION RESULTS

We estimate equation (1') using Probit Regressions, since both dependent variables take only value zero or one. We estimate the univariate regressions between the different determinants and each one of the dependent variables. Each regression includes regional dummies to control for possible regional differences not captured by the other explanatory variables. Table 6.1 summarizes the results for the dependent variable DIS1, while Table 6.2 those for the dependent DIS2. We then turn to the multivariate analysis to determine the impact of each governance dimension on the probability that a household reported to be discouraged to use that public service (Table 6.3).

<Table 6.1 around here>
<Table 6.2 around here>

<Table 6.3 around here>

The simple univariate regressions in Table 6.1 show that both individual characteristics and governance variables are statistically significant. We observe in particular an interesting pattern for the level of education and of income of the household. The coefficient of education goes from negative in Primary education to positive for University education (and no significantly different from zero for Secondary education). This seems to suggest that reported discouragement is an increasing function of education. Income, instead, seems to follow an inverse-U shape behavior: the coefficient is negative for low income, positive for middle income and zero for high income. Age has a non significant coefficient, but when we include both age and age squared we obtain a positive and negative significant coefficients respectively. This suggests that the effect of age on the probability of discouragement is non-linear. The dummy variable "Female" has a negative coefficient showing that females tend to be less discouraged.

The governance variables we constructed are all significant (except trust in government), indicating that the quality of governance and institutions affects access to service. The larger the number of institutions the households believes to be dishonest the greater the probability that the household will chose not to use a public service when needed. Similarly, lower trust in judicial system is associated to a greater probability that an individual would be discouraged. Information and knowledge about institutions and process also play a role: if the individual user knows where to report a corrupt act or she/he is member of an association, then the probability of be discouraged is higher.

Table 6.2 describes the simple univariate regressions when the dependent variable measures the probability that a household is discouraged in at least two institutions. Interestingly, we obtain very similar results in term of signs of the coefficients and significance levels as in the case of 'DIS1' described above. In addition, income and education appear even more significant than in the previous case. Age is no longer significant in the linear or in the quadratic specification. The governance variables are still significant and 'trust on the government' is now significant with positive sign. However, one of the variables measuring the knowledge to report a corrupt act is now not significant.

In order to understand these relationships taking into account all variables together, we turn to the multivariate analysis for both DIS1 and DIS2 described in Table 6.3. In general, the relationships we observed at the univariate stage are maintained in the multivariate analysis. Among the individual characteristics, education, age and gender are significant. Higher education increases the probability to be discouraged, in all specifications and with both dependent variables. Female has a negative coefficient, which is only significant in the regressions with DIS1 as dependent variable. The income variable, instead, while displaying still its inverted-U shape, is not significant anymore.

When we turn to the governance variables, the results confirm our hypothesis: bad governance increases the probability that an individual would be discouraged and would chose not to seek a public service when needed. In particular, the greater the level of dishonesty of public institutions perceived by citizens the greater the probability the individual will be discouraged. Moreover, to know where to report a corrupt act increases the probability to be discouraged. The lack of trust in the government and the judicial system display the correct sign but are not statistically significant. Finally, to be member of at least one association increases the probability that the respondent will be discouraged. The interpretation of this last result needs to be done with care. This may suggest that individuals

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use associations as a tool to gather information about alternative service providers in presence of uncertainty. It may also indicate that some individuals – the more educated and the ones who are members of associations – tend to have a greater 'disinclination' to accept bribery and therefore are more likely to decide not to seek a service in presence of corruption[15]. These findings are robust to the introduction of regional control dummies, as shown in Table 6.3, and to agency dummies (not reported).

The household's decision of not seeking a service in a public agency when needed may however depend on the nature of the service sought, and more specifically on whether there exists an alternative, private provider for the same service. Thus, the determinants of the discouragement effect will depend on whether state agencies can act as monopoly provider for the public service or not. To check this hypothesis, we divide the 13 public agencies depending on whether they are monopoly providers of a service or not. On the one hand, National Bank, National Tax Administration, local revenue services, local Water Companies, the local motor vehicle administration, the immigration office, public registry, National Police, the National Registry for Identification Cards are classified as monopoly providers. On the other hand, public notary, public schools, public hospitals and Social Security are classified as non-monopoly providers, since there are private providers for these services.

We next define the following dependent variables:

MONOPOLY_DISC=1 if a household is discouraged to use a service in at least one institution that has the monopoly to provide the service, and equal zero otherwise.

NON-MONOPOLY_DISC =1 if a household is discouraged to use a service in at least one institution that do NOT have the monopoly to provide the service, and equal zero otherwise.

The regression results can be found in Table 6.4. The variables female, age, number of dishonest institutions and knowledge to report a corrupt act now only matter for discouraged in monopoly-institutions but not for discouraged in non-monopoly-institutions. Member of an association is significant for both monopoly and non-monopoly institutions. When we include in the regression the regional dummies (columns 9 and 10) the coefficients are significant. Thus, governance features matter more when users interact with agencies that have a monopoly of the service they provide than with agencies for which users have alternatives.

<Table 6.4 around here>

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7. EXPLORING THE SUPPLY SIDE OF SERVICE DELIVERY: PUBLIC AGENCY LEVEL ANALYSIS

As we have emphasized throughout this paper, access to publicly provided services is a function of the quality of governance in a country. The previous section has focused on the demand side of service delivery trying to link bad governance to the individual decision of not to seek a public service. The evidence suggests that while individual characteristics may affect this decision, governance also increases the probability that an individual user will be

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[15] We thank John Helliwell for suggesting the latter interpretation of this result.

discouraged.   Our measures of quality of governance, however, are constructed using citizens' evaluation of public institutions.   Thus these measures may be biased and may capture only the demand side of service delivery. Because of this possible 'demand-side' bias, we decide to explore the supply side of service delivery using the data from the public official's survey.

Our hypothesis is that the quality of governance affects the capacity of an agency to deliver basic services. In particular, the poorer is the quality of governance, the greater the incentives for public officials to abuse their position and the mis-allocation of resources within an agency. Several institutional factors may affect the quality of governance, as, for example, the effectiveness of the institution, the quality of internal rules, or the presence of auditing mechanisms in service delivery and the extent of citizen's voice.

We move in this Section to explore the other side of the equation and concentrate on the public officials, exploring the link between access and institutional quality of the agency where the official works. In the process, we use the evaluations of the service's providers – namely, the public officials – to construct our dependent variable, access to service, and the governance variables. Access to services is considered to be a function of governance factors and regional control variables.

In particular, we construct our estimation model by comparing the costs and the benefits associated with the public official's decision of whether or not to provide a service. Consider, for example, a rent-seeking public official that maximizes his utility and is in the position of choosing for whom to provide a public service. On one hand, the fewer individuals he serves, the larger is the amount of resources available to him for either his personal use or for selling at a higher cost privately to other individuals. On the other hand, the more effective the control mechanisms of the agency are, the smaller the incentive for the official to limit access. Thus, public officials may abuse their position and prevent individuals from having access to public services, when their private gain is greater than their cost of being caught.[16] In an environment characterized by poor governance, the most vulnerable individuals, with limited information and limited access to reporting mechanisms and alternative services, will be the most penalized.

We can synthesize the behavior of public officials as follows. The decision regarding whether or not to exclude a user is a function of (i) the penalty the official will incur into if caught; (ii) the probability of being reported by the excluded user; and (iii) the probability of being caught by a colleague or a superior. These two probabilities are in turn a function of the quality of governance of the institution where the public official works.

All the three elements depend on the quality of governance observed in each agency where the official works. The cost if caught is a function of the rules of each agency. Some agencies may simply charge a fine while others may fire the public official caught abusing her/his position. Thus, the potential loss of salary for the official and how satisfied she/he is with her/his wage will affect the cost of being caught. The higher the wage satisfaction, the higher the loss if caught and the lower the incentives to perform inappropriately at work. The theoretical literature has long emphasized the link between personal incentives and poor governance, suggesting that public officials that receive unsatisfactory salaries may have a

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[16] The cost is the amount that a public official may lose or have to pay if he is caught times the probability of being caught.

greater incentive to abuse of their position, either accepting bribes or limiting access to the service they provide.

Next, consider the probability for the public official of being reported by an unsatisfied user. This probability depends on specific institutional dimensions. An official will be more likely to be reported for abuse of her/his power if the agency where she/he works has well-defined and effective mechanisms that citizens can use to "voice" their suggestions and complaints. Thus, if citizens have access to voice mechanisms, the probability for an official to be reported will be greater and the chance for users to unfair exclusion from a service will be lower.

Finally, consider the probability of being caught by a superior or a colleague while abusing his position. An official is more likely to be caught by a colleague or a superior if the agency where she/he works operates under clear and simple rules, if there is full disclosure of the agency's decision process, and if policies and regulations are strictly enforced and not politically driven. Auditing mechanisms (either internal or external) can also reduce the incentives for an official to abuse of her/his position and mismanage resources. In addition, the resources available to the agency and the way in which personnel is managed will determine the capacity and effectiveness to monitor its employees' actions. An agency endowed with greater resources and a merit based system to reward employees will be able to operate more effectively and recruit better qualified civil servants, creating an environment where abuses are easier to detect.[17] Thus, the probability to be caught depends on both clear rules of behavior and availability of resources to monitor actions. Public agencies, which have well-defined and well-functioning checks and balances and based their actions on clear and simple rules, make it more difficult for individual public officials to exclude users from the service they provide.

The costs for the official are not the only factor affecting her/his decision to limit access to users. Her/his potential benefits also play a role. By limiting access to services, the public official can extract additional rents from users that need he service she/he provides. Thus, the presence of corruption can translates into a more limited access.[18]

From these arguments, we postulate the following simple model that aims to explain the degree of accessibility to a public service by the governance characteristics of the public agency providing it:

Accessibility of Public Service $= \mathbf{f}$ *(Governance Characteristics)*

$= \mathbf{f}$ *(Wage Satisfaction, Citizen Voice, Quality of Rules, Audit Mechanisms, Effectiveness, Resources, Meritocracy, Mission, Service Performance, Corruption)* **[Eq.2]**

Other (non-governance) factors may also affect access to public services, such as the economic development of a region or the potential ethnical fragmentation of a country. To proxy for these effects, we introduce two control variables – the average household income of the region and the language stratification. In addition, different agencies provide different types of public services. We therefore include two dummy variables to capture possible

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[17] On the other hand, we are aware that the richer the agency the greater is the potential incentive for individual officials to abuse their position.

[18] Corruption can have an additional negative impact on access to public services. By increasing the price of public services and reducing their quality, corruption discourages some individuals from using these services, promoting exclusion. Thus, higher corruption can lead to a more limited access.

differences across types of institutions that provide public services (namely, judicial agencies, municipal agencies and national agencies). Finally, we control for regional differences not captured by the regional income variable with regional dummies.

Thus, our equation on agency-level accessibility to public services for citizens becomes:

$$\text{Accessibility of Public Service} = \alpha_0 + \alpha_1 \text{ Wage Satisfaction} + \alpha_2 \text{ Citizen Voice} + \alpha_3 \text{ Quality of Rules} + \alpha_4 \text{ Audit Mechanisms} + \alpha_5 \text{ Effectiveness} + \alpha_6 \text{ Resources} + \alpha_7 \text{ Meritocracy} + \alpha_8 \text{ Mission} + \alpha_9 \text{ Service Performance} + \alpha_{10} \text{ Corruption} + \alpha_{11} \text{ Langstrat} + \alpha_{12} \text{ Avreginc} + \alpha_{13} \text{ Municipal} + \alpha_{14} \text{ Judiciary} + \text{Regional Dummies} + \varepsilon_1 \qquad \textbf{[Eq.2']}$$

We focus first on the univariate regressions between the different determinants and our dependent variable (Table 7.1). We then, turn to the multivariate analysis to determine the impact of each governance dimension on access to public services (Table 7.2). This is done using ordinary least squares techniques.

The agency-level measure of access to public services is the *Index of Accessibility*. The *Index* for each agency is calculated from the answers reported by the Public Officials working at these public institutions. This index takes values between 0 and 100, with the lowest value (17.5 over 100) for Juzgados in the department of Cuzco, and the highest value (100) for 11 institutions (Judges "de Paz" in Coronel Portillo, Popular Dining Room in Lima, Schools in Arequipa, etc).

REGRESSION RESULTS

We begin with the agency-level analysis and provide the results of univariate regressions of our dependent variable -- the degree of accessibility of the public service to citizens -- on each of the explanatory variables. The coefficients and significance levels for regressions of this type are presented in Table 7.1. The linear least square estimation of access to public services on all explanatory variables is reported in Table 7.2.

<Table 7.1 around here>
<Table 7.2 around here>

Table 7.1 shows that all explanatory variables are highly significant in explaining access to public services and display the expect sign. These regressions however give us only the unconditional relationship between dependent and each independent variable, and drawing conclusions from them could be very misleading, since these results may be tinted by a significant omitted variable bias. Table 7.2 summarizes the OLS results of the multiple variable regressions. As to be expected, there are substantial differences in the significance of each governance indicator.

Despite the strong correlations observed at the univariate level, in the OLS regression the governance indicators do not seem to explain much of the variation in access to public services. The different indices of corruption display the correct sign but only overall corruption and corruption in budgetary procedure are significantly different from zero. In addition, Voice, Effectiveness in personnel decisions and understanding of the agency's Mission all improve access to services. The Quality of the Rules instead is statistically significant but with an unexpected sign: the simpler and less bureaucratic are the rules

governing the agency the less access citizens have to the agency itself. This unexpected result seems to indicate that service delivery requires a complex structure rather than a simple one.

A result we would like to highlight is the greater explanatory power of the institutional dummies with respect to the regional dummies. In particular, none of the regional dummy is statistically significant, while the dummy capturing agencies within the Judiciary is negative and significant correlation displayed. Thus, it appears that the judiciary is less accessible to users. This suggests that there is a significant different across public agencies, rather than regions, depending on the function the agency exercises. This result could also be explaining observing that the type of services provided by the Judiciary is quite different from other public agency and that the this branch of state power has normally less interaction with users.[19]

8. CONCLUDING REMARKS

The quality of public sector institutions plays a critical role in the access and the costs of the public services provided by a government to its citizens. Poor governance can affect greatly public service delivery, both directly through higher price, and indirectly through lower quality or quantity available. When seeking a public service, some users may be discriminated against and pay more than the official price (because of corruption). Consequently, some users may get discouraged and choose not to seek the service needed due to the higher price imposed by the bribery "tax." This paper explores both the price and the quantity components of the relationship between governance and services delivery using micro-level survey data: the bribery "tax" itself (which a priori may be regressive or progressive), as well as the "discouraged user effect" of such tax.

The evidence presented suggests that corruption acts as a regressive tax and that quality of governance is linked to access to public services. In particular, we constructed new measures of governance using data from users of public services from 13 government agencies in Peru. We find that for certain basic services low-income users pay a larger share of their income than wealthier ones do, that is, the bribery tax is regressive. Where there are few substitute private providers and thus a low price elasticity of the demand for public services for any income category, as in the case of basic services, low-income users appear to be discouraged more often and not to seek such a basic service than wealthier ones. Thus, bribery may penalize poorer users twice over, first by acting as a regressive tax, and then as a discriminating mechanism for access to basic services.

We then explored characteristics of households attempting to obtain a public service, and observed that higher education and age are associated with a higher probability of not seeking a public service. Trust in state institutions also influences the user's behavior and decreases the probability of being discouraged. Further, knowledge of the mechanisms to report corruption and extent of social network increase the probability of being a discouraged user of public services, suggesting that the household may rely on substitutes through their networks. The household level demand-side analysis is complemented by a supply-side analysis based on the responses from the survey of public officials. The agency-level analysis suggests that corruption reduces the supply of services, while voice mechanisms and clarity of the public agency's mission increase it.

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[19] Interestingly, municipal public agencies display a positive, though not significant, sign, suggesting that these agencies may be more capable to reach users.

Previous cross-country empirical research had shown that bad governance and corruption reduce the quality of publicly provided services and investment in the public sector. Moreover, bad governance, by promoting mis-allocation of resources and poor accountability, can raise service's costs (both official and unofficial) and limit user's access to public services. Users with lower income or firms of different size may pay less or more in term of bribes than others to obtain the same public service. The micro-level analysis presented in this paper permits to shed some light into the 'black boxes' elicited by the empirical findings from aggregate cross-sectional analysis on the impact of bad governance (Gupta, Davoodi, Alonso-Terme, 1998; Davis, 2004) corruption is found to be associated with higher income inequality.

This work also begins to focus on the role of alternative policy tools that can be used to improve governance, and in particular on the importance of strengthening voice mechanisms, such as feedback mechanisms and freedom of the press, to promote better governance and greater access to public services. These voice mechanisms can be fostered by supporting NGOs on the ground and promoting the use of social accountability tools, as for example, the scorecard method introduced first in Bangalore by Samuel Paul and his NGO, Public Affairs Center[20]. This paper also provides preliminary evidence on the importance of social networks, especially in presence of weak governance institutions.

As we emphasized, this is a work in progress and further analytical work is needed, especially at the micro level to address possible omitted variable issues in our analysis and to test the robustness of our results for other countries.

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[20] For additional details on this work, please visit http://www.pacindia.org/aboutus

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TABLE 2.1: % OF INCOME SPENT ON BRIBES BY INCOME LEVEL

(Figures calculated for those households who contacted the agency and were asked to pay a bribe)			
	Low-Income	Middle-Income	High-Income
Obtencion de Pasaporte	48.0%	4.0%	
Tramite licencias de construccion	34.3%	7.6%	
Tramites para solicitud de instalacion electrica	33.8%		6.7%
Registro de propiedad inmueble	25.3%	2.7%	0.9%
Tramites Licencias de Conducir	17.7%	4.4%	2.3%
Matriculas en centros educativos estatales	10.3%	5.3%	2.1%
Tramite impuestos nacionales	8.9%	0.1%	2.8%
Tramite impuesto predial	7.6%	2.3%	1.2%
Atencion en el seguro social	6.1%	1.9%	
Obtencion Documento de identidad	5.7%	2.0%	0.4%
Certificado de Antecedentes penales y judiciales	4.3%	1.6%	0.8%
Atencion en establecimientos de salud	3.4%	2.6%	0.4%
Registro de vehiculos	2.8%	2.0%	0.7%
Tramites en el Banco de la Nacion	1.0%	3.5%	

TABLE 2.2: % USERS DISCOURAGED AT EACH PUBLIC AGENCY BY INCOME LEVEL

	Low-Income	Middle-Income	High-Income
Empresa de Agua y desague	11.7%	10.7%	6.8%
Policia Nacional de Peru	8.3%	7.4%	3.4%
Area de rentas de su municipalidad	9.2%	11.6%	6.8%
Hospitales públicos y Centros de Salud	9.0%	9.9%	6.8%
Escuelas o universidades estatales	8.8%	8.5%	6.8%
ReNIEC	4.8%	5.5%	5.1%
Notarias Publicas	4.7%	5.2%	5.1%
EsSalut	11.3%	14.0%	13.6%
Registros Publicos	6.2%	8.0%	8.5%
Direccion Nacional de Immigraciones	3.7%	6.9%	6.8%
Banco de la Nacion	8.6%	11.6%	11.9%
SUNAT	14.9%	20.9%	18.6%
Secretaria Municipal de Transito	2.6%	4.4%	6.8%

TABLE 3.0: % NON-ANSWER ON SELECTED QUESTIONS

1. Questions on Honesty/Dishonesty of institutions	%NA
Direccion Nacional de Immigraciones	10.4%
Banco de la Nacion	9.5%
Area de rentas de su municipalidad	7.4%
Secretaria Municipal de Transito	6.9%
ReNIEC	6.7%
Registros Publicos	6.0%
SUNAT	5.1%
Hospitales públicos y Centros de Salud	3.8%
Notarias Publicas	3.4%
Escuelas o universidades estatales	3.4%
EsSalut	3.4%
Empresa de Agua y desague	2.4%
Policia Nacional de Peru	1.1%

2.Questions on Quality of service	
Registro de propiedad inmueble	2.0%
Obtencion de Pasaporte	1.8%
Tramite licencias de construccion	1.4%
Registro de vehiculos	1.3%
Tramite para solicitud de instalacion electrica	1.1%
Certificado de Antecedentes penales y judiciales	1.0%
Obtencion Documento de identidad	0.9%
Tramite de impuestos nacionales	0.9%
Tramites de licencias de conducir	0.8%
Atencion en el seguro social	0.5%
Tramite de impuesto predial	0.5%
Atencion en establecimientos de salud	0.4%
Matriculas en centros educativos estatales	0.3%
Tramites en el Banco de la Nacion	0.1%

3. Questions on Corruption	
Agree/disgree with reporting corruption act	0.6%
Agree/disgree that corruption is natural fact	0.8%
Reason for not reporting a corrupt act	1.7%
Reason for not reporting a corrupt act	1.7%
Reason for not reporting a corrupt act	1.5%
Reason for not reporting a corrupt act	3.8%
Reason for not reporting a corrupt act	1.9%
Reason for not reporting a corrupt act	2.9%
Reason for not reporting a corrupt act	4.9%
Reason for not reporting a corrupt act	3.1%
Reason for not reporting a corrupt act	4.7%
Agree/disagree with sentence	0.6%
Agree/disagree with sentence	0.5%
Agree/disagree with sentence	3.3%
Agree/disagree with sentence	0.6%
Agree/disagree with sentence	0.9%
Agree/disagree with sentence	0.5%
Agree/disagree with sentence	1.3%
Agree/disagree with sentence	0.7%
Agree/disagree with sentence	1.8%
Agree/disagree with sentence	1.7%
Agree/disagree with sentence	4.0%

TABLE 3.1: DEFINITION OF DEPENDENT VARIABLES

Variable Name		Source	Level of Analysis	Definition
DIS1	Discouragement	Households' Survey	Household level	Dummy variable equal to 1 if household reported to be discouraged in at least one public institution
DIS2	Discouragement	Households' Survey	Household level	Dummy variable equal to 1 if household reported to be discouraged in at least two public institutions
ACCESS	Accessibility of Public Services	Public Official's Survey	Public Agency level	Index of accessibility to poor citizens of the public service provided by the public agency. High numbers imply high levels of access.

SURVEY QUESTIONS USED TO CONSTRUCT DEPENDENT VARIABLES

To measure:	Source	Questions available in the survey
DISCOURAGED	Households' Survey	Have you ever needed the services of any of the following public institutions and chose not to use them? (Enumeration of 13 distinct institutions)
ACCESSIBILITY	Public Official's Survey	Our agency's services are accessible by the poor.

TABLE 3.2: DEFINITION OF INDEPENDENT VARIABLES

PANEL A: HOUSEHOLD CHARACTERISTICS

Variable Name	Source	Definition
EDUCATION	Household Survey	Level of education of head of household: primary, secondary or university education (reference level: primary)
INCOME	Household Survey	Monthly household income: low income (less 1000soles), middle income (1001-2500 soles) and high income (more than 2501 soles). (reference level: low income)
AGE	Household Survey	Age of head of household (in years)
FEMALE	Household Survey	Sex of head of household (=1 if female)

PANEL B: GOVERNANCE MEASURES - HOUSEHOLDS

Variable Name	Source	Definition
DISHONESTY (number)	Household Survey	Number of institutions (from a list of 42) the household ranked as dishonest
DISHONESTY (average)	Household Survey	Average evaluation of honesty/dishonesty of 42 institutions (high values mean more honest)
TRUST IN STATE INSTITUTIONS	Household Survey	Average trust on judicial and government institutions (high values mean more trust)
KNOWLEDGE REPORT CORRUPTION	Household Survey	Dummy =1 if head of hosuehold lnows where to report a corrupt act
MEMBER OF ASSOCIATION	Household Survey	Numer of associations (from a list of 9) that head of household belongs to
MEMBER OF AT LEAST ONE ASSOCIATION	Household Survey	Dummy =1 if head of household is member of at list one association

PANEL C: CORRUPTION INDICES

Variable Name	Source	Definition
OVERALL CORRUPTION	Public Official Survey	Corruption index representing the average of four standardized corruption Indices: bribery over regulatory/legal decisions, bribery over public contracts, corruption in personnel management and corruption in budget management.
PERCEIVED CORRUPTION	Public Official Survey	Corruption index representing the widespread of payment of tips or payments "under the table" in the Public Administration.
CORRUPTION IN PERSONNEL MGT	Public Official Survey	Corruption index representing the percentage of cases where decisions on personnel management are based on unofficial payments (job purchase).
CORRUPTION IN BUDGET MGT	Public Official Survey	Corruption index representing the frequency within the institution of irregularities/diversion of funds or any other type of budget abuse.
CORRUPTION IN PUBLIC CONTRACTS	Public Official Survey	Corruption index representing the widespread of bribes to buy public contracts.

	Public Official Survey	Corruption index representing the widespread of bribes to obtain a public services within own agency.
ADMINISTRATIVE CORRUPTION	Public Official Survey	Corruption index representing the widespread of bribes to obtain a public services within own agency.
CORRUPTION IN LAWS AND REGULATIONS	Public Official Survey	Corruption index representing the widespread of bribes to bias a regulatory/legal decision within own agency

PANEL D: GOVERNANCE INDICES

Variable Name	Source	Definition
QUALITY OF RULES	Public Official Survey	Percent of cases where rules/guidelines/regulations in the personnel and budget management are simple, clear, easy to understand and do not add too many administrative steps. Subdivided in the empirical analysis into quality of the rules in personnel and in budget management.
EFFECTIVENESS OF RULES	Public Official Survey	Percent of cases where policy/guidelines/regulations in the personnel and budget management are well supervised and strictly enforced.Subdivided in the empirical analysis into effectiveness in personnel management and effectiveness in budget management
AUDIT MECHANISMS	Public Official Survey	Percent of cases where the decisions on personnel, budget and service management are subject to external and/or internal audits. Subdivided in the empirical analysis into audit in personnel management, audit in budget management and audit in public contracts.
MERITOCRACY	Public Official Survey	Percent of cases the decisions on personnel management issues are based on professional experience/merit/performance or education levels.
WAGE SATISFACTION	Public Official Survey	Percent of employees very satisfied or somewhat satisfied with their wages and benefits.
VOICE	Public Official Survey	An index representing the existence of consumer feedback and complaint mechanisms.
MISSION	Public Official Survey	Index determining the degree of understanding of agency's objective and own tasks and responsibilities by public officials within the institution.
RESOURCES ARE ADEQUATE	Public Official Survey	Percent of cases where physical, financial and human capital resources of the agency are adequate.

PANEL E: REGIONAL VARIABLES

Variable Name	Source	Definition
Language Stratification	LSMS survey	Languague stratification of the region
Regional average income	LSMS survey	Average household Income of the region
Regional Dummies	Public Official Survey	Dummies for Lima, Selva, Resto de Costa and Sierra (reference region is Sierra)

TABLE 4.1: Household Discouragement of Using a Public Service
Number of public services that each household reported to be discouraged
 to use (out of a list of 13 public services)

Number of Agencies where the Household is Discouraged	Number of Households	%
0	640	37.7%
1	628	37.0%
2	247	14.6%
3	95	5.6%
4	42	2.5%
5	23	1.4%
6	6	0.4%
7	6	0.4%
8	2	0.1%
9	5	0.3%
10	2	0.1%
11	0	0.0%
12	0	0.0%
13	0	0.0%
Total households	**1696**	**100.0%**

TABLE 4.2: Number and Percentage of Households Discouraged by Public Agency

Public Agency	N	%
Secretaria Municipal de Transito	53	3.13
Direccion Nacional de Immigraciones	76	4.48
Notarias Publicas	81	4.78
ReNIEC	94	5.54
Registros Publicos	112	6.60
Policia Nacional de Peru	138	8.14
Escuelas o universidades estatales	150	8.84
Hospitales públicos y Centros de Salud	154	9.08
Banco de la Nacion	159	9.38
Area de rentas de su municipalidad	160	9.43
Empresa de Agua y desague	193	11.38
EsSalut	202	11.91
SUNAT	277	16.33
Households discouraged in at least one institution	**1056**	**62.26**
Households discouraged in at least two institutions	**428**	**25.24**

N = Number of households that needed each service and decided not to seek it
% = Proportion of households that needed each service and decided not to seek it
Total number of households is 1696
EsSalut: Seguredad Social en Salud
SUNAT: Superintendencia Nacional de Administración Tributaria
ReNIEC: Registro Nacional de Identificación y Estado Civil

TABLE 4.3: Number and Percentage of Households Discouraged in each Public Agency, by income, education and sex

Public Agency	low income	medium income	high income	primary education	secondary education	university education	male	female	TOTAL
Secretaria Municipal de Transito	2.6	4.4	6.8	0.6	2.4	5.1	4.4	1.7	3.1
Direccion Nacional de Immigraciones	3.7	6.9	6.8	1.2	3.6	6.8	5.1	3.8	4.5
Notarias Publicas	4.7	5.2	5.1	2.4	4.9	5.3	4.5	5.1	4.8
ReNIEC	4.8	5.5	5.1	3.0	4.3	8.4	6.7	4.3	5.5
Registros Publicos	6.2	8.0	8.5	6.0	6.7	6.7	7.3	5.8	6.6
Policia Nacional de Peru	8.3	7.4	3.4	3.0	8.1	9.6	9.1	7.0	8.1
Escuelas o universidades estatales	8.8	8.5	6.8	4.2	8.1	11.4	9.4	8.3	8.8
Hospitales públicos y Centros de Salud	9.0	9.9	6.8	8.4	9.3	8.9	8.2	10.0	9.1
Banco de la Nacion	8.6	11.6	11.9	5.4	9.0	11.2	9.7	9.0	9.4
Area de rentas de su municipalidad	9.2	11.6	6.8	9.6	8.6	10.7	9.4	9.5	9.4
Empresa de Agua y desague	11.7	10.7	6.8	13.9	11.6	10.4	11.2	11.6	11.4
EsSalut	11.3	14.0	13.6	3.0	13.1	12.5	12.3	11.5	11.9
SUNAT	14.9	20.9	18.6	4.2	15.9	20.5	19.1	13.3	16.3
% HH discouraged in at least one agency	**61.4**	**67.5**	**59.3**	**45.2**	**61.4**	**68.8**	**65.7**	**58.5**	**62.3**
% HH discouraged in at least two agencies	**23.2**	**29.2**	**30.5**	**13.3**	**23.9**	**31.1**	**27.1**	**23.2**	**25.2**

Total number of households is 1696

EsSalut: Seguredad Social en Salud

SUNAT: Superintendencia Nacional de Administración Tributaria

ReNIEC: Registro Nacional de Identificación y Estado Civil

TABLE 4.4: Summary Statistics - Household Governance Variables

Governance Variables	Mean	Std. Dev	Min	Max
Dishonesty of 42 institutions - Number	16.80	10.25	0	42
Dishonesty of 42 institutions - Average	3.45	1.01	1	7
Trust in State Institutions	2.67	1.17	1	7
Knowledge report corruption	0.44	0.50	0	1
Member of association	0.91	1.24	0	8
Member of at least one association	0.48	0.50	0	1

Total number of households is 1696

TABLE 4.5: Distribution of the Dependent Variable "Discouraged in at least one institution", by Governance Variables

		No discouraged	Discouraged	Total
Dishonesty of 42 institutions (Number)	0	2.66	3.22	3.01
	below average	59.69	47.82	52.3
	above average	37.66	48.96	44.69
		100	100	100
Dishonesty of 42 institutions (Average)	below average	47.19	53.15	50.88
	above average	52.81	46.88	49.12
		100	100	100
Trust in State Institutions	below average	50.31	56.34	54.07
	above average	49.69	43.66	45.93
		100	100	100
Knowledge report corruption	no	61.09	53.31	56.25
	yes	38.91	46.69	43.75
		100	100	100
Member of at least one association	no	58.91	47.73	51.95
	yes	41.09	52.27	48.05
		100	100	100

TABLE 4.6: Summary Statistics - Public Agency Governance Variables

Dependent Variable	Obs	Mean	Std. Dev	Min	Max
Accessibility	161	72	19	18	100
Corruption Indices					
Overall Corruption	157	22	18	3	91
Perceived Corruption	160	42	9	18	70
Corruption in Personnel Management	159	21	19	0	100
Corruption in Budget Management	159	27	25	0	100
Corruption in Public Contracts	160	21	24	0	100
Administrative Corruption	160	20	21	0	100
Corruption in Laws and Regulations	160	20	21	0	100
Governance Indices					
Quality of Rules	160	69	13	7	96
Effectiveness of Rules	160	73	15	4	98
Audit Mechanisms	156	68	16	11	99
Meritocracy	159	66	18	10	98
Wage Satisfaction	161	37	21	0	94
Voice	161	71	14	22	96
Mission	160	81	8	51	94
Service Performance	160	66	11	28	91
Resources Are Adequate	161	58	17	5	94
Municipal Dummy	161	0.22	0.42	0	1
Judicial Dummy	161	0.11	0.31	0	1
Regional Variables					
Languague stratification of the region	161	16	20	0	76
Average household Income of the region	161	12555	4218	4283	18057
Regional Dummy - Lima	161	0.33	0.47	0	1
Regional Dummy - Selva	161	0.21	0.41	0	1
Regional Dummy - Costa	161	0.24	0.43	0	1
Regional Dummy - Sierra	161	0.22	0.42	0	1

TABLE 6.1: Household Level - Univariate Probit Regressions
Source of Data: Households' Survey
Dependent variable: Household discouraged in at least one institution (0,1)
Marginal Effects evaluated at mean values are reported

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Middle Income	0.061										
	[2.08]**										
High Income	-0.021										
	[0.33]										
Secondary Education		0.156									
		[3.87]***									
University Education		0.221									
		[5.46]***									
female			-0.072								
			[3.04]***								
age				0.001	0.022						
				[0.73]	[3.55]***						
age2					0						
					[3.48]***						
Dishonesty of 42 institutions - Number						0.006					
						[4.92]***					
Dishonesty of 42 institutions - Average							-0.018				
							[1.51]				
Trust in State Institutions								-0.018			
								[1.78]*			
Knowledge report corruption									0.074		
									[3.13]***		
Member of association										0.054	
										[5.40]***	
Member of at least one association											0.105
											[4.47]***
Observations	1558	1696	1696	1696	1696	1696	1696	1696	1696	1696	1696
Pseudo-Rsq	0	0.01	0	0	0.01	0.01	0	0	0	0.01	0.01

Absolute value of z statistics in brackets
* significant at 10%; ** significant at 5%; *** significant at 1%

TABLE 6.2: Household Level - Univariate Probit Regressions

Source of Data: Households' Survey

Dependent variable: Household discouraged in at least two institutions (0,1)

Marginal Effects evaluated at mean values are reported

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Middle Income	0.06										
	[2.27]**										
High Income	0.075										
	[1.26]										
Secondary Education		0.125									
		[3.09]***									
University Education		0.207									
		[4.61]***									
female			-0.039								
			[1.84]*								
age				0	0.005						
				[0.26]	[0.94]						
age2					0						
					[0.90]						
Dishonesty of 42 institutions - Number						0.004					
						[3.69]***					
Dishonesty of 42 institutions - Average							-0.018				
							[1.74]*				
Trust in State Institutions								-0.02			
								[2.18]**			
Knowledge report corruption									0.088		
									[4.13]***		
Member of association										0.044	
										[5.38]***	
Member of at least one association											0.086
											[4.06]***
Observations	1558	1696	1696	1696	1696	1696	1696	1696	1696	1696	1696
Pseudo-Rsq	0	0.01	0	0	0	0.01	0	0	0.01	0.01	0.01

Absolute value of z statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

TABLE 6.3: Household Level - Probit Regressions

Source of Data: Households' Survey

Dependent variable:

    DIS1=Household discouraged in at least one institution (0,1)

    DIS2=Household discouraged in at least two institutions (0,1)

Marginal Effects evaluated at mean values are reported

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Dependent variable:	DIS1	DIS2	DIS1	DIS2	DIS1	DIS2	DIS1	DIS2
Middle Income	0.036	0.036	0.035	0.036	0.036	0.036	0.041	0.038
	[1.17]	[1.35]	[1.15]	[1.34]	[1.19]	[1.34]	[1.34]	[1.39]
High Income	-0.097	0.004	-0.079	0.02	-0.095	0.005	-0.068	0.023
	[1.42]	[0.08]	[1.17]	[0.35]	[1.39]	[0.10]	[1.01]	[0.40]
Secondary Education	0.124	0.101	0.121	0.098	0.134	0.105	0.116	0.097
	[2.74]***	[2.27]**	[2.69]***	[2.21]**	[2.99]***	[2.37]**	[2.57]**	[2.18]**
University Education	0.147	0.141	0.151	0.146	0.163	0.15	0.143	0.144
	[3.14]***	[2.86]***	[3.24]***	[2.96]***	[3.51]***	[3.03]***	[3.04]***	[2.92]***
female	-0.049	-0.008	-0.049	-0.008	-0.053	-0.01	-0.047	-0.007
	[1.90]*	[0.34]	[1.92]*	[0.34]	[2.09]**	[0.44]	[1.86]*	[0.33]
age	0.014	-0.002	0.015	-0.001	0.015	-0.002	0.015	-0.001
	[2.18]**	[0.30]	[2.24]**	[0.18]	[2.29]**	[0.26]	[2.24]**	[0.17]
age2	0	0	0	0	0	0	0	0
	[2.16]**	[0.25]	[2.20]**	[0.16]	[2.26]**	[0.21]	[2.22]**	[0.15]
Dishonesty institutions - Number	0.004	0.002	0.004	0.002			0.004	0.002
	[2.71]***	[1.64]	[2.90]***	[1.87]*			[3.00]***	[1.91]*
Dishonesty institutions - Average					0.001	-0.004		
					[0.04]	[0.33]		
Trust in State Institutions	-0.01	-0.017	-0.01	-0.017	-0.021	-0.022	-0.008	-0.017
	[0.84]	[1.63]	[0.83]	[1.63]	[1.77]*	[2.03]**	[0.72]	[1.60]
Knowledge report corruption	0.037	0.058	0.041	0.063	0.036	0.058	0.04	0.063
	[1.45]	[2.58]***	[1.61]	[2.81]***	[1.40]	[2.57]**	[1.57]	[2.78]***
Member of association	0.049	0.043			0.05	0.044		
	[4.54]***	[4.97]***			[4.70]***	[5.08]***		
Member of at least one association			0.102	0.092			0.109	0.095
			[4.07]***	[4.14]***			[4.29]***	[4.23]***
region==Lima							-0.046	-0.02
							[1.30]	[0.63]
region==Costa							0.044	0.01
							[1.06]	[0.27]
region==Sierra							-0.019	-0.018
							[0.47]	[0.52]
Observations	1558	1558	1558	1558	1558	1558	1558	1558
Pseudo-Rsq	0.04	0.04	0.04	0.03	0.03	0.04	0.04	0.04

Absolute value of z statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

TABLE 6.4: Household Level - Probit Regressions

Source of Data: Households' Survey

Dependent variables:

    MONOPOLY_DISC = Household discouraged in at least one monopoly institution (0,1)

    NON-MONOPOLY_DISC = Household discouraged in at least one non-monopoly institution (0,1)

Marginal Effects evaluated at mean values are reported

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
		Non-		Non-		Non-		Non-
Dependent variable:	Monopoly	Monopoly	Monopoly	Monopoly	Monopoly	Monopoly	Monopoly	Monopoly
Middle Income	0.051	-0.008	0.051	-0.008	0.05	-0.008	0.054	-0.005
	[1.62]	[0.29]	[1.62]	[0.28]	[1.60]	[0.30]	[1.70]*	[0.17]
High Income	-0.066	-0.068	-0.064	-0.067	-0.048	-0.058	-0.058	-0.067
	[0.97]	[1.16]	[0.94]	[1.16]	[0.70]	[0.99]	[0.84]	[1.14]
Secondary Education	0.1	0.12	0.111	0.124	0.097	0.12	0.096	0.119
	[2.09]**	[2.65]***	[2.31]**	[2.74]***	[2.02]**	[2.63]***	[1.99]**	[2.61]***
University Education	0.117	0.143	0.134	0.149	0.121	0.146	0.108	0.143
	[2.27]**	[2.84]***	[2.62]***	[2.96]***	[2.36]**	[2.89]***	[2.09]**	[2.83]***
female	-0.059	0.016	-0.064	0.015	-0.059	0.016	-0.058	0.016
	[2.23]**	[0.67]	[2.42]**	[0.63]	[2.25]**	[0.68]	[2.19]**	[0.68]
age	0.017	-0.001	0.017	-0.001	0.017	-0.001	0.016	-0.001
	[2.40]**	[0.20]	[2.49]**	[0.17]	[2.47]**	[0.17]	[2.37]**	[0.16]
age2	0	0	0	0	0	0	0	0
	[2.18]**	[0.28]	[2.27]**	[0.31]	[2.23]**	[0.30]	[2.17]**	[0.31]
Dishonesty institutions - Number	0.004	0.001			0.004	0.001	0.004	0.001
	[2.94]***	[0.62]			[3.16]***	[0.75]	[2.94]***	[0.73]
Dishonesty institutions - Average			-0.006	0.006				
			[0.42]	[0.49]				
Trust in State Institutions	-0.004	-0.016	-0.015	-0.021	-0.004	-0.016	-0.002	-0.018
	[0.36]	[1.48]	[1.20]	[1.86]*	[0.35]	[1.50]	[0.15]	[1.64]
Knowledge report corruption	0.044	0.027	0.043	0.026	0.049	0.029	0.045	0.024
	[1.66]*	[1.14]	[1.63]	[1.09]	[1.84]*	[1.24]	[1.69]*	[1.03]
Member of association	0.05	0.027	0.052	0.028			0.052	0.028
	[4.64]***	[2.97]***	[4.82]***	[3.05]***			[4.80]***	[3.01]***
Member of at least one association					0.106	0.066		
					[4.08]***	[2.87]***		
region==Lima							0.002	-0.063
							[0.06]	[1.99]**
region==Costa							0.106	-0.07
							[2.43]**	[1.93]*
region==Sierra							0.018	-0.06
							[0.43]	[1.69]*
Observations	1558	1558	1558	1558	1558	1558	1558	1558
Pseudo-Rsq	0.04	0.02	0.03	0.02	0.03	0.02	0.04	0.02

Absolute value of z statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

TABLE 7.1: Public Agency Level - Univariate OLS Regressions
Source of Data: Public Officials' Survey
Dependent variable: Accessibility of Public Services

	Coefficient	Robust t-stat	N	R-squared
Corruption Indices				
Overall corruption	-0.493	[4.18]***	157	0.22
Perceived corruption	-0.642	[4.28]***	160	0.10
Corruption in personnel	-0.298	[2.84]***	159	0.10
Corruption in budget	-0.289	[4.35]***	159	0.14
Corruption in public contracts	-0.312	[3.79]***	160	0.16
Administrative Corruption	-0.349	[3.89]***	160	0.16
Corruption in laws/regulations	-0.379	[4.18]***	160	0.18
Governance Indices				
Effectiveness of rules	0.505	[3.38]***	160	0.17
Effectiveness of rules in personnel	0.509	[3.39]***	161	0.17
Effectiveness of rules in budget	0.444	[3.40]***	160	0.14
Quality of Rules	0.515	[3.00]***	160	0.13
Quality of Personnel Rules	0.488	[2.56]**	161	0.10
Quality of Budget Rules	0.475	[3.43]***	160	0.12
Audit	0.481	[4.16]***	156	0.18
Audit in personnel	0.392	[3.74]***	159	0.12
Audit in budget	0.426	[4.38]***	160	0.16
Meritocracy	0.354	[3.72]***	159	0.12
Wage satisfaction	0.182	[2.38]**	161	0.04
Citizen voice	0.563	[4.07]***	161	0.17
Mission	1.071	[5.37]***	160	0.22
Resources	0.302	[3.06]***	161	0.07
Justice	-19.033	[3.68]***	161	0.10
Municipal	2.866	[0.84]	161	0.00

* significant at 10%; ** significant at 5%; *** significant at 1%

TABLE 7.2: Public Agency Level - OLS Regressions
Source of Data: Public Officials' Survey
Dependent variable: Accessibility of Public Services

Governance Indices	Overall corruption	Perceived Corruption	Corruption in personnel	Corruption in budget	Corruption in public contracts	Administrative Corruption	Corruption in laws
Corruption (*)	-0.219	-0.024	-0.095	-0.164	-0.132	-0.1	-0.121
	[1.71]*	[0.13]	[0.85]	[1.98]*	[1.58]	[1.17]	[1.46]
Quality of the rules (**)	-0.39	-0.374	-0.391	-0.267	-0.37	-0.381	-0.388
	[1.55]	[1.49]	[1.84]*	[1.50]	[1.47]	[1.52]	[1.54]
Effectiveness of rules (**)	0.121	0.175	0.404	0.047	0.193	0.143	0.138
	[0.66]	[0.92]	[2.96]***	[0.30]	[1.05]	[0.78]	[0.77]
Audit (**)	0.063	0.126	0.058	-0.035	0.013	0.102	0.089
	[0.38]	[0.74]	[0.44]	[0.29]	[0.08]	[0.62]	[0.54]
Meritocracy	0.044	0.099	0.017	0.099	0.066	0.073	0.066
	[0.34]	[0.74]	[0.13]	[0.72]	[0.53]	[0.55]	[0.50]
Wage satisfaction	-0.058	-0.027	-0.034	-0.042	-0.033	-0.044	-0.049
	[0.65]	[0.29]	[0.44]	[0.48]	[0.39]	[0.48]	[0.55]
Citizen voice	0.363	0.374	0.269	0.435	0.381	0.365	0.374
	[2.08]**	[2.15]**	[1.54]	[2.62]***	[2.11]**	[2.09]**	[2.16]**
Mission	0.494	0.52	0.505	0.496	0.541	0.505	0.517
	[1.70]*	[1.86]*	[1.85]*	[1.60]	[1.76]*	[1.76]*	[1.81]*
Resources	0.027	-0.002	-0.046	0.007	-0.029	0.016	0.022
	[0.20]	[0.02]	[0.47]	[0.06]	[0.30]	[0.12]	[0.16]
Municipal (0,1)	1.933	1.217	0.963	2.862	1.676	1.261	1.128
	[0.54]	[0.34]	[0.29]	[0.77]	[0.50]	[0.36]	[0.32]
Justice (0,1)	-16.685	-19.168	-19.363	-16.401	-18.255	-17.818	-17.191
	[3.43]***	[4.21]***	[5.20]***	[3.66]***	[3.97]***	[3.78]***	[3.63]***
Regional Variables							
Language stratification	-0.19	-0.14	-0.155	-0.153	-0.187	-0.158	-0.173
	[1.37]	[1.00]	[1.15]	[1.08]	[1.35]	[1.12]	[1.24]
Regional average income	-0.001	0	0	-0.001	-0.001	-0.001	-0.001
	[0.84]	[0.28]	[0.28]	[0.44]	[0.82]	[0.54]	[0.65]
Lima (0,1)	4.458	-2.506	-3.191	1.284	3.516	0.87	2.231
	[0.34]	[0.19]	[0.25]	[0.10]	[0.28]	[0.06]	[0.17]
Selva (0,1)	-4.482	-4.662	-5.203	-2.79	-4.93	-4.236	-4.507
	[0.97]	[0.93]	[1.13]	[0.60]	[1.08]	[0.89]	[0.95]
Costa (0,1)	-3.267	-3.738	-2.827	-3.729	-3.359	-3.027	-3.101
	[0.76]	[0.82]	[0.67]	[0.87]	[0.80]	[0.68]	[0.71]
Constant	43.127	14.273	23.142	28.931	33.28	27.264	30.519
	[1.50]	[0.50]	[0.83]	[1.11]	[1.26]	[0.97]	[1.10]
Observations	133	133	136	137	136	133	133
R-squared	0.42	0.41	0.43	0.41	0.43	0.41	0.41

Robust t statistics in brackets   * significant at 10%; ** significant at 5%; *** significant at 1%

(*) Corruption indicator for each regression appears in the heading of each regression

(**) Corresponding indicator in each regression (Overall in 1st, 2nd, 6th and 7th columns, Personnel in 3th, Budget in 4th, Contracts in 5th)

TABLE A.0: SURVEY QUESTIONS TO CONSTRUCT GOVERNANCE INDICES - HOUSEHOLD LEVEL

Governance Variable	Questions from the survey
DISHONESTY	Por favor, dígame, en su opinion ¿qué tan honesta o deshonesta es cada una de las siguientes instituciones?
TRUST IN STATE INSTITUTIONS	El sistema judicial no merece ninguna confianza
	El sistema judicial es manipulado por las presiones economicas
	El sistema judicial es manipulado por las presiones politicas
	El govierno no merece ninguna confianza
KNOWLEDGE REPORT CORRUPTION	¿Sabe donde denunciar un caso de corrupcion?
MEMBER OF ASSOCIATION	Digame si fue miembro de las siguientes organizaciones: lista de 9 organizaciones

TABLE A.1: SURVEY QUESTIONS TO CONSTRUCT CORRUPTION AND GOVERNANCE INDICES - PUBLIC OFFICIAL LEVEL

Governance Variable	Questions from the survey
OVERALL CORRUPTION	Widespread of bribes to bias a regulatory/legal decision in the institution where you work Widespread of bribes to buy public contracts (in licensing/tendering) in the institution where you work Decisions on personnel management are based on unofficial payments (buying positions/promotions) The difference between the real and actual budgets is due to irregularities in the handling of funds
PERCEIVED CORRUPTION	Today widespread of payment of tips or payments "under the table" in the institution where you work Today widespread of payment of tips or payments "under the table" in the whole Public Administration
CORRUPTION IN PERSONNEL	Decisions on personnel management are based on unofficial payments (buying positions/promotions)
CORRUPTION IN BUDGET MANAGEMENT	The difference between the real and actual budgets is due to irregularities in the handling of funds
CORRUPTION IN CONTRACTS	Widespread of bribes to buy public contracts (in licensing/tendering) in the institution where you work
ADMINISTRATIVE CORRUPTION	Widespread of bribes to obtain a public services in the institution where you work
CORRUPTION IN LAWS AND REGULATIONS	Widespread of bribes to bias a regulatory/legal decision in the institution where you work
QUALITY OF RULES	The policy/guidelines/regulations of administration of personnel management are simple, clear and easy to understand. The policy/guidelines/regulations of administration of personnel management do not add too many administrative steps The policy/guidelines/regulations of administration of budget management are simple, clear and easy to understand. The policy/guidelines/regulations of administration of budget management do not add too many administrative steps.
AUDIT MECHANISMS	Decisions on personnel management are subject to external audits. Decisions on personnel management are regularly audited by some internal unit. Decisions on budget management are subject to external audits. Decisions on budget management are regularly audited by some internal unit. Decisions on procurement process are regularly audited by some internal unit. Decisions on procurement process are subject to external audits. Service delivery transactions are supported by tickets to help internal and external auditing Transactions are supported by tickets to help auditing.

EFFECTIVENESS OF RULES	The policy/guidelines/regulations of administration of personnel management are well supervised.
	The policy/guidelines/regulations of administration of personnel management are strictly enforced.
	The policy/guidelines/regulations of administration of budget management are well supervised.
	The policy/guidelines/regulations of administration of budget management are strictly enforced.
MERITOCRACY	Decisions on personnel management are based on professional experience/merit/performance.
	Decisions on personnel management are based on level of education.
WAGE SATISFACTION	Public Official's satisfaction with their wages and benefits.
VOICE	Clearly defined mechanisms exist to ask users about their needs.
	Clearly defined mechanisms exist so that users can express their preferences, suggestions and complaints.
MISSION	We all have a clear idea of the agency's objective and strategies.
	There is a clear understanding of what our tasks and responsibilities are.
RESOURCES ARE ADEQUATE	Quantity of budgetary of the agency is adequate
	Personnel and their training of the agency is adequate
	Office supplies/Computers/Technical resources are adequate.
	Space/Offices/Infrastructure of the agency are adequate.