

# Appendix

## Game Theoretic Model with Proofs

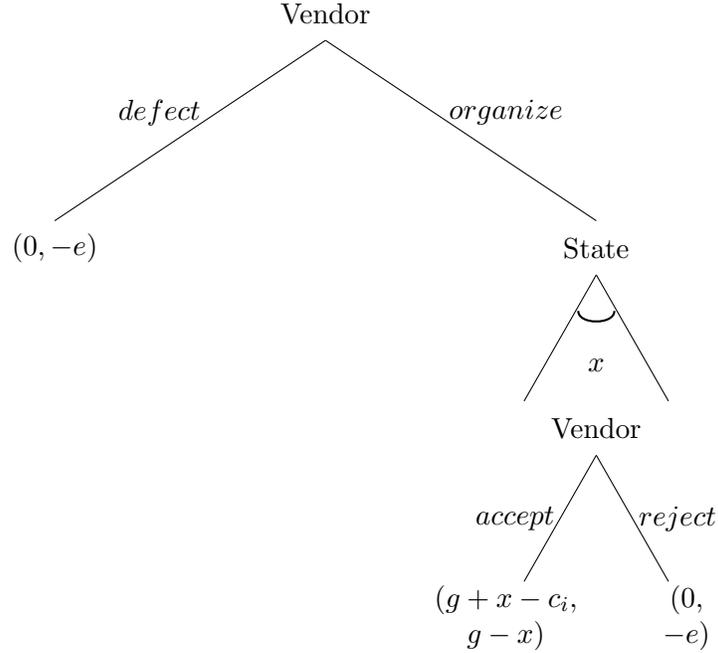
### Set-up, players, and moves

In this finite and complete information game,  $n$  street vendors decide whether or not to organize and bargain with the state. The vendors move first by playing a public goods game where the moves are organize or defect. The vendors need  $k$  organizers to provide the public good,  $g > 0$ , and all organizers pay a private cost  $c_i > 0$ . Every vendor that defects generates a negative externality,  $-e < 0$ , for the state. Any organized vendors move to a bargaining stage, where the state makes some offer  $x$ , where  $0 \leq x \leq 1$ . Finally, the organized vendors accept or reject the offer. If the organized vendors accept the offer and there are at least  $k$  of them, each organized vendor receives  $g + x - c_i$  and unorganized vendors receive  $g$ , while the state receives  $g - xm - e(n - m)$ , where  $m$  is the number of organized vendors. If the vendors do not meet the  $k$  threshold but still accept the deal, each organized vendor receives  $x - c_i$  and unorganized vendors receive 0, while the state receives  $-xm - e(n - m)$ . If the vendors reject the deal, all vendors receive a status quo payoff of 0, while the state receives  $-en$ .

Table 1: Model Notation

$v_i$	a given vendor; vendor $i$ .
$s$	the state.
$x$	the state's offer, where $0 \leq x \leq 1$ .
$n$	total number of vendors.
$k$	the number of vendors needed to provide the public good, where $0 < k \leq n$ .
$m$	the number of vendors that organize.
$g$	the public good that each organized vendor generates, where $0 \leq g \leq 1$ .
$e$	the state's cost of enforcement where $0 \leq e \leq 1$ .
$c_i$	the cost of organizing to vendor $i$ , where $0 \leq c_i \leq 1$ .

Figure 1: Stylized representation of the game, where  $n = 1$ .



The vendors face two choices: Organize or defect, and then accept or reject the state's offer. The state makes one choice: how much  $x$  to offer.

### Equilibrium Analysis

The game has a unique pure strategy subgame perfect equilibrium, meaning that for a given set of parameter values, all actors choose the same strategy set in equilibrium.

**Proposition 1:** The strategy profiles below constitute the subgame perfect equilibrium:

$$\text{Vendor}_i : \begin{cases} \text{organize, accept when } c_i \leq x \text{ and } m \neq k \\ \text{organize, accept when } c_i \leq x + g \text{ and } m = k \\ \text{defect, reject otherwise} \end{cases}$$

$$\text{State: } \begin{cases} \text{offer } x^* = c_m \text{ when } e > c_m \text{ and } m \neq k \\ \text{offer } x^* = c_m - g \text{ when } e > c_m - g \text{ and } m = k \\ \text{offer } x^* = 0 \text{ otherwise} \end{cases}$$

### Proof

A subgame perfect equilibrium is a set of strategies that represents a Nash equilibrium of every subgame in the model. In other words, a set of strategies constitutes a subgame perfect equilibrium if no player has an incentive to change their strategy at any point in the game. In the final stage of the game, organized vendors decide to accept or reject. In doing so, a given vendor  $i$  compares  $g + x - c_i > g$  if  $m > k$ . Solving for  $c_i$ , a given vendor  $i$  will accept when  $c_i \leq x$  and reject otherwise. If  $m < k$ , a given vendor  $i$  compares  $x - c_i > 0$  and will

accept when  $c_i \leq x$  and reject otherwise. In the special case where  $m = k$ , a given vendor  $i$  compares  $g + x - ci > 0$  will accept when  $c_i \leq g + x$  and reject otherwise. No vendor has an incentive to deviate from this strategy: Accepting when costs are higher than the benefit requires the vendor to accept an avoidable loss, and rejecting when benefits are more than costs requires the vendor to forgo a sure gain.

At the second node, the state chooses an offer  $x^*$ . In making its choice, the state compares its payoff for an accepted offer to a rejected one, and makes a positive offer if  $g - xm > -em$  which can be rewritten as  $x < e + \frac{g}{m}$ . When making a positive offer, the state sets  $x$  at the highest organized vendor's reservation value, which is  $c_m$  (and in the special case where  $m = k$ ,  $c_m - g$ ). The state has no incentive to set  $x$  higher because the previous step demonstrated that vendor  $i$  will accept any offer at  $c_i = x$  or above, thus setting  $x$  above the highest reservation value lowers the state's payoff (note that the vendor with the highest cost is vendor  $m$ , so if the state sets  $x$  at her cost,  $x$  is above the reservation values for all other vendors). Likewise, the state has no incentive to set  $x$  lower than  $c_m$  because lowering  $x$  even slightly below vendor  $m$ 's reservation value triggers vendor  $m$ 's rejection, saving the state  $x$  but adding  $-e$  to the state's payoff.

At the first node, vendors decide to organize or defect. Vendors know the parameter values and payoffs of other players. Therefore, they can anticipate the value of  $x$  and base their organizing decisions on it. Vendor  $i$  organizes where  $x > c_i$  (or in the special case where  $m = k$ ,  $x > c_i - g$ ) and defects otherwise. Vendor  $i$  has no incentive to deviate from this strategy: If she organizes where  $x < c_i$ , she receives a negative payoff when she could choose to lose nothing. If she defects when  $x > c_i$  and at least  $k$  other vendors organize, she receives  $g$  and saves  $c_i$ , but forgoes a larger  $x$ .

The equilibrium strategies lead to several different equilibrium outcomes, depending on the values of the parameters.

**Proposition 1a:** Under the conditions  $e < c_m$  and  $c_k < g$ , the strategy profile below constitutes the unique subgame perfect equilibrium:

Vendor $_i$  :  $\left\{ \begin{array}{l} \text{defect, reject} \end{array} \right.$

State:  $\left\{ \begin{array}{l} \text{offer } x^* = 0 \end{array} \right.$

Where  $e < c_m$  and  $c_k < g$ , resulting in  $m < k$  and  $x^* = 0$ , no vendors organize and the state does not intervene. A given vendor  $i$  in the final node of the game compares  $-c_i$  to 0 and opts to reject. The vendor has no reason to deviate because accepting an offer of 0 and no public good incurs a negative payoff instead of rejecting and taking 0. At the second node, the state offers  $x^* = 0$ . The state has no incentive to make a higher offer because setting  $x$  at vendor  $m$ 's reservation point costs more than accepting the externality  $e$ . At the first node, vendor  $i$  chooses not to organize because her participation will not generate  $g$  and the state will not offer the  $x^* = c_i$  that would change her calculation.

**Proposition 1b:** Under the conditions  $e < c_k$  and  $c_k \leq g$ , the strategy profile below constitutes the unique subgame perfect equilibrium:

$$\text{Vendor}_i : \begin{cases} \text{organize, accept when } c_i \leq x + g \text{ and } m = k \\ \text{defect, reject otherwise} \end{cases}$$

$$\text{State: } \begin{cases} \text{offer } x^* = 0 \end{cases}$$

Where  $e < c_k$  and  $c_k \leq g$ , resulting in  $m = k$  and  $x^* = 0$ , exactly  $k$  vendors organize and the state does not intervene. In this case, we look at vendor  $k$ 's decisions because she is the pivotal vendor whose actions decide if the public good is provided or not. At the final node, vendor  $k$  accepts the offer  $x^* = 0$  because  $g + 0 - c_k > 0$  or  $g > 0$ . At the second node, the state sets  $x^* = 0$  because  $g$  provides enough of an incentive to the organized vendors to accept in order to keep  $g$ . The state has no incentive to increase  $x^*$  above  $c_k$  and attract additional vendors because  $e < c_k$ . At the initial node, vendor  $k$  organizes because  $g - c_k > 0$ ; deviating from this strategy would require her to forgo this gain in favor of 0.

**Proposition 1c:** Under the conditions  $e > c_{m < k}$  and  $c_k \geq g$ , the strategy profile below constitutes the unique subgame perfect equilibrium:

$$\text{Vendor}_i : \begin{cases} \text{organize, accept when } c_i \leq x \\ \text{defect, reject otherwise} \end{cases}$$

$$\text{State: } \begin{cases} \text{offer } x^* = c_m \end{cases}$$

Where  $e > c_{m < k}$  and  $c_k \geq g$ , resulting in  $m < k$  and  $x^* = c_{m < k}$ , less than  $k$  vendors organize but only with state intervention. Vendor  $i < m$  accepts  $x^* = c_{m < k}$  in the final node because  $x^* - c_{i < m} > 0$ . She has no incentive to reject the offer and take 0 over a positive payoff. In the second node, the state sets  $x^* = c_{m < k}$  to incentivize vendors to organize in the absence of a public good, by offsetting their organizing costs. The state has no incentive to set  $x^* < c_{m < k}$  because lowering  $x^*$  below any vendor  $i < m$ 's reservation point adds an  $e$  to the state's payoff and in this case  $e > x^*$ . In the initial node, vendor  $i < m$  organizes because  $x^* - c_{i < m} > 0$ , even though vendor  $i < m$  anticipates that the public good will not be provided.

**Proposition 1d:** Under the conditions  $e = c_k$  and  $c_k \leq g$ , the strategy profile below constitutes the unique subgame perfect equilibrium:

$$\text{Vendor}_i : \begin{cases} \text{organize, accept when } c_i \leq x + g \\ \text{defect, reject otherwise} \end{cases}$$

$$\text{State: } \begin{cases} \text{offer } x^* = c_m - g \end{cases}$$

Where  $e = c_k$  and  $c_k \leq g$ , resulting in  $m = k$  and  $x^* = c_k - g$ , exactly  $k$  vendors organize and the state subsidizes them. In this case, we look at vendor  $k$ 's decisions because

she is the pivotal vendor whose actions decide if the public good is provided or not. At the final node, vendor  $k$  accepts the offer  $x^* = c_k - g$  because it is set at her reservation value (she compares payoffs  $g - c_k + c_k - g > 0$ ). At the second node, the state sets  $x^*$  at vendor  $k$ 's reservation value:  $x^* = c_k - g$ . The state has no incentive to increase  $x^*$  above  $c_k - g$  and attract additional vendors because  $e = c_k$ . At the initial node, vendor  $k$  organizes because  $g - c_k + c_k - g = 0$  and we assume that she organizes at her reservation value.

**Proposition 1e:** Under the condition  $e > c_{m=n}$ , the strategy profile below constitutes the unique subgame perfect equilibrium:

$$\text{Vendor}_i : \begin{cases} \text{organize, accept when } c_i \leq x \\ \text{defect, reject otherwise} \end{cases}$$

$$\text{State: } \begin{cases} \text{offer } x^* = c_m \end{cases}$$

Where  $e > c_{m=n}$ , resulting in  $x^* = c_{m=n}$  and  $m = n$ , everyone organizes. At the final node, the vendor with the highest costs (vendor  $m = n$ ) accepts the deal because it is set at her reservation value (she compares payoffs  $g - c_{m=n} + c_{m=n} > g$ ). All other vendors with lower costs accept and have no incentive to deviate and take 0 over a positive payoff. At the second node, the state sets  $x^*$  at vendor  $m = n$ 's reservation value:  $x^* = c_{m=n}$ . Because  $e > c_{m=n}$ , the state has no incentive to lower the offer and substitute  $x^*$  with a more expensive  $e$ . At the initial node, vendor  $m = n$  organizes because  $g - c_{m=n} + c_{m=n} > g$ , and we assume that she organizes at her reservation value.

### Discussion

Overall, equilibrium outcomes depend on the size of  $g$  relative to other parameters. If  $g$  is large relative to the  $k$ th vendor's costs, the state free rides when  $k$  people organize. The intuition behind this is that once organized, the vendors will not reject any offer because they do not want to lose  $g$ ; as a result the state offers 0. Consequently, the state may want to pay vendors more to always organize, but it cannot commit to changing that offer once vendors pass the  $k$  threshold. On the other hand, if  $g$  is small relative to the  $k$ th vendor's costs, the state makes a positive offer to all vendors and that offer is based on  $k$ 's costs. Once vendors organize, the state will make an offer that will keep everyone organized who has organizing costs that are lower than the externality they generate (there is some nonlinearity here if that number passes the  $k$  threshold, because then  $g$  offsets how much the state needs to offer when  $m = k$ ).

### Comparative Statics

The partial derivative of the state's cut point  $x'$  with respect to  $g$  is  $\frac{\partial x'}{\partial g} = \frac{1}{m} > 0$ . The partial derivative is positive because negative numbers of participants cannot exist. Therefore, the state's cut point is increasing in  $g$ . This means that as  $g$  increases, the state's indifference point for making a positive offer also increases; therefore, there is a larger range of parameter values for which the state will make a positive offer. Note that this is because the state and the vendors enjoy  $g$ ; therefore a larger  $g$  allows the state to spend more on  $x$ . Additionally,

where  $m = k$ , the state can discount its offer by  $g$ .

The partial derivative of vendor  $i$ 's reservation value  $x'$  with respect to  $c_i$  is  $\frac{\partial x'}{\partial c_i} = 1$ . As costs increase, a given vendor requires a higher offer to offset increasing costs and make organizing worth their while.

The partial derivative of the state's cut point  $x'$  with respect to  $e$  is  $\frac{\partial x'}{\partial e} = 1$ . Therefore, the state's cut point increases as the externality increases. This means that as the number of organized vendors  $m$  increases, the state's indifference point for making a positive offer increases and there is a larger range of parameter values for which the state will make a positive offer. In other words, as  $e$  increases, the state is willing to accept more values of  $x$  in order to avoid  $e$ .

### **Robustness Checks and Extensions**

How much do the model's results depend on individual modeling choices? The model produces equilibrium strategies and comparative statics that, as with any model, are a function of its assumptions. Many of these assumptions are critical and directly model the strategic interaction that the case illustrates: For example, linking unorganized vendors to the state's payoff with  $-e$  captures the negative externality and gives the state an incentive to intervene in the vendors' collective action decisions. Likewise, modeling the initial step as a group decision to contribute or not captures the dynamic that many vendors face when deciding to band together with vendors around them and found a union, as discussed in the case study. While the case study grounds many of the model's assumptions in empirical evidence, it also suggests a plethora of other factors that the model either simplifies or ignores. In this section, I discuss how relaxing assumptions or extending the model to include new features affects the results.

### **Robustness**

Here we examine two assumptions in more detail: Private versus public costs and the  $k$  threshold. For private costs, we will think through the change but not solve a new game, whereas we will walk through the  $k$  threshold example in more detail.

The model assumes that organizing costs are public information, meaning that all players know each others' costs. Empirically, this is not strictly the case. Vendors may have an idea of the free time, money, education, contacts, and past organizing experience that other vendors have, but they almost definitely do not have a complete picture of every potential organizer's situation. We can also think of situations or personalities that may want to misrepresent their costs. For example, someone who does not want to contribute may pretend to be busier than they are or pretend that they have less disposable income than they actually do. We can model private organizing costs by giving all vendors beliefs about what others' costs are. In a private information set up, each vendor knows their cost, and knows the distribution of other people's costs but not exactly what every individual has. This is much

more realistic: People are generally aware of their resources and have some idea of their colleagues' that allows them to estimate. We will not solve the model with private costs in this appendix because the result for  $n$ -person public goods games is well established and used as an example in many game theory textbooks (the example I am working off of is from McCarty and Meirowitz 2007, pages 140-145). In the complete information game presented above, we see a low contribution equilibrium outcome in which no-one contributes and a high contribution equilibrium outcome in which exactly  $k$  people contribute. If we move to private costs, we see a similar low contribution equilibrium in which less than  $k$  people contribute and the good is not provided, and a high contribution equilibrium in which at least  $k$  people participate and the good is provided.

In the paper's model, I assume a  $k$  threshold, which means that if a certain number of people participate, the good is provided and if that number is not reached, the good is not provided. This assumption has empirical grounding in the case: In Bolivia, a group needs a minimum of 24 members to register as a union. If we conceptualize the union as a public good, then  $k = 24$  in this case. However, we can conceptualize the public good in other ways: For example, if the organization provides market security and internal regulation, we might think of the public good as incremental, where every vendor who participates and pays dues incrementally increases the value of the good by contributing to security and following laws.

We can also try a different cost assumption. For example, we can assume that everyone has the same cost. This is realistic if we take a much stricter view of what constitutes a cost and conceptualize costs as dues, which are the same for everyone, or other material costs for founding an organization, which many union founders split between them. I adopt this cost assumption in the example below. The following game has the same set up as the main model, except there is no  $k$  threshold and costs are the same for everyone:

**Proposition 2:** The strategy profiles below constitute the subgame perfect equilibrium:

$$\text{Vendor}_i : \begin{cases} \text{organize, accept when } c \leq g + x \\ \text{defect, reject otherwise} \end{cases}$$

$$\text{State: } \begin{cases} \text{offer } x^* = c - g \text{ when } e > c \\ \text{offer } x^* = 0 \text{ otherwise} \end{cases}$$

**Proof**

In the final stage of the game, organized vendors decide to accept or reject. In doing so, a given vendor  $i$  compares  $gm + x - c > gm - g$ . Solving for  $c$ , a given vendor  $i$  will accept when  $c \leq g + x$  and reject otherwise. No vendor has an incentive to deviate from this strategy: Accepting when costs are higher than the benefit requires the vendor to accept an avoidable loss, and rejecting when benefits are more than costs requires the vendor to forgo a sure gain.

At the second node, the state chooses an offer  $x^*$ . The state sets  $x$  at the minimum that all organized vendors will accept, provided that minimum is less than  $e$ , which is what the state

receives if it offers 0 and a given vendor defects or rejects. To achieve this, the state sets  $x$  at the organized vendors' cost minus the public good,  $c - g$ . The state has no incentive to set  $x$  higher because the previous step demonstrated that vendor  $i$  will accept any offer at  $c = g + x$  or above, thus setting  $x$  above the reservation value lowers the state's payoff. Likewise, the state has no incentive to set  $x$  lower than  $c$  because lowering  $x$  even slightly below the vendors' reservation value triggers rejection, saving the state  $xm$  but adding  $-em$  to the state's payoff.

At the first node, vendors decide to organize or defect. Vendors know the parameter values and payoffs of other players. Therefore, they can anticipate the value of  $x$  and base their organizing decisions on it. Vendor  $i$  organizes where  $c < x + g$  and defects otherwise. Vendor  $i$  has no incentive to deviate from this strategy: If she organizes where  $c > x + g$ , she receives a negative payoff when she could choose to lose nothing. If she defects when  $c < x + g$ , she accepts 0 over a positive payoff.

These simplifications in the public good and cost terms lead to similar equilibrium outcomes. Three of the five equilibrium outcomes in the main game remain: These strategy profiles contribute to an outcome in which no one organizes under the conditions that  $e < c$  and  $g < c$ , that all vendors organize without state intervention under the condition that  $g > c$ , and finally, that all vendors organize with state intervention under the conditions that  $e > c$  and  $g < c$ . Importantly, players reach these outcomes for the same reasons in each model; therefore, the insight does not change but the simplification reduces the explained variation.

### Extension: Club goods

Empirically, organizations often provide club goods to their members as an additional selective incentive to recruit members and sustain participation. For example, street vendor unions can offer dispute resolution or legal services for their members. We can introduce a term,  $h$ , for association club goods into organized vendors' payoffs and see if and how the overall results change:

**Proposition 3:** The strategy profiles below constitute the subgame perfect equilibrium:

$$\text{Vendor } i : \begin{cases} \text{organize, accept when } c_i \leq x + h \text{ and } m \neq k \\ \text{organize, accept when } c_i \leq x + g + h \text{ and } m = k \\ \text{defect, reject otherwise} \end{cases}$$

$$\text{State: } \begin{cases} \text{offer } x^* = c_m - h \text{ when } e > c_m - h \text{ and } m \neq k \\ \text{offer } x^* = c_m - g - h \text{ when } e > c_m - g - h \text{ and } m = k \\ \text{offer } x^* = 0 \text{ otherwise} \end{cases}$$

### Proof

In the final stage of the game, organized vendors decide to accept or reject. In doing so, a given vendor  $i$  compares  $g + x + h - c_i > g$  if  $m > k$ . Solving for  $c_i$ , a given vendor  $i$  will accept when  $c_i \leq x + h$  and reject otherwise. If  $m < k$ , a given vendor  $i$  compares  $x - c_i > 0$

and will accept when  $c_i \leq x$  and reject otherwise. In the special case where  $m = k$ , a given vendor  $i$  compares  $g + x + h - c_i > 0$  will accept when  $c_i \leq g + x + h$  and reject otherwise. No vendor has an incentive to deviate from this strategy: Accepting when costs are higher than the benefit requires the vendor to accept an avoidable loss, and rejecting when benefits are more than costs requires the vendor to forgo a sure gain.

At the second node, the state chooses an offer  $x^*$ . In making its choice, the state compares its payoff for an accepted offer to a rejected one, and makes a positive offer if  $g - xm > -em$  which can be rewritten as  $x < e + \frac{g}{m}$  (note that the club good only enters the state's payoff through its effect on  $x^*$ ). When making a positive offer, the state sets  $x$  at  $c_m - h$  (and in the special case where  $m = k$ ,  $c_m - g - h$ ). The state has no incentive to set  $x$  higher because the previous step demonstrated that vendor  $i$  will accept any offer at  $c_i = x + h$  or above, thus setting  $x$  above the highest reservation value lowers the state's payoff (note that the vendor with the highest cost is vendor  $m$ , so if the state sets  $x$  at her cost,  $x$  is above the reservation values for all other vendors). Likewise, the state has no incentive to set  $x$  lower than  $c_m - h$  because lowering  $x$  even slightly below vendor  $m$ 's reservation value triggers vendor  $m$ 's rejection, saving the state  $x$  but adding  $-e$  to the state's payoff.

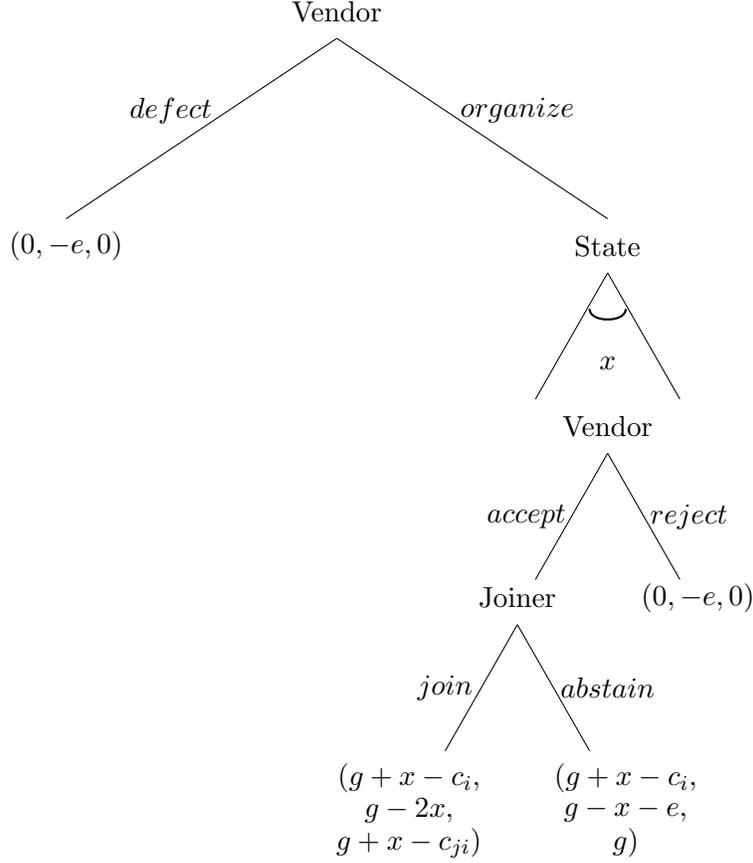
At the first node, vendors decide to organize or defect. Vendors know the parameter values and payoffs of other players. Therefore, they can anticipate the value of  $x$  and base their organizing decisions on it. Vendor  $i$  organizes where  $x + h > c_i$  (or in the special case where  $m = k$ ,  $x > c_i - g - h$ ) and defects otherwise. Vendor  $i$  has no incentive to deviate from this strategy: If she organizes where  $x + h < c_i$ , she receives a negative payoff when she could choose to lose nothing. If she defects when  $x + h > c_i$  and at least  $k$  other vendors organize, she receives  $g$  and saves  $c_i$ , but forgoes a larger  $x$  and  $h$ .

In summary, adding a club good leads to the same equilibrium outcomes as the main model. Importantly, players reach these outcomes for the same reasons in each model. Introducing  $h$  to account for club goods adds an additional benefit to organized vendors' payoffs and lowers the state's offer by  $h$ , but does not lead to different equilibrium outcomes or explanations.

### **Extension: Joiners**

In this extension, we add a final step to the original model, where a group of  $j$  joiners can choose to join the established organization or go it alone. A given joiner receives the public good regardless of their decision, since it has already been provided earlier in the game. If the founders chose not to form an organization in earlier stages, the joiner does not have the choice to join a nonexistent organization and the game ends. If they choose to join, they pay a cost  $c_{ji}$ , which we can think of as a due plus any opportunity cost for participating as opposed to abstaining, and receive any state-provided selective incentive  $x$ .

Figure 2: Stylized representation of the game where  $n = 1$  and  $j = 1$



**Proposition 4:** The strategy profiles below constitute the subgame perfect equilibrium:

$$\text{Vendor}_i : \begin{cases} \text{organize, accept when } c_i \leq x \text{ and } m \neq k \\ \text{organize, accept when } c_i \leq x + g \text{ and } m = k \\ \text{defect, reject otherwise} \end{cases}$$

$$\text{Joiner}_i : \begin{cases} \text{join when } c_{ji} \leq x \\ \text{abstain otherwise} \end{cases}$$

$$\text{State: } \begin{cases} \text{offer } x^* = c_m \text{ when } e > c_m \text{ and } m \neq k \\ \text{offer } x^* = c_m - g \text{ when } e > c_m - g \text{ and } m = k \\ \text{offer } x^* = 0 \text{ otherwise} \end{cases}$$

*Proof*

In the final stage of the game, joiners decide to join or abstain. In doing so, a given joiner  $i$  compares  $g + x - c_{ji} > g$ . Solving for  $c_{ji}$ , a given joiner  $i$  will accept when  $c_{ji} \leq x$  and reject otherwise. No joiner has an incentive to deviate from this strategy: Accepting when costs are higher than the benefit requires the joiner to accept an avoidable loss, and rejecting when benefits are more than costs requires the joiner to forgo a sure gain.

At the third node, organized vendors decide to accept or reject. In doing so, a given vendor  $i$  compares  $g + x - c_i > g$  if  $m > k$ . Solving for  $c_i$ , a given vendor  $i$  will accept when  $c_i \leq x$  and reject otherwise. If  $m < k$ , a given vendor  $i$  compares  $x - c_i > 0$  and will accept when  $c_i \leq x$  and reject otherwise. In the special case where  $m = k$ , a given vendor  $i$  compares  $g + x - c_i > 0$  will accept when  $c_i \leq g + x$  and reject otherwise. No vendor has an incentive to deviate from this strategy: Accepting when costs are higher than the benefit requires the vendor to accept an avoidable loss, and rejecting when benefits are more than costs requires the vendor to forgo a sure gain.

At the second node, the state chooses an offer  $x^*$ . In making its choice, the state compares its payoff for an accepted offer to a rejected one, and makes a positive offer if  $g - xm > -em$  which can be rewritten as  $x < e + \frac{g}{m}$ . When making a positive offer, the state sets  $x$  at the highest organized vendor's cost,  $c_m$  (and in the special case where  $m = k$ ,  $c_m - g$ ). The state has no incentive to set  $x$  higher because the previous step demonstrated that vendor  $i$  will accept any offer at  $c_i = x$  or above, thus setting  $x$  above the highest reservation value lowers the state's payoff (note that the vendor with the highest cost is vendor  $m$ , so if the state sets  $x$  at her cost,  $x$  is above the reservation values for all other vendors). Likewise, the state has no incentive to set  $x$  lower than  $c_m$  because lowering  $x$  even slightly below vendor  $m$ 's reservation value triggers vendor  $m$ 's rejection, saving the state  $x$  but adding  $-e$  to the state's payoff.

At the first node, vendors decide to organize or defect. Vendors know the parameter values and payoffs of other players. Therefore, they can anticipate the value of  $x$  and base their organizing decisions on it. Vendor  $i$  organizes where  $x > c_i$  (or in the special case where  $m = k$ ,  $x > c_i - g$ ) and defects otherwise. Vendor  $i$  has no incentive to deviate from this strategy: If she organizes where  $x < c_i$ , she receives a negative payoff when she could choose to lose nothing. If she defects when  $x > c_i$  and at least  $k$  other vendors organize, she receives  $g$  and saves  $c_i$ , but forgoes a larger  $x$ .

## Survey Methods, Instruments, and Results

Over a week in April 2015, I collected 207 survey responses with a team of five administrators. The five survey administrators work for a survey firm started by graduates from the Universidad Mayor de San Andres (UMSA) Sociology Department. All are current or recent sociology students in their 20s, are from La Paz, and have worked with street vendors in prior projects. There were two women and three men, and all identified as either mestizo or white. We conducted all surveys in Spanish; however, we had an Aymara version available and two administrators spoke enough Aymara to administer it.

No viable sampling frame exists for street vendors in La Paz. This is a common stumbling block with research on the informal sector anywhere. The city maintains a database of the

31,906 street vendors with licenses, but this only accounts for 50-70% of street vendors in La Paz, depending on who's estimate one uses. Additionally, the city is extremely resistant to granting database access. Finally, bureaucrats illicitly grant extra licenses for favors and bribes, which results in (allegedly) fake names in the database.

To address this problem, I took a city map with a grid superimposed and numbered the 61 squares that contained city streets. I then randomized the squares by randomizing 1-61 on random.org's list randomizer. We then went down the list until we had 200 respondents, which was a predetermined sample target. When we went to an area, we would go with a map and walk down every street in the grid's square, approaching every other vendor (we flipped a coin every morning to determine if we'd start with the first or second vendor we saw). We went through 21 grid squares representing 16 neighborhoods before reaching the target. The neighborhoods are fairly representative of the city, are in all geographic regions, and range from a high density of vendors — 100 vendors, 49 approached, mostly on one street — to a low density of three vendors, one approached.

### **Results:**

While there is no way to know, given existing data, if the sample is truly representative of street vendors in La Paz, the descriptive statistics from the survey match the estimates that vendor leaders and bureaucrats reported in interviews: the average street vendor has worked at their stall for 23 years, is 45 years old, and attended 8 years of formal schooling. 80% are women and 45% are indigenous, while 75% belong to a street vendor organization and 72% have a license.

The survey had an embedded experiment designed to prime anger about work in the treatment, and mildly positive feelings about work in the control. We used a bottom up prime, where we asked respondents to tell us an experience that they had at work that made them angry or that they liked. Most respondents complied but about 15% of respondents did not answer the question, responded to the control prime with a negative experience, or responded to the treatment with a positive experience. Following the prime, we asked a series of questions about future political participation (for example, will you participate in a protest in the next year?) and included behavioral measures (for example, we are starting a street vendor health fund, would you like to donate?). When we look at the differences in means between treated and control responses, we see null results whether we drop or include that 15%, with one exception, as we can see in the following table:

Table 2: Survey Experiment Results

Measure	All Responses (n=207)	Excluding NR and Failure to Treat (n=177)
Pay dues next year	p=.99	p=.52
Ask official for help next year	p=.81	p=.60
Attend protest next year	p=.90	p=.71
Run for office next year	p=.55	p=.53
Donate to fund	p=.78	p=.64
Letter to mayor word count	p=.07	p=.03*

Turning to the differences between organized and unorganized vendors, we see some trends but little significance. We can examine these by looking at the predictors of organizational membership in a logit regression.

We use a dichotomous variable for the outcome variable: did a respondent report belonging to a street vendor organization or not? Following the theory, we have several proxies for individual attributes that should contribute to individual costs: whether or not the respondent went to college, whether they have been a vendor leader, and a measure of their assets. Instead of asking for respondents' income, which people tend to misreport or refuse to report, we asked respondents whether or not they had a cellphone, refrigerator, television, internet access, extra stalls, car, or owned their own house, and then made an index out of a simple count and then a weighted count as a robustness check. Additionally, we include controls: is the vendor licensed, male or female, of what ethnicity, age, and sells what merchandise. For the ethnicity variable, mestizo is the omitted category; for merchandise, food is the omitted category.

We see trends in the directions that we would expect: people with more resources, like education, assets, and experience, are more likely to be organized (in other words, the coefficients on these variables are positive when predicting organizational membership) but the only consistently significant variable is whether a respondent is licensed or not. However, per the theory, licensing may be endogenous to organization. If we omit license as a control, several of the resource variables approach significance.

The table below presents the results of two logistic regression models on the survey data, with and without licenses as a control. Note that the reported numbers are odds ratios.

Table 3: Logit Regressions on Street Vendor Survey Data

	Models	
	Logit 1	Logit 2
Past Leadership	1.41 (.73)	1.68 (.76)
College	6.03 (7.06)	3.59 (3.93)
Assets	1.04 (.24)	1.28 (.26)
License	11.56*** (5.57)	
Gender	2.29 (1.31)	2.69* (1.38)
Age	1.0 (.01)	1.0 (.01)
Aymara	.2* (.1)	.76 (.58)
Quechua	.38 (.33)	.96 (.70)
White	.56 (1.01)	1.31 (1.82)
Other/NR	.68 (1.03)	2.14 (2.98)
Drinks	1.53 (1.35)	1.45 (1.14)
Clothes & Accessories	2.87 (2.03)	2.03 (1.27)
Books & Newspapers	3.06 (3.79)	2.54 (1.85)
Other Merchandise	.95 (.66)	.60 (.36)

Original Data N = 169

Standard errors in parentheses below odds ratios. All tests are two-tailed.

\* $p \leq .10$  \*\* $p \leq .05$  \*\*\* $p \leq .01$

### Survey Instrument:

Below is the survey instrument for the original survey conducted in La Paz, Bolivia, first in English and then in Spanish and Aymara. In the main text, I draw descriptive statistics from the surveys where official statistics are not available.

### English translation:

Good morning/afternoon. My name is X and I am conducting a survey. The survey takes 15 minutes and we give you a pound of quinoa for your participation. The survey is part of an academic study to understand why street vendors organize and is by a student at the Universidad Mayor de San Andres (UMSA) and the University of Texas in the United States. The survey has questions about your work, your opinions, and your political participation. We are academic researchers and we are not affiliated with any NGO or political party. The survey is completely anonymous and you can choose not to respond to any question or stop the survey at any time. If a customer comes, I can wait.

Do you want to participate? [If yes, give a bag of quinoa]

The first questions are about your participation in the last 12 months, your participation in the past.

1. In the last 12 months, did you go to a meeting at any association, union, or other organization?
2. In the last 12 months, did you ask for help from a local official?
3. In the last 12 months, did you pay dues to an association, union or other organization?
4. In the last 12 months, did you participate in a protest march?
5. In the last 12 months, did you participate in a campaign?
6. In the last 12 months, did you participate in an organized dance event?
7. In the last 12 months, did you run for election in an association, union or other organization?

Good. Now [ask 1 or 2 at random—flip coin]:

1. Can you tell me about an experience that youve had working here that you liked?
2. Can you tell me about an experience that youve had working here that made you angry?

The next questions are about your participation in the next 12 months, your participation in the future.

1. In the next 12 months, will you go to a meeting at any association, union, or other organization?
2. In the next 12 months, will you ask for help from a local official?
3. In the next 12 months, will you pay dues to an association, union or other organization?
4. In the next 12 months, will you participate in a protest march?
5. In the next 12 months, will you participate in a campaign?
6. In the next 12 months, will you participate in an organized dance event?
7. In the next 12 months, will you run for election in an association, union or other organization?

We are starting a small fund to help with the cost of medication and that any street vendor can use. As part of the survey, we want to see if people want to help out with the fund. To see if people want to help, we are asking if you want to give part of your pound of quinoa to the fund. We will give the money that we would spend on buying more quinoa to the fund.

This is a free choice, contributing is not obligatory.  
Do you want to give some of the pound of quinoa to the fund?  
How much?

Also, at the end of the study we will write a formal letter to the mayor asking for changes for street vendors. Do you want to add something to the letter? We will not put your name in the letter.

The next questions are about imaginary money.

1. To make an application go faster, would you definitely, maybe, or never pay a bribe to an official?
2. Would you prefer to win 1000 bolivianos now or 1500 bolivianos in a year?
3. And now the opposite. Would you prefer to lose 1000 bolivianos now or 1500 bolivianos in a year?

The next questions are demographic.

1. How old are you?
2. How old were you when you started selling?
3. Do you consider yourself mestizo, Aymara, Quechua, white, Afro-Bolivian, or part of another ethnic group?
4. What was the last year of school you completed?
5. Before vending, did you have another job?
  - a. What?
  - b. In this other job, were you part of a union?
6. Currently, do you have a vending license?
7. At this stall, do you work all day, part of the day or only on market days?
8. Have you been a leader in an association, union or other organization?
9. Are you currently affiliated with a street vendor association, union, or federation?
  - a. How long have you been a member?
  - b. Are you a leader or a member in the organization?
10. Currently, do you like any political party?
  - a. Which?

The next questions are about people you know.

1. Do you know anyone who can:
  - a. Organize a protest?
    - i. What is your relationship with this person?
  - b. Resolve bureaucratic problems?
    - i. What is your relationship with this person?
  - c. Start an organization?
    - i. What is your relationship with this person?
2. Do you have good friends that you feel close to?

a. How many?

3. In a normal day, approximately how many people do you have contact with? Include your customers, everyone you greet, and anyone you talk to face to face or over the phone.

4. Some people have friends that know each other. Other people have friends that don't know each other. Do you think that all your friends know each other, most know each other, some know each other, or none know each other?

The next questions are about your health.

1. Do you have health insurance or free access to a doctor?

2. In the last three months, have you had a health problem?

o What?

3. When you have a health problem, do you go to the doctor, a hospital, the pharmacy, an acquaintance, traditional medicine, herbs, or do you do something else?

4. If you belong to a vendor organization, what is your association doing to address the health problems of its members?

1. Finally, to get an idea of the economic situation of Street vendors in general, can you tell me if you own the following things? Cell phone, television, refrigerator, internet at home, more than one stall, a car, your own house.

We are at the end of the survey, thank you for your participation. You can find copies of the results of the survey at the CIDES-UMSA office at the end of May, Av. 14 de Septiembre 4913, Obrajés, next to the Catholic University [give my business card].

Questions for the survey administrator to fill out:

2. Administrator name

3. Survey number

4. Date

5. Street

6. Gender of person surveyed

7. Mobile or fixed post

8. Type of goods sold

**Spanish** (all but one survey administered in Spanish)

Buenos días/buenas tardes! Soy (nombre) y estoy haciendo una encuesta. La encuesta dura 15 minutos, y le dará una libra de quinua por su participación. La encuesta es parte de un estudio académico para entender por qué los gremialistas se organizan y fue hecha por una estudiante de la UMSA y la Universidad de Tejas en los EEUU. La encuesta tiene preguntas sobre su trabajo, sus opiniones, y su participación gremial y política. Somos investigadores académicos y no estamos afiliados a ninguna ONG o partido político. La encuesta es totalmente anónima y usted puede responder o no a cualquier pregunta o parar la encuesta en cualquier momento. Si llega un cliente puedo esperar.

Usted quiere participar? [Si tiene preguntas, responda.]

- Las primeras preguntas son sobre su participación en los últimos 12 meses, participación pasada:
1. En los últimos 12 meses usted asistió a una reunión de alguna asociación, sindicato, u otra organización? [Dar ejemplos: puede ser de una asociación gremialista, una junta vecinal, comité escolar o de la iglesia o cualquier organización.] [S/N]
  2. En los últimos 12 meses, usted pidió ayuda de algún oficial municipal? [S/N]
  3. En los últimos 12 meses, usted pagó aportes o cuotas a alguna asociación, sindicato, u otra organización? [S/N]
  4. En los últimos 12 meses, usted participó en una marcha? [S/N]
  5. En los últimos 12 meses, usted participó en una caminata? [S/N]
  6. En los últimos 12 meses, usted bailó en una entrada folclórica? [S/N]
  7. En los últimos 12 meses, usted candidateó en alguna asociación, sindicato, u otra organización? [S/N]

#### Experimento/juego

Bueno. Ahora [pregunta 1 o 2 al azar y nota cual estás preguntando]:

1. Usted puede contarme de una experiencia que ha tenido trabajando aquí que le gustó? [Si necesita clarificación: Una buena experiencia que ha tenido en el puesto]
2. Usted puede contarme de una experiencia que ha tenido trabajando aquí que le molestó? [Si necesita clarificación: Una mala experiencia que ha tenido en el puesto]

Las siguientes preguntas son sobre su participación en los próximos 12 meses, participación futura. Usted puede responder sí, tal vez, o no.

8. Este año, usted va a asistir a una reunión de alguna asociación, sindicato u otra organización? [S/T/N]
9. Este año, usted va a pedir ayuda de algún oficial municipal? [S/T/N]
10. Este año, usted va a pagar aportes o cuotas a alguna asociación, sindicato, u otra organización? [S/T/N]
11. Este año, usted va a participar en una marcha? [S/T/N]
12. Este año, usted va a participar en una caminata? [S/T/N]
13. Este año, usted va a bailar en una entrada folclórica? [S/T/N]
14. Este año, usted va a candidatear en alguna asociación, sindicato, u otra organización? [S/T/N]

Estamos empezando un pequeño fondo para ayudar con el costo de medicamentos que cualquier gremialista o vendedor pueda usar. El fondo sería financiado por aportes voluntarios.

15. Usted aportaría a un fondo así? [S/N]
16. Cuánto por mes?

También, al final del estudio vamos a escribir una nota formal a la alcaldía pidiendo cambios para el sector. Usted quiere adicionar algo a la nota? No pondremos su nombre. [S/N]

Las próximas preguntas son sobre dinero imaginario.

1. Para hacer un trámite más rápido, usted pagaría, tal vez o no una coima a algún oficial? [S/T/N]
2. Esas preguntas son sobre dinero imaginario. Usted preferiría tener 10 bolivianos ahorita o 20 bolivianos en la próxima semana? [Si necesita clarificación: Es imaginario, imagine que usted tendría que escoger entre 10 ahorita o 20 la próxima semana] [10/20/NR]
3. Y ahora lo opuesto: Usted preferiría perder 10 bolivianos ahorita o 20 bolivianos la próxima semana? [Si necesita clarificación: Es imaginario, imagine que usted tendría que escoger entre dos pérdidas: 10 ahorita o 20 la próxima semana. Si todavía necesita: O imagine que usted tendría que pagar un monto y podría escoger entre pagar 10 ahora o pagar 20 en una semana.] [10/20/NR]

Encuesta

Las siguientes preguntas son demográficas:

4. Cuántos años tiene usted?
5. Cuántos años tenía usted cuando empezó a vender?
6. Usted se considera mestizo, Aymara, Quechua, blanco, afro-boliviano o parte de otro grupo étnico?
- 7.Cuál fue el último curso escolar que usted completó?
8. Antes de vender, usted tenía otro trabajo? [S/N]
  - a. Cuál?
  - b. En ese trabajo anterior, usted perteneció a algún sindicato? [S/N]
9. Actualmente, usted tiene patente? [S/N]
10. En este puesto, usted trabaja todo el día todos los días, parte del día, o en días de feria?
11. Usted ha sido un dirigente de alguna asociación, sindicato, u otra organización? [Dar ejemplos: puede ser de una asociación gremialista, una junta vecinal, comité escolar o de la iglesia o cualquier organización.] [S/N]
12. Usted está afiliado a alguna asociación, sindicato, o federación gremialista actualmente? [S/N]
  - a. Hace cuántos años que usted pertenece a una asociación, sindicato, o federación gremialista? [Estaban afiliados pero ahora no: ]
  - b. Usted es dirigente o de base en la asociación o sindicato?
13. Actualmente, a usted le gusta algún partido político? [S/N]
  - a. Cuál?

Las próximas preguntas son sobre las personas que usted conoce:

14. Usted conoce a alguien que pueda:
  - a. Organizar una marcha? [S/N]
    - i. Cuál es su relación con esa persona? [lee las opciones: familiar, amigo, compañero, conocido]
  - b. Solucionar trámites? [S/N]

- i. Cuál es su relación con esa persona? [lee las opciones: familiar, amigo, compañero, conocido]
- c. Formar una asociación? [S/N]
- i. Cuál es su relación con esa persona? [lee las opciones: familiar, amigo, compañero, conocido]
15. Usted tiene buenos amigos con quienes usted se siente muy cercano? [S/N]
- a. Cuantos?
16. En un día normal, usted con cuantas personas aproximadamente tiene contacto? Incluya todos sus clientes y a todos que usted saluda cara a cara o por teléfono, a todos.
17. Algunas personas tienen amigos que se conocen. Otras tienen amigos que no se conocen. Usted piensa que todos sus amigos se conocen entre ellos, la mayoría se conocen, algunos se conocen, o ninguno se conoce?
- Las próximas preguntas son sobre su salud.
18. Tiene usted un seguro o acceso a médico gratuito? [S/N]
19. Usted ha tenido un problema de salud o enfermedad en los últimos tres meses? [S/N]
- a. Cual?
20. Cuándo usted tiene un problema de salud, usted: va al médico, a un hospital, a la farmacia, a un conocido, o a la medicina tradicional, se cura con medicamentos caseros, o hace otra cosa? Cuál?
21. [Si es afiliado] Qué se está haciendo desde su asociación para atender los problemas de salud de los afiliados?

22. Finalmente, para tener una idea de la situación económica de los gremialistas en general, usted me puede decir si tiene algunos de las siguientes cosas? Celular, televisor, refrigerador, internet en casa, más de un puesto (contando puestos en ferias), auto, casa propia. Estamos al final de la encuesta. Muchas gracias por su participación. Usted puede encontrar copias a fines de mayo de un informe con los resultados de la encuesta en la oficina de CIDES-UMSA [dirección: Avenida 14 de Septiembre 4913, Obrajes, a lado de la Universidad Católica]. [Dar mi tarjeta y una bolsa de quinua]

Preguntas que el administrador debe llenar:

23. Nombre del administrador:
24. Número de encuesta:
25. Fecha:
26. Calles:
27. Género del encuestado: M/H/otro
28. Ambulante o puesto fijo
29. Bienes a la venta (circulan todos los que apliquen):
- a. Comida
- b. Bebidas
- c. Electrónicos
- d. Ropa

- e. Accesorios (incluye zapatos, cinturones, relojes, joyas, etc)
- f. Juguetes
- g. Otros

**Aymara** (one survey administered in Aymara)

Nayajj X sutinitwa. Mä encuesta luraskta. Aka encuestajj tunka pesqan minutotakiwa. Uka layku mä libra quinua churí . Aka encuestajj mä estudio académico yatjjatañatakiwa kunalaykutej gremialistanaka sum wakichasisipki. Aka encuestajj má yatequerin UMSAt ukhamaraki Universidad de Tejas de EEUU luratawa. Encuestajj jisk'tawinakaniwa, luraw-inakamata ukhamaraki amuyatanakamata ukhamaraki gremialista toquet politicata. Nanakajj investigadores academicópjjtwa. Janiw kuna ONG jan uka partido políticonakanipkti. Encuestajj janiw jumanakajjat jisk'atañ munkiti, jumanakatejj munapjjasmajja jaysapjjasmawa kuntej munapkta uka. Jan ukajj amukatapjjasmawa. Mä aliritej purispajja nayajj suytairistwa.

1. Jumajja iyawsasmati? [Si tiene preguntas, responda. Si acepta, dar una bolsa de quinua] Nayraqat jisk'aäwinaka qhepa tunka payan phajjsinakatawa.

1. Aka qhepa tunka payan phajjsinakan jumajja tantachasiwir saririyätati sindicator jan ukajj yaqha tantachaswiru? Sañäni: gremialista toquenakata, junta vecinalanakaru, comité escuelata, jan ukajj iglesiata. [S/N]

2. Aka qhepa tunka payan phajjsinakan jumajja oficial municipalat yanapawi maytati? [S/N]

3. Aka qhepa tunka payan phajjsinakan jumajja qollque churtati sindicatoru, yaqha asociacionakaru? [S/N]

4. Aka qhepa tunka payan phajjsinakan jumajja marchanakar saririyätati? [S/N]

5. Aka qhepa tunka payan phajjsinakan jumajja sarnaqawinakar saririyätati? [S/N]

6. Aka qhepa tunka payan phajjsinakan jumajja thoqoyätati entradanakana? [S/N]

7. Aka qhepa tunka payan phajjsinakan jumajja candidatjam asociacionan, sindicaton, jan ukajj yaqha tantachasiwin candidatjam saririyätati? [S/N]

Waliki, jichhajj: [pregunta 1 o 2 al azar y nota cual estás preguntando]

8. Mayat payakam ukhamak lurañani. Jumajj sitasmati kunjamänsa akan trabajasa, kunas walínwa? [Uka lurawin kunajamäns jumataki puestomana]

9. Jumajj sitasmati kunanakas trabajoman jan walína?

(Pregunta cuando para de hablar: Juk'ampinaka utjiti?)

Jutir jiskt'awinaka jutir tunka payan phajjsinakatakiwa. Jumajj jis sasma, jan ukajj, janiwa.

10. Aka mara jumajj sindicatot, yaqha organizacion tantachasiwir sarätati? Sañäni: gremialista toquenakata, junta vecinalanakaru, comité escuelata, jan ukajj iglesiata] [S/T/N]

11. Aka mara jumajj oficial municipalat yanapt'awi maytati? [S/T/N]

12. Aka mara jumajj sindicator, yaqha organizacionakar qollque churätati? [S/T/N]

13. Aka mara jumajj marchanakar sarätati? [S/T/N]

14. Aka mara jumajj sarnaqawinakar sarätati? [S/T/N]

15. Aka mara jumajj entradanakan thoqtati? [S/T/N]

16. Aka mara jumajj asociacionan, sindicaton, organizacionan candidatjam sarätati? [S/T/N]  
Nanakajj ma jisk'a fondo monetario lurañ qallqasipkta qollawinakataki gremialistanakaru  
jan ukajj aljerinakaru churañataki. Jichha jumanakajj aka encuestar iyawsañ munapjjtati,  
ukhamaraki jumanakajj mä libra quinua aka fondor churapjjasmati. Nanakajj Confedera-  
cionar qollque churapjjë qollanaki alañataki. Take aka lurawinakajja jumanakatawa.

17. Jumajj quinua fondor churañ munasmati? [S/N]

18. Qhawka?

19. Ukhamaraki tukuñataki alcaldiar qellqañani. Jumajja juk'amp saña munasmati? Janiw  
sutim uskuñaniti. [S/N]

Jutir jiskt'awinaka amuyut qollquetawa.

20. Mä tramite juk'am ratuk lurañatakej jumajj pagasmati, inas, jamasat pagasma? [S/T/N]

21. Qhawka qollques katokañ munasma, anchispacha waraq boliviano jan ukasti waranq ph-  
esqa patakan bolivianonaka mä marana? (Jumatawa ajlliña, jichha waranqa jan ukajj mä  
maran waranq phesqa patakani) [1000/1500]

22. Jichha mayja jiskt'awiwa. Jumajja waranq boliviano anchispacha chhaqañ munasmati,  
jan ukajj waranq phesqa patakani bolivianonaka chhaqañ mä marana? (Jumatawa ajlliña  
jichha chhaqañ waranqa jan ukajj mä maran chhaqañ waranq phesqa patakani) [1000/1500]  
Jichha jaqenakjjat jiskt'añani.

23. Qhawka marañitasa?

24. Qhawka marañiyatasa kunapachatej aljan qallktajja?

25. Jumajj mestizótati, jan ukajj aymar jaqe, quechua jaqe, janqäo jaqe, Afro-Boliviano  
jaqe, yaqhätacha?

26. Escuelan kuna cursokamas yateqta?

27. Janir aljjkhasajj yaqha trabajoniyätati? [S/N]

a. Kunänsa?

b. Uka trabajon jumajj sindicatonkhayätati? [S/N]

28. Jichha jumajj patentenitati? [S/N]

29. Aka pueston, jornarpachat trabajta, sapurut trabajta, horasanakakich trabajta, jan ukajj  
feria urunakaki?

30. Jumajja asociacionan, sindicaton, jan ukajj yaqha organizacionan dirigentéyatati? Sañäni,  
gremialista toquen, junta vecinalan, escuela comiten, iglesian, yaqha organizacionanakana.  
[S/N]

31. Jumajj mä asociaciónanktati, sindicaton tonqtati, federación gremialistanakanktati?  
[S/N]

a. Qhawka maras uka asociación, sindicato, jan ukajj federación gremialistanakankta?

b. Jumajj basenqtati jan ukajj dirigentétacha?

32. Jichhurunaka kuna partidontasa? Qhawkniri?

Jutir jiskt'awinaka khitinakarutej uñt'ätajja ukhatawa.

33. Jumajja uñt'äati má jaqeru mä marcha wakichiri? [S/N]

a. Kunas jupajj jumataki? Familiarati, masimati, jan ukajj uñt'äatamacha?

34. Jumajja uñt'äati mä jaqeru tramitenak askichiri? [S/N]  
 a. Kunas jupajj jumataki? Familiarati, masimati, jan ukajj uñt'äatamacha?
35. Jumajja uñt'äati mä jaqeru mä asociación luriri? [S/N]  
 a. Kunas jupajj jumataki? Familiarati, masimati, jan ukajj uñt'äatamacha?
36. Jumajja jaq'äamasinakanititi? [S/N]  
 a. Qhawkha?
37. Mä urun jumajj qhawkha jaqenakakampis parlirita? Clientenakata, jupanakar arumtiritati jan ukajj teléfono parlirita?
38. Yaqep jaqenaka uñt'äat masinakanipjjewa, yaqepanikasti, jan uñt'äat masinipjjewa. Jumajja masinakaman yaqha jaqenakamp uñt'äasipjjatap amuytati? Waljaniw uñt'äasipjje, yaqhepanakakiw uñt'äajasipjje, jan ukajj janiw khitis uñt'äaskiti?  
 Jutir jiskt'awinaka qollasinjjatawa.
39. Jumajja mä seguronitati jan ukajj inak mä mediconitacha? [S/N]
40. Aka qhepa kimsa phajjsinakan, jumajj usutayatati? [S/N]  
 a. Kuna usénsa?
41. Kunapachatej jumajja usutätajja, kawkirus sarta, medicor sartati, hospitalar sartati, farmaciar sartati, mä uñt'äatama masimar sartati, jan ukajj kallawayanakar sartati, jumajja ali qollanakampit qollasta, jan ukajj yaqha kollawinakampicha? Qhawkniri?
42. Asociacionatamat qollañatakejj kuns lurasipki?
43. Mä suma amuyuniñatakejj gremialistanakan qolque utjatapat, jumajj sitasmati celularaniti, televisoraniti, refrigeradoraniti, utan internetaniti, mayat juk'amp puestoniti, autoniti, utaniti?

Qhepa toque encuestanktanwa. Yuspagarpuni jutatamata. Jumajja jiqjjatasmawa aka informenakat CIDES-UMSA oficianakan. Ukajj jiqjatasi Avenida 14 de Septiembre 4913, Obrajes. Universidad Catolica jaqhana. Aka informenaka mayo phasitukusin jiqhatasma. [Dar mi tarjeta]

Preguntas que el administrador debe llenar:

1. Nombre del administrador:
2. Número de encuesta:
3. Fecha:
4. Calles:
5. Género del encuestado: M/H/otro
6. Ambulante o puesto fijo
7. Bienes a la venta (circulan todos los que apliquen):
  - a. Comida
  - b. Bebidas
  - c. Electrónicos
  - d. Ropa
  - e. Accesorios (incluye zapatos, cinturones, relojes, joyas, etc)

- f. Juguetes
- g. Otros