# Policy Research Working Paper 6339

# Buying Votes Vs. Supplying Public Services

# Political Incentives to Under-invest in Pro-poor Policies

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## Abstract

This paper uses unique survey data to provide, for the first time in the literature, direct evidence that vote buying in poor economies is associated with lower provision of public services that disproportionately benefit the poor. Various features of the data and the institutional context allow the interpretation of this correlation as the equilibrium policy consequence of clientelist politics, ruling out alternate explanations (such as, for example, poverty driving both vote buying and health outcomes). The data come from the Philippines, a country context that allows for measuring vote buying during elections and services delivered by the administrative unit controlled by winners of those elections. The data reveal a significant, robust negative correlation between vote buying and the delivery of primary health services. In places where households report more vote buying, government records show that municipalities invest less in basic health services for mothers and children; and, quite strikingly, as a summary measure of weak service delivery performance, a higher percentage of children are severely under-weight.

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## Buying Votes Vs. Supplying Public Services: Political Incentives to Under-invest in Pro-poor Policies

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#### 1. Introduction

A dominant political economy concern is that vote buying practices in electoral competition may be associated with weak accountability. The offering of "gifts" or money in exchange for votes at the time of elections has been found to be widespread in poor democracies, despite the existence of secret ballots. Much of the literature has been occupied with the question of how, even in the presence of secret ballots, vote buying might function and be appealing as a political strategy.<sup>2</sup> The equilibrium consequences for public policy performance when governments gain (or lose) office in elections with widespread vote buying, has received relatively little attention.<sup>3</sup> To date, there is no direct empirical evidence on how public spending or service delivery varies with the practice of vote buying.

This paper provides the first such evidence, using uniquely suited micro data. The data reveal a strong negative association between vote buying and the provision of a public service that is known to disproportionately benefit the poor—in primary health. This correlation is surprisingly robust to a host of alternate specifications. Both the richness of the data and the specific institutional context from which they are drawn allow the interpretation of this correlation as the equilibrium policy outcome of clientelist political competition. Where underlying conditions are conducive to the use of clientelist political strategies, such as vote buying, the politicians who win office are likely to use fewer public resources for, and perform worse in delivering broadly pro-poor public services.

It is important to emphasize upfront that the paper's contribution is the establishment of a robust correlation with a meaningful interpretation, rather than any claims for causality. For example, the results **cannot** be used to argue that engaging in voter education campaigns to reduce vote buying would improve health services.<sup>4</sup> Vote buying in the context examined here is a particularly measurable form of clientelism.<sup>5</sup> Its correlation with health services is argued to arise out of the political incentives generated by and driving clientelism, with both greater vote buying and lower health services simultaneously emerging under more clientelist conditions. A more rigorous and empirically-based understanding of the implications of clientelist politics is not only significant for the state of knowledge in this area, but could also have policy relevance.

<sup>3</sup> One part of a collected volume edited by Schaffer (2007) theoretically examines the consequences of different types of vote buying for political and economic institutions. Baland and Robinson (2006) provide evidence from Chile on the impact of introducing secret ballots on election outcomes and on agricultural markets.

<sup>&</sup>lt;sup>2</sup> Some recent contributors are: Stokes (2005, 2007), Schaffer (2007), Nichter (2008, 2010, 2011), Vicente and Wantchekon (2009), Finan and Schecter (2011), Weitz-Shapiro (2012), and Gonzalez-Ocantos et al (2012).

<sup>&</sup>lt;sup>4</sup> Indeed, Scaffer (2005, 2007) provides arguments for how such education or advocacy drives might be ineffective.

<sup>&</sup>lt;sup>5</sup> The term "clientelism" is used here in a general sense, as described by Kitschelt and Wilkinson (2007, pp2)— "clientelist accountability represents a transaction, the direct exchange of a citizen's vote in return for direct payments or continuing access to employment, goods, and services". That is, clientelism in the Kitschelt-Wilkinson definition includes both post-election transfer of benefits as well as pre-election buying of votes. Vicente and Wantchekon (2008) distinguish between "clientelism" and "vote buying", although both involve a quid-pro-quo exchange between delivering private favors in exchange for political support. Clientelism is defined in their paper as an exchange of votes for favors conditional on being elected (eg. jobs in the public sector), and vote buying as votes for cash before an election. However, they blame both (or each) with reducing political incentives for broad public goods. Nichter (2010) defines vote buying strategies as "electoral clientelism" and distinguishes it from "relational clientelism" in which benefits are provided on a longer term basis (rather than just at election times) in exchange for political support.

It could help improve ongoing efforts in the international development and aid community to build institutions of accountability for pro-poor policies.

A survey was designed to be able to correlate vote buying with the delivery of health services, taking advantage of an appropriate institutional context in the country of the Philippines.<sup>6</sup> The data come from a jurisdiction level where there is congruence between the political unit at which vote buying is measured, and the administrative unit at which a particularly broad and potentially pro-poor service is delivered. Directly elected municipal governments in the Philippines are responsible for delivering basic maternal and child services to villages within their jurisdiction. This allows for attributing the decision-making over political strategies, and over a pro-poor public service to the same political agents. Municipalities hire and manage nurses, midwives, and community or village health workers, the key health personnel that are supposed to deliver basic maternal and child health services to the poor.<sup>7</sup> The central finding is that in places where households report greater vote buying (in direct response to questions about offers of money in exchange for votes at the time of elections), municipal government records show lower investment in basic health services for mothers and children; and, possibly as a result of lower public investments or worse performance in delivering broad services, a higher proportion of children are under-weight.

The rich survey data allow for examining, and rejecting, various alternate explanations for the correlation that are outside of the channel of clientelism. For example, the incidence of poverty could be independently correlated with both vote buying and health services, driving a spurious correlation between the two. But the data do not support such alternate explanations. The disaggregated nature of the jurisdiction level, the municipality, facilitates a study design in which sources of variation in vote buying can be examined in detail. Almost the entire population of municipalities in one province of the Philippines was picked for this study to rely on within-province, and within-congressional-district variation in vote buying across municipalities. This allows for establishing a correlation with health services that arises out of idiosyncratic variation in vote buying across municipalities, controlling for a host of other explanatory variables.<sup>8</sup>

The empirical specification addresses a measurement concern of unobserved factors driving household responses to sensitive questions (on vote buying) which could be independently correlated with health services. Household-level respondents were asked directly about the practice of vote buying in the municipality. These responses were then aggregated up to the village and municipal level, to focus on measuring variation across villages and municipalities in the percentage of respondents that reported vote buying. This amounts to "triangulating" household responses within a village or a municipality, rather than relying on variation in reports across individual households. The aggregated vote buying measure from the

<sup>&</sup>lt;sup>6</sup> These data were collected in February 2010 by the World Bank's Philippines country team.

<sup>&</sup>lt;sup>7</sup> Households belonging to richer quintiles in the Philippines, and elsewhere, typically rely on services from higherlevel health professionals and facilities, such as doctors and hospitals (see, for eg., the evidence in Gwatkin et al, 2007).

<sup>&</sup>lt;sup>8</sup> This is not to say that variation in vote-buying is idiosyncratic in general. Rather, at the level of disaggregation examined here, keeping provincial and district characteristics fixed, it is possible to examine the correlation with health services of only that part of the variation in vote buying that is likely driven by idiosyncratic differences across municipalities.

household surveys is then correlated with health service measures from a completely different source: official government records. Additional supporting evidence is provided from household-level measures of access to health services. The robust negative correlation with vote buying, therefore, holds for health services measured from there different sources: village health facility records, municipal budgets, and household interviews.

Other types of policy instruments—roads and infrastructure projects, and targeted assistance to households in time of need—that can be heavily influenced by higher-tier politicians outside the municipality, serve to perform "placebo" tests, to rule out accidental or spurious correlation. Municipal vote buying should not be as significantly or robustly correlated with those services where outcomes are heavily dependent on the actions of other politicians.<sup>9</sup> Furthermore, these other policy instruments might be more "targetable" than health services, and therefore more compatible with clientelist political strategies than broadly delivered services.<sup>10</sup> Roads or infrastructure projects, are also useful comparators to health services because they have been described as particularly amenable to elite and political capture in the Philippines and elsewhere (Matsuda and Cruz, 2012; Keefer and Knack, 2007; Khemani, 2012).

If the correlation between vote buying and service delivery is spuriously driven by unobserved conditions, that simultaneously make service delivery harder and vote buying easier, then similar correlations could be observed across different types of services, regardless of the extent to which the service is controlled by municipal politicians or amenable to clientelist targeting and elite capture. This is not the case, as will be discussed in detail in the sections further below—vote buying is robustly correlated with a particular type of health policy instrument over which municipalities exert direct and exclusive control. The data show an oppositely-signed correlation of vote buying with targeted assistance to households and with mayoral roads projects in the sampled villages—positive, though not always statistically significant.

In sum, the finding that municipal vote buying is robustly correlated with lower levels of a particular type of service having the following characteristics—being exclusively within municipal control, being pro-poor (the rich tend not to use the health services that municipalities provide), and being a broadly delivered service that is (relatively) less amenable to targeting—is difficult to brush-off as spurious correlation, or to explain through alternate mechanisms, other than as an equilibrium policy consequence of clientelist practices.

This empirical evidence is consistent with a general class of theories of clientelism with regard to its equilibrium policy consequences: that clientelism reduces investments in public goods, and/or in broad, pro-poor public services. Vote buying, in which particularistic benefits are provided at the time of elections, has been argued to be especially perverse, in that it can

<sup>&</sup>lt;sup>9</sup> This is not to claim that vote buying is more important to municipal politicians; but rather, that the particular jurisdictional boundary of a municipality is more important to municipal politicians. Higher tier politicians can buy votes across municipalities to reach their electoral goals. Although, other evidence from the Philippines suggests that the particular clientelist practice of offering money for votes at the time of elections may be especially salient in municipal politics (Schaffer, 2007, pp 195).

<sup>&</sup>lt;sup>10</sup> Chen and Cammett (2012) and Nichter (2011) provide evidence from Lebanon and Brazil, respectively, suggesting that heath services too can be used in clientelist targeting. The paper discusses this issue in detail in the sections below.

undermine democratic institutions and the rights of the poor, and thereby lower public investments in pro-poor policies (Stokes, 2005, 2007; Vicente and Wantchekon, 2009; Banerjee et al, 2011; Vicente and Collier, forthcoming).<sup>11</sup> Baland and Robinson (2006) provide related evidence that the introduction of the secret ballot, in Chile around 1958, which presumably reduced the efficacy of clientelist strategies, reduced the vote share of right-wing parties. Another strand of the literature examines clientelism as a form of inefficient redistribution which arises from the lack of credibility of political promises (Acemoglu, 2001; Robinson and Verdier, 2003; Robinson and Torvik, 2005; Keefer and Vlaicu, 2008). In these models, the inherent inefficiency in clientelistic redistribution has negative implications for broad public goods, such as institutions of good governance (rule of law, protection of property rights, etc.), and progrowth policies.

However, it is also conceivable that some forms of vote buying could be a result of political responsiveness to the needs of the poor (Schaffer, 2005, 2007). The selection of vote buying political strategies could, potentially, go hand-in-hand with pro-poor public policies. The received theory is insufficient to draw firm conclusions in this regard. This paper is the first to provide direct empirical evidence on the issue, using a deliberately designed survey to measure both vote buying and service delivery at an appropriate jurisdictional level. It reveals that where political contestation using vote buying strategies—offers of money in exchange for votes during elections—is more widespread, politicians reduce investments in primary health services. The service delivery instruments around primary health that municipalities in the Philippines are responsible for, are particularly likely to be broadly pro-poor in delivering benefits.<sup>12</sup> Indeed, poverty research suggests that these types of health services have the potential to serve as effective instruments to combat poverty, particularly when poverty is widespread (Besley and Coate, 1991, and Van DeWalle and Nead, 1995). The data therefore reveal that vote buying is associated with fewer resources to and weak performance in delivering pro-poor services.

Future research could fruitfully focus on developing a stronger theory and gathering more detailed empirical evidence on the precise mechanisms by which vote buying and clientelism might translate into lower levels of public services, particularly those that could be disproportionately beneficial to the poor. Future research might also examine the extent to which the negative empirical relationship between vote buying and service delivery uncovered here carries over to other contexts.

The next section describes the institutional context in the Philippines, and the sampling strategy. Section 3 provides a detailed examination of the sources of variation in vote buying, which are controlled for in examining the main correlation of interest between vote buying and health service delivery. Section 4 discusses the empirical specification to correlate vote buying with health service delivery, confronting potential problems in interpreting the correlation, and

<sup>&</sup>lt;sup>11</sup> Formal theoretical analyses of the policy consequences of vote buying make assumptions that are not sufficiently applicable to the weak institutional contexts of developing economies where vote buying is known to be widely practiced (Dekel et al, 2008; Dl Bo, 2007; Philipson and Snyder, 1996). Vicente and Wantchekon (2009) summarize the literature, and argue that in the particular contexts of developing countries, where voters are poorly informed, and where institutions are generally weak, clientelism and vote buying are likely to be inefficient forms of redistribution, with negative consequences for broad public goods.

<sup>&</sup>lt;sup>12</sup> Section 2 provides more detail on why this area of policy is the one particularly within municipal political control, and with the potential of being highly pro-poor.

how these are addressed. Section 5 presents the results. Section 6 discusses implications for the theory of how clientelism translates into under-investment in pro-poor policy, and for institutions of accountability to remedy this. Section 7 concludes.

#### 2. The institutional context, and sampling strategy in the Philippines

The Philippines provides an institutional context particularly suited to empirically examining the policy consequences of clientelism. Municipal governments in the Philippines are responsible for delivering what can be characterized as a pro-poor public service: health programs for maternal and child well-being that are typically the only source for such services available to poor households.<sup>13</sup> At the same time, municipal governments are directly elected, with substantial variation in political characteristics across municipalities. This paper uses data from a unique survey that was purposefully designed to measure investments in public health services, the broad public service that local governments are responsible for delivering in the Philippines' context, as well as a particularly salient practice of clientelism in the country: vote buying. The survey was fielded in February 2010.

The decentralization of service delivery and electoral competition in the Philippines provides opportunities to measure both variation in clientelist political strategies and service delivery at local levels. Such disaggregated measurement allows for establishing a correlation with health services of that part of the variation in vote buying that arises from idiosyncratic differences across municipalities. This enables the interpretation of the correlation as the policy consequence of vote buying politics, in the absence of any systematic variable that independently (and simultaneously) explains both vote buying and health service delivery.

The sampling strategy focused on gathering data from all municipalities in one province in the Philippines to enable cross-municipal comparisons while keeping province level characteristics fixed. The province of Isabela was selected for the study because it was sufficiently large to draw a sample of municipalities across which variation in service delivery could be examined.<sup>14</sup> Of the 35 municipalities in the province, 30 were selected for the study because cost considerations did not allow all to be covered.<sup>15</sup> That is, the overall criteria for the study design was to obtain, as cheaply and conveniently as possible, a set of municipalities

<sup>&</sup>lt;sup>13</sup> Health was described as the most important public service that Philippine municipalities could provide in the broad public interest, by the erstwhile Secretary of local government affairs in the Philippines, Mr. Jesse Robredo. Mr. Robredo provided this opinion when he was the Mayor of Naga City, in an interview with the author at the time of initiating this research, in October 2008. Mr. Robredo was a politician who had been widely feted as a reform champion. He met an untimely demise in a plane crash in August 2012.

<sup>&</sup>lt;sup>14</sup> An issue to contend with in the Philippines is the endogenous creation of new and small municipalities, possibly driven by considerations of facilitating patronage and clientelism (Khemani, 2011; World Bank, 2010). Too small and newly created municipalities may have lower capacity to deliver health services, and be characterized by clientelist practices. Isabela province is one of the few with a larger number of reasonably sized municipalities (most having a population greater than 20,000), among which the youngest was created in 1976, well before the more recent phenomenon of jurisdiction fragmentation.

<sup>&</sup>lt;sup>15</sup> The five municipalities to be dropped from the study were selected in consultation with the agency engaged to undertake the survey. First, three of the most remote municipalities-- Dinapigue, San Guillermo, and San Agustin—were dropped because the survey agency determined that the costs to reach them would be significantly higher than allowed within the task budget. Next, two additional municipalities—Gamu and Jones-- were dropped on the basis of available secondary data which suggested that these municipalities are similar in characteristics of political competition (the right hand side variables in our analysis) to their neighbors that would be included in the study.

within a single province which would allow for a detailed examination of the nature and sources of variation in service delivery. This allows for fixing macro-level economic, social, and institutional characteristics than can confound the interpretation of any correlation between political characteristics and service delivery.

Two villages, or barangays as they are called in the Philippines, were selected within each municipality on the basis of population and poverty, to ensure representation of the poorer households in the municipality (who are the primary recipients of the key public services provided by the municipality, especially in health). Very small barangays were excluded from potential selection to avoid the likelihood of greater political control over household responses to the survey in closely linked small settlements. In the first stage, the poorest half was selected from among all barangays in the municipality on the basis of small area poverty estimates.<sup>16</sup> Second, the largest 2 barangays (in terms of rank of population) was selected from among this poorest half.

Households with young children were targeted by the survey to measure access to one of the key public services that municipalities in the Philippines are charged with—maternal and child health programs. From each of the barangays, a population list was obtained by the survey team leaders of all households having at least one young child (under 6 years of age). <sup>17</sup> From this list, the survey leaders made a random selection of 20 households in each village. Within each household, the survey targeted the mother of the young child (or children) as the key respondent. All the respondents were women, with the average age in the sample being 31 years. Thus, the total household sample for this study is 1200, drawn from a total of 60 villages across 30 municipalities within the same province.

#### Political access to a pro-poor policy instrument

The Local Government Code of 1991 made municipal governments critical agents in the delivery of health programs such as immunization, reproductive and child health, and nutrition. Municipalities hire and manage nurses, midwives, and community or village health workers, and provide the facilities and equipment for the frontline delivery of basic public health programs. Management of these low-level health personnel is a domain of service delivery that is the exclusive responsibility of municipal governments. Program inputs, such as vaccines, medicines, and nutritional supplements, are typically procured by national health agencies and distributed to municipalities. Higher tier politicians can, therefore, play a role in providing greater health inputs to residents in a municipality; however, the distribution of these inputs is administered through the lower-level health workers that are exclusively managed by municipal governments. Furthermore, the basic nutrition supplements for mothers and young children, that are a typical part of the primary health services provided by municipalities, are probably affordable within

<sup>&</sup>lt;sup>16</sup> However, two municipalities are treated slightly differently-- Divilacan and Benito Soliven. In both, following this procedure of selecting the poorest half resulted in the selection of very small barangays, with population below 300 for Divilacan and population much below the average of Benito Soliven. For these municipalities, the largest 2 barangays were selected from among the poorest 75 percent in the municipality.

<sup>&</sup>lt;sup>17</sup> The source was a list that national health policy requires village health workers to maintain: a population list of all households in the village that have children under the age of 6 years. In the results section further below, we discuss any potential bias arising from such sampling, concluding that such sampling is likely to underestimate the extent of correlation between reported vote buying and health services.

municipal budgets, as opposed to things like infrastructure construction that are not. This is evidenced in the survey data by several instances where municipal health projects are reported to involve the procurement and distribution of medicines and general health inputs.

The aspect of health service that the national health policy makes municipalities responsible for lends itself to providing greater benefits to the poor and reducing health inequality. Using community-based midwives and trained health workers to provide basic services, free of user charges, such as immunization, antenatal care, assisted deliveries, health outreach—have long been at the core of the primary health care approach advocated by WHO and UNICEF to reach disadvantaged populations and promote "health for all". The bulk of municipal health spending goes towards the salaries of health personnel, predominantly nurses, midwives and community health workers that are stationed at village clinics. Using the Demographic and Health Surveys for the Philippines, Gwatkin et al (2007) show that the lowest quintile of households rely overwhelmingly on nurses or trained midwives; the richer quintiles rely instead on the services of doctors, who are not a significant part of municipal health policies or workforce.

However, despite the availability of these policy instruments, whether municipal governments indeed have sufficient incentives to avail of them to deliver services to the poor is a question of political economy. Actual benefit incidence of public health spending has been shown to be much less pro-poor than was expected given the concerted advocacy of the global health policy community (O'Donnell et al, 2007; Gwatkin et al, 2007). This paper suggests that part of the problem is that governments in developing countries, who rely on clientelist forms of political competition, have weak incentives to invest sufficiently in and effectively deliver health services to the poor.

Municipal health spending in the Philippines averages around 8 percent of total municipal spending, after more than 50 percent being allocated to general administration, and around 20 percent to the so-called "local development fund" that largely consists of infrastructure construction and repairs.<sup>18</sup> The remarkably high share of administrative spending in municipal budgets is not inconsistent with clientelist political economy arguments that governments tend to allocate significant resources to providing jobs in the public sector to friends, family and political supporters (Fafchamps and Labonne, 2012). Other political economy work in the Philippines, and internationally, suggests that spending on capital construction projects might also be politically attractive because of the relatively greater possibilities for rent-seeking and elite capture of benefits (Keefer and Knack, 2007; Khemani, 2012; Cruz and Matsuda, 2012). A byproduct of these arguments, which this paper is in a position to examine empirically, is that primary health services that are pro-poor are particularly likely to be neglected by politicians

<sup>&</sup>lt;sup>18</sup> These numbers are calculated by the author using official data on local governments' Statements of Income and Expenditures for the years 2001-2006, published by the Bureau of Local Government Finance within the Ministry of Finance. Municipal governments are overwhelmingly dependent on fiscal grants from the center to finance their expenditures. As a condition of receiving the Internal Revenue Allotment, municipalities are required to set-aside a share for the so-called "Local Development Fund" (LDF) which typically finances capital construction projects. However, the LDF can finance non-construction, non-wage spending which in the health sector can consist of things like procuring medical equipment or medicines or nutritional supplements. In this paper, the correlation of vote buying is estimated both for reported spending on health and on health projects at the village level that might be financed by the LDF,

when political competition is clientelist. The analysis below also uses these distinctions in the political value of different types of public spending to show that the robust negative correlation of vote buying exists specifically for health spending.

Detailed research on Early Childhood Development (ECD) using panel data from the Philippines provides some *prima facie* evidence of weak accountability for improving the quality of service delivery for the poor. Researchers document strikingly low levels of health and development among poor Filipino children (Ghuman et al, 2005; Glewwe and King, 2001). Ghuman et al (2005) find that variation in several indicators of child health and development is strongly correlated with variation in the availability of health and ECD services in the village. This suggests scope for municipal allocation of resources to reach the poor more effectively with the basic health services that can improve their well-being.

#### Salience of vote buying in political contestation

Qualitative evidence exists for the Philippines describing the salience of vote buying as a widely accepted practice among the poor (Schaffer, 2005; 2007). Citizens belonging to low-income groups tend to defend the practice against "upper class" views, describing vote buying as a form of political attention and responsiveness to the needs of the poor. Citizens targeted with vote buying do not think of it as "selling" their vote, but rather as some evidence of the good will and quality of candidates which they factor into their decision-making.<sup>19</sup> Perhaps because of this, the direct survey questions used in this study, on the practice of vote buying in municipalities, seem to have worked well in measuring variation: people are less shy or wary of responding in the affirmative.

Furthermore, the Philippines may provide an appropriate context in which vote buying is a viable electoral strategy, even with secret ballots, operating through traditional institutions of reciprocity (*utang na loob*).<sup>20</sup> Local political operatives in municipal politics might be particularly well embedded in communities and be able to target vote-buying offers to voters with whom there are norms of reciprocity (as in the mechanism examined by Finan and Schechter, 2011).

Other means of enforcing vote buying that has been discussed in the literature has focused on the role of national political parties, assuming that particular types of political parties or politicians, presumably with access to party "machines" or private networks, are likely to be able to rely on such strategies (Stokes, 2005; Schaffer, 2007; Nichter, 2008; Kramon, 2010; Vicente, 2010; Gonzalez-Ocantos et al, 2012).<sup>21</sup> National political parties are weakly organized

<sup>&</sup>lt;sup>19</sup> This is not to say that all low-income citizens share the same view of vote buying. Scahffer (2005) describes considerable variation even within the same community in the views of vote buying. This is one reason why this study focuses on aggregating household responses within a community to come-up with an average measure of vote buying, the *variation* (as opposed to levels) in which is likely reflective of variation in the degree to which the basis of political competition is the provision of particularistic benefits.

<sup>&</sup>lt;sup>20</sup> More than 90 percent of the respondents report believing that their vote is secret. This might seem very high in this context of weak institutions. On the other hand, it might be consistent with voters' beliefs that their vote can only be revealed should they choose to reveal it under a vote buying contract.

<sup>&</sup>lt;sup>21</sup> Some have argued that payments to voters may not necessarily be to buy their vote, but rather to buy their "turnout", or participation at the polls, in contexts where political agents have prior expectations of the political leanings of different constituents (Nichter, 2008; Kramon, 2010).

in the Philippines. Local electoral contestation at the municipal level is not based on national party labels, but instead, is organized around local political families or "clans" (Hutchcroft and Rocamora, 2003; de Dios, 2007). These clans are described as relying on social networks through which politicians can identify which voters to target.

Finally, there appear to be other mechanistic ways in which local politicians are able to enforce vote buying contracts, because of the weak institutional environment. In anonymous interviews to the author, a group of local mayors (in another province) described in detail how they require voters to provide carbon copies of the ballot sheet to receive their payment. Similar narratives are also available in existing qualitative work (Schaffer, 2005). The election commission of the Philippines had not rolled out the use of electronic voting technology at the time of this study. More recent anecdotes seem to suggest the use of mobile phone cameras in enforcing the vote buying contract (Cruz, 2012).

Other literature on local politics in the Philippines suggests that the threat of violence may also be used, making it difficult for people to refuse to accept money or to vote differently (Sidel, 1999). The presence of an illegal economy in a municipality might simultaneously facilitate political access to the financing for vote buying, as well as to the means of enforcement through coercion. To capture this, the survey included questions on the experience of violence in local politics. The vast majority of respondents did not report any instances. Only two municipalities in the sample had a non-trivial number of respondents reporting instances of violence, and these municipalities also had the highest reported instances of vote buying. Clientelism and violence could be complementary political strategies at play in some areas where politicians can extract rents from illegal economic activity, and gain and remain in political office despite under-investment in pro-poor services.

#### 3. Examining the sources of variation in vote buying

The available theories of the conditions under which vote buying is selected as a political strategy are applied to examine the sources of variation across municipalities. A large number of specifications of the following general form were estimated, varying the composition of the explanatory variables contained in the X vector:

### **VoteBuying**<sub>*ik*</sub> = $\beta_0 + X_{ik}B_b + \epsilon_{ik}(1)$

The dependent variable in (1) is the proportion of households among those interviewed in village *i* in municipality *k* that answer affirmatively to different vote buying questions in the survey. The 20 household respondents in each village were asked the following questions: 1) "As far as you know, are there cases of vote buying in this municipality?" and 2) "Did someone offer you money for your vote?". The percentage of respondents answering "yes" to these questions is separately aggregated up to the village and municipal level, for two different village or municipal level measures of the extent of vote buying politics, corresponding to each of these questions. On average, 38 percent of respondents in a village reported knowing about instances of vote buying, ranging from a minimum of no one reporting such cases, to a maximum of 94 percent of respondents reporting such cases. When asked directly about personal experience with being offered money in exchange for a vote, the reported instances fall substantially—only 18 percent

of respondents report being offered money, ranging from no one reporting such offers, to 75 percent of respondents reporting them.<sup>22</sup>

Some features of the vote buying data suggest that it is suited to measuring actual differences across municipalities in the extent to which elections can be won or lost on the basis of vote buying. Among the respondents that answered that they were offered money, 84 percent said they accepted the money, and of these, 51 percent said they voted for the candidate from whom they accepted the offer. This is substantially higher than the evidence from national surveys that is reported by Schaffer (2005). Interpreting the number is difficult however, because of possible social desirability bias in answering that money was accepted without compromising voter rights. Nevertheless, the significant share of respondents that are willing to admit to voting for the candidate from whom they accepted money, suggests that the survey measure is a good proxy for the extent to which elections revolve around the exchange of particularistic benefits.

Table 1 reports the results of estimating equation (1) for various different specifications changing the composition of the correlates contained in the vector X. Some variables exhibited a more robust correlation than others, maintaining their statistical significance across multiple types of specifications. These, more robust correlates represent some of the more important variables in the received literature examining the drivers of vote buying. Each is discussed below in turn.

Medina and Stokes (2002) argue that local economic power is likely to be associated with forms of clientelist exchange other than vote buying, for example, through the leasing of land for cultivation, or the provision of a job. Such models therefore predict lower direct vote buying, offers of money in exchange for votes, at election time, where politicians control economic resources and can use "relational" forms of clientelism (Nichter, 2011).<sup>23</sup> The survey gathered data from key informants at the municipal level (typically consisting of a local business leader, a journalist, a religious leader, or a functionary in the local government office) on whether the mayor's family is a major land-holder or employer of labor in the municipality. These variables are some of the more robust and significant correlates of vote buying in the data.<sup>24</sup> In municipalities where the mayor's family is reported as being a major employer of labor, or major landowners, there are significantly fewer reported instances of vote buying. This suggests that local economic power and vote buying may generate substitute types of clientelism.

These alternate measures of perhaps a different form of clientelism—arising from the monopoly economic power of local politicians—could be correlated with health services independently of vote buying. As we report further below, these measures tend to be negatively correlated with health services, although the correlation is not robustly significant across different specifications. Their inclusion in the specification has no impact on the estimated

<sup>&</sup>lt;sup>22</sup> These reported rates of vote buying are extraordinarily high when compared to direct survey measures from other countries (Gonzalez-Ocantos et al, 2012). Detailed qualitative evidence from the Philippines show why the social desirability bias there is likely to be far lower than in other country contexts (Schaffer, 2005, 2007).

<sup>&</sup>lt;sup>23</sup> Baland and Robinson (2006) coin the term "indirect vote buying" for the clientelism associated with economic power, when employers or landowners can coerce their workers to vote for particular political parties.

<sup>&</sup>lt;sup>24</sup> There are only a few specifications in which the coefficient on mayoral economic power is not significant even at the 10 percent level. These are the cases when other socio-economic characteristics of villages are included, as in column (5)-(7). However, the sign of the coefficient remains negative.

correlation between vote buying and health services. The weaker correlation of health services with these other measures of clientelism, compared to the stronger correlation with the vote buying measures, is attributable to two factors. One, these measures of economic power of the mayor's family directly captures economic characteristics of a municipality that could be correlated with health investments (both public and private) outside of the channel of clientelism. Two, there is no available data to examine whether mayoral economic power is indeed associated with clientelism; it is therefore a more noisy measure of clientelist practices than the direct measure of vote buying.

The degree to which politicians face competition in accessing office has also been argued to explain the use of vote buying strategies, particularly in interaction with poverty; where both poverty and competitive pressures are high, vote buying may be more likely to be the selected strategy (Weitz-Shapiro, 2012). Measuring variation in political competition across municipalities in the Philippines is tricky. Carizo (2010) provides a detailed qualitative description of competition in the Isabela municipalities studied here, showing: one, that observed variables such as the number of candidates that compete for mayoral office may be endogenous to actual performance of incumbent politicians (well performing incumbents can stand unopposed); two, that local political clans can make deals with each other to alternate in office, such that even when there is an underlying competitive threat, it may not be reflected in observed variables; three, that margins of victory or vote shares may be fraudulently derived, or directly reflecting vote buying outcomes (rather than measuring underlying differences in competitive pressure).

Given these considerations, the most reliable measure of variation in local competitive pressures, in this context, may be the existence and degree of entrenchment of political clans. Based on the information compiled by the Institute for Popular Democracy (IPD) in the Philippines, using raw electoral data from the election commission in the Philippines, about 57 percent (17 out of the sample of 30 municipalities) of municipalities have one or more political clans holding or competing for public office. A scrutiny of the names of mayors who have held office in these municipalities since 1998 also reveals that in one-third of the municipalities one political clan has been entrenched in the position of mayor, alternating between family members when any one candidate faces a term limit.<sup>25</sup>

Including fixed effects for the congressional districts to which the municipalities belong may also capture the degree to which electoral competition matters for explaining variation in vote buying. There are four congressional districts in Isabela, of which three are described as being dominated by particular political clans (Carizo, 2010). The fourth district, in contrast to the other three, is described as experiencing intense rivalry among warring clans. There is evidence of greater vote buying in those municipalities that are located in the 4<sup>th</sup> congressional district, which is characterized by more intense political rivalry between clans. However, municipalities in the 4<sup>th</sup> district do not appear to be different in vote buying experience from those in the 1<sup>st</sup> district where a single clan has been known to dominate. The size of the difference in vote buying in municipalities in the 2<sup>nd</sup> and 3<sup>rd</sup> districts (each dominated by a different political clan)

<sup>&</sup>lt;sup>25</sup> The Philippines prohibits incumbent mayors in their third term in office from running in elections for a fourth consecutive term. However, candidates can return to contest in a subsequent election, after sitting-out the fourth term. Mayoral elections are scheduled every 3 years.

is huge—of an estimated 17 and 28 percentage points (compared to a sample average of 38 percent reporting vote buying). These district fixed effects are the most robust correlates of vote buying across all specifications, as can be seen from the results across all columns in Table 1.

However, column (2) of Table 1 shows that the variable measuring clan domination in municipal politics, or lack thereof, is opposite in sign to that suggested by congressional district fixed effects. Greater inter-clan competition, or lack of a single clan being entrenched in municipal politics across term limits, is associated with 9 percentage points lower reported vote buying. This coefficient is not as robustly significant as those for the district fixed effects. The correlations between vote buying and the domination of political clans are difficult to interpret because of obvious concerns of reverse causality—vote buying practices may enable some political clans to thwart competition. In other cases, however, vote buying may enable new candidates to launch a challenge to a political clan. The correlation of vote buying with these political characteristics may be idiosyncratically different across municipalities.

Another, more standard measure of political competition—the margin of victory—for the years for which data is available, exhibits a negative correlation with vote buying (column 3). That is, in municipalities where margins of victory are on-average greater across elections, perhaps representing lower competitive pressures, vote buying is reported to be lower. It is difficult to interpret this correlation, however. Vote buying may be mechanistically linked to margins of victory. Where political competition involves greater vote buying, margins of victory may be lower because challengers are able to buy votes. Furthermore, the quality of data here is suspect, with a large number of missing values (for 5 out of 30 municipalities for the most recent election of 2007 before the survey). Missing electoral data may not be unrelated to underlying political characteristics of municipalities.<sup>26</sup>

Greater poverty has been widely hypothesized as facilitating vote buying (Stokes, 2005), especially in interaction with electoral competition (Weitz-Shapiro, 2012). Small area estimates of poverty are available from the National Statistics Office in the Philippines. These estimates combine information from nationally representative household surveys, with information from the census, to generate what the poverty literature considers to be some of the most reliable estimates at lower levels of disaggregation (Elbers et al, 2003).

There is little robust and significant correlation of poverty incidence with vote buying (columns 4-7). Although the coefficient point estimate in most specifications suggests that greater poverty could be associated with greater vote buying, the estimate is not typically statistically significant. At the very least, this casts doubt on any poverty-based alternate explanation for the correlation between vote buying and health services.<sup>27</sup> There are no robust patterns in the data to show that greater competition (measured through (lower) margins of victory, or as (lack of) entrenchment of clans) and higher poverty together explain greater vote buying. One possibility for why poverty and its interaction with available measures of electoral competition do not show-up significant here is because of the highly disaggregated nature of the sample, relatively small municipalities within one province in the Philippines. Poverty

<sup>&</sup>lt;sup>26</sup> Another measure of electoral competition was also included in various specifications—the number of candidates competing for mayoral office—but this was typically insignificant, in the majority of specifications.
<sup>27</sup> In the main results presentation in Section 4, the paper uses various specifications and measures of poverty to

<sup>&</sup>lt;sup>27</sup> In the main results presentation in Section 4, the paper uses various specifications and measures of poverty to establish that the correlation of interest—between vote buying and health services—is not driven by poverty.

characteristics might matter either at a more macro level, with sufficiently large variation in poverty across larger jurisdictions; or, alternately, at a more micro-level, such as targeting the poorest households within a village (as in the arguments of Stokes, 2007). The main purpose here, however, is not to contribute to the existing literature on the targeting of vote buy offers across households; rather, to contribute the first evidence of the correlation between jurisdictionlevel variation in the prevalence of vote buying with jurisdiction-level measures of service delivery.

Other socio-economic variables are also explored—the degree to which vote buying practices might be correlated with the level of social capital or local collective action in communities (using survey measures of a particular institution for local collective action and mutual assistance in the Philippines, described in Labonne and Chase, 2011—participation in *bayanihan*); whether the mayor is able to claim political affiliation with a larger number of politicians, thereby having access to wider networks to enable vote buying to be an effective political strategy; and, location and population of villages. None of these variables exhibit a robustly significant correlation with vote buying. This is shown in column (5)-(7) of Table 1.

Column (6) adds an indicator variable for whether the incumbent mayor is in her 3<sup>rd</sup> term in office, and therefore ineligible for stand for re-election because of a term limit. In elections with lame-duck mayors, it may be that more challengers emerge and use vote buying strategies to compete. However, the data show no significant evidence of this, although the coefficient sign is indeed positive.

Column (7) adds a measure of municipal dependency on fiscal transfers from the national government. Recent work, with data from Brazil, has suggested that greater fiscal dependency can act like a "political resource curse", reducing the quality of local politicians (Brollo et al, 2013). In municipalities where national fiscal transfers constitute the vast bulk of local revenues political challengers might be more willing to invest their resources into vote buying, in anticipation of accessing public resources coming from above, and hence not relying on local taxation. The data do not show any evidence of this, however.

In sum, a highly detailed scrutiny of the sources of variation in vote buying practices, applying the available theory to very rich survey data, finds a few variables to be robustly significant and with considerable explanatory power—congressional district fixed effects, measures of clan domination in local politics, and indicators of mayoral economic powers. In column (2) of Table 1, these variables together explain 33 percent of the variation in reported vote buying across municipalities. Adding more variables does not change the R-square substantially, as can be seen from subsequent columns. In contrast, social or economic variables that one might expect to be systematically correlated with both vote buying and health service delivery, possibly driving a spurious correlation between the two, are not robust correlates of the variation in vote buying.

The informative value of these correlations for our main purpose (of examining the equilibrium policy consequences of vote buying politics) is the suggestion that the sources of variation in vote buying in this sample (almost all municipalities within one province) are likely to be idiosyncratic and not systematically correlated with factors that could have independent correlation with health services (outside of the channel of clientelism). Vote buying might be

greater in some places because of the presence of an illegal economy; in another because of the presence of a dominant political clan with the networks to support vote buying practices; in another because of the *lack* of a dominant clan, which spurs contenders to emerge on the basis of vote buying; in another because of a persistent history of vote buying as the electoral strategy selected by contenders. The empirical methodology used below relies on this apparently idiosyncratic variation in vote buying to identify its equilibrium policy consequences.

#### 4. Empirical specification to correlate vote buying with service delivery

The following type of equation is estimated at the village-level, alternating different measures of health services on the left hand side, different measures of the main explanatory variable—vote buying—on the right hand side, and different combinations of other control variables:

$$HealthService_{ijk} = \beta_0 + \beta_1 VoteBuying_{ijk} + W_{ijk}B_b + Z_{jk}B_m + a_k + \epsilon_{ijk}$$
(2)

Three different measures of health services in village i, in municipality j, of congressional district k are used: proportion of children under 6 with weight well-below normal, the number of village health workers assigned by the municipality, and the number of health projects undertaken in the village. The vote buying measures are as discussed in the previous section. Fixed effects for the four congressional districts,  $a_k$ , in the province are included because of their importance in explaining variation in vote buying across municipalities (as shown in the previous section).

Data on health service delivery was collected from health facility records at the villagelevel. Key informants—the village health workers and council members—provided the data on health and other sector projects undertaken by the municipal government in the village in recent years. A nationally mandated program to monitor the health of young children, Operation Timbang (OPT), requires villages, or barangays, to measure and record the weight of young children in their areas. The survey team gathered data from barangay health officers on the number of children participating in OPT weighing, and the number of these that were recorded as having weight well below normal measures of good health. On average across the barangays in the sample, the records indicate that close to 3 percent of the children weighed under OPT were found to have a weight well below the normal, healthy range. There is wide variation across barangays in this proportion—half of the barangays report 1 percent or fewer children with weight well-below normal. These 13 barangays include those where the largest percentage of household respondents indicated instances of vote buying in the municipality. This is the correlation the analysis below will examine in greater detail.

The barangay-level data collection also includes other measures of availability of health services—the number of barangay health workers appointed by the municipality, and the number of health projects undertaken. The health projects typically involve rehabilitating and equipping the village health facility. On average, a barangay in the sample has 3 health workers assigned to it, and 1 health project recently completed or ongoing. However, these averages mask large variation across barangays—some barangays have 0 health workers, whilst others have more than 10; some barangays have 0 health projects, whilst others have more than 3.

Among these different measures of village health service delivery, while two are more direct measures of municipal actions (placement of health workers and projects), the third plays the role of an important summary measure of service delivery performance—percentage of children characterized as being severely below normal weight. This measure can be particularly helpful in discerning the equilibrium policy consequences of clientelism. Other work has shown that even primary health services can be subject to clientelist targeting (Chen and Cammett, 2012; Nichter, 2011). That is, it is difficult to find a measure of broadly delivered services that are not subject to the *quid pro quo* of clientelism. The data on child health outcomes that are available in the Philippines are particularly helpful in this regard, serving as a measure of government performance in delivering broad welfare to its most vulnerable citizens.

In different specifications, the vector  $W_{ijk}$  contains relevant characteristics of the barangay in which the household resides: poverty, population, location (distance from centro), and quality of roads. The survey team recorded direct-observation data on the quality of barangay roads. The percentage of household respondents reporting participation in bayanihan activities is used as a barangay-level measure of social capital. All of these variables were used in the previous section to examine correlation with vote buying; none were robustly correlated with vote buying.

The vector  $\mathbf{Z}_{jk}$  across different specifications contains municipal political variables that might be correlated with health services in their own right, or be mediating the correlation with vote buying: whether key informants indicate that the mayor's family is a major landowner or employer of labor; whether a political clan has been entrenched in power; other available measures of electoral competition such as number of candidates and the margin of victory. The vector  $\mathbf{Z}_{jk}$  also includes indicators of municipal fiscal capacity—the share of own revenues (or alternately, the share of transfers from above), and the total per capita revenues.

The following specification is estimated to assess the correlation of vote buying measured at the municipal-level (percentage of household respondents in a municipality reporting vote buying), with municipal allocation of spending to health services in recent years (averaged over 2007 and 2008, the two years since the last elections of 2007 for which data is available for all municipalities in the sample). Data on the expenditure composition of municipal budgets was gathered from official statements of expenditures provided by the municipal accountant.

$$\left(\frac{MunicipalHealthSpending}{TotalSpending}\right)_{ij} = \gamma_0 + \gamma_1 VoteBuying_{ij} + V_{ij}\gamma_m + \mu_j + \varepsilon_{ij} (3)$$

For municipality *i* in congressional district *j*, the vote buying variable measures the percentage of affirmative responses from 40 households in the two sampled villages to the vote buying questions. Municipal-level controls included in the vector  $V_{ij}$ , are municipal estimates of poverty, municipal population, and different measures of municipal fiscal capacity (dependency on national revenue shares, share of own revenues in total income, and per capita total revenues). Congressional district fixed effects,  $\mu_i$ , are included.

The main argument for why the estimates for  $\beta_1$  in equation (2) and the estimates for  $\gamma_1$  in equation (3) are likely to reflect the equilibrium policy consequence of vote buying politics is that the variation in vote buying in this sample is exogenous to other factors that could influence

health services outside of clientelist practices. This argument was made in the previous section, on the basis of the institutional setting in the Philippines, which allows for exploiting microlevel, idiosyncratic variation in vote buying across municipalities within the same province, keeping big, macro-level political, socio-economic, and institutional factors fixed.

Second, the analysis at the village level has the degrees of freedom and rich survey data to explore a large number of specifications, with different combinations of variables in the  $W_{ijk}$  and  $Z_{jk}$  vectors, to test that the correlation between health services and vote buying is not driven by other, observable, factors. This includes, of course, the variables found to be systematically correlated with vote buying in this sample (in the previous section): the congressional district fixed effects, dominance of political clans, and the indicator variables for the economic power of the mayor's family. The analysis also tests for robustness to measuring vote buying using two different survey questions, as presented in the previous section.

Third, concern that unobserved factors might mechanistically drive the correlation, independent of clientelism, is allayed by differentiating the sources for measuring vote buying versus health service delivery. The measures of municipal service delivery are gathered from official government records, and from government respondents, while vote buying is measured through household surveys. This makes it unlikely that unobserved factors that drive household responses to potentially sensitive questions on vote buying are accounting for the correlation with service delivery, since the primary source for measuring service delivery is external to the household.

Fourth, the correlation of vote buying with other services is explored, where higher tier politicians can play an important and perhaps even larger role, and which might be relatively more "targetable". These services serve as "placebo" tests because municipal vote buying should not be as robustly or significantly correlated with those services where outcomes depend upon the actions of multiple agents, or that are more compatible with or complementary to clientelist political practices. Political conditions at the municipal-level may not matter in the same way to higher-tier politicians, leading to more noise in the correlation between municipal political variables and delivery of services where multiple political agents are involved. Furthermore, for these other services, where the actions of higher tier politicians matter, mayors have less of a trade-off with clientelist transfers-- the resources and funds can come from elsewhere. Services that can be used for clientelist targeting, or to capture rents from public office might go hand-inhand with vote buying practices.

With spurious correlation-- for example, if public services were just too difficult to deliver to some villages because of their location, and location also enables vote-buying practices, location would drive both vote-buying and low services, with no direct connection between the two. However, as will be shown in the results section below, the correlation of vote buying with other types of services, where higher tier politicians can play a role, or, that are relatively more amenable to clientelist targeting and elite capture, is not robustly significant, and in some cases, of opposite sign (than the negative correlation with municipal health services). The pattern of evidence is difficult to reconcile with any other explanation than weak political incentives to deliver broad, pro-poor services when political competition is more clientelist.

Finally, a potential problem with interpreting the correlation coefficients is the timing of measuring vote buying versus measuring service delivery. The service delivery data specifically measures municipal actions over the past few years, during the term in office of the current incumbent. In the vote buying question posed to households, no particular date of elections was specified. The survey was undertaken three months before impending municipal elections, and three years after the last elections.<sup>28</sup> The question could therefore pick-up vote buying practices for the upcoming elections, although 3 months might be too long a lead time to already observe vote buying contracts. The follow-up questions asked specifically about actual voting behavior, which suggests that respondents would understand the vote buying question as relating to experience over past elections. Even if different respondents have different timing in mind when answering the vote buying question—some reflecting experience in past elections, and some their expectation from the upcoming elections—this measure of vote buying can still capture how vote buying is persistently more likely, across elections, in some municipalities than in others.

Nevertheless, one concern is that of reverse causation—vote buying in impending elections may be more likely in municipalities with a poor past record of health service delivery. The incumbent may be using vote buying to win political support, in lieu of the provision of broad public services. Challengers may be using vote buying because it is cheaper or more effective when incumbent performance has been weak. However, this interpretation runs against the evidence of no correlation with vote buying of other types of service delivery, including highly sensational forms of natural disaster assistance (reported in Khemani, 2013).

In the argument made here—that the survey measure of vote buying captures variation across municipalities in the proclivity towards using particularistic benefits as the basis of political support—the timing of vote buying is not important to interpreting the correlation as the equilibrium policy outcome of clientelism. A sequence of events where vote buying strategies are heightened following weak incumbent performance in delivering pro-poor services is not inconsistent with this interpretation since it reflects a direct trade-off between buying votes versus supplying broad public services.

#### 5. Results

This section reports a significant negative correlation between vote buying and health services that is robust to a vast array of different specifications of the type in (2) and (3). It also reports lack of robust correlation of vote buying with other types of closely related services that are not exclusively or even largely within municipal control, and that might be more complementary to clientelist political strategies, which serves as a defense against charges of spurious correlation.

Table 2a shows the main results of estimating equation (2), for village-level measures of health services. Vote buying is significantly associated with a larger number of children in the barangay recorded as having weight that is well below normal. It is also associated with fewer barangay health workers and fewer health projects in the barangay. The indicator of mayoral economic power also tends to be associated with a higher proportion of children with below

<sup>&</sup>lt;sup>28</sup> Municipal elections in the Philippines are held every three years.

normal weight, although this is not robustly significant across specifications. It is not significantly associated with municipal health investments. Congressional district fixed effects have no robust pattern of association with village health service delivery.

Even after controlling for those variables that seem to explain much of the variation in vote buying across municipalities in this sample, the coefficient size on vote buying remains largely unchanged. Mayoral economic power, a possible alternate measure of clientelism, is also negatively correlated with the variable which can be argued to be a summary measure of the quality of public service delivery (child health), while the congressional district fixed effects have no apparent independent correlation with health services. This pattern strengthens confidence that the correlation between vote buying and health services reflects equilibrium outcomes that go together under clientelism, rather than driven by other explanations.

Table 2b shows that the estimates are robust to including several different characteristics of municipal political competition. The results are also robust to other types of specifications, such as substituting a variable which measure existence of local political clans, as opposed to their entrenchment in local politics. It is also robust to controlling for other measures of municipal fiscal capacity, such as the size of own revenues (instead of dependency on transfers through the IRA, which is reported in the specifications in the tables). The correlation between vote buying and health services is also maintained when a different measure of vote buying than in the tables is included—the percentage of household respondents in a barangay reporting personal offers made directly to them of money for votes.

Other significant correlates of health services and outcomes are poverty and village distance to the municipal seat (*centro*), and in expected directions. Higher poverty is associated with poorer health outcomes (below normal weight chidren), and more remote location is associated with greater provision of village-level health workers and projects. This is consistent with national health policy guidelines—villages which have greater transactions costs in accessing larger health centers are supposed to be able to rely on community-embedded health workers and services.

Given the large number of specifications that were estimated for this work, coefficients on some variables might show-up significant due to statistical probability, rather than reflecting any meaningful correlation. Among the other correlates that appear significant in Tables 2a-2b, municipal fiscal dependency on higher tiers of government is suggestively associated with lower health services and poorer outcomes. This may be consistent with the results and argument discussed earlier of Brollo et al (2013). Lame-duck mayors, in their third consecutive term in office, are associated with reduced investments in health, and poorer health outcomes. Other correlates that sometimes appear significant, such as number of candidates competing in mayoral elections, do not exhibit similar patterns of association across different measures of service delivery. The importance of these correlations is therefore suspect.

The results of estimating equation (3) for the share of municipal spending allocated to health services are provided in Table 3a. Vote buying in the municipality is consistently associated with lower allocation of municipal spending to health programs. The estimates for the correlation with vote buying are robust to including other municipal political variables (Table 3b). Among other correlates of municipal health spending, poverty appears to be associated with

higher share of health, on average, but this is only marginally significant. Lame-duck mayors are associated with lower share of health spending on average, a result that is consistent with the pattern observed in Table 2b of reduced health services and poorer outcomes at the village-level.

As indicated at the outset, a critical problem with the interpretation of the correlations between vote buying and access to health services is whether each is impacted independently by another set of variables such that there is little direct connection between the politics of clientelism and poor delivery of services. We argue that these concerns are attenuated by the wide array of results reported above which control for several variables—poverty, population, barangay location, household social capital, other indicators of municipal political competition that could, potentially, be independently correlated with both vote buying and health services.

Additional results are available using household-level data to support the main results of the paper. Surveyed household respondents—who are young mothers—reported whether they received folic acid and iron supplements during pregnancy, and whether their children received iron supplements. In contrast to these supplements, whose supply can depend on actions of other politicians outside the municipality, the household survey also provides respondent-reported information on access to birthing assistance, a key health service provided by municipal health personnel (midwives and barangay health workers). Nutritional supplements are, however, also distributed by municipal health personnel, and are typically affordable within municipal budgets (as is evidenced by their showing-up as some of the village health projects financed by the municipal government).

The distribution of nutritional supplements might be compatible with or complementary to clientelist political strategies, as in the findings of Nichter (2011) in Brazil, and therefore not exhibit a negative association with vote buying.<sup>29</sup> Furthermore, household-level access to birthing assistance might also be potentially subject to clientelist targeting, with assistance provided conditional upon political support. Nichter (2011) suggests that in Brazil access to female sterilization, and generally to receiving attention from public health providers, can be subject to political manipulation rather than being broadly delivered. Could household-level measures of access to health services show a different association with vote buying than the measures obtained from government-records, and emphasized as the main results of the paper? Additionally, does access to birthing assistance exhibit a different or more robust correlation with vote buying than access to nutrition supplements, which might be relatively more amenable to clientelist targeting, and to influence from higher tier politicians?

To address these questions, we estimate the following specification with household data:

 $HouseholdAccess_{ijkl} = \delta_0 + \delta_1 VoteBuying_{jkl} + X_{ijkl} B \delta_{h_{\square}} + W_{jkl} \delta_b + Z_{kl} \delta_m + \theta_l + \omega_{ijkl}$ (4)

The dependent variables for access to health services reported by household i, living in barangay j, of municipality k, in congressional district l, consists in turn of the percentage of pregnancies for which the respondent reports receiving assistance from a trained municipal

<sup>&</sup>lt;sup>29</sup> On the other hand, political strategies that provide clientelist benefits in between elections might be traded-off against vote buying at the time of elections.

health worker; the percentage for which different pre-natal supplements were received (folic acid, iron); and the percentage of children below 6 in the household that have received iron supplements.

The vector  $X_{ijk}$  contains a host of household characteristics that are likely relevant both for household demand and ability to access health services, and be targets for vote-buying. These are: household size, number of children, duration of residence in the municipality, age, education, proxy measures of income and poverty (whether receiving remittances, whether experienced hunger, ownership of durable assets), access to mass media, social capital and political connectivity (holding of political or public office, membership in groups, and participation in local collective action, or *bayanihan*). The vector  $W_{jkl}$  contains the barangay characteristics from equation (2), and the vector  $Z_{jk}$  contains the municipal characteristics from equation (3).<sup>30</sup>

Table 4 shows that while municipal vote buying is robustly negatively correlated with reported access to birthing assistance from trained public health personnel (who are exclusively managed by municipal governments), its correlation with access to nutritional supplements is somewhat less so. Although the coefficient on vote buying is typically negative for most nutrition supplements, it can be positive in the case of iron supplements for young children (although not statistically significant). The indicator for mayoral economic power is also negatively associated with access to birthing assistance and to the receipt of prenatal iron supplements.

Several measures of household political connections and social capital are significantly associated with the receipt of iron supplements for young children. This is suggestive evidence that the distribution of supplements can be targeted for clientelist purposes. It might also explain, then, why, for this particular variable, the sign of the coefficient on vote buying is positive.

The pattern of evidence of the correlation of vote buying with household reported access to health services is therefore consistent with the most robust results being obtained for those health services that are exclusively within municipal control (birthing assistance provided by municipal health personnel), and less so for those services that are likely to be more amenable to clientelist targeting and to influence from higher tier politicians.

Finally, the correlation of vote buying is estimated with other types of services that are not as well within municipal control, and that are not as pro-poor, or broadly delivered and untargeted, as municipal health investments. Roads and other infrastructure construction projects in the Philippines, and elsewhere in environments of weak institutions, have been described as particularly amenable to political rent-seeking, or elite capture of benefits from public spending (Cruz and Matsuda, 2012; Keefer and Knack, 2007; Khemani, 2012). Table 5 reports the results for substituting village roads projects that village informants report as being funded by the mayor, on the left-hand side in equation (2); and for substituting the share of municipal spending

<sup>&</sup>lt;sup>30</sup> The specification, and measure of vote buying, is selected to be similar to the main results reported in the previous tables, to enable direct comparison of the consistency in results across the different sources of measuring health service delivery. For this reason, other possible estimation strategies with household data, such as multi-level hierarchical modeling, is not employed.

in the "other" category, which contains most construction projects in the local development fund, on the left hand side of equation (3). Vote buying tends to be positively correlated with mayoral roads projects in the sampled villages, though not always statistically significant. The point estimate on vote buying in the case of municipal project spending is also positive, though not statistically significant.

These results for roads projects are far from conclusive, not least because it is particularly difficult to measure when a construction project delivers a broad public good versus serving as a vehicle for rent extraction. Furthermore, the current format of the statement of income and expenditures to report local fiscal allocations is not conducive to precisely isolating spending on construction. If vote buying is enabling politicians to get-away with capturing rents from public office, or skewing public resources towards services that the elite prefer, uncovering this evidence is much harder because it is difficult to measure when public resources are being thus captured. Furthermore, such types of capture may be spread-out and hidden across multiple instruments precisely to escape detection. That is, there are reasons why uncovering an equilibrium correlation of vote buying with a broad pro-poor public service, that is exclusively and prominently within municipal control, would be empirically feasible, while uncovering the correlation with rents capture would be far more challenging. Nevertheless, these additional results help to defend the main correlation of vote buying with health services against charges of spurious correlation.

Another paper examines variation across these Philippine municipalities in the delivery of targeted assistance to households in times of need (Khemani, 2013). This policy instrument is distinguished from municipal health services in two ways—higher-tier politicians are heavily involved in delivering assistance, and, such assistance has been described as a classic tool for clientelist targeting (Weitz-Shapiro, 2012). In this case too, as in roads, vote buying tends to be positively associated with receiving assistance in times of need (reported in Khemani, 2013).

That is, vote buying is systematically negatively correlated with a particular type of service with the following characteristics—that which is the exclusive responsibility of municipal governments, that which is pro-poor (services which the rich don't use), and that which is a relatively broad, untargeted service, not particularly amenable to narrow targeting to select citizens. The correlation holds for a wide variety of measures of health services, obtained from three different sources: village health records, municipal budgets, and household interviews.

#### 6. Discussion: Implications for theory and development policy

Although theories of clientelism and vote buying have generally suggested that the practice of targeting benefits to voters in direct exchange for political support is likely to have pernicious consequences, there has been little detailed analysis of the mechanisms for this. Indeed, in the context of the Philippines, Schaffer (2005) has suggested that vote buying might be reflective of the responsiveness of politicians to poor and vulnerable citizens in particular. Vote buying need not be manipulative, but rather a reflection of how demanding are voters, to which governments may respond along multiple dimensions, giving gifts at election time, and all kinds of services at other times. This paper's contribution is empirical—providing the first robust evidence that vote buying is associated with lower investments in a particular type of public

policy—that which is geared to providing broad, untargeted benefits from which the poor can benefit disproportionately.

One mechanism through which low levels of broadly untargeted, pro-poor services might be an equilibrium policy consequence of vote buying has been examined by Baland and Robinson (2008). Vote buying can be used to maintain political support for right-wing parties that presumably implement policies that protect the interests of the elite or the rich. Right-wing parties could be associated with lowering investments in broad pro-poor policies, and increasing resource allocation to those policies whose benefits accrue to the elite. A similar mechanism has been proffered by Brusco, Nazareno and Stokes (2004): even in the presence of secret ballots some party organizations might sustain vote buying, and elite capture of public policies, by effectively denying benefits to those that don't support the party. Voters who refuse to sell their votes when approached by the party, or renege on their promise, face a high probability of not receiving any benefits from public programs. Stokes (2007) discusses other mechanisms that also circumvent secret ballots but do not necessarily arise out of coercive power over voters. Norms of reciprocity or high discounting of future rewards (from better public services) can persuade poor citizens to sell their vote, while allowing parties or politicians to capture public policies for narrow and elite interests, or to get away with poor performance in office.

Underlying these mechanisms is a direct trade-off in selection of political strategies between vote buying at election times, and provision of targeted, clientelist benefits at offelection times, versus the provision of broadly untargeted, pro-poor services (Stokes, 2007). Organizing voters is costly (Dixit and Londregan, 1996). Analogous to existing organizations of voters in patron-client relations, social or political networks in some places may render vote buying an effective electoral strategy, which then inhibits political investment in communicating with voters at large to build reputation or credibility for broad public services (Keefer and Vlaicu, 2008). High rents from holding office in societies with weak institutions may encourage the development of political strategies that focus on inefficient redistribution—providing particularistic benefits while simultaneously reducing broad public services, so that rewards can be targeted to supporters and withheld from detractors (Robinson and Verdier, 2003).

Presence of rents from office, and norms of reciprocity or social networks that make vote buying effective, may together encourage the emergence of low quality political contenders that invest in building political support on the basis of vote buying, so that once in power they can get away with low performance and extracting high rents from public office. This argument has not been formally made in the clientelism or vote buying literature, but is linked to other work on how outside options and benefits from holding office influences the pool of candidates and the effort exerted upon winning office (Caselli and Morelli, 2004; Messner and Polborn, 2004; Ferraz and Finan, 2008).

The question for policy is whether institutions could be designed to overcome the problems of clientelist political competition. In recognition of problems of government failures, international development strategies have ramped-up efforts towards transparency and accountability policy interventions. However, these efforts are not sufficiently informed by the underlying political constraints that explain government failures, and evidence of impact in overcoming such failures is thin (see Devarajan et al, 2011, for a review). Two classes of accountability policies are worth re-visiting in light of the evidence provided here: how to use

information campaigns, and transparency initiatives more generally; and, how to use performance incentives from higher to lower tiers of government (or from donors to recipients in general).<sup>31</sup>

If politicians can get away with poor service delivery performance because of vote buying strategies, how might information and transparency initiatives overcome this problem? Voter education campaigns to reduce demand among citizens for selling their vote can be fraught with problems. In the specific context of the Philippines, Schaffer (2005) presents evidence that such campaigns offend target groups who are convinced of the legitimacy of receiving benefits from politicians, as a mark of political responsiveness, and their right to reward this, should they choose to, with their vote. As a result, Schaffer argues, such campaigns are ineffective both in changing voter behaviors, and in addressing political incentives to improve service delivery. Second, demand-side interventions directly targeting vote selling behavior could be particularly constrained in having impact when votes are purchased through coercive power.<sup>32</sup>

Other evidence of the impact of differently-styled information campaigns from a diverse range of countries, however, suggests that these can be effective in increasing voter turnout, vote shares of better performing politicians, and in reducing instances of vote buying (Aker et al, 2011; Banerjee et al, 2011; Ferraz and Finan, 2008; Fujiwara and Wantchekon, 2012; Pande, 2009, provides a review). However these studies are not designed to be able to measure impact on subsequent incentives of politicians to, in fact, improve service delivery. Open questions remain on whether the estimated shifts on the demand-side of voting behavior would be sufficient to generate a supply-side response in terms of stronger political incentives to improve service delivery, or of better quality candidates that improve the platforms of political competition. Humphreys and Weinstein (2011), for example, find no impact on politician behavior in Uganda. Bobnis and Fuertes (2009) show how politicians can anticipate voter information, and simply change the timing of rent-seeking.

Furthermore, in contrast to hot-button issues such as corruption, broad social services such as health and education may particularly suffer from clientelist political competition, and quietly,<sup>33</sup> because the poor may have lower demand for these services, in contrast to private targeted transfers. There is a large literature examining how and why poor households would be likely to under-invest in and under-demand health and education (Banerjee and Duflo, 2011), which can spill-over to their expectations from governments or politicians.<sup>34</sup>A growing body of research shows that when it comes to services in health and education people can use information to change their private behaviors but not their demands and expectations from

<sup>&</sup>lt;sup>31</sup> Schaffer (2007) also discusses the role of law enforcement policies to crack-down upon and punish politicians who engage in vote buying, providing examples of successful cases from Taiwan, China.

<sup>&</sup>lt;sup>32</sup> Although, Collier and Vicente (2008) find that an NGO in Nigeria was able to design and implement a campaign to impact the use of violence as an electoral strategy.

<sup>&</sup>lt;sup>33</sup> The World Bank's Africa Development Indicators 2010 described the failures in pro-poor public service delivery as "quiet corruption", not making news headlines as bribery or theft scandals do.

<sup>&</sup>lt;sup>34</sup> In the Philippines survey studied here, for example, respondents appear constrained in evaluating municipal performance in delivering health services: their ranking of health services is not correlated with more objective indicators of access to services. There are several instances (about 19 percent of respondents) where a household ranks municipal performance in delivering health services very high, while responding on a separate question about their perceptions of child health outcomes that more than half the children in the municipality are likely to be severely malnourished.

government (Keefer and Khemani, 2011, 2012; Banerjee et al, 2007; Deverajan et al, 2011 provide a review). There are large knowledge gaps in how information about government performance in delivering health and education services might be packaged and disseminated to nudge voters to shift their expectations, and demand more from government. Simultaneously, there are gaps in understanding how such nudges to voters, on the demand-side of political accountability, might enable better quality, service-oriented candidates to emerge on the supply-side. This is a large area for future research on policy-relevant accountability initiatives.

Together with another recent study (Fujiwara, 2011), this paper's evidence suggests that effective enfranchisement of the poor matters for pro-poor policies. Fujiwara (2012) examines the impact on primary health services of a different (though related) political institution— electronic voting technology that facilitates the participation of those that have limited literacy— that was introduced in Brazil in the 1990s. He finds that this leads to greater enfranchisement of the poor and uneducated, greater public spending on health, greater access to prenatal services, and reduced prevalence of low-weight births in this group. Such types of advancements in voting technology could also have implications for the efficacy of vote buying as a political strategy (although Fujiwara's work in Brazil is not in a position to explore this).<sup>35</sup>

The other area of accountability policy that is relevant here is that of performance incentives that higher tier governments, or donors, could provide to lower tier agents, such as local governments, or to recipients of aid. Although an older macroeconomic literature had argued that aid "conditionality" is not sufficiently effective in getting countries to do the things that donors want them to, there has been a resurgence of interest in performance-conditioned aid (Birdsall and Savedoff, 2009). The World Bank, for example, is moving towards a new lending instrument called Program for Results which specifically involves disbursing money on the basis of certain, negotiated, performance indicators being achieved.<sup>36</sup> Within-country decentralization policies are similarly exhibiting a renewal of interest in performance based inter-governmental grants. Examining the impact of performance based block grants to village governments in Indonesia, Olken et al (2012) find that the incentive component alone, arguably more than the money, was highly cost-effective in getting villages to improve services. Interestingly, the impact was all on health services, leading to a shift in village spending from education to health and increasing the labor supplied by mid-wives in providing maternal and child health services. Such performance grants may also be a way to address the constraints of clientelist political competition at local levels.

#### 7. Conclusion

This paper provides the first direct evidence in the literature on the equilibrium policy consequences of the politics of vote buying. It establishes a robust correlation between vote

<sup>&</sup>lt;sup>35</sup> The direction of impact could, however, go in the opposite way than reducing vote buying and thereby improving the delivery of broad services. Nichter (2010) suggests an intriguing mechanism by which electronic voting reforms in Brazil might have enabled political operatives to enforce the vote buying contract. Under the new system, the polling machine displays a photo of the candidate after a voter has voted for him/her. Political operatives can ask voters to describe the apparel worn by the candidate for whom they voted. If they cannot describe it correctly, then operatives can infer lack of compliance with the vote buying contract.

<sup>&</sup>lt;sup>36</sup>http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/EXTRESLENDING/0,,contentMDK:22748955~pag ePK:7321740~piPK:7514729~theSitePK:7514726,00.html

buying and under-investment in a broad, untargeted public service which is particularly valuable for the poor: public health. It provides supporting arguments to interpret this correlation as arising from underlying conditions of clientelist political competition which generates weak incentives to provide broad, pro-poor public services. This evidence has implications for the design of various policy tools of transparency and accountability that are currently in vogue in international development programs.

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Table 1: What Explains Variation in Reported Vote buying?							
( <i>Robust std. errors in parentheses;</i> *** <i>p</i> <0.01, ** <i>p</i> <0.05, * <i>p</i> <0.10)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Mayor's family reported as major employer or landowner	-0.184 <sup>***</sup> (0.055)	-0.107 <sup>**</sup> (0.049)	-0.124 <sup>**</sup> (0.06)	-0.114 <sup>**</sup> (0.05)	-0.08 (0.055)	-0.09 (0.06)	-0.09 (0.06)
Indicator variable = 1 if no clan dominates municipal politics		-0.092 <sup>*</sup> (0.05)	-0.114 <sup>**</sup> (0.05)	-0.007 (0.165)	-0.004 (0.219)	0.02 (0.22)	0.02 (0.23)
Average margin of victory (in 2007, as proportion of total votes)			-0.271 <sup>***</sup> (0.104)				
Congressional District effect	ts (omitted 4 <sup>th</sup>	<sup>h</sup> district cha	racterized by	v most intense	e inter-clan r	ivalry):	
District 1		-0.02 (0.09)	0.013 (0.11)	-0.037 (0.101)	-0.047 (0.101)	-0.08 (0.10)	-0.08 (0.10)
District 2		-0.172 <sup>**</sup> (0.08)	-0.184 <sup>*</sup> (0.104)	-0.153 <sup>*</sup> (0.089)	-0.179 <sup>**</sup> (0.09)	-0.19 <sup>**</sup> (0.09)	-0.19 <sup>**</sup> (0.10)
District 3		-0.287 <sup>***</sup> (0.075)	-0.214 <sup>**</sup> (0.104)	-0.279*** (0.08)	-0.304 <sup>***</sup> (0.109)	-0.334*** (0.115)	-0.334*** (0.116)
Poverty estimate (at village level)				0.002 (0.003)	0.003 (0.003)	0.004 (0.003)	0.004 (0.004)
Poverty * Indicator for no clan domination				-0.003 (0.005)	-0.003 (0.005)	-0.004 (0.005)	-0.004 (0.006)
"Social Capital" (% of respondents reporting <i>bayanihan</i> activities)					0.206 (0.213)	0.191 (0.216)	0.191 (0.226)
Number of political affiliations of mayor					0.014 (0.042)	0.015 (0.041)	0.015 (0.044)
Population (log)					-0.018 (0.06)	-0.024 (0.063)	-0.023 (0.08)
Location (travel time to <i>centro</i> )					-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Indicator for village roads needing repair					-0.022 (0.087)	-0.028 (0.089)	-0.028 (0.09)
3 <sup>rd</sup> Term Incumbent						0.045 (0.068)	0.044 (0.068)
Municipal dependency on national revenue share							0.025 (0.55)
N, R-sq	60, 0.13	60. 0.334	50, 0.36	58, 0.345	58, 0.378	58, 0.383	58, 0.383

Table 2a: Correlation of Vote Buying with Village-level Measures of Health Services         (Robust standard errors in parentheses; ****p<0.01, **p<0.05, *p<0.10)						
	(1)	(2)	(3)	(4)	(5)	(6)
	% children	% children	Number of	Number of	Number of	Number of
	with below	with below	barangay	barangay	barangay	barangay
	normal	normal	health	health	health	health
	weight	weight	workers	workers	projects	projects
Bivariate specification, with	hout and with a	district fixed ef	fects:			
Vote Buying	0.065***	0.05*	-6.61***	-6.40***	-1.09**	-1.82***
	(0.03)	(0.03)	(1.38)	(1.57)	(0.51)	(0.52)
Multivariate specification:						
Vote Buying	$0.07^{**}$	$0.06^{**}$	-4.84***	-4.69**	-1.13**	-1.34**
	(0.03)	(0.03)	(1.77)	(1.86)	(0.56)	(0.62)
Mayor's family reported as	0.02	$0.024^{**}$	0.151	-0.13	0.03	0.07
major employer or landowner	(0.01)	(0.01)	(0.97)	(1.05)	(0.32)	(0.35)
Indicator variable = 1 if no	0.01	0.004	1.22	0.68	0.01	0.06
clan dominates municipal politics	(0.01)	(0.01)	(0.91)	(0.99)	(0.40)	(0.43)
Municipal dependency on	0.05	0.08	-13.04*	-11.4*	-0.06	-0.14
national revenue share	(0.08)	(0.08)	(7.4)	(6.98)	(2.13)	(2.11)
5	$0.001^{*}$	0.0005	0.02	-0.0004	-0.005	-0.0080
Barangay poverty estimate	(0.0004)	(0.0004)	(0.03)	(0.04)	(0.01)	(0.01)
Parangay population (log)	0.001	0.01	0.51	0.78	-0.44	-0.32
Barangay population (log)	(0.01)	(0.01)	(0.69)	(0.85)	(0.31)	(0.31)
Barangay location (travel	-0.0001	-0.0001	0.035***	0.039***	$0.013^{***}$	$0.013^{***}$
time to <i>centro</i> )	(0.0001)	(0.0001)	(0.013)	(0.013)	(0.005)	(0.005)
Barangay roads need	-0.001	0.008	1.06	1.54	0.16	0.12
repair	(0.01)	(0.009)	(1.08)	(1.24)	(0.28)	(0.33)
Barangay "social capital"	-0.015	0.0057	-0.923	-0.77	-0.83	-0.83
(% reporting <i>bayanihan</i> )	(0.033)	(0.03)	(2.35)	(2.7)	(0.95)	(0.94)
District FE	No	Yes	No	Yes	No	Yes
District 1		0.04***		1.33		-0.16
District 1		(0.01)		(1.31)		(0.52)
District ?		0.006		$2.12^{*}$		-0.13
		(0.02)		(1.31)		(0.41)
District 3		0.009		0.24		-0.60
		(0.02)		(1.8)		(0.49)
NDag	57	57	51	51	58	58
11, 11-54	0.282	0.405	0.428	0.478	0.303	0.321

Table 2b: Robustness of Village Health Service Results to Inclusion of Alternate Political Variables         (Robust standard errors in parentheses)						
	(1) % children with below normal birth weight	(2) % children with below normal birth weight	(3) Number of barangay health workers	(4) Number of barangay health workers	(5) Number of barangay health projects	(6) Number of barangay health projects
A: Including indicator fo	r incumbent m	ayor facing a te	rm limit			-
Indicator = 1 for 3 <sup>rd</sup> term mayor	$0.019^{*}$ (0.01)	0.01 (0.01)	-0.43 (0.82)	-0.44 (0.97)	-0.18 (0.29)	-0.05 (0.32)
Vote Buying (% respondents reporting it in bgy)	0.072 <sup>***</sup> (0.027)	0.06 <sup>**</sup> (0.03)	-4.93 <sup>***</sup> (1.81)	-4.69 <sup>**</sup> (1.90)	-1.14 <sup>**</sup> (0.58)	-1.33 <sup>***</sup> (0.62)
B: Including average num elections)	mber of candid	ates contesting i	in municipal el	ections (1998,	2004, and 20	007
Average Number of Candidates	0.003 (0.009)	0.01 (0.01)	-1.28 <sup>*</sup> (0.67)	-1.96 <sup>***</sup> (0.75)	0.51 <sup>*</sup> (0.29)	0.49 <sup>*</sup> (0.32)
Vote Buying (% respondents reporting it in bgy)	0.07 <sup>**</sup> (0.03)	0.06 <sup>**</sup> (0.03)	-4.16 <sup>***</sup> (1.62)	-3.91 <sup>**</sup> (1.79)	-1.25 <sup>**</sup> (0.52)	-1.39 <sup>**</sup> (0.59)
C: Including number of p	politicians with	whom mayor re	ports political	affiliation		
Number of politicians affiliated with mayor	0.003 (0.006)	0.004 (0.008)	0.11 (0.56)	0.66 (0.76)	-0.16 (0.21)	-0.10 (0.23)
Vote Buying (% respondents reporting it in bgy)	0.07 <sup>**</sup> (0.03)	0.06 <sup>**</sup> (0.03)	-4.83 <sup>***</sup> (1.80)	-4.99 <sup>***</sup> (1.96)	-1.15 <sup>*</sup> (0.61)	-1.31 <sup>**</sup> (0.61)
D: Including margin of v	ictory in 2007	municipal electi	ons (as proport	tion of total vo	tes)	
Average Margin of Victory	-0.02 (0.02)	-0.050 <sup>**</sup> (0.02)	-1.45 (2.18)	-0.57 (1.76)	$-1.12^{*}$ (0.68)	-1.53 <sup>**</sup> (0.75)
Vote Buying (% respondents reporting it in bgy)	0.057 (0.032)	0.046 (0.03)	-5.02 (2.05)	-3.50 (2.17)	-2.18 (0.65)	-2.29 (0.77)
District Fixed Effects	No	Yes	No	Yes	No	Yes
Each panel is a separate regression including all the variables in the multivariate specification listed in Table 2a, plus each additional political variable listed in the panel						

Table 3a: Correlation of Vote buying with Municipal Health Expenditures         (Robust std. errors in parentheses)								
	(1) Share of health in 2008 total spending	(2) Share of health in 2008 total spending	(3) Average share of health in total spending (2007- 2008)	(4) Average share of health in total spending (2007- 2008)				
Bivariate specification, without and with district fixed effects:								
Vote Buying	-0.035 <sup>**</sup>	-0.046 <sup>**</sup>	-0.03 <sup>*</sup>	-0.043 <sup>**</sup>				
	(0.01)	(0.02)	(0.02)	(0.02)				
Multivariate specification:								
Vote Buying	-0.047 <sup>***</sup>	-0.054 <sup>*</sup>	-0.045 <sup>**</sup>	-0.05 <sup>*</sup>				
	(0.02)	(0.027)	(0.02)	(0.03)				
Mayor's family reported as major employer or landowner	-0.01	-0.01	-0.015	-0.01				
	(0.02)	(0.015)	(0.014)	(0.01)				
Indicator variable = 1 if no clan	-0.006	-0.007	-0.008	0.007				
dominates municipal politics	(0.01)	(0.01)	(0.009)	(0.01)				
Municipal dependency on national revenue share	-0.09	-0.09	-0.13	-0.13				
	(0.09)	(0.09)	(0.085)	(0.09)				
Municipal poverty estimate	0.00047	0.00045	0.0007 <sup>**</sup>	0.00066 <sup>*</sup>				
	(0.0004)	(0.0004)	(0.0003)	(0.0004)				
Municipal population (log)	-0.009	-0.0085	-0.015 <sup>*</sup>	-0.014				
	(0.01)	(0.008)	(0.008)	(0.01)				
District Fixed Effects:	No	Yes	No	Yes				
District 1		-0.0015 (0.015)		0.005 (0.01)				
District 2		-0.0057 (0.02)		-0.003 (0.02)				
District 3		-0.008 (0.02)		-0.004 (0.02)				
N, R-sq	30	30	30	30				
	0.197	0.204	0.269	0.2824				

Table 3b: Robustness of municip	al health expe	nditures results	s to the inclusio	n of alternate					
political variables									
(Rob	(Robust std. errors in parentheses)								
	(1)	(2)	(3)	(3)					
	Share of	Share of	Avg. Share	Avg. Share					
	health in	health in	of health in	of health in					
	2008 total	2008 total	2007-2008	2007-2008					
	spending	spending	spending	spending					
A: Including indicator for incumbent mayor facing a term limit									
	-0.013	-0.016	-0.019*	-0.027***					
Indicator = 1 for $3^{rd}$ term mayor	(0.01)	(0.014)	(0.01)	(0.012)					
Vote Buying	-0.047**	-0.05*	-0.045**	-0.046*					
(% respondents reporting it in	(0.021)	(0.027)	(0.022)	(0.028)					
municipality)									
B: Including average number of ca 2007 elections)	indidates conte	esting in munici	pal elections (1	998, 2004, and					
	-0.0004	-0.001	-0.001	-0.0004					
Average number of candidates	(0.0145)	(0.02)	(0.013)	(0.015)					
Vote Buying	-0.037***	-0.048*	-0.045**	-0.051*					
(% respondents reporting it in municipality)	(0.013)	(0.024)	(0.012)	(0.029)					
C:Including number of politicians	with whom mo	iyor reports poli	itical affiliation						
Number of politicians affiliated	-0.005	-0.006	-0.004	-0.006					
with mayor	(0.004)	(0.005)	(0.004)	(0.005)					
Vote Buying	-0.04***	-0.04*	-0.044**	-0.047*					
(% respondents reporting it in municipality)	(0.014)	(0.025)	(0.02)	(0.03)					
D: Including margin of victory in 2007 municipal elections (as proportion of total votes)									
	-0.03*	-0.04*	-0.024	-0.036					
Average margin of victory	(0.02)	(0.03)	(0.02)	(0.03)					
Vote Buying	-0.056***	-0.07*	-0.051**	-0.067*					
(% respondents reporting it in municipality)	(0.02)	(0.04)	(0.02)	(0.03)					
District Fixed Effects	No	Yes	No	Yes					
Each panel is a separate regression including all the variables listed in Table 3a, plus each additional political variable listed in the panel									

Table 4: Correlation of Vote Buying with Household Reported Access to Health Services						
(Бағалда	(1) Births with Trained Assistance	(2) Received Prenatal Folic Acid	(3) Received Prenatal Iron	(4) Children Receiving Iron		
Vote Buying (% respondents reporting it in bgy)	-0.35**** (0.12)	-0.01 (0.10)	-0.20 <sup>*</sup> (0.10)	0.02 (0.09)		
Mayor's family reported as major	-0.12 <sup>***</sup>	-0.06	-0.15 <sup>***</sup>	0.03		
employer or landowner	(0.04)	(0.05)	(0.04)	(0.04)		
Indicator variable = 1 if no clan	-0.15 <sup>***</sup>	0.11 <sup>****</sup>	0.04	0.03		
dominates municipal politics	(0.06)	(0.04)	(0.05)	(0.04)		
Municipal dependency on national revenue share	0.30	0.32	0.58 <sup>*</sup>	-0.05		
	(0.35)	(0.34)	(0.33)	(0.29)		
Barangay poverty estimate	-0.004 <sup>**</sup>	-0.0002	0.004 <sup>**</sup>	0.001		
	(0.002)	(0.002)	(0.002)	(0.002)		
Barangay location (travel time to <i>centro</i> )	-0.003 <sup>***</sup>	-0.0001	-0.002 <sup>**</sup>	-0.001		
	(0.001)	(0.001)	(0.001)	(0.001)		
Barangay roads need repair	-0.07	-0.11 <sup>**</sup>	-0.08	-0.08 <sup>*</sup>		
	(0.05)	(0.06)	(0.06)	(0.04)		
Family member holds public office	0.05	-0.02	-0.13	0.07 <sup>*</sup>		
	(0.05)	(0.05)	(0.05)	(0.04)		
Membership in community assoc.	-0.05	-0.05	0.08 <sup>*</sup>	0.09 <sup>**</sup>		
	(0.04)	(0.05)	(0.05)	(0.04)		
HH participates in bayanihan	0.11 <sup>***</sup>	0.05	0.04	$0.07^{**}$		
	(0.03)	(0.04)	(0.03)	(0.03)		
District FE: District1	-0.10	-0.04	0.02	-0.10		
	(0.07)	(0.06)	(0.07)	(0.08)		
District 2	-0.10	0.03	0.11 <sup>**</sup>	0.10 <sup>*</sup>		
	(0.07)	(0.06)	(0.05)	(0.06)		
District 3	$-0.15^{*}$	0.14 <sup>**</sup>	0.09 <sup>*</sup>	0.08		
	(0.08)	(0.06)	(0.06)	(0.0)		
N, R-sq	1159	1159	1159	1159		
	0.13	0.08	0.07	0.095		

Baseline control variables include: household size, number of children, length of time residing in the area; age and education of respondent and household head; remittances; whether the family experienced hunger in the last 3 months; whether the family owns a TV, cell phone, washer, and stove; whether the household has electricity; frequency of listening to the radio and watching TV, village population

Table 5: Correlation of Vote Buying with Village Roads Projects,         and Municipal Project Spending								
(Robust standard errors in parentheses)								
	(1) Number of roads projects funded by mayor	(2) Number of roads projects funded by mayor	(3) Share of projects in 2008 total spending	(4) Share of projects in 2008 total spending				
Bivariate specification, without and with district fixed effects:								
Vote Buying	$0.58^{*}$	0.54	0.10	0.09				
(% respondents reporting that	(0.31)	(0.38)	(0.10)	(0.11)				
they know of vote buying)								
Multivariate specification:			·					
Vote Buying	0.65	$0.90^{*}$	0.065	0.09				
(% respondents reporting it in	(0.51)	(0.53)	(0.09)	(0.11)				
bgy)								
Mayor's family reported as	-0.15	-0.23	0.03	0.03				
major employer or landowner	(0.20)	(0.23)	(0.045)	(0.05)				
Indicator variable = $1$ if no clan	-0.30	-0.35	-0.08**	-0.06*				
dominates municipal politics	(0.30)	(0.33)	(0.03)	(0.04)				
Municipal dependency on	-0.04	0.03	0.35	0.37				
national revenue share	(1.5)	(1.5)	(0.23)	(0.25)				
Barangay/Municipality	-0.013**	-0.02**	0.0002	0.0002				
poverty estimate	(0.006)	(0.01)	(0.002)	(0.002)				
Barangay/Municipal	-0.20	-0.21	-0.03	-0.03				
population (log)	(0.18)	(0.22)	(0.03)	(0.03)				
Barangay location (travel time	$0.01^{***}$	0.01***						
to <i>centro</i> )	(0.0025)	(0.002)						
Barangay roads nood rangir	0.003	0.12						
Barangay roads need repair	(0.21)	(0.25)						
Barangay "social capital" (%	-0.04	-0.09						
reporting bayanihan)	(0.66)	(0.71)						
District FE	No	Yes	No	Yes				
District 1		0.26		0.07				
District 1		(0.36)		(0.06)				
District 2		0.47		0.04				
		(0.33)		(0.06)				
District 3		0.29		0.08				
		(0.31)		(0.07)				
N D og	58	58	30	30				
IN, K-SQ	0.23	0.27	0.35	0.41				