Does political voice change women's prosociality?: Evidence from a Lab in the Field Experiment in Uganda[*]

Job Market Paper

Click here for the most updated version

Ana Garcia-Hernandez [†‡]

May 15, 2020

Abstract

In recent years, policy-makers across the world have implemented policies to increase the presence of underrepresented groups, like women, in decision making bodies. Evidence has shown that this can alter local political outcomes. Yet, studies may confound two mechanisms: a selection effect (the representation of different preferences) and an empowerment effect (the acquisition of political voice changes one's behavior). To test for these effects, I conduct a modified public goods game over two categories of real community goods in rural Uganda. By exogenously assigning voting power over which good is chosen, I can directly test for the empowerment effect. The results suggest that having political voice in choosing the public good does not increase prosociality on average. Men are not sensitive to changes in political voice. However, women contribute significantly less after experiencing a negative shift in empowerment. The results present new evidence that changes in political influence may directly impact prosociality.

1 Introduction

There is evidence that increasing the number of women in local decision-making bodies changes the type of policies implemented (Chattopadhyay and Duflo, 2004, Pande, 2003, Clots-Figueras, 2011, Beath et al., 2013), and these policies tend to increase social welfare. For instance, women's suffrage in the US was associated with a decrease of 8-15% in child mortality as a consequence of an increase in local public health spending (Miller, 2008). Further, it reduces discrimination against girls, heightens their aspirations, and improves their educational attainment (Beaman et al., 2009, Beaman et al., 2010). Moreover, it reduces violence against women and girls (Iyer et al., 2012) and reduces the number of selective abortions (Kalsi, 2017).

The majority of these studies[1] claim that the inclusion of women in politics shifts resources to different policies because women's preferences are now better represented in decision-making bodies. However, these studies may overlook a critical component, namely the potential effect of empowerment or agency, rather than of preferences alone. The empowerment effect refers to the fact that acquiring political voice changes one's behavior. As Choshen-Hillel and Yaniv discuss, theory and evidence in psychology and neuroscience suggest that individuals with "high agency" are more concerned with the welfare of others and derive utility from giving to others (Harbaugh et al., 2007). In fact, within economics, Dal Bó et al., have shown evidence for a related effect, showing that merely participating in a democratic institution may increase cooperation. In this paper, I investigate the extent to which this empowerment mechanism plays a role when including under-represented groups in politics.

To test this mechanism, I designed and implemented a lab-in-the-field experiment in rural villages in Northern Uganda that explores the relationship between political voice and prosociality with a modified public good game (PGG). In this game, participants choose the amount of money to donate to the public account from an initial private endowment. The community chooses a real good earmarked for the local health or education facility with the money collected in the public fund. To manipulate political influence, participants are assigned to receive voting power concerning which of the two sectors is chosen. Participants know before deciding their contributions, whether their vote will be counted in the selection of the good. I measure prosociality by the amount they choose to contribute to the community from an initial endowment in each of the scenarios.

Uganda, like many others in the region[2], has made progress in increasing female representatives in government, particularly at national levels. Uganda led this initiative by imposing quotas at the national and local levels and by passing a women-friendly constitution in 1995 (Wang, 2013). However, it has also undergone a significant process of decentralization, putting higher power and discretion in the hands of local governments

---

[1]Some of these studies also identify a role model effect that also drives some of the outcomes mentioned.

[2]Sub-Saharan Africa is the fastest-growing region in terms of the number of women representatives in parliament: between 1990 and the present, the share of women parliamentarians in this region increased from 7.8% to 23.9% (Tripp, 2016).

and communities[3]. Importantly, at these local levels, there is evidence that women have less political voice than their male counterparts (Lekalake and Gyimah-Boadi, 2016, Genicot and Hernandez-de Benito, 2019) and attend fewer community community meetings[4]. Critically, as many communities are responsible for their own public good provision, understanding the relationship between political engagement and prosocial preferences within these small communities is of the utmost importance.

Within this context, the design of the public goods game allows me to directly study the effects of empowering individuals with political voice, in precisely an environment where these factors are likely to be most important. Additionally, by construction, I avoid the typical confounds of selection, since voice is given exogenously. Additionally, given the differences in community engagement between men and women at local levels in Uganda, I can examine whether there are different effects by gender. In particular, I hypothesize that women, which are typically more excluded from the political process, may respond differently to holding political voice than men.

The results suggest that having political voice in choosing which public good should be funded does not increase prosociality on average. However, women are more sensitive to status changes, and they react, particularly when they experience a negative shift in empowerment. While men do not appear to respond to changes in empowerment, women who experience a decrease in political voice contribute 20% less than similarly dis-empowered men, statistically significant at the 10% level. Those who do experience a positive shift in empowerment contributes only 3.5% less than similarly empowered men, a difference that is not statistically significant. There is suggestive evidence that this effect is driven by women who already have political voice in the community.

This study makes several main contributions. To the best of my knowledge, it is the first study in economics that directly tests the relationship between political voice and cooperation. In a paper in the lab, Dal Bó et al. explore the two effects of participation in democratic institutions in the context of a lab experiment. They find that individuals who participate in democratic institutions behave more prosocially. While there are some similarities, my paper makes two different contributions. The first is that I hypothesize that the role of political voice may also be present in their results. Participation in a democracy involves being given political voice. The second is that I study this question in the precise setting where these factors are likely to be at play. By studying meaningful decisions at the community level for real public goods in Ugandan villages, I am able to study behavior in a highly theoretically relevant context. In particular, the process holds similarities with the way public goods are provided and allocated in these local communities.

Additionally, the paper contributes to the literature on the understanding prosocial attitude of those with political or decision-making power. One set of non-experimental

---

[3] In Uganda, local levels of government have been accountable for promoting human resources development in schools, funded by transfers from the central government and the taxes collected locally (Bashaasha et al., 2011).

[4] Data from Afrobarometer. Refer to table9 for more detailed data.

studies has explored this relationship partially by looking at the prosocial attitudes of individuals that hold decision-making power (Branas-Garza et al., 2010, d'Exelle and Riedl, 2010, Von Rueden et al., 2010, Baldassarri and Grossman, 2013, d'Adda, 2011). These studies examine this relationship in already existent networks, which makes it hard to identify if the effect is driven by the selection of more prosocial individuals into more central roles in communities. By exogenously and randomly assigning voice within the game, I can identify the effect of political voice on contributions. Moreover, by choosing a random sample of participants, my study avoids the selection problems often encountered in lab experiments.

Finally, this study explores a particular element of democratic organizations: political participation. More specifically, it studies participation in the context of informal institutions, where decisions directly affects policies for communities and individuals. This type of political engagement is especially relevant in contexts in which democratic institutions do not ensure adequate representation. In Uganda, there is evidence that democratic committees formed in schools (School Management Committees) and health centers suffer from elite capture, and specific individuals have limited control over decisions (Prinsen and Titeca, 2008, Kiyaga-Nsubuga and Olum, 2009, Razavi et al., 2019). Besides, political institutions are complex, and even in democratic settings, some citizens might feel more politically empowered than others (Karp and Banducci, 2008).[5] Understanding whether individuals behave differently based on the level of voice or inclusion they feel is essential more generally.

The remainder of the paper is structured as follows: Section 2 develops a stylized theoretical model of public goods provision with political voice. Section 3 discusses the research context, sampling strategy, and design of the game. Section 4 presents the results, and Section 5 concludes.

2 Theoretical Framework

This section presents a simple conceptual framework to explain the motivations of individuals to respond to political voice. From this framework I derive two theoretical predictions that I test using the design of the game.

Individual i derives utility from three terms. The first one determines the utility derived from consumption. It is composed by the endowment, e_i, minus the contribution to the public account, c_i, plus a fraction of some public good that the individual i enjoys, $\alpha \sum_{j=1}^{N} c_j$, where $\alpha < 1$. This is the utility the individual derives from sending her children to the public school or by using the roads to go to the market. It is important to note that this public good has been constructed/purchased with the contributions of the members

---

[5]The term used by the authors is political efficacy that is defined as the subjective belief individuals hold that they are able to influence the political system, and that the political system is open to receiving the input of citizens.

of the community. I assume, for simplicity, that α is the same for every individual[6].

According to the procedural utility theory (Frey et al., 2004), individuals value, not only the final outcome but also the conditions and processes that lead to that outcome. Thus, the intrinsic value of political voice, w_i, would capture the value that individual i derives from being included in the voting process in the context of the public good game. But how does this term interact with contributions? According to Tyler et al., procedures are judged by their impartiality, trustworthiness of authorities, and whether individuals feel they are given voice. There is evidence that individuals exhibit more prosocial behavior in contexts in which they trust the other participants of public good games (De Cremer and Tyler, 2007). In this paper, I test if having voice in the process has the same effect as trusting the context in which the decisions are being made.

The second term from which the individuals derive utility is the *social preferences* term. In this term we include an intrinsic value from contributing, or *altruism*, given by function v. Assume $v(c_i)$ is twice continuously differentiable, increasing, $v' > 0$ and concave $v'' < 0$.

There is also a term that captures the value from participating in the decision-making process. This term is only present when the participant receives political voice; $PoliticalVoice_i \in \{0, 1\}$. This term is continuous and goes from 0 to 1, where 0 indicates not having political voice at all, like for example in the case where a group in society is not allowed to vote and 1 full voice, where the individual's political voice translates to policy directly, like for example in the case of a dictator. The values in between would indicate a certain level of political influence that might vary from being able to participate in the political process but one's vote not counting proportionally to representatives[7] to facing barriers to participate in the political process. This functional form also implies that when the individual is not given political voice, the contributions will depend on the level of altruism and the monetary benefit from the public good and the part of the endowment they keep.

Assume in the political process there are two outcomes to be determined by the decision process. In the context of a village committee this could be the decision between allocating public funds to fix a road or to build latrines in the public school. Individual i assigns a value to each of the outcomes of the decision γ_{i1} and γ_{i2}. Assume γ_{i1} is the value of the preferred outcome, i.e. $\gamma_{i1} \geq \gamma_{i2}$. The term $(\gamma_{i1} - \gamma_{i2})$ implies that if the individual does not have a large preference from one of the outcomes of the decision over the other, he/she will not experience a significant empowerment from being included in the decision. When $\gamma_{i1} = \gamma_{i2}$ the third term will disappear.

The intrinsic value of political voice, w_i defines the level of contributions when the participant receives voting power. I assume that $w_i > 0$ and that the value of w_i is greater

---

[6]This assumption is realistic in a context in which the alternative options from using the public services provided at community level are limited. In my sample 90% of the participants have kids in the primary or secondary school of the community. Furthermore, this assumption could be relaxed without affecting the main predictions.

[7]Because of the electoral rules.

for women than for men, based on earlier discussion.

$$u_i = (e_i - c_i) + \alpha \sum_{j=1} c_i + v(c_i) + PoliticalVoice_i[(\gamma_{1i} - \gamma_{2i})w_i]c_i \tag{1}$$

The FOC from 1 implies

$$v'(c_i) = 1 - \alpha - PoliticalVoice_i(\gamma_{1i} - \gamma_{2i})w_i \tag{2}$$

Prediction 1

The first theoretical prediction from the model that this experiment aims to test is whether political voice increases prosocial behavior. There is evidence that leaders in the communities tend to be more prosocial (Branas-Garza et al., 2010, d'Exelle and Riedl, 2010, Von Rueden et al., 2010, Baldassarri and Grossman, 2013, d'Adda, 2011). In psychology and neuroscience studies find that high-agency individuals gain utility from giving to others Choshen-Hillel and Yaniv, 2011.

$$\frac{\partial c_i}{\partial PoliticalVoice_i} > 0 \tag{3}$$

Prediction 2

Empowerment may also affect men differently from women, given the initial level of decision-making power in the community. Women attend fewer village councils, contribute less to the discussion, and report feeling that their opinion is heard less (Lekalake and Gyimah-Boadi, 2016, Genicot and Hernandez-de Benito, 2019). Thus, I assume w_i be greater for women than for men, allowing for a differential effect of the treatment by gender.

$$\frac{\partial c_i}{\partial PoliticalVoice_i \partial w_i} \geq 0 \tag{4}$$

In this prediction, as I increase w_i, the intrinsic value of participation, the effect of political voice on contributions is greater. Hence, I expect women will increase their contributions more than men when given the opportunity to vote in the community decision.

3   Research Design

3.1   Research Context

Uganda is a country with a large degree of decentralization. The decentralization reform initiated in 1992 is the result of a historical process and originated in the rise to power of President Yoweri Kaguta Museveni in 1986. During this time, the president relied strongly

on the "resistance councils" or local councils for maintaining safety and for supporting the National Resistance Movement (NRM), the president's political party. The decentralization was implemented to decrease poverty by providing communities with opportunities for participation, by actively responding in policy-making and by increasing the efficiency in the provision of public goods.

The lower levels of government provide the majority of services, like education (except tertiary level), health (except referral hospitals), water services, and other services such as lighting, ambulances and fire brigades. The sub-county representatives implement smaller infrastructure projects, like boreholes and community access roads and villages implement projects related to primary education, nursery and agricultural services. Village committees are responsible for the development and implementation of projects financed by funds transferred from the sub-counties, as specified in the Local Government Act. The central government dictates the use of the funds by sector and local politicians decide how to allocate the funds received within the sector. For example, the central government allocates some money for education and local politicians decide whether to employ more teachers, to repair school infrastructure, or to build staff quarters. Furthermore, local governments receive funds donated by NGOs and civil-society-based organizations and are eligible to apply for intergovernmental grants.

In addition to the official tiers described in the Local Government Act, there are other local entities that also act as decision-making bodies at local level in Uganda. 89% of the primary schools in the country[8] held active meetings with the school management committee, an organization formed by representatives of the parents, community, and students (Uganda Education Act, 2008). Each health facility in the country has a health unit management committee, formed by health providers and non-political community members that monitors the daily activity of the facility. Occasionally, other committees are formed by community members to support the implementation of water, agriculture and transport projects.

As well as being related to the process of decentralization, women's presence in the political scene is also related to the rise of NRM in power (Tamale et al., 1999; Tripp, 2000; Goetz, 2002; Kwesiga, 1995). Before 1986, there was one woman in a national parliament composed of 126 members (Tamale et al., 1999). The system of *reserved seats* was initiated during the bush war (1980-1985), when the NRM established that all Resistance Councils (RC)[9] had to have at least one woman (Ahikire, 2007). This system was maintained when President Museveni came to power and persists until now; there is a one-third provision for women at LC3, LC5 and national councils.

The experiment was conducted in Lira, Uganda. Lira is a district in the North region of the country, in an area affected by two decades of conflict between the Ugandan army and the Lord's Resistance Army (LRA). The war (1985-2006) had an economic impact

---

[8]National Service Delivery Survey (NSDS) report 2015

[9]Resistance Councils where committees formed by nine community members that acted as decision-making bodies in the villages.

with more than 1.1 million people being displaced in the region[10]. Women gained public prominence during the war as movement was limited and men were absent from the household in this period. Even though their economic situation improved, their presence in community activities and political positions is still limited (Ahikire et al., 2012).

3.2 Sampling Strategy

There are 561 villages in Lira district. Starting from the original list of 561 villages, I created a final list of 22 rural villages that had both a school and a health center in their catchment area of the parish. From the final list, I randomly selected the 19 communities that are part of the study.

The individuals that participated in the games were selected from the community following a random walk procedure. Enumerators started from a central location in the village and visited every third household to invite a member to attend a central location in the village the following day. Enumerators invited an extra 2 people per game to serve as replacements in case of non-attendance of the original list of people. All the groups in the experiment were mixed sex, including men and women, but in some one of the genders was in the majority. Thus, the enumerators invited people according to the gender composition of each of the groups. The only criteria used to select people was age (only individuals over 16 years of age could participate) and being in sufficiently good psychological and physical condition to play the games.

The research team met the participants in a central location in the village, which often are places where community meetings and social gatherings take place. These included churches, schools, and village leader's compounds. 94% of the invited individuals showed up to the game and the rest were replaced by the extra participants mobilized for that purpose while always respecting the gender composition of the group. The research team was composed of two facilitators of the game and two supervisors, together with the mobilizer enumerator. In those communities in which two games were played (51% of the villages), the two groups were separated; in such cases, they played simultaneously and independently, each of them facilitated by one enumerator and one supervisor to avoid spillovers (Coutts, 2019).

A total of 290 subjects participated in the experiment. By design, half of them are men and the other half are women. The average age of the participants is 39 years old. It is a very homogeneous sample in terms of religion and ethnic composition, with 96% being Christians and 98% being individuals self-identifying as Langui, replicating the population in the district. Most of the participants are farmers and more than half of them only achieved some level of primary education. Only 11% of the participants do not participate in any group civil society or political group. In this context, with weak institutions, scarce resources, and high levels of decentralization, members of the community contribute time or money towards public goods. These contributions are critical to ensure service delivery.

---

[10] *Time in Between.* Report from UNHCR, 2010

Table 1: Summary statistics

Variable	(1) Men	(2) Women	(3) Difference
Age	40.493	36.566	-3.927
	(14.825)	(11.326)	(0.012)**
Years of Education	6.295	3.657	-2.637
	(3.221)	(2.951)	(0.000)***
HH size	3.473	2.916	-0.557
	(1.872)	(1.766)	(0.010)***
Member of Association	11.993	10.385	-1.609
	(3.339)	(2.921)	(0.000)***
Index Wealth	0.166	-0.170	-0.336
	(1.036)	(0.935)	(0.004)***
Index Participation	0.296	-0.302	-0.598
	(1.001)	(0.842)	(0.000)***
Index Social Empowerment	0.350	-0.358	-0.708
	(0.919)	(0.955)	(0.000)***
Index Personal Empowerment	0.460	-0.620	-1.080
	(0.746)	(0.967)	(0.000)***
Observations	146	143	289

Standard deviations in parentheses. $^*p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

For example, in a survey conducted in Uganda[11], 88% of the respondents were willing to spend more than 1 hour per week doing work for the community, like road brushing or garbage burning, and more than 22% were willing to spend more than 4 hours doing such work.

I use several questions in the survey to construct indices of wealth, community participation and social and personal empowerment.[12] Table 1 shows some descriptive statistics of the sample. The sample is balanced on gender. On average men are older, more educated, come from bigger households and are more empowered in all the dimensions I measure: wealth, community participation and diverse measures of empowerment. This is consistent with the evidence that women attend fewer village councils, contribute less to the discussion, and report feeling that their opinion is heard less (Lekalake and Gyimah-Boadi, 2016, Genicot and Hernandez-de Benito, 2019). Table 9 in the Appendix shows the gender gap in the attendance to community meetings across Africa in the past year. This gap is, on average 10% and is even more significant (13%) when coordinating collectively to raise issues with their local politicians. Specifically, in East Africa, the gaps are 11% for attending the community meeting and 16% for coordinating with others.

---

[11]Data from a survey with 6108 respondents in twenty districts in Uganda conducted as part of the "Local Political Accountability" project by Grossman and Michelitch

[12]The Index of personal empowerment has less observations because of missing values in conditional questions.

3.3 Design of the Game

To study the effect of increasing political voice on contributions to public goods, I carry out a novel modified public goods game. Each game is played with ten participants, who played three rounds of the game. First, participants play a practice round, right after the facilitator explains the main instructions. Participants know that the first round is unpaid and only for practice and they are encouraged to ask for clarifications when needed. Then, they play two financially incentivized rounds. Using the random lottery incentive method, at the end of the game one of the two paid rounds is randomly chosen to be paid out. Data from all three rounds is collected and enumerators do not reveal any information between rounds. All the decisions are made privately and individually by the subjects. In order to preserve privacy, the subjects are separated by privacy panels.[13] The instructions and the facilitation of the game is given in the local language, Langui.

Step 1: The vote

At the beginning of the game, participants are asked to vote between two sectors, education and health. The votes are used to decide which of the two sectors will receive the good bought with the money collected from the public account. Before Round 1 of the game starts, they exercise their vote by circling one of the sectors on paper and introducing it in an envelope.[14] This vote is binding so they cannot change it between rounds. The vote is private and anonymous. At the end of the game, a simple majority rule is applied when counting the votes to decide the allocation of the good.

Step 2: The Treatment - Political Voice

The treatment is voting power over the decision of which sector should be allocated the money from the public account. At the beginning of each round the participants receive a closed envelope with a card. The card can be either *Green* or *Red* and it indicates which condition the participant is assigned to. If the card is *Green*, the participant's previous vote is valid in the process of deciding which sector to buy the good for, i.e. if the subject votes for *Education*, that sector will get a vote. If instead the card is *Red*, that ballot will be discarded and will not be valid in the voting process.[15]

There are five cards of each color in both rounds of the game. The cards are assigned randomly to the participants in the first round of the game and in the second round the color is reversed, i.e. a participant who receives a green card in Round 1 will receive a red card in Round 2. The participants were not aware of the change in the political voice between rounds. By design, there are two groups of participants: those that change from having voting power to not having, and vice-versa. I refer to the former as being

---

[13]About 12% of the participants do not have any formal schooling and we find that some individuals could not read nor write, in which case the enumerator helps them circle the sector selected.

[14]In the Appendix, a picture (Figure 6) shows the ballot that the participants used to choose between health and education and the envelopes with the tokens for the contributions to the public account.

[15]Refer to the Appendix to see a picture (Figure 7) of the two cards and the envelopes used to deliver the treatment.

Figure 1: Experimental sequence

Figure 1: Experimental sequence
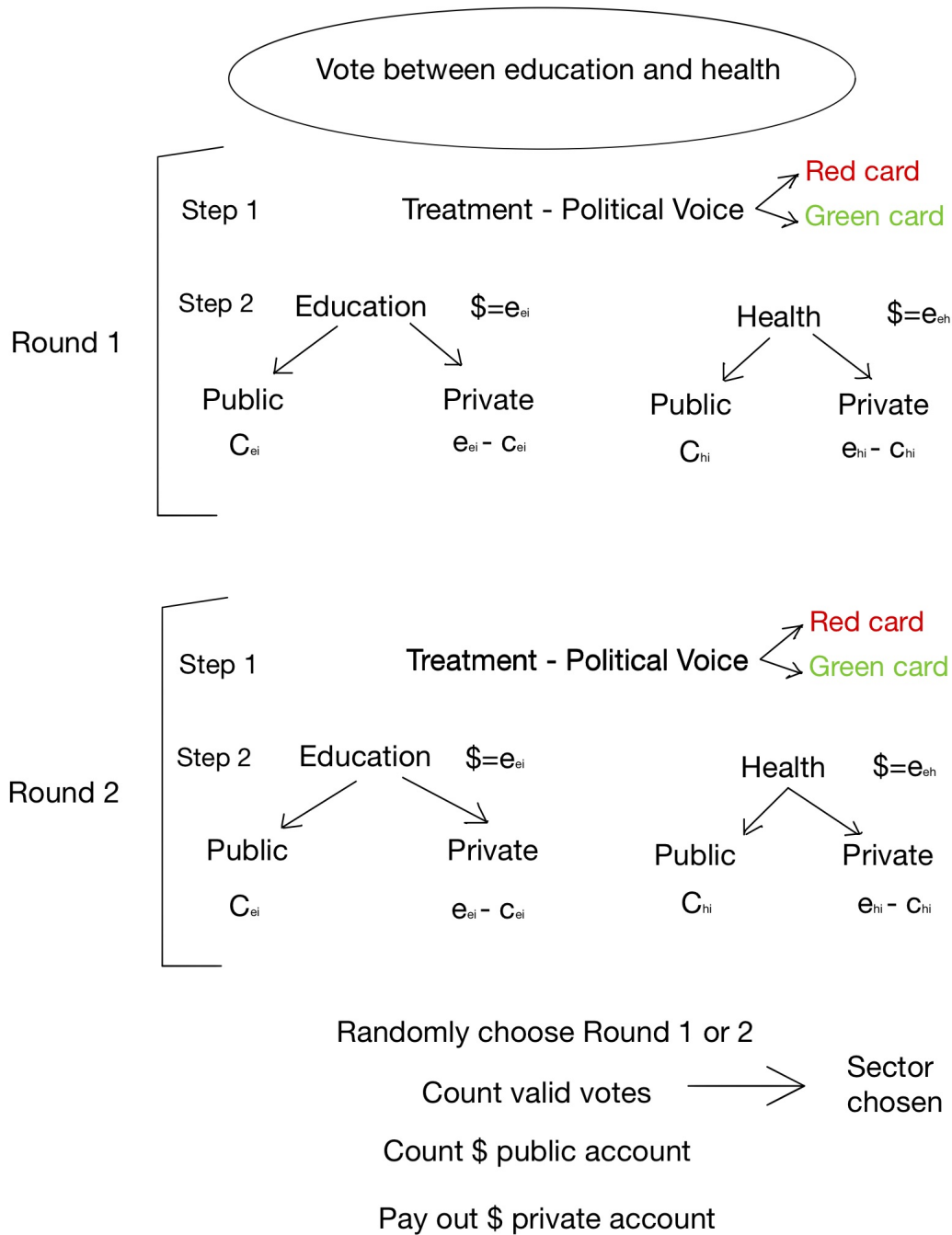
disempowered, and to the latter as being empowered[16]. Participants only know the color of their own card, but they know how many cards of each color (five) are allocated among the participants of the group. After the two rounds are played, one of them is chosen using the random lottery incentive method. The facilitator counts the valid votes of the round that is chosen and the sector with more votes (simple majority) is selected for the allocation of the good.

_____

[16]It not possible to have a clean baseline without political voice since the decision of which good is chosen would need to be taken.

Step 3: The Outcome - Contributions

Prosociality is measured as the number of contributions to the public account in the game. The participants receive an endowment, $e_i = 10$ tokens, at the beginning of the game. These ten tokens are equivalent to ten thousand Ugandan Shillings ($3) and represent three days earnings[17]. They have to divide it between the *private* and the *public account*. The public account is the sum of the contributions made by all the participants, $\sum c_i$, multiplied by a factor. The participants receive an endowment of 10 tokens and the factor by which the tokens in the public account are multiplied is 2, i.e. the number of tokens is doubled. Unlike a standard PGG, in this game the contributions of the participants are summed up, doubled and **used to buy a public good for the community** in stead of being given back to the participants.

After the game, the good is delivered to the public primary school or the government health center of the village's catchment area. The complete list of these goods can be found in Table 4 of the Appendix, along with an example. These goods are considered to be of public use and all members of the community have access to them.

Strategy Method

A concern in this context is that participants might change their behavior because they are able to influence the outcome of the decision according to their preferences. Because the probability of a good being chosen increases with voting power (because they voted for it), individuals will change their contributions. My experiment solves this problem by using the strategy method, that is, asking the individuals to choose their contribution conditional on the sector winning. It consists of asking the individual to contribute to both sectors conditional on the one being selected in that particular round. As long as the probability of the sector being chosen is higher than zero, it is in the individual's best interest to chose their preferred contribution as if the sector would be chosen.

In practice, I give the participants two initial endowments. One can only be used for *Education*, $e_{educ} = 10$ and the other one for *Health*, $e_{health} = 10$. In order to facilitate these decisions, the endowment for each sector was assigned one color, and the tokens were of the same color as the sector. In Figure 6 in the Appendix, there is a picture of the tokens used.

Summary

To summarize, the participants follow the next steps. First, they execute the vote for one of the two sectors. Then, in each of the two rounds, they first receive a card with the treatment, voting power. Then, they make two parallel decisions; (1) how much of e_{health} to contribute to the *Health* account and (2) how much of e_{educ} to contribute to the *Education* one. At the end of the two rounds of the game, the facilitator randomly chooses one of the two rounds. Afterwards, the facilitator counts the number of valid (green) votes

---

[17]UBOS 2010 report on monthly earnings in Uganda that assigns 117,200 UGX to rural households in North Uganda

and announces the sector that will receive the good. At the end of the game the facilitator sums up the amount contributed to the winning sector in the selected round, doubles the amount and announces the total money in Ugandan Shillings the group had collected to buy the public good.

At the end of the game the participants receive the money in their respective private account and participate in a follow-up survey. They also participate in a network survey, in which they answer five questions related to the social attachments to the rest of the individuals in the group.

4 Results

Overview of contributions

Table 2 present the level of prosociality, measured as the number of tokens contributed to the public account. The number of tokens is presented per round (Round 1 and Round 2 in the first two panels respectively). Columns (1) to (3) present the tokens contributed to the preferred sector, i.e. the sector the individual voted for, and columns (4) to (6) the sum of the tokens contributed to health and education together. Thus, the maximum number of tokens in the first three columns is 10, while the maximum number for the last three columns is 20. The columns labelled with *Men* present the number of tokens by the male participants, the columns labelled *Women* by the female participants and the *Difference* is the difference between the two samples. The first line in each panel labelled *Average*, presents the average number of tokens. The following two lines, present the number of tokens of the sample that received the green card (*PolVoice*), or Political Voice, and those that received the red card (*No PolVoice*).

On average men contribute more than women in all specifications. The difference is bigger in the second round of the game and significant for the group that receives the red card in the second round. This group has received the political voice in the first round so they lose political voice between rounds. The same patterns hold for the total number of tokens (columns (4) to (6)). The significant differences in Round 2 of the game suggest that understanding the change in contributions due to the change in the treatment of political voice between Round 1 and Round 2 is important to interpret the results. Thus, Table 3 presents the table with the difference between the tokens contributed to Round 2 and to Round 1. In this table observe that men and women contribute less in the second round with the exception of men that lose political voice in the preferred sector. The difference between the men and women is significant for those individuals as well.

Table 2: Contributions to Public Account by Gender

		Contributions					
		Preferred			Total		
		Men	Women	Difference M-W	Men	Women	Difference M-W
		(1)	(2)	(3)	(4)	(5)	(6)
Round 1	Average	3.88 (2.11)	3.65 (1.92)	0.23 (0.24)	8.00 (3.98)	7.34 (3.50)	0.66 (0.44)
	PolVoice	3.74 (2.05)	3.58 (1.94)	0.16 (0.33)	7.83 (3.83)	7.21 (3.62)	0.63 (0.63)
	No PolVoice	3.99 (2.17)	3.74 (1.91)	0.25 (0.34)	8.14 (4.11)	7.51 (3.37)	0.63 (0.63)
Round 2	Average	3.84 (2.07)	3.27 (1.70)	0.57** (0.22)	7.89 (3.91)	6.82 (3.23)	1.07** (0.42)
	PolVoice	3.8 (2.15)	3.51 (1.83)	0.29 (0.34)	8.01 (4.02)	7.31 (3.20)	0.70 (0.62)
	No PolVoice	3.88 (1.97)	3.06 (1.57)	0.81*** (0.30)	7.74 (3.80)	6.42 (3.23)	1.33** (0.59)

The amounts presented are the number of tokens contributed to the public account. Columns (1) and (4) for the sample of men and (2) and (5) for the sample of women. In columns (3) and (6) I present the difference between the two samples. In columns (1)-(3) for the voted sector and in columns (4-6) for the sum of the voted and the non voted sector. *PolVoice* is a dummy that equals 1 if the participant receives political voice and otherwise *No PolVoice*. Standard deviations presented in parentheses for the samples of men and women. For the difference, the standard errors is in parenthesis. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Main Results

The following tables present the results from the regression specifications presented below. The tables of this section show the effect of political voice on the level of prosociality, measured as the number of tokens contributed to the public account. The outcome variables used are the number of tokens contributed in round 1 and round 2 of the PGG and the difference between round 2 and round 1. I also show two types of contributions, for the preferred sector; i.e. the sector the individual had voted for, and for the sum of the tokens in health and education (Total). In Appendix I present the results of the contributions to the sectors separately; health and education. All standard errors are clustered at village level.[18] Columns 1 to 4 of Table 4 show the contributions in the first round and in the second round.[19] In columns 5 and 6 the outcome variable is the difference between contributions in round 2 and round 1.

---

[18]In Appendix D, tables with the standard errors clustered at game level are presented.

[19]In the case of the second round, I do not control for the contributions in round 1 since these are affected by the treatment in the first round.

Table 3: Contributions to Public Account by Gender - Differences

	Contributions					
	Preferred			Total		
	Men	Women	Difference M-W	Men	Women	Difference M-W
	(1)	(2)	(3)	(4)	(5)	(6)
Change Contributions	-0.03	-0.38	0.36*	-0.07	-0.51	0.44*
	(1.43)	(1.80)	(0.19)	(1.68)	(2.79)	(0.27)
Gain PolVoice	-0.19	-0.23	0.04	-0.10	-0.20	0.10
	(1.58)	(1.81)	(0.28)	(1.92)	(2.05)	(0.33)
Lose PolVoice	0.17	-0.51	0.68***	-0.03	-0.78	0.75**
	(1.21)	(1.79)	(0.26)	(1.33)	(3.28)	(0.44)

The amounts presented are the number of tokens contributed to the public account. Columns (1) and (4) for the sample of men and (2) and (5) for the sample of women. In columns (3) and (6) I present the difference between the two samples. In columns (1)-(3) for the voted sector and in columns (4-6) for the sum of the voted and the non voted sector. *Gain PolVoice* is a dummy that equals 1 if the individual did not receive political voice in Round 1 and did receive political voice in Round 2. *Lose PolVoice* is the opposite. Standard deviations presented in parentheses for the samples of men and women. For the difference, the standard errors is in parenthesis. $^*p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

I test the first theoretical prediction[20], whether political voice increases contributions to the public account, regressing the contributions (number of tokens donated) on a dummy variable that indicates if the individual received ($PoliticalVoice$) in that round. I interpret the coefficient β_1 as the effect of political voice on prosocial behavior and I expect it to be positive and significant in both rounds of the experiment.

$$c_i = \alpha_i + \beta_1 PoliticalVoice_i + \epsilon_i \tag{5}$$

I also explore the effect of a change in political voice, rather than the static effect per round. To do that, I regress the difference between the contributions in round 2 and round 1 on the increase of political voice. This dummy indicates that the individual did not receive political voice in the first round of the game gaining political voice in the second round of the game. By construction, all participants changed the color of the card between rounds, which makes half of the sample *gain political voice* and the other half *lose political voice*. This is random since the assignment of the first card was random. The interpretation of the results when the outcome variable is the difference between contributions is less straightforward. When participants gain political voice ($GainPoliticalVoice_i = 1$), and the difference is positive, it indicates that individuals contribute more in the second round of the game, i.e. they become more prosocial when they gain political voice than in the first round. On the other hand, if the difference is negative, it means that individuals

---

[20]These hypotheses were pre-specified in the proposals for funding for the experiment.

decrease their contributions when they gain political voice.

$$c_{2i} - c_{1i} = \alpha_i + \beta_1 GainPoliticalVoice_i + \epsilon_i \tag{6}$$

Table 4: Effect Political Voice on Contributions

Dependent variable						
	Contributions				Diff in Contributions	
	Preferred		Total		Preferred	Total
	Round 1 (1)	Round 2 (2)	Round 1 (3)	Round 2 (4)	(5)	(6)
PoliticalVoice	-0.23 (0.19)	0.25 (0.22)	-0.38 (0.38)	0.69* (0.39)		
Gain PoliticalVoice					0.01 (0.23)	0.31 (0.27)
Constant	3.88*** (0.23)	3.42*** (0.20)	7.86*** (0.49)	7.00*** (0.42)	-0.22 (0.14)	-0.45** (0.22)
Observations	289	290	289	288	289	287
R-squared	0.00	0.00	0.00	0.00	0.01	0.00

In columns (1), (2) and (5) the dependent variable are the tokens contributed to the voted sector and in columns (3), (4) and (6) for the sum of the voted and the non voted sector. Columns (1-4) present the results in the contributions for round 1 (R1) and round 2 (R2) and in columns (5) and (6) the difference in the contributions between round 2 and round 1. *PoliticalVoice* is a dummy variable that equals to 1 when the participant receives voting power. *Gain PoliticalVoice* indicates an increase in political voice, i.e., the individual did not have voting power in the first round and yes in the second round. Standard errors clustered at the level (in parentheses). $^*p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

The results of the first theoretical prediction are presented in Table 4. Column (1) to (4) show that experiencing Political Voice does not change the level of contributions to the preferred sector or the sum of the sectors in Round 1. There is a significant positive effect of having voting power in the second round on total contributions but it does not change the amount of tokens that individuals contribute to the preferred sector (columns 1 and 2). The level of prosociality in round 2 increases by about 10% compared to the group that does not receive political voice in the same round. There is no effect of political voice in the difference of contributions between rounds. These results is consistent across all specifications, including the clustering of standard errors at game level and by sector in Tables 10, and 11 in Appendix **??**.

The second theoretical prediction states that women experience a larger change in the contributions due to the treatment than men. In this context women have a lower level of engagement in local decision-making. In order to test this second prediction I introduce gender as a dummy variable and interact it with Political Voice, as in equation 7 where *Women* takes value 1 if the individual is a woman and *PoliticalVoice* takes the value 1 if the individual received the voting power in that round. The standard errors are clustered at village level and one regression is run per round and one for the difference in

contributions between the rounds. The coefficient β_3 will measure the effect of political voice on women and I hypothesize that this coefficient will be positive and significant. I also estimate the effect of the change in political voice in the difference in contributions (equation 8).

$$c_i = \alpha_i + \beta_1 PoliticalVoice_i + \beta_2 Women_i + \beta_3 PoliticalVoice_i * Women_i + \epsilon_i \quad (7)$$

$$c_{2i} - c_{1i} = \alpha_i + \beta_1 GainPoliticalVoice_i + \beta_2 Women_i + \beta_3 GainPoliticalVoice_i * Women_i + \epsilon_i \quad (8)$$

Table 5: Effect Political Voice and Gender on Contributions

Dependent variable						
	Contributions				Diff in Contributions	
	Preferred		Total		Preferred	Total
	R1	R2	R1	R2		
	(1)	(2)	(3)	(4)	(5)	(6)
PoliticalVoice	-0.25	-0.08	-0.31	0.27		
	(0.33)	(0.35)	(0.59)	(0.62)		
Gain PoliticalVoice					-0.36	-0.07
					(0.28)	(0.30)
Women	-0.25	-0.81**	-0.63	-1.33**	-0.68**	-0.75*
	(0.31)	(0.28)	(0.64)	(0.51)	(0.28)	(0.39)
PoliticalVoiceXWomen	0.09	0.52	0.00	0.62		
	(0.43)	(0.47)	(0.85)	(0.95)		
Gain PoliticalVoiceXWomen					0.64*	0.65
					(0.33)	(0.49)
Constant	3.99***	3.88***	8.14***	7.74***	0.17	-0.03
	(0.27)	(0.22)	(0.55)	(0.45)	(0.18)	(0.17)
Observations	288	289	288	287	288	286
R-squared	0.01	0.03	0.01	0.03	0.02	0.02

In columns (1), (2) and (5) the dependent variable are the tokens contributed to the voted sector and in columns (3), (4) and (6) for the sum of the voted and the non voted sector. Columns (1-4) present the results in the contributions for round 1 (R1) and round 2 (R2) and in columns (5) and (6) the difference in the contributions between round 2 and round 1. *PoliticalVoice* is a dummy variable that equals to 1 when the participant receives voting power. *Gain PoliticalVoice* indicates an increase in political voice, i.e., the individual did not have voting power in the first round and yes in the second round. *Women* is equal to 1 when the participant is a woman. *PoliticalVoiceXWomen* and *Gain PoliticalVoiceXWomen* are interaction terms between the variables mentioned above. Standard errors clustered at the level (in parentheses). $^*p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Results presented in Table 5, show that women contribute on average less than men in the second round of the game. The difference is significant and represents between 17% and 21% lower contributions than men.[21] The interaction effect, $PoliticalVoice_i * Women_i$, is not significant but suggests that female participants that had voting power contributed

---

[21]For the preferred sector and in total respectively.

more with a magnitude equivalent to the negative coefficient of women. The coefficient of the interaction term between $GainPoliticalVoice_i * Women_i$ is significant and positive, meaning that women that gain political voice in the second round, increase significantly their contributions to the preferred sector (column 5). However, if we take into account the negative sign of the coefficient of female participants, overall, women that gain political voice contribute less in the second round for both the preferred sector and the total.[22]

Figure 2 shows the difference in contributions between the two rounds by gender and whether they gain or lose political voice. For both male and female participants, the effect of the treatment on contributions is not different from zero when they gain political voice. However, for those individuals that lose political voice, there is a difference by gender. Male participants do not experience a change in contributions distinguishable from zero due to the treatment. Female participants, on the other hand, experience a decrease in contributions that is significantly different from zero and sizeable, since the difference translates to a gap of 20% less contributions for women than for men. The difference between men and women that lose political voice is significant at 10% level.

Figure 2: Contributions in Preferred Sector by Gender and Political Voice.
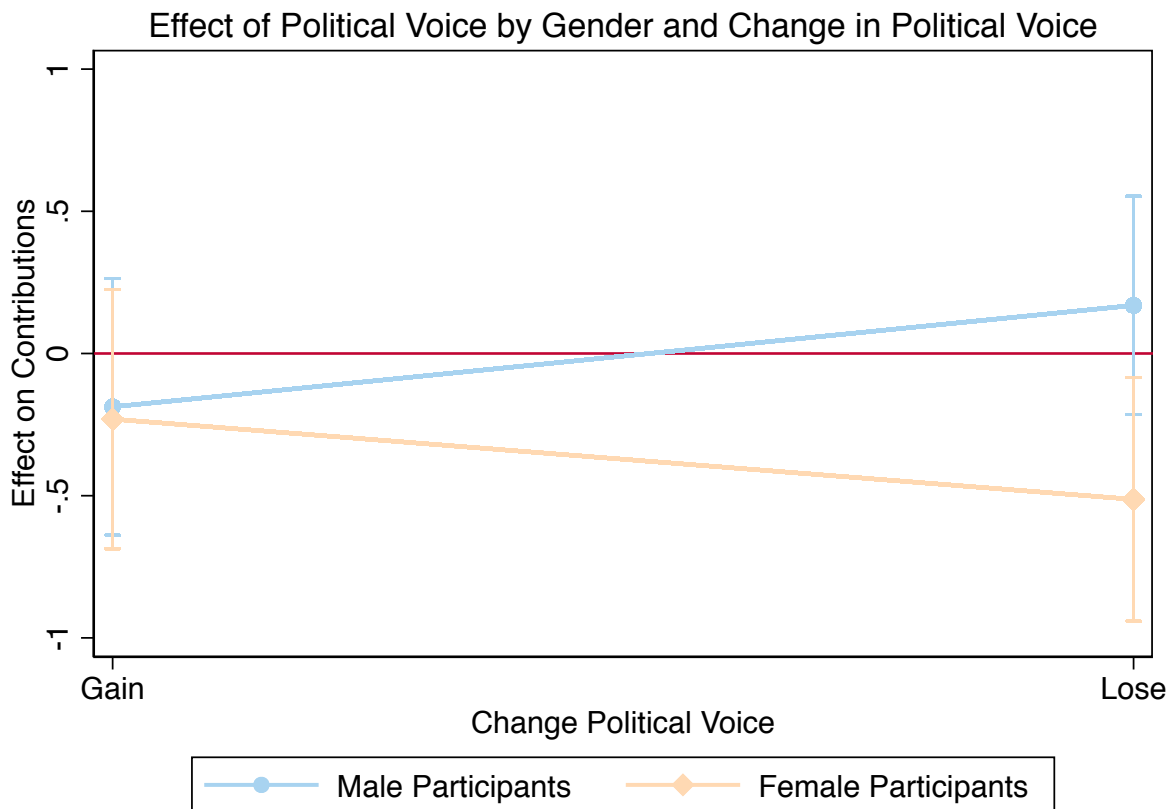
Effect of Political Voice by Gender and Change in Political Voice

5   Discussion of the Results

The results presented in the previous section show no average effect of political voice on prosociality, measured as the amount of money contributed by the participants to buy a public good for the community in the context of a PGG in northern Uganda. It contrasts with the results obtained by Dal Bó et al. in their study which looks at the effects of democracy on prosociality.

I now turn to some explanations of the results. It is possible that the participants did not have a clear preference between the two sectors leading to weaker effect of the treatment. Thus, I divide the sample between those participants that contribute the same, or plus minus one, token in the two sectors (about 53% of the sample) and those that contribute more to the sector that they prefer. There is a third group of participants (27% of the sample) that contribute more to the sector they have not voted for. I classify this last group of participants as individuals that care about equality. I then regress the contributions on the treatment, the dummy variable indicating the subgroup to which they belong to and the interaction between the two. There is no evidence that the effect of the treatment is different for any of the subgroups as I present in Appendix **??**.

Another possible explanation for the lack of impact of political voice on prosocial behavior, compared to the paper by Dal Bó et al., is that the exogenous variation is not the same. In their paper they modified whether the policy is chosen by the participants in the experiment or by a external actor (a computer). In my paper when participants do not have political voice (when they receive a red card), the outcome is chosen by the rest of the participants in the game. The participants are their neighbours in the same village and in a network survey conducted after the game I find that only 3% of the participants have no links to the rest of the participants in the game.[23] Thus, even in the scenario in which the participant does not have political voice, the outcome of the decision will be chosen by people related to the participants and with knowledge of the needs of the communities. This fact could have weakened the effect of the political voice that the individuals experience.

6   Conclusion

There is evidence that being involved in the political process may influence behavior. This paper presents results from an experiment designed to determine whether being part of a political decision affects prosocial behavior. Previous studies looking at the effect of including women in political processes, show evidence that it shifts policies to more prosocial allocation of resources. They suggest that the reason is the inclusion of more women, whose preferences differ from men. However, literature in psychology (Choshen-

---

[23]In the survey the participants are asked about four type of networks: 1) being a family member, 2) being asked for advice, 3) being asked to borrow money and 4) being one of the closest friends. The figure reported is for the sum of the indegree links of the participants for the networks mentioned.

Hillel and Yaniv, 2011 Harbaugh et al., 2007) and evidence in economics (Branas-Garza et al., 2010, d'Exelle and Riedl, 2010, Von Rueden et al., 2010, Baldassarri and Grossman, 2013, d'Adda, 2011), suggest that empowerment could alter prosociality directly. Hence, these studies may confound two effects, namely the potential effect of *empowerment*, and the preferences effect alone. The empowerment effect refers to a change in potential behavior when acquiring political voice. The effect of agency in cooperative behavior has been documented in studies in sociology, psychology and neuroscience, but it has not been explored in economics. This paper contributes to the literature by testing the extent to which the empowerment mechanism plays a role, particularly when including under-represented groups in politics.

I designed a lab-in-the-field experiment that explores the relationship between political voice and contributions to community by exogenously increasing the political voice of participants in the context of a voluntary contributions game. Participants either have or do not have voting power with respect to a decision that affects the community: whether the contributions will go to a local health or education project. I measure prosociality by the amount they choose to contribute to the community in each of the scenarios.

ganda is a relevant case to study the relationship between political voice and prosociality because of the high degree of decentralization and the limited provision of public goods by the government. Community members decide important issues like electing local leaders, resolving social conflicts, allocating resources, and petitioning higher levels of government. For example, in Senegal, rural communities are responsible for providing textbooks and maintaining primary schools and central government allocate funds for this purpose (Dafflon and Madies, 2012). Similarly, since the introduction of a decentralization policy in 1997 in Uganda, local levels of government have been accountable for promoting human resources development in schools, funded by transfers from the central government and the taxes collected locally (Bashaasha et al., 2011). In this context, weak institutions, decentralization policies and scarce resources force individuals to get involved in public good provision at the community level.

The results suggest that having political voice in choosing which public good should be funded does not increase prosociality on average. Women are more sensitive to status changes and they react particularly when they experience a negative shift in empowerment. Women who experience a decrease in political voice contribute 20% less than men on average, but those who do experience a positive shift in empowerment contribute only 3.5% less than men (not significant difference).

This implies that being included in the decision making process may have effects on the way individuals behave towards the community, especially for those individuals that are traditionally marginalized. These results have implications for the design of development programs, like community driven development (CDD) programs, in which the dissemination of funds requires the formation of a committee including women or other marginalized groups. If this system is not implemented in a organic way, the effect of losing political voice after the cancellation of those projects might have a potentially important backlash

effect of those individuals in public good provision.

Furthermore, these results suggest that experiencing agency or political voice in decisions that affect society, change individuals' preferences. This could significantly change the trade-offs we think about when it comes to increasing political representation of certain groups. The dynamics, while mixed, point towards important effects related to changes in status. Further research should invest more in understanding the implications this might have for policy-making and interpreting results in the literature.

References

Ahikire, J. (2007). *Localised or Localising Democracy: gender and the politics of decentralisation in contemporary Uganda.* Fountain Publishers, Kampala, UG.

Ahikire, J., Madanda, A., and Ampaire, C. (2012). Post-war economic opportunities in northern uganda: Implications for women's empowerment and political participation. *International Alert, July.*

Baldassarri, D. and Grossman, G. (2013). The effect of group attachment and social position on prosocial behavior. evidence from lab-in-the-field experiments. *PloS one*, 8(3):e58750.

Bashaasha, B., Mangheni, M. N., Nkonya, E., et al. (2011). Decentralization and rural service delivery in uganda. *International Food policy Institute Discussion Paper*, (01063).

Beaman, L., Chattopadhyay, R., Duflo, E., Pande, R., and Topalova, P. (2009). Powerful women: does exposure reduce bias? *The Quarterly journal of economics*, 124(4):1497–1540.

Beaman, L., Duflo, E., Pande, R., Topalova, P., et al. (2010). Political reservation and substantive representation: Evidence from indian village councils. In *India Policy Forum 2010/11*, pages 159–191. National Council of Applied Economic Research & Brookings Institution New.

Beath, A., Christia, F., and Enikolopov, R. (2013). Empowering women through development aid: Evidence from a field experiment in afghanistan. *American Political Science Review*, 107(3):540–557.

Branas-Garza, P., Cobo-Reyes, R., Espinosa, M. P., Jiménez, N., Kovářík, J., and Ponti, G. (2010). Altruism and social integration. *Games and Economic Behavior*, 69(2):249–257.

Chattopadhyay, R. and Duflo, E. (2004). Women as policy makers: Evidence from a randomized policy experiment in india. *Econometrica*, 72(5):1409–1443.

Choshen-Hillel, S. and Yaniv, I. (2011). Agency and the construction of social preference: Between inequality aversion and prosocial behavior. *Journal of personality and social psychology*, 101(6):1253.

Clots-Figueras, I. (2011). Women in politics: Evidence from the indian states. *Journal of public Economics*, 95(7-8):664–690.

Coutts, A. (2019). Identifying communication spillovers in lab in the field experiments. Technical report, Universidade Nova de Lisboa, Faculdade de Economia, NOVAFRICA.

d'Adda, G. (2011). Motivation crowding in environmental protection: Evidence from an artefactual field experiment. *Ecological Economics*, 70(11):2083–2097.

Dafflon, B. and Madies, T. (2012). *The political economy of decentralization in sub-Saharan Africa: A new implementation model in Burkina Faso, Ghana, Kenya, and Senegal.* The World Bank.

Dal Bó, P., Foster, A., and Putterman, L. (2010). Institutions and behavior: Experimental evidence on the effects of democracy. *American Economic Review*, 100(5):2205–29.

De Cremer, D. and Tyler, T. R. (2007). The effects of trust in authority and procedural fairness on cooperation. *Journal of applied psychology*, 92(3):639.

d'Exelle, B. and Riedl, A. (2010). Directed generosity and network formation: network dimension matters.

Frey, B. S., Benz, M., and Stutzer, A. (2004). Introducing Procedural Utility: Not Only What, but Also How Matters. *Journal of Institutional and Theoretical Economics*, 160(3):377.

Genicot, G. and Hernandez-de Benito, M. (2019). Women land rights and village councils in tanzania. *working paper*.

Goetz, A. M. (2002). No shortcuts to power: constraints on women's political effectiveness in uganda. *The Journal of Modern African Studies*, 40(4):549–575.

Grossman, G. and Michelitch, K. (2018). Information Dissemination, Competitive Pressure, and Politician Performance between Elections: A Field Experiment in Uganda. *American Political Science Review*, 112(2):280–301.

Harbaugh, W. T., Mayr, U., and Burghart, D. R. (2007). Neural responses to taxation and voluntary giving reveal motives for charitable donations. *Science*, 316(5831):1622–1625.

Iyer, L., Mani, A., Mishra, P., and Topalova, P. (2012). The power of political voice: women's political representation and crime in india. *American Economic Journal: Applied Economics*, 4(4):165–93.

Kalsi, P. (2017). Seeing is believing-can increasing the number of female leaders reduce sex selection in rural india? *Journal of Development Economics*, 126:1–18.

Karp, J. A. and Banducci, S. A. (2008). Political efficacy and participation in twenty-seven democracies: How electoral systems shape political behaviour. *British Journal of Political Science*, 38(2):311–334.

Kiyaga-Nsubuga, J. and Olum, Y. (2009). Local governance and local democracy in uganda. *Commonwealth Journal of Local Governance*, pages 26–43.

Lekalake, R. and Gyimah-Boadi, E. (2016). Does less engaged mean less empowered? political participation lags among african youth, especially women.

Miller, G. (2008). Women's suffrage, political responsiveness, and child survival in american history*. *The Quarterly Journal of Economics*, 123(3):1287–1327.

Pande, R. (2003). Can Mandated Political Representation Increase Policy Influence for Disadvantaged Minorities? Theory and Evidence from India. *American Economic Review*, 93(4):1132–1151.

Prinsen, G. and Titeca, K. (2008). Uganda's decentralised primary education: musical chairs and inverted elite capture in school management committees. *Public Administration and Development: The International Journal of Management Research and Practice*, 28(2):149–164.

Razavi, S. D., Kapiriri, L., Abelson, J., and Wilson, M. (2019). Who is in and who is out? a qualitative analysis of stakeholder participation in priority setting for health in three districts in uganda. *Health policy and planning*.

Tamale, S. et al. (1999). *When hens begin to crow: gender and parliamentary politics in Uganda.* Westview Press.

Tripp, A. M. (2000). Rethinking difference: Comparative perspectives from africa. *Signs: Journal of Women in Culture and Society*, 25(3):649–675.

Tripp, A. M. (2016). Women?s mobilisation for legislative political representation in africa. *Review of African Political Economy*, 43(149):382–399.

Tyler, T. R. et al. (1997). Procedural fairness and compliance with the law. *Revue Suisse D Economie Politique et de Statistique*, 133:219–240.

Von Rueden, C., Gurven, M., and Kaplan, H. (2010). Why do men seek status? fitness payoffs to dominance and prestige. *Proceedings of the Royal Society of London B: Biological Sciences*, page rspb20102145.

Wang, V. (2013). Women changing policy outcomes: Learning from pro-women legislation in the ugandan parliament. In *Women's Studies International Forum*, volume 41, pages 113–121. Elsevier.

A Descriptive Data

Table 6, shows the average and the standard deviation of each of the groups by round. Horizontally, *Green* indicates the group that had voting power (empowered) and *Red* the one for which their votes were not valid (dis-empowered). In the columns, we find the two rounds of the game. I compute the differences between the groups using a simple difference in means approach and show in parenthesis the standard errors of the difference.

Table 6: Mean of Contributions to Public Account in Preferred sector by treatment and round

	Round 1	Round 2	Total	Diff
Green	3.65	3.67	3.66	-0.02
	(1.98)	(2.01)	(1.99)	(0.23)
	144	145	289	
Red	3.88	3.42	3.65	0.46***
	(2.06)	(1.81)	(1.95)	(0.23)
	145	145	290	
Total	3.76	3.54	3.65	0.22
	(2.02)	(1.92)	(1.97)	(0.16)
	289	290	579	
Diff	-0.23	0.25	0.01	0.48
	(0.24)	(0.23)	(0.16)	(0.33)

$^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$

Table 6 shows that empowered people contribute on average 0.25 UGX more than their colleagues that did not have voting power in the second round of the game (last round of the second column). This difference represents a decrease of 7% with respect to the average level of contributions in the game.

In the bottom right corner of Table 6 we compute the Difference-in-Difference-in-Difference, i.e. the difference between the differences in means of the treatment and the rounds. In practice we are comparing the individuals received the *Red card* in the first round with the ones that received the *Green card* in the second round. Given the design of the game, this is the same group of people, so this coefficient is the within group effect, or the effect of empowerment in individual i. This effect is positive, suggesting that people that were empowered contributed, on average, 0.48 UGX more when they were empowered than the people that were dis-empowered.

In Table 7 and in Table 8 shows the same raw data that Table 6, separated by gender. When we do this, we observe the same pattern than in the pool sample of participants. Interestingly, the effect of empowerment in female participants is also stronger than in their male counterparts.

Table 7: Contributions to Public Account in Preferred sector by Male participants

Male Participants				
	Round 1	**Round 2**	**Total**	**Diff**
Green	3.74	3.8	3.77	0.06
	(2.05)	(2.15)	(2.10)	(0.35)
	65	80	145	
Red	3.99	3.88	3.94	0.11
	(2.17)	(1.97)	(2.08)	(0.35)
	80	66	146	
Total	3.88	3.84	3.86	0.04
	(2.11)	(2.07)	(2.09)	(0.25)
	145	146	291	
Diff	-0.25	0.08	0.17	0.17
	(0.35)	(0.34)	(0.24)	(0.49)

Table 8: Contributions to Public Account in Preferred sector by Female participants

Female Participants				
	Round 1	**Round 2**	**Total**	**Diff**
Green	3.58	3.51	3.54	-0.07
	(1.94)	(1.83)	(1.88)	(0.32)
	78	65	143	
Red	3.74	3.06	3.37	0.67**
	(1.91)	(1.57)	(1.76)	(0.29)
	65	78	143	
Total	3.65	3.27	3.46	0.38*
	(1.92)	(1.70)	(1.82)	(0.21)
	143	143	286	
Diff	-0.16	0.44	0.17	0.61
	(0.32)	(0.28)	(0.22)	(0.43)

B Additional Information

Table 9: Community Participation in Africa by gender

Africa	Attend community meeting			Coordinate with others to rise issues		
Region	Men	Women	Gap	Men	Women	Gap
North	36%	23%	14	37%	23%	15
Southern	58%	53%	6	43%	37%	6
East	69%	58%	11	56%	40%	16
West	62%	48%	14	58%	40%	18
Central	47%	41%	6	52%	45%	7
Average	57%	47%	10	50%	37%	13

Note: % who say "once or twice", "several times", or "often"

Afrobarometer Dispatch No. 131. Pauline M. Wambua. *Weak support and limited participation hinder women's political leadership in North Africa.* Jan 2017. Data from 2016 wave

Figure 3: List of goods offered to the Community

HEALTH

Item	Price - UGX	Unit
Soap	2,000	Bar
Thermometer	3,000	Piece
Sanitary Pads	3,000	Pad
Stethoscope	7,000	Piece
Cotton Wools	8,000	Box
Gloves	10,000	Box
Mama Kit	15,000	Kit
Blood Pressure Machine	20,000	Machine
Printer	200,000	Piece
Bicycle	250,000	Unit

EDUCATION

Item	Price - UGX	Unit
Soap	2,000	Bar
Pencils	2,000	Package
Sanitary Pads	3,000	Pad
Tennis Ball	10,000	Piece
Notebooks	15,000	Dozen
Movable Black Board	15,000	Unit
Black Board Ruler	15,000	Unit
Pens	20,000	Box
Text Book	25,000	Unit
Wall Clock	25,000	Unit
Hand Bell	35,000	Unit
Net	40,000	Unit
Ball	50,000	Unit
Chock	70,000	Box
First Aid Kit	90,000	Kit
Printer	200,000	Piece
Bicycle	250,000	Unit

Figure 4: Variables for Index creation

Wealth Index	Community Participation Index	Social Empowerment Index	Personal Empowerment Index
Which of these items do you personally own? • Radio • Television • Motor vehicle or motorcycle • Mobile Phone	Could you tell me whether you are a member or participant in one of these organizations and your level of involvement? • Drama, music, dance, sport club • Religious, prayer or bible-study group • Saving and credit group • Worker union, farmer cooperative, artisan or women's cooperative • Lower-government level • Political Party	Please think of the most influential person in your village, and the least influential person in the village. If we rank the most influential person highly as 7 and the least influential person lowly as 1, how would you rank the influence of your opinion in the community compared to this people?	Are you the head of the household?
	In the last 6 months, how many hours have you spent doing work in one of the following community activities that would benefit people in your village? • Repairing road passes through your village/parish • Road slashing/sweeping • Maintenance borehole/spring wells • Cleaning health facility • Garbage burning • Other	If there is any community gathering or meeting in which people are supposed to give their opinion, do you usually participate in it (address the participants)?	Who brought more things in terms of value to the union at the time of marriage, you or your spouse?
	In the last six months, did you attend any LC1 community meeting in the village?	How much do you think your opinion matters in the community?	Do you bring any money home?
	Thinking of the last LC1 community meeting you attended, did you speak in it?	If you had to propose something to the community, like a new idea, an improvement or an issue to rise to your district leaders, how much, from 1 to 5 you think it will be taken into account?	Would you say the money you bring home is more than your husband/wife brings home, less than what he/she earns or about the same?
	In the last six months, did you attend any community activity in the village?	Have you ever thought of running for a leadership position (community leader, political leader, savings group leader...) even if you didn't do it at the end?	Do you keep any money for yourself (either for savings or expenses)?
			If your child falls sick today, who in the household will decide to bring him/her to the health facility, you, your spouse or both?
			In your household, who pays the majority of the school fees over the past 12 months, you, your spouse or both?
			Do you live with your in-laws?

Figure 5: Endowments by colors for different sectors and voting ballot
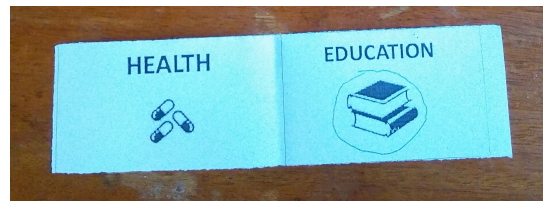
Figure 6: Treatment - Political Voice

Figure 7: Goods distributed to health center and school

C Robustness Checks - Clustered Game Level

Table 10: Effect Political Voice on Contributions

Dependent variable								
	Contributions							
	Voted		Total		Health		Education	
	R1	R2	R1	R2	R1	R2	R1	R2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Political Voice	-0.23	0.09	-0.38	0.39	-0.06	0.31*	-0.32	0.10
	(0.19)	(0.19)	(0.35)	(0.30)	(0.18)	(0.16)	(0.22)	(0.20)
Contributions R1		0.62***						
		(0.05)						
Contributions R1				0.77***				
				(0.05)				
Contributions R1						0.76***		
						(0.05)		
Contributions R1								0.66***
								(0.05)
Constant	3.88***	1.16***	7.86***	1.23***	3.78***	0.64***	4.08***	1.08***
	(0.21)	(0.18)	(0.44)	(0.28)	(0.25)	(0.16)	(0.21)	(0.20)
Observations	289	289	289	287	289	287	289	289
R-squared	0.00	0.43	0.00	0.65	0.00	0.60	0.01	0.46

Standard errors clustered at the game level (in parantheses). $^*p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 11: Effect of Political Voice and Gender on Contributions

Dependent variable								
	Contributions							
	Voted		Total		Health		Education	
	R1	R2	R1	R2	R1	R2	R1	R2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Political Voice	-0.25	-0.26	-0.31	-0.00	0.11	0.11	-0.42	-0.10
	(0.33)	(0.23)	(0.56)	(0.28)	(0.28)	(0.13)	(0.34)	(0.23)
Gender	-0.25	-0.74***	-0.63	-0.90**	-0.10	-0.41*	-0.53*	-0.51*
	(0.30)	(0.23)	(0.58)	(0.40)	(0.31)	(0.21)	(0.31)	(0.25)
cardXgender	0.09	0.61*	0.00	0.66	-0.29	0.34	0.29	0.31
	(0.43)	(0.31)	(0.80)	(0.51)	(0.42)	(0.32)	(0.46)	(0.32)
Contributions R1		0.62***						
		(0.05)						
Contributions R1				0.77***				
				(0.05)				
Contributions R1						0.76***		
						(0.05)		
Contributions R1								0.65***
								(0.05)
Constant	3.99***	1.60***	8.14***	1.79***	3.82***	0.90***	4.31***	1.40***
	(0.26)	(0.23)	(0.50)	(0.37)	(0.27)	(0.19)	(0.27)	(0.25)
Observations	288	288	288	286	288	286	288	288
R-squared	0.01	0.45	0.01	0.66	0.00	0.60	0.02	0.47

Standard errors clustered at game level (in parantheses). $^*p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

D Controlling demographic characteristics

Table 12: Effect card

Dependent variable								
				Contributions				
	Voted		Total		Health		Education	
	R1	R2	R1	R2	R1	R2	R1	R2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Political Voice	-0.18	0.07	-0.31	0.34	-0.01	0.28*	-0.31	0.08
	(0.19)	(0.21)	(0.36)	(0.26)	(0.20)	(0.15)	(0.22)	(0.20)
Majority women	-0.06	-0.24	-0.36	-0.23	-0.23	0.11	-0.12	-0.35*
	(0.36)	(0.16)	(0.71)	(0.26)	(0.40)	(0.15)	(0.33)	(0.19)
Contributions R1		0.62***						
		(0.05)						
Contributions R1				0.77***				
				(0.05)				
Contributions R1						0.76***		
						(0.05)		
Contributions R1								0.66***
								(0.06)
ieduc	-0.35	-0.00	-0.40	-0.08	-0.37	-0.09	-0.03	-0.02
	(0.26)	(0.20)	(0.57)	(0.32)	(0.33)	(0.18)	(0.32)	(0.22)
Age	0.03***	0.01	0.06***	0.00	0.03***	0.00	0.03***	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
HH size	0.05	-0.14**	0.03	-0.19**	-0.00	-0.04	0.03	-0.15***
	(0.08)	(0.06)	(0.15)	(0.08)	(0.08)	(0.05)	(0.07)	(0.05)
Constant	2.79***	1.48***	5.85***	1.88**	2.86***	0.64	2.99***	1.60***
	(0.39)	(0.45)	(0.74)	(0.67)	(0.43)	(0.39)	(0.39)	(0.47)
Observations	288	288	288	286	288	286	288	288
R-squared	0.05	0.45	0.05	0.66	0.05	0.60	0.04	0.48
Control group mean	3.65	3.65	7.43	7.43	3.62	3.62	3.81	3.81

Standard errors clustered at the village level (in parantheses). $^*p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 13: Effect card

Dependent variable								
				Contributions				
	Voted		Total		Health		Education	
	R1	R2	R1	R2	R1	R2	R1	R2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Political Voice	-0.18	-0.34	-0.19	-0.13	0.21	0.06	-0.40	-0.18
	(0.32)	(0.27)	(0.54)	(0.33)	(0.26)	(0.16)	(0.34)	(0.25)
Gender	-0.21	-0.86***	-0.40	-1.14**	0.02	-0.58**	-0.43	-0.59*
	(0.27)	(0.26)	(0.59)	(0.46)	(0.34)	(0.22)	(0.30)	(0.29)
cardXgender	0.05	0.69*	-0.13	0.75	-0.39	0.33	0.26	0.43
	(0.40)	(0.33)	(0.78)	(0.52)	(0.43)	(0.31)	(0.43)	(0.32)
Majority women	0.01	-0.09	-0.19	0.01	-0.20	0.25	0.00	-0.23
	(0.38)	(0.18)	(0.76)	(0.32)	(0.43)	(0.16)	(0.34)	(0.23)
Contributions R1		0.62***						
		(0.05)						
Contributions R1				0.77***				
				(0.05)				
Contributions R1						0.75***		
						(0.05)		
Contributions R1								0.65***
								(0.06)
ieduc	-0.41	-0.16	-0.54	-0.32	-0.42	-0.22	-0.12	-0.14
	(0.28)	(0.20)	(0.62)	(0.35)	(0.36)	(0.19)	(0.34)	(0.23)
Age	0.03***	0.00	0.05***	0.00	0.03***	0.00	0.03***	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
HH size	0.05	-0.15**	0.02	-0.20**	-0.01	-0.05	0.03	-0.16***
	(0.08)	(0.06)	(0.15)	(0.08)	(0.08)	(0.05)	(0.07)	(0.05)
Constant	2.91***	2.06***	6.08***	2.67***	2.88***	1.04**	3.20***	2.01***
	(0.47)	(0.49)	(0.84)	(0.82)	(0.47)	(0.45)	(0.45)	(0.53)
Observations	288	288	288	286	288	286	288	288
R-squared	0.05	0.47	0.05	0.67	0.05	0.61	0.05	0.49
Control group mean	3.65	3.65	7.43	7.43	3.62	3.62	3.81	3.81

Standard errors clustered at village level (in parantheses). $^*p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

E Gender Differences in Preferences

Table 14: Gender Differences in Probability of Voting for a Particular Sector

Dependent variable:		
	Health	Education
	(1)	(2)
Gender	-0.07	0.07
	(0.06)	(0.06)
Majority women	-0.00	0.00
	(0.08)	(0.08)
Observations	578	578
Control group mean	0.53	0.47

Standard errors clustered at village level (in parantheses). $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

This table reports marginal effects from a logit model

Figure 8: Percentage of votes to each of the sectors by gender
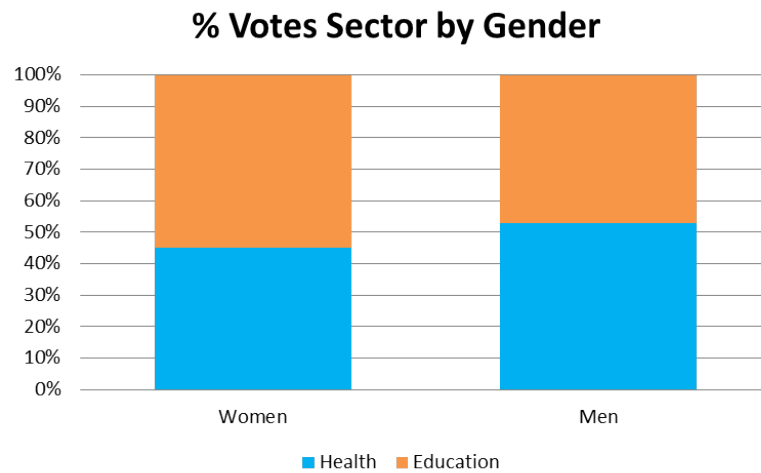
F Heterogeneity by subgroups - preferences

Table 15: Effect of the treatment by subgroups - preferences over sectors

Dependent variable								
					Contributions			
	Voted		Total		Health		Education	
	R1	R2	R1	R2	R1	R2	R1	R2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Political Voice	-0.40	0.30	-0.68	0.89	-0.02	0.49	-0.66*	0.37
	(0.35)	(0.33)	(0.57)	(0.58)	(0.36)	(0.37)	(0.34)	(0.34)
Indifferent	-0.70**	-0.26	-1.64***	-0.91	-0.47	-0.37	-1.17***	-0.54*
	(0.34)	(0.30)	(0.60)	(0.59)	(0.35)	(0.33)	(0.34)	(0.31)
Political VoiceXIndifferent	0.24	-0.16	0.34	-0.62	-0.15	-0.36	0.49	-0.24
	(0.47)	(0.45)	(0.85)	(0.85)	(0.48)	(0.48)	(0.46)	(0.46)
Constant	4.28***	3.57***	8.80***	7.53***	4.05***	3.68***	4.75***	3.85***
	(0.25)	(0.23)	(0.39)	(0.43)	(0.26)	(0.27)	(0.25)	(0.23)
Observations	289	290	289	288	289	288	289	290
R-squared	0.02	0.01	0.04	0.04	0.02	0.03	0.06	0.04
Control group mean	3.65	3.65	7.51	7.51	3.70	3.70	3.81	3.81

Standard errors clustered at level (in parentheses). $^*p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 16: Effect of the treatment by subgroups - preferences over sectors

| Dependent variable								
					Contributions			
	Voted		Total		Health		Education	
	R1	R2	R1	R2	R1	R2	R1	R2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Political Voice	-0.27	0.06	-0.51	0.51	-0.19	0.32	-0.33	0.18
	(0.26)	(0.24)	(0.51)	(0.48)	(0.27)	(0.27)	(0.27)	(0.26)
Strong	1.56***	0.90**	0.45	-0.50	-0.14	-0.43	0.59	-0.04
	(0.39)	(0.36)	(0.64)	(0.64)	(0.42)	(0.39)	(0.41)	(0.38)
Political VoiceXStrong	-0.04	0.63	0.58	1.06	0.62	0.32	-0.03	0.64
	(0.53)	(0.55)	(0.96)	(0.99)	(0.59)	(0.59)	(0.55)	(0.57)
Constant	3.58***	3.28***	7.77***	7.07***	3.81***	3.53***	3.97***	3.54***
	(0.19)	(0.17)	(0.37)	(0.34)	(0.19)	(0.18)	(0.20)	(0.17)
Observations	289	290	289	288	289	288	289	290
R-squared	0.10	0.07	0.01	0.01	0.01	0.01	0.02	0.01
Control group mean	3.65	3.65	7.51	7.51	3.70	3.70	3.81	3.81

Standard errors clustered at level (in parantheses). $^*p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 17: Effect of the treatment by subgroups - preferences over sectors

| Dependent variable								
					Contributions			
	Voted		Total		Health		Education	
	R1	R2	R1	R2	R1	R2	R1	R2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Political Voice	-0.12	0.40	-0.15	0.66	0.02	0.26	-0.17	0.37
	(0.28)	(0.27)	(0.52)	(0.52)	(0.28)	(0.27)	(0.27)	(0.27)
Equity	-0.38	-0.26	1.84***	1.44**	0.75*	0.73*	1.09***	0.70**
	(0.37)	(0.34)	(0.66)	(0.67)	(0.41)	(0.40)	(0.40)	(0.35)
Political VoiceXEquity	-0.32	-0.43	-1.11	-0.10	-0.40	0.19	-0.72	-0.27
	(0.52)	(0.48)	(0.93)	(0.90)	(0.56)	(0.55)	(0.54)	(0.52)
Constant	3.96***	3.49***	7.42***	6.61***	3.60***	3.27***	3.82***	3.35***
	(0.20)	(0.18)	(0.37)	(0.34)	(0.19)	(0.18)	(0.20)	(0.17)
Observations	289	290	289	288	289	288	289	290
R-squared	0.02	0.02	0.03	0.04	0.02	0.04	0.04	0.02
Control group mean	3.65	3.65	7.51	7.51	3.70	3.70	3.81	3.81

Standard errors clustered at level (in parantheses). $^*p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

G   Figure
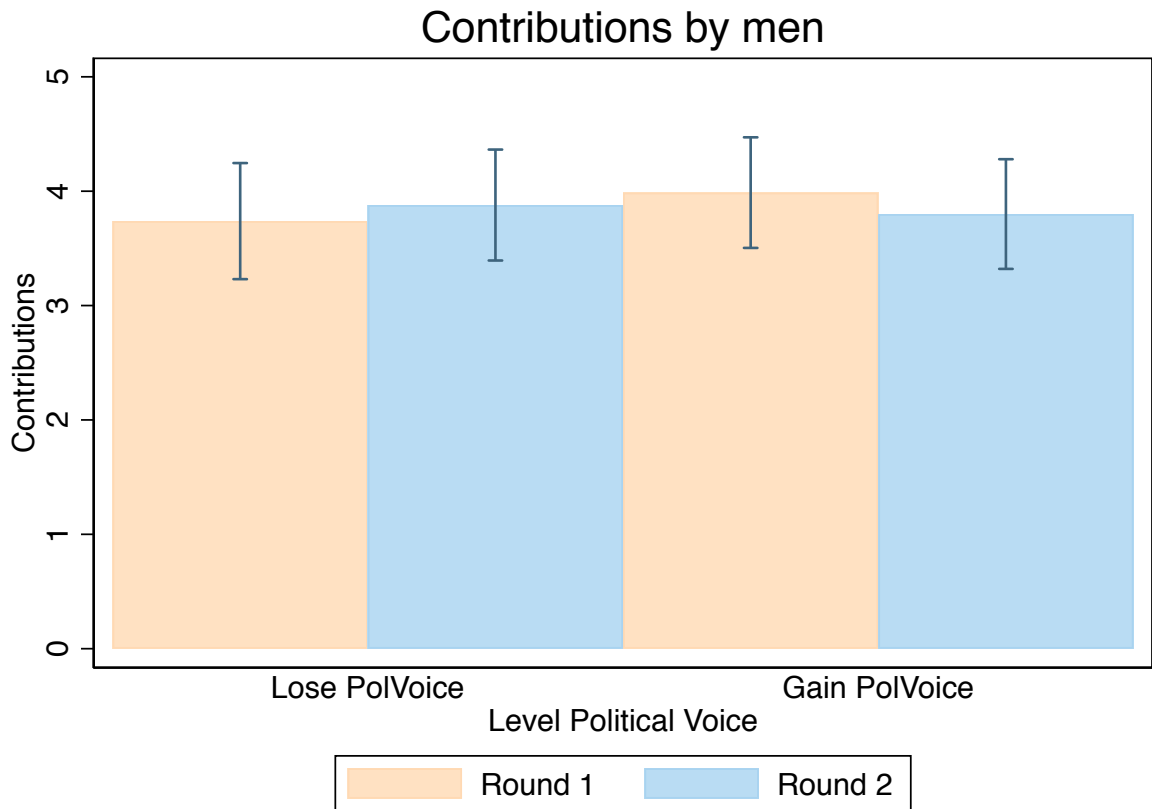
(a) Men
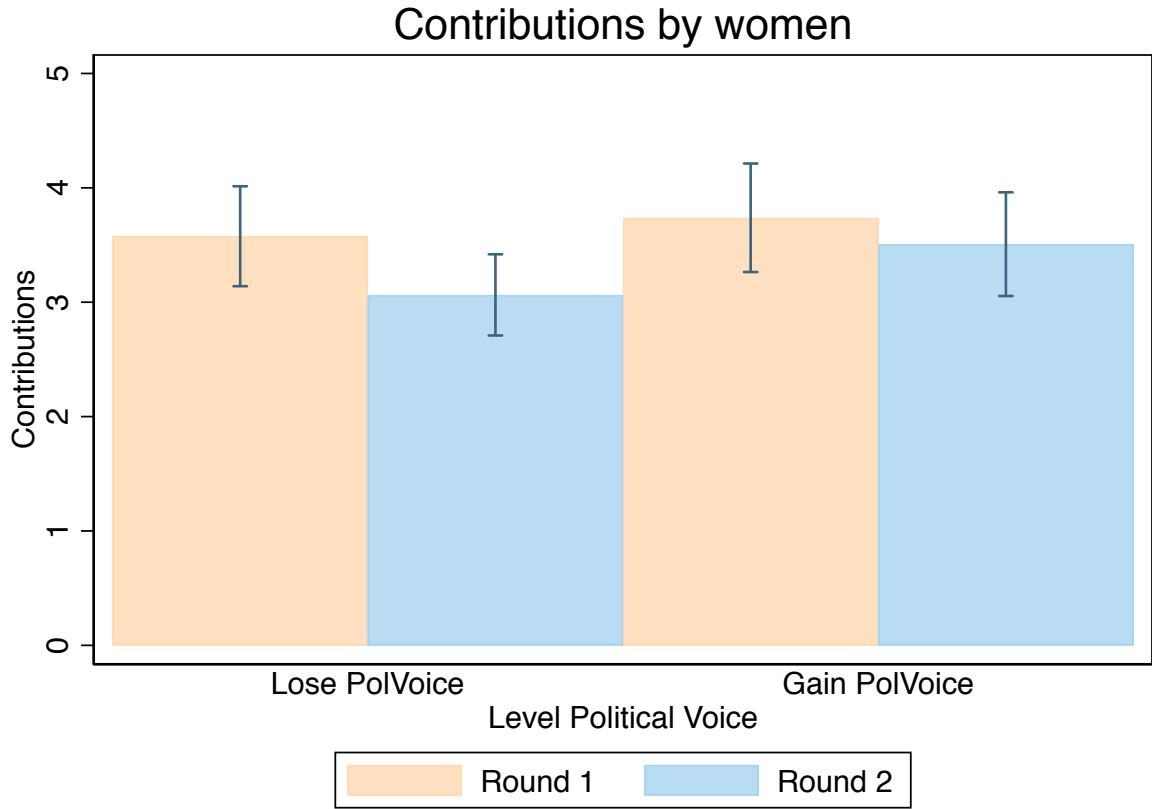
(b) Women

Figure 9: Contributions in Preferred Sector by Gender and Political Voice