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Effects of Voter Outreach Programs on Immigrants based on Gender: Experimental Evidence from France

Section I: Introduction

Women constitute a little more than half of the world's population. However, this does not represent their participation within social and economic decisions within the society (Bari, 2005). In 2005, global representation of women within legislatures was only 15% (Bari, 2005). Now, these aspects of female participation have become measures of economic development. In 1997, South Asian countries had gender related development index (GDI) lower than the human development index with the gender empowerment measure (GEM) being among the lowest in the world (Mahbub ul Haq 2001).

While there are typical measures of female participation within elections or in the labor market, I have chosen to look at an undervalued yet important indicator of female participation which is voting. I first replicate the study of Vincent Pons and Guillaume Liegey's paper "Increasing the Electoral Participation of Immigrants: Experimental Evidence from France." I then extend this randomized control trial (RCT) through heterogeneity analysis by separating the effects of the treatment program by gender. I hypothesize that the effect of the outreach program will be greater for women than men, with the program allowing women to feel important in their participation within the election process. The women are immigrants from the Middle East, Africa and Asia where there has existed significant gender bias in terms of female participation in social, economic and political issues.

The rest of the paper is structured as follows. Section II is the literature review, establishing gender bias within the immigrant countries of my sample population. Section III a. discusses the data and descriptive statistics where I replicate the host paper's statistics, and Section III b. discusses the descriptive statistics and balance table for my heterogeneity analysis. The results of the main paper are replicated in Section IV. The research method for my analysis is established in Section V where I also outline my results and robustness checks. Finally, section VI concludes.

Section II: Literature Review

Evidence of gender bias can be seen in developed countries indicated by voting preference. A psychological study examined the effects of the influence of gender, ethnicity and other control variables on gender bias in actual elections (Flannelly 2002). Kevin J. Flannelly randomly selected 404 voters in Hawaii to inquire about candidate preference in local elections. He found the average likelihood of voting for female candidates to be 38.2%. Older men were also less likely to vote for the female candidate as compared to older women.

Certain developmental studies attempt to address this. A paper exploits random variation from an exposure program towards female leaders in the West Bengal of India and uses survey and experimental data to look at the causal impact of the program on the election as well as the perception of people towards female leaders (Beaman; Chattopadhyay; Duflo; Pande and Topalova, 2009). They have found that villagers in India prefer male leaders and have prior negative bias towards female leaders, even if they were identical to male counterparts. Through various rounds of their exposure programs the authors find evidence that voters still preferred male leaders, but the information on women as effective leaders increased female access to the political office.

Another study examines gender quotas in Lesotho, Southern Africa as a way of addressing gender bias (Clayton, 2018). Such quotas are designed to fight bias by changing explicit preferences for males as leaders, informing about women as competent political candidates and altering implicit biases towards the role of females in society. The author finds that the quota had weakly increased favors towards female candidates within young women but no other demographic groups.

With a great deal of observations for the immigrant population coming from Africa, I look at a study conducted within Rwanda. In this paper, Erin Stern, Lori Heise and Lyndsay McLean explores the norms of men as the decision-making authorities in the household. They analyzed data gathered from interviews of 24 total focus group discussions for a thought experiment establishing gender norms within Rwanda. They find an overwhelming view that it is a man's responsibility to provide economically for the family and provide for household needs. Women were expected to contribute income towards domestic chores and child caring, and not provide economic advice. Majority of the study participants agreed that men are the heads of the households and have decision making authority over their wives. Such a norm might extend to female political opinions and consequently, their voting behavior.

As a direct relation to my research question, one paper acknowledges women in many democracies, have a lower probability of voting than men and might follow the interests of the male household head when they do (Mansuri and Mine 2018). Women in such democracies have a high reporting rate of voting in preference to a household head or caste. The authors deem this due to factors such as tradition and cultural barriers, husbands forcing political beliefs on wives to maintain household bargaining power and lack of information regarding political participation. They implement an informational voter outreach program, like the program within my host paper

for the 2008 national elections in Pakistan. Their 1,018-household study yielded an average increase in voting odds for females by 44 percent significant at the 1% level when accounting for spillover effects by controlling for household distance between treated women. They further used official election results to look at actual female voting results as well as turnout data for men. For 10 women targeted by the campaign almost 7 turned up to vote. There was no impact on male turnouts which could reflect them already having greater information on politics or a lack of communication between males and females regarding politics, nullifying the spillover effects between gender types.

Finally, it is important to establish the persistence of program effects in subsequent years, since I estimate this in my analysis. The paper I am replicating has summarized this well, citing studies that have found overreaching effects up to 8 years after the time of intervention (Liegey and Pons 2018). A study by Coppock and Green in 2016 found that overreaching effects are more apparent for elections with low importance and if approached by similar elections later in time. The 2010 regionals have low stakes compared to the presidential elections and the 2011 cantonal elections are like the regionals. Therefore, the authors of my replication estimate effects for the 2011 elections, and I do so too.

Section III a: Replication Data and Statistics

I use the data compiled by Vincent Pons and Guillaume Liegey in the paper that I will replicate. This data is a combination of voter rolls, canvasser reports, voter turnout results, post-electoral survey, map data regarding distance between people's home and polling station aggregated using census data. Table 1 below is a replication from the original paper. It presents descriptive statistics on observable characteristics. I include a column for difference in means between treatment and control groups and associated p-values for the null hypothesis that these

differences are not different from each other. As shown in Table 1, almost all variables have p values well above the 10% significant levels. This implies that we must accept the null hypothesis that the difference in means of variables within the treatment and control groups are not significantly different. There are only three mean differences significant at the 5% level which are professional qualification (degreebepcap), executives (spc_id3) and other inactivity (spc_id3) with p-values of 0.042, 0.028 and 0.026 respectively.

Var	c_mean	c_sd	tr_mean	tr_sd	Diff	P val	n
Panel (a) Building Characteristics							
cityind1	0.056	0.23	0.046	0.21	-0.01	0.668	23773
cityind2	0.098	0.297	0.104	0.306	0.006	0.788	23773
cityind3	0.049	0.216	0.049	0.216	0	0.978	23773
cityind4	0.116	0.32	0.118	0.322	0.002	0.96	23773
cityind5	0.169	0.375	0.162	0.369	-0.007	0.865	23773
cityind6	0.065	0.247	0.061	0.24	-0.004	0.81	23773
cityind7	0.3	0.458	0.315	0.465	0.015	0.699	23773
cityind8	0.146	0.353	0.144	0.351	-0.003	0.933	23773
zus	0.344	0.475	0.354	0.478	0.01	0.812	23773
pricem2	3446.599	1422.97	3393.678	1400.634	-52.921	0.706	23773
distance	0.272	0.243	0.268	0.248	-0.003	0.867	23773
Panel (b) Individual Characteristics from voter rolls							
gender	0.449	0.497	0.461	0.498	0.011	0.069	23773
agevote	44.173	17.89	44.22	17.834	0.047	0.937	23773
origin_imm	0.291	0.454	0.301	0.459	0.01	0.476	23760
origin_maghreb	0.112	0.316	0.116	0.32	0.003	0.683	23760
origin_africa	0.085	0.279	0.087	0.282	0.001	0.858	23760
origin_asia	0.056	0.231	0.063	0.243	0.007	0.387	23760
origin_otherorigins	0.039	0.193	0.037	0.19	-0.001	0.746	23760
born_idf	0.52	0.5	0.504	0.5	-0.017	0.126	23760
Panel (c) Individual Characteristics from post electoral survey							
survey_attempt	0.154	0.361	0.163	0.369	0.008	0.467	23773
surveydone	0.242	0.428	0.232	0.422	-0.011	0.508	3766
nodegree	0.144	0.352	0.137	0.344	-0.007	0.784	817
degreecep	0.045	0.207	0.046	0.209	0.001	0.958	817
degreebepc	0.05	0.217	0.071	0.257	0.021	0.175	817
degreebepcap	0.227	0.419	0.17	0.376	-0.057	0.042	817
degreebac	0.227	0.419	0.254	0.436	0.027	0.403	817
degreebacplus2	0.154	0.361	0.147	0.355	-0.006	0.8	817
degreehigher	0.154	0.361	0.175	0.381	0.021	0.437	817
worker	0.588	0.493	0.583	0.494	-0.005	0.885	804
unemploy_worker	0.109	0.312	0.077	0.266	-0.032	0.126	804
student	0.07	0.256	0.105	0.307	0.035	0.076	804
retired	0.179	0.384	0.169	0.375	-0.01	0.715	804
inactiveother	0.053	0.225	0.066	0.249	0.013	0.452	804
spc_id1	0.002	0.05	0.003	0.051	0	0.97	783
spc_id2	0.032	0.177	0.018	0.134	-0.014	0.2	783
spc_id3	0.07	0.255	0.113	0.317	0.043	0.028	783
spc_id4	0.251	0.434	0.207	0.406	-0.044	0.147	783
spc_id5	0.291	0.455	0.262	0.441	-0.029	0.383	783
spc_id6	0.065	0.246	0.063	0.243	-0.002	0.926	783
spc_id7	0.184	0.388	0.173	0.379	-0.011	0.709	783
spc_id8	0.104	0.306	0.16	0.367	0.056	0.026	783

Table 1 *(replication)*

Section III b: Extension Statistics

I now illustrate descriptive statistics for my sample size which focuses on just immigrants within the treatment and control groups using the same variables in Table 1. Table 2 below is a balance table showcasing a t-test on the means. In Table 1, we can see that gender has a p-value of 0.069 which implies that there is a skewed distribution for gender within the treatment and control groups for the whole sample population. However, in Table 2 we can see that the distribution of gender has improved across the two immigrant wings with a p-value of 0.228. This implies that the gender distribution is now more similar within the treatment and control groups. Like Table 1, the average values have been reported along with the number of observations. The SD shows the spread of the variables in the table.

Var	c_mean	c_sd	tr_mean	tr_sd	P val	n
Panel (a) Building Characteristics						
cityind1	0.027	0.162	0.024	0.152	0.807	4747
cityind2	0.092	0.289	0.091	0.288	0.982	4747
cityind3	0.028	0.164	0.022	0.148	0.524	4747
cityind4	0.08	0.271	0.067	0.251	0.624	4747
cityind5	0.108	0.31	0.102	0.302	0.87	4747
cityind6	0.082	0.275	0.065	0.247	0.424	4747
cityind7	0.412	0.492	0.459	0.498	0.36	4747
cityind8	0.171	0.377	0.17	0.375	0.964	4747
zus	0.463	0.499	0.507	0.5	0.377	4747
pricem2	3031.076	1203.809	2960.577	1194.133	0.564	4747
distance	0.271	0.262	0.257	0.25	0.56	4747
Panel (b) Individual Characteristics from voter rolls						
gender	0.5	0.5	0.515	0.5	0.228	4747
agevote	48.882	14.223	48.208	14.913	0.272	4747
origin_maghreb	0.432	0.495	0.43	0.495	0.949	4747
origin_africa	0.329	0.47	0.324	0.468	0.831	4747
origin_asia	0.216	0.412	0.227	0.419	0.638	4747
origin_otherorigins	0.027	0.162	0.023	0.151	0.564	4747
Panel (c) Individual Characteristics from post electoral survey						
survey_attempt	0.157	0.364	0.167	0.373	0.501	4747
surveydone	0.295	0.457	0.265	0.442	0.351	769
nodegree	0.221	0.417	0.181	0.387	0.495	198
degreecep	0.029	0.168	0.011	0.103	0.353	198
degreebepc	0.077	0.268	0.064	0.246	0.715	198
degreebepcap	0.115	0.321	0.138	0.347	0.63	198
degreebac	0.279	0.451	0.277	0.45	0.973	198
degreebacplus2	0.144	0.353	0.181	0.387	0.487	198
degreehigher	0.135	0.343	0.149	0.358	0.764	198
worker	0.622	0.487	0.641	0.482	0.787	190
unemploy_worker	0.163	0.372	0.087	0.283	0.124	190
student	0.041	0.199	0.13	0.339	0.023	190
retired	0.102	0.304	0.076	0.267	0.526	190
inactiveother	0.071	0.259	0.065	0.248	0.862	190
spc_id2	0.043	0.204	0.023	0.15	0.44	181
spc_id3	0.054	0.227	0.091	0.289	0.317	181
spc_id4	0.258	0.44	0.182	0.388	0.23	181
spc_id5	0.366	0.484	0.295	0.459	0.332	181
spc_id6	0.065	0.247	0.136	0.345	0.096	181
spc_id7	0.108	0.311	0.08	0.272	0.514	181
spc_id8	0.108	0.311	0.193	0.397	0.096	181

Table 2: Balance Table for Immigrant

Section IV:

The authors estimate the impact of visits by conducting an IV regression. Their treatment variable is defined as 1 if canvassers had visited the building to provide outreach information and 0 otherwise. This is then instrumented with the original assignment to treatment within the estimating equations. The main sources of the difference occurred, due to a few buildings in the control group being treated by mistake and some buildings in the treatment group not being covered due to time constraints. Therefore, the authors feel that the groups still comply with randomization. I do not formally check for this, which is why I will show ITT, TOT and the Local Average Treatment Effect (LATE) by using the same instrument strategy as the authors.

Section IV.1: Total Effect

The authors first estimate the overall impact of the visits before dividing it up into the immigrant and non-immigrant population. The LATE results for this can be seen in panel (a) of Table 3 below. The average treatment effect (ATE) variable is "actualtreat." We can see the impact of the visits has a positive effect across all rounds on the average with and without the individual building controls. However, we can see that these results are not statistically significant.

Section IV.2: Effect on Immigrants

The authors then separate the effects of the program by immigrant population. This can be seen in panel (b) of Table 3 below. They interact the treatment groups with whether the individual is an immigrant which codes "immigrant" as 1. The variable of interest is "immigrant.actualtreat" which interacts immigrant origin with being treated and shows the differential impact of the program on immigrants. Now, we can see there is a significant increase of voting participation for immigrants as compared to non-immigrants. If we look at columns 5 and 6 which looks at the average of the first and second rounds, we can see that there was an increase in participation by

immigrants of 3.7 and 4 percentage points respectively for without and with building and individual controls respectively. These are significant at the 5 % level. The differential impact of the program for non-immigrants, however, was negative and insignificant from 0 which can be seen in the values of the “actualtreat” row of panel (b). Columns 5 and 6 show these values to be -0.6 and -0.9 percentage points respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	vote2010_1st	vote2010_1st	vote2010_2nd	vote2010_2nd	vote2010_av	vote2010_av
Panel (a) : Overall	First Round		Second Round		Average of Both Rounds	
actualtreat	0.004	0.003	0.006	0.003	0.005	0.003
	(0.008)	(0.008)	(0.008)	(0.008)	(0.007)	(0.007)
Constant	-0.004	-0.418***	0.494***	0.054	0.245***	-0.182***
	(0.008)	(0.060)	(0.008)	(0.062)	(0.007)	(0.057)
Observations	23,773	23,760	23,773	23,760	23,773	23,760
R-squared	0.060	0.099	0.054	0.098	0.064	0.113
control mean	0.342	0.342	0.378	0.378	0.360	0.360
Panel (b): Immigrant Effects						
actualtreat	-0.008	-0.011	-0.005	-0.008	-0.006	-0.009
	(0.009)	(0.009)	(0.010)	(0.009)	(0.009)	(0.008)
immigrant.actualtreat	0.041**	0.044***	0.032*	0.036**	0.037**	0.040**
	(0.017)	(0.017)	(0.019)	(0.018)	(0.017)	(0.016)
immigrant	0.003	-0.010	0.017	0.002	0.010	-0.004
	(0.011)	(0.012)	(0.012)	(0.012)	(0.011)	(0.011)
Constant	0.008	-0.408***	0.505***	0.060	0.256***	-0.174***
	(0.009)	(0.060)	(0.010)	(0.062)	(0.009)	(0.057)
Observations	23,760	23,760	23,760	23,760	23,760	23,760
R-squared	0.061	0.100	0.056	0.099	0.065	0.114
control mean	0.354	0.354	0.385	0.385	0.369	0.369

Table 3: Impact of Visits in 2010 Regionals

Section IV.3: Controlling for Origin Region and Born Abroad vs their Children:

The authors now differentiate between different groups of the immigrant population to see if this changes the magnitude of the coefficients. In panel (a) of Table 4 below they look at immigrants born abroad versus their children. They use the voter roll data to identify children based on individuals 15 years or younger living within the same household. Looking at the values of “immigrant.actualtreat” and “immigrants' child.actualtreat” we can see that there are positive values across the first, second and average of the rounds. The impact on immigrants born abroad separated from the children are 5.7, 3.6 percentage points respectively in columns 1 and 2 in Table

4. This is respective to the first and second rounds. The first-round effect was significant at the 1% level while the second round was significant at the 10% level. This averages a 1% significant 4.6 percentage point effect for the average of both rounds in column 3 of Table 4.

Next, the authors control for the regions of the immigrants which can be seen in panel (b) of Table 4 below. Here the "actualtreat" variable has been interacted with the regions of Maghreb, Sub-Saharan Africa, Asia and other places of origin[1]. We can see that these interaction variables in panel (b) all have positive signs, consistent with the overall effect on immigrants. But due to this separation causing the frequencies of the individual regions to fall, statistical significance has decreased. However, we still see a strong effect for Maghreb at 6.4, 5.6 and 6 percentage points in columns 1, 2 and 3 respectively, which are all significant at the 5 % level.

[1] As discussed above: Maghreb, Sub-Saharan Africa and Asia have the greatest number of immigrant observations while other regions such as Middle East or South America for example have a lower number of observations. Therefore, the authors have composed these regions into the category of "other".

	(1)	(2)	(3)
VARIABLES	vote2010_1st	vote2010_2nd	vote2010_av
Panel (a) Immigrant v. Children	First Round	Second Round	Average
actualtreat	-0.011	-0.008	-0.009
	(0.009)	(0.009)	(0.008)
immigrant.actualtreat	0.057***	0.036*	0.046***
	(0.018)	(0.019)	(0.017)
immigrants' child.actualtreat	0.007	0.037	0.022
	(0.031)	(0.034)	(0.030)
immigrant	-0.028**	-0.007	-0.018
	(0.014)	(0.013)	(0.012)
immigrants'child	0.033*	0.023	0.028
	(0.020)	(0.021)	(0.019)
Constant	-0.418***	0.051	-0.183***
	(0.060)	(0.062)	(0.057)
Observations	23,760	23,760	23,760
R-squared	0.100	0.099	0.114
control mean	0.354	0.385	0.369
Panel (b) Immigrant origins			
actualtreat	-0.012	-0.009	-0.010
	(0.009)	(0.009)	(0.008)
maghreb.actualtreat	0.064**	0.056**	0.060**
	(0.025)	(0.027)	(0.024)
africa.actualtreat	0.045	0.044	0.045*
	(0.029)	(0.029)	(0.027)
asia.actualtreat	0.036	0.018	0.027
	(0.036)	(0.035)	(0.033)
other.actualtreat	0.020	0.008	0.014
	(0.044)	(0.047)	(0.042)
maghreb	-0.039**	-0.019	-0.029*
	(0.016)	(0.017)	(0.015)
africa	0.046**	0.040**	0.043**
	(0.020)	(0.019)	(0.018)
asia	-0.030	-0.001	-0.015
	(0.026)	(0.025)	(0.024)
other	-0.023	-0.021	-0.022
	(0.026)	(0.029)	(0.026)
Constant	-0.395***	0.071	-0.162***
	(0.061)	(0.063)	(0.059)
Observations	23,760	23,760	23,760
R-squared	0.102	0.100	0.115
control mean	0.354	0.385	0.369

Table 4: Impact for Different Immigrant Groups in 2010 Regionals

Section IV.4: Effect Persistence

The authors now move on to test whether the outreach program has a longer-term effect rather than just an immediate effect to the 2010 regional elections. Using individual turnout data, the authors gathered participation values for the 2011 cantonal elections spanning four cities in France. Table 5 below, replicates the analysis done in Table 3 but now with 2011 election data. Panel (a) shows the overall effect of the treatment. We can see that the effect of the treatment is generally positive across all columns and specifications except for column 4 for the second round with the individual and building controls at – 0.1 percentage points. However, these effects are not significant. Once immigrants have been separated in panel (b) there are consistent positive effects in the "immigrant.actualtreat" variable showing that even in the 2011 elections there has been a generally larger increase for immigrants as compared to nonimmigrants. However, these values are no longer significant at any level. The authors explain that this implies that the mobilization of the program has decayed overtime although it still exhibits a positive impact.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	vote2011_1st	vote2011_1st	vote2011_2nd	vote2011_2nd	vote2011_av	vote2011_av
Panel (a): Overall	First Round		Second Round		Average of Both Rounds	
actualtreat	0.004	0.003	0.001	-0.001	0.003	0.001
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.008)
Constant	0.496***	0.054	0.499***	0.093	0.497***	0.073
	(0.009)	(0.095)	(0.009)	(0.082)	(0.009)	(0.082)
Observations	15,416	15,405	15,410	15,399	15,410	15,399
R-squared	0.057	0.109	0.051	0.098	0.057	0.118
control mean	0.262	0.262	0.291	0.291	0.277	0.277
Panel (b): Immigrant Impact						
actualtreat	-0.003	-0.004	-0.010	-0.011	-0.006	-0.007
	(0.012)	(0.012)	(0.012)	(0.011)	(0.011)	(0.010)
immigrant.actualtreat	0.019	0.020	0.028	0.029	0.024	0.025
	(0.021)	(0.020)	(0.021)	(0.021)	(0.019)	(0.019)
immigrant	-0.012	-0.016	0.020	0.015	0.004	-0.000
	(0.014)	(0.014)	(0.014)	(0.015)	(0.013)	(0.013)
Constant	0.503***	0.062	0.510***	0.098	0.506***	0.080
	(0.012)	(0.094)	(0.012)	(0.082)	(0.011)	(0.082)
Observations	15,405	15,405	15,399	15,399	15,399	15,399
R-squared	0.057	0.109	0.052	0.099	0.058	0.119
control mean	0.274	0.274	0.293	0.293	0.283	0.283

Table 5: Impact of Visits on 2011 Cantonals

Section IV.5: Isolating Influence of Immigrant Origin on Treatment Effect

The authors now try to investigate whether being an immigrant was the only determinant factor of the estimated effects of the outreach program, to see if there are other characteristics within the immigrant population that could explain the high statistical significance of ATE. The authors recreate the balance table seen in Table 1 but now compares economic characteristics between immigrants and non-immigrants. By analyzing these characteristics, the authors can understand if the results of the program only had to do with the fact that the individuals were immigrants. This analysis can be seen in Table 6 below where p-values of the difference in

characteristics are reported to see if the immigrant population exhibits any significant differences from the nonimmigrant population. Each panel exhibits a different set of characteristics. Once these variables have been found, they are controlled for in Table 7.

The ATE estimate which is variable “immigrant.actualtreat” continue to be positive, with significance ranging from the 5% to 1% level across all specifications in Table 7. The ATE value stays mostly consistent ranging from 4.1 to 4.5 percentage points from columns 1 to 7 for the first round in panel (a). For column 8, where all controls are added, the authors find a 4-percentage point greater impact for immigrants as compared to non-immigrants significant at the 5% level. This differential impact decreases a little to the range of a 3.6 percentage point increase for the second round in panel (b). It continues to be positive but loses some statistical power. In column 8 the second round showcases an ATE of 3.4 percentage points significant at the 10% level.

Variables	Non-Immigrants		Immigrants		p	N
	Mean	Sd	Mean	Sd		
Panel (a): Building Characteristics						
zus	0.296	0.456	0.476	0.499	0	23760
pricem2	3594.491	1456.008	3010.206	1207.826	0	23760
distance	0.273	0.243	0.263	0.25	0.188	23760
Panel (b): Individual Characteristics (voter rolls, whole sample)						
gender	0.437	0.496	0.497	0.5	0	23760
agevote	44.433	18.347	43.593	16.615	0.001	23760
born_idf	0.634	0.482	0.222	0.416	0	23760
Panel (c): Individual Characteristics (post-electoral survey)						
nodegree	0.116	0.32	0.194	0.396	0.003	816
degreecep	0.052	0.223	0.027	0.161	0.093	816
degreebepc	0.058	0.234	0.065	0.246	0.703	816
degreebepcap	0.224	0.417	0.148	0.356	0.011	816
degreebac	0.228	0.42	0.266	0.443	0.231	816
degreebacplus2	0.154	0.361	0.144	0.352	0.731	816
degreehigher	0.168	0.374	0.156	0.363	0.658	816
worker	0.575	0.495	0.612	0.488	0.322	803
unemploy_worker	0.086	0.28	0.11	0.313	0.275	803
student	0.075	0.263	0.114	0.318	0.068	803
retired	0.212	0.409	0.09	0.287	0	803
inactiveother	0.053	0.224	0.075	0.263	0.229	803
spc_id1	0.004	0.061	0	0	0.339	782
spc_id2	0.02	0.142	0.037	0.188	0.181	782
spc_id3	0.099	0.299	0.073	0.261	0.254	782
spc_id4	0.238	0.426	0.212	0.41	0.421	782
spc_id5	0.263	0.44	0.31	0.464	0.167	782
spc_id6	0.05	0.219	0.094	0.292	0.02	782
spc_id7	0.216	0.412	0.094	0.292	0	782
spc_id8	0.11	0.313	0.18	0.385	0.007	782
Panel (d): Knowledgeability and Partisanship						
Q1_registered_s	0.845	0.363	0.796	0.404	0.196	456
Q7_knows_pres_s	0.517	0.501	0.443	0.499	0.148	440
Q8_knows_budget_s	0.332	0.472	0.281	0.451	0.278	440
Info_index	0	0.708	-0.132	0.71	0.062	458
list1_ps	0.459	0.501	0.5	0.506	0.662	127
list2_ps	0.727	0.448	0.9	0.304	0.024	139

Table 6: Differences between Characteristics of Immigrants and Nonimmigrants

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VAR	None	Gender	Age	Born in France	Based in a ZUS	Housing Price	Distance to Polling Station	All
Panel (a): First Round								
immigrant. actualtreat	0.044***	0.043**	0.044***	0.042**	0.041**	0.045***	0.044**	0.040**
	(0.017)	(0.017)	(0.017)	(0.019)	(0.017)	(0.017)	(0.017)	(0.019)
Constant	-0.408***	-0.407***	-0.406***	-0.412***	-0.415***	-0.404***	-0.415***	-0.408***
	(0.060)	(0.060)	(0.061)	(0.061)	(0.060)	(0.060)	(0.060)	(0.062)
Observations	23,760	23,760	23,760	23,760	23,760	23,760	23,760	23,760
R-squared	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
Panel (b): Second Round								
immigrant. actualtreat	0.036**	0.034*	0.036**	0.035*	0.035*	0.038**	0.036**	0.034*
	(0.018)	(0.018)	(0.018)	(0.020)	(0.018)	(0.019)	(0.018)	(0.020)
Constant	0.060	0.063	0.061	0.058	0.058	0.067	0.060	0.072
	(0.062)	(0.062)	(0.063)	(0.063)	(0.062)	(0.063)	(0.062)	(0.064)
Observations	23,760	23,760	23,760	23,760	23,760	23,760	23,760	23,760
R-squared	0.099	0.099	0.099	0.099	0.099	0.099	0.099	0.099

Table 7: Impact of Visits for 2010 Regionals, Allowing for Heterogeneity

Section V: Extension Analysis

Now I will conduct my extension analysis and separate the effects based on gender. First, I will discuss the econometric specification I use and then move on to discussing my results and robustness checks.

Section V.1: Econometric Specification

I use the following equation to separate the effects of the treatment for immigrants by their gender:

$$Y_{i,b} = \alpha_1 + \beta_1 T_b + \beta_2 gender_{i,b} + \beta_3 (gender_{i,b} \,.\, T_b) + X'_b \Upsilon_1 + Z'_{i,b}\, \delta_1 + \sum_s \lambda^s_b + \epsilon_{i,b}$$

Here, $Y_{i,b}$ is the turnout of individual *i* who resides in building *b*. T_b is coded as 1 if a building *b* has received treatment. This variable will change for the three types of estimation I will

do which I will further explain below. The variable $gender_{i,b}$ is coded as 1 for males and coded as 0 for females. X'_b is a vector of building characteristics (ZUS, housing price and distance to polling station) while $Z'_{i,b}$ is individual controls (age and age^2). Finally, λ^s_b are strata fixed effects. Here, β_2 is the differential impact of males in the control group. β_1 is the impact of the treatment for women and $\beta_1 + \beta_3$ would therefore be the impact of treatment for men. The average treatment effect is β_3 which estimates the differential impact of the treatment for males compared with females. Finally, $\epsilon_{i,b}$ is the error term.

As mentioned above, I will perform ITT, TOT and LATE estimates for my analysis. The equation stays the same for all three estimation techniques except for the variable T_b . For ITT T_b is the original assignment to the treatment group that the authors intended for the program. For TOT, T_b changes to the actual buildings which got the treatment which is different from the original assignment for reasons I had mentioned previously. Finally, the LATE estimate performs a two stage least squares regression where it uses the actual treatment as an explanatory variable and instruments it with the original assignment. In this case of LATE, T_b is the predicted value of the actual treatment from the first stage of regressing it using the original assignment. All standard errors have been clustered at the building level.

Section V.2: General Visualization

Before moving forward with the regression results, I look at a bar graph of the mean voter turnout for the average of both rounds in the election for the treatment and control groups based on gender. This allows me to expect what the direction of the treatment effect might be from the regression result. Figure 1 below illustrates this for the 2010 regional elections.

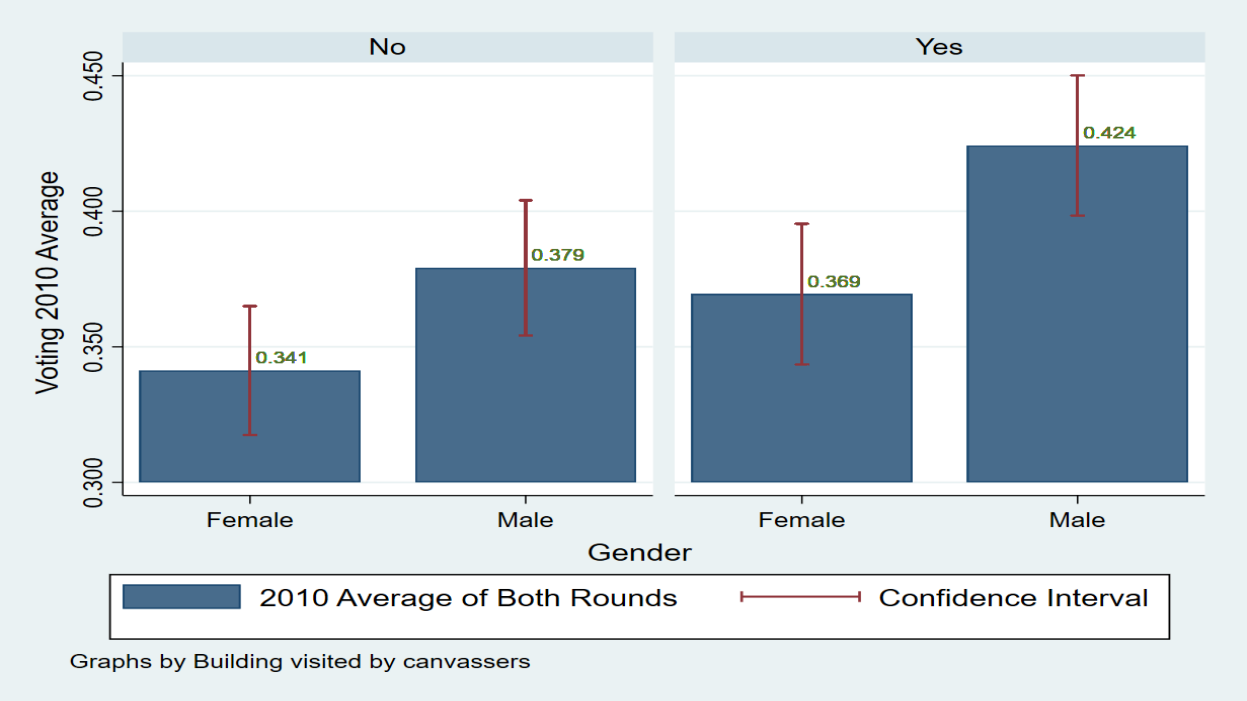

Fig 1: Voter Turnout for the Average of Rounds in 2010

We can see that there has been increasing impacts for both males and females, consistent with the success of the program. Males have increased from 37.9 percentage points to 42.4 percentage points while women have seen an increase from 34.1 percentage points to 36.9 percentage points for voter turnout. Men have had a greater differential effect which would be reflected within the average treatment effect variables of the regressions as a positive coefficient. The true effect can be estimated once strata fixed effects and individual and building controls have been accounted for.

Since I will also test the persistence of the program, figure 2 below illustrates the turnout for the 2011 cantonal elections.

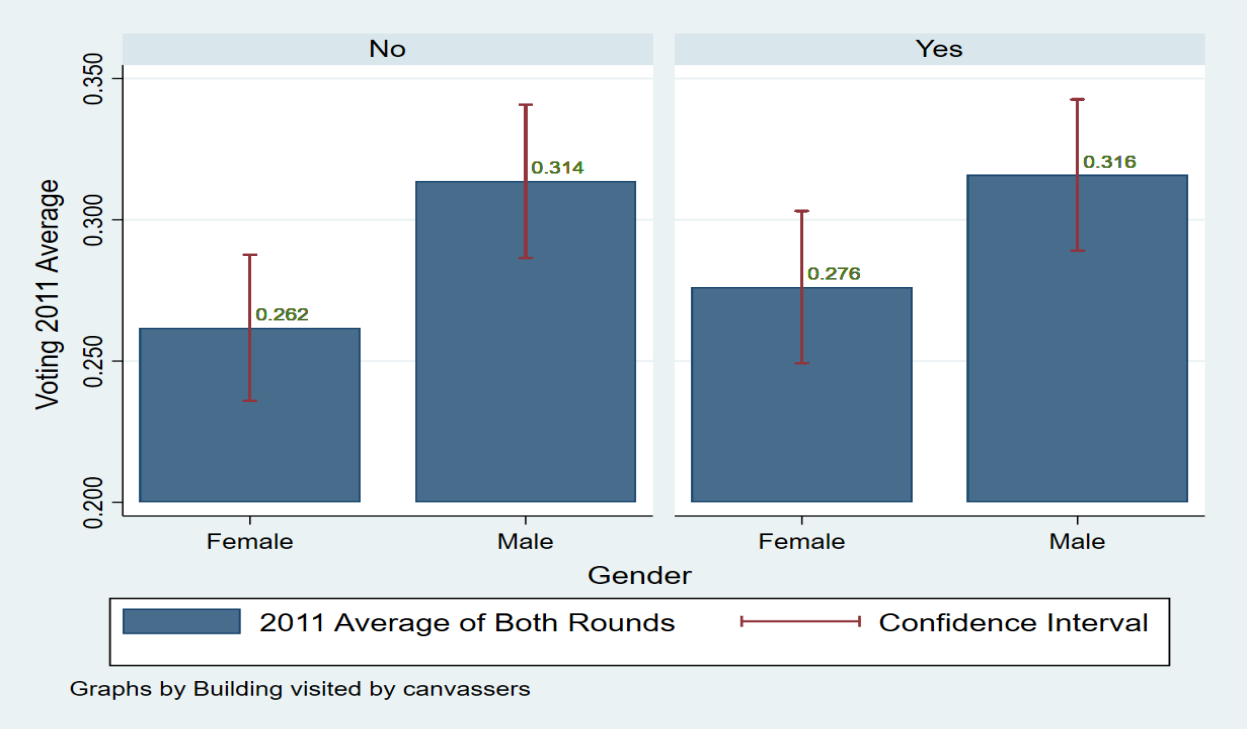

Fig 2: Voter Turnout for the Average of Rounds in 2011

In this figure we can see that women seem to have a greater differential impact as compared to men with a 1.4 percentage point increase for them, while men only have a 0.2 percentage point increase. Therefore, now I would expect the average treatment effect to have a negative coefficient signifying that women have felt a greater outreaching effect of the program as compared to men.

Section V.3: ITT Results

Table 8 below looks at the regression results for the 2010 regional elections separated by gender. Panel (a) looks at the first round, panel (b) illustrates the second round and panel (c) is the average results of both rounds. The second column includes only strata fixed effects while the third column includes strata fixed effects, individual controls and building controls. This format will hold for all regression tables within these main results. The variable "male.assigntreat", reflects the ATE, in all three panels within all tables in this ITT section. . Looking at the first column we

can see positive ATE values, which implies that the differential impact of increased voting participation was greater for men at 2.4, 2.2 and 2.3 percentage points for the three panels respectively. While this goes against my alternate hypothesis that the differential impact would be greater for women showcased by a negative sign, the impact is not significantly different from zero. When strata fixed effects are included in column 2, the coefficients become smaller in both rounds averaging an effect of 1.9 percentage points in panel (c) of column 2 as compared to the 2.3 percentage point difference in column 1 of the same panel. Including individual and building controls further reduces this coefficient to an average effect of 1.5 percentage points in column 3.

Since I hypothesize that the outreach program would cause a behavioral change in female immigrants, it could be possible that the effects of the program might be felt in a longer term rather than immediate elections. Therefore, I redo the analysis for the 2011 cantonal elections as shown in Table 9. In the first round we continue to see positive ATE values across all specifications of controls. However, in the second round which is the furthest from the time of treatment now sees a negative value for ATE implying that women had a greater increase in voting participation as compared to men. This effect was 1.8, 1.2 and 1.5 percentage points from columns 1 to 3. This effect was large enough to create an overall negative average ATE at 0.8 percentage points for all controls. While this is the hypothesized sign I expected, it is not significant from 0.

	(1)	(2)	(3)
VARIABLES	vote2010_1st	vote2010_1st	vote2010_1st
Panel (a): First rounds in 2010 regional			
male.assigntreat	0.024	0.021	0.018
	(0.024)	(0.024)	(0.024)
male	0.037**	0.048***	0.040**
	(0.016)	(0.016)	(0.016)
assigntreat	0.025	0.016	0.022
	(0.021)	(0.019)	(0.018)
Constant	0.315***	-0.048***	0.366**
	(0.014)	(0.016)	(0.182)
Strata Controls	NO	YES	YES
Build/Ind Controls	NO	NO	YES
Observations	4,747	4,747	4,747
R-squared	0.004	0.096	0.114
	vote2010_2nd	vote2010_2nd	vote2010_2nd
Panel (b): Second rounds in 2010 regional			
male.assigntreat	0.022	0.016	0.012
	(0.024)	(0.024)	(0.024)
male	0.034**	0.041**	0.031*
	(0.017)	(0.017)	(0.017)
assigntreat	0.007	0.005	0.014
	(0.021)	(0.019)	(0.019)
Constant	0.379***	-0.041**	0.065
	(0.014)	(0.017)	(0.183)
Strata Controls	NO	YES	YES
Build/Ind Controls	NO	NO	YES
Observations	4,747	4,747	4,747
R-squared	0.003	0.088	0.116
	vote2010_av	vote2010_av	vote2010_av
Panel (c): Average of both rounds in 2010 regional			
male.assigntreat	0.023	0.019	0.015
	(0.021)	(0.022)	(0.021)
male	0.035**	0.044***	0.035**
	(0.015)	(0.015)	(0.015)
assigntreat	0.016	0.010	0.018
	(0.019)	(0.017)	(0.017)
Constant	0.347***	-0.044***	0.215
	(0.012)	(0.015)	(0.169)
Strata Controls	NO	YES	YES
Build/Ind Controls	NO	NO	YES
Observations	4,747	4,747	4,747
R-squared	0.004	0.093	0.121

Table 8: ITT Estimates for 2010 Regionals

	(1)	(2)	(3)
VARIABLES	vote2011_1st	vote2011_1st	vote2011_1st
Panel (a): First rounds in 2011 cantonal			
male.assigntreat	0.005	0.002	0.000
	(0.026)	(0.027)	(0.026)
male	0.046**	0.054***	0.043**
	(0.018)	(0.019)	(0.018)
assigntreat	0.008	0.009	0.013
	(0.022)	(0.021)	(0.021)
Constant	0.235***	0.000	0.276
	(0.016)	(.)	(0.184)
Strata Controls	NO	YES	YES
Build/Ind Controls	NO	YES	YES
Observations	3,579	3,579	3,579
R-squared	0.003	0.087	0.117
	vote2011_2nd	vote2011_2nd	vote2011_2nd
Panel (b): Second rounds in 2011 cantonal			
male.assigntreat	-0.018	-0.012	-0.015
	(0.028)	(0.029)	(0.029)
male	0.053***	0.053***	0.043**
	(0.019)	(0.019)	(0.019)
assigntreat	0.007	0.007	0.013
	(0.023)	(0.022)	(0.022)
Constant	0.295***	1.000	-0.079
	(0.016)	(.)	(0.203)
Strata Controls	NO	YES	YES
Build/Ind Controls	NO	YES	YES
Observations	3,578	3,578	3,578
R-squared	0.002	0.074	0.105
	vote2011_av	vote2011_av	vote2011_av
Panel (c): Average of both rounds in 2011 cantonal			
male.assigntreat	-0.006	-0.005	-0.008
	(0.024)	(0.025)	(0.024)
male	0.049***	0.053***	0.043***
	(0.017)	(0.017)	(0.016)
assigntreat	0.008	0.008	0.013
	(0.020)	(0.019)	(0.019)
Constant	0.265***	0.500***	0.099
	(0.015)	(0.000)	(0.175)
Strata Controls	NO	YES	YES
Build/Ind Controls	NO	NO	YES
Observations	3,578	3,578	3,578
R-squared	0.003	0.079	0.116

Table 9: ITT Estimates for 2011 Cantonals

Section V.4: TOT Results

Since the actual treatment was different from how the authors originally assigned it there is likely to be some bias in the ITT estimates. Therefore, I show regression results for TOT using the actual treatment assignment. Now, the ATE variable is "male.actualtreat." Table 10 below does this for the 2010 regional elections. In comparison with the estimates from Table 8 there are not any significant differences in the magnitude of estimates. They continue to be positive and insignificant from 0. Looking at the average effects, men have a greater impact of the program at 1.7, 1.9 and 1.7 percentage points across the control specifications.

The TOT estimate with the 2011 election data is shown in Table 11 below. Looking at panel (a) we can see a change in sign from the previous ITT estimates of panel (a) of Table 9. The coefficients illustrating ATE are now all negative implying women having a greater differential impact compared to men. This impact is now 0.4, 0.5 and 0.6 percentage points across specifications in the first round. In the second round we continue to see negative coefficients 2.1, 1.4 and 1.7 percentage points more for women than men in the three columns respectively. This increases the average impact in panel (c). Panel (c) of Table 9 had a negative average value of 0.8 percentage points in column 3 which includes all controls. Now this negative value increases to 1.1 percentage points in the TOT estimate. Since the TOT reflects the actual treatment, I would place more weight on these estimates in comparison with the ITT. However, none of the ATE's reported are statistically significant.

	(1)	(2)	(3)
VARIABLES	vote2010_1st	vote2010_1st	vote2010_1st
Panel (a): First rounds in 2010 regional			
male.actualtreat	0.016	0.020	0.019
	(0.024)	(0.024)	(0.024)
male	0.041**	0.048***	0.040**
	(0.016)	(0.016)	(0.016)
actualtreat	0.036*	0.025	0.030
	(0.021)	(0.019)	(0.019)
Constant	0.310***	-0.048***	0.355**
	(0.014)	(0.016)	(0.181)
Strata Controls	NO	YES	YES
Build/Ind Controls	NO	NO	YES
Observations	4,747	4,747	4,747
R-squared	0.005	0.096	0.114
	vote2010_2nd	vote2010_2nd	vote2010_2nd
Panel (b): Second rounds in 2010 regional			
male.actualtreat	0.018	0.018	0.015
	(0.024)	(0.025)	(0.024)
male	0.035**	0.040**	0.030*
	(0.017)	(0.017)	(0.017)
actualtreat	0.021	0.019	0.026
	(0.021)	(0.020)	(0.019)
Constant	0.372***	-0.040**	0.049
	(0.013)	(0.017)	(0.181)
Strata Controls	NO	YES	YES
Build/Ind Controls	NO	NO	YES
Observations	4,747	4,747	4,747
R-squared	0.003	0.088	0.116
	vote2010_av	vote2010_av	vote2010_av
Panel (c): Average of both rounds in 2010 regional			
male.actualtreat	0.017	0.019	0.017
	(0.021)	(0.022)	(0.021)
male	0.038**	0.044***	0.035**
	(0.015)	(0.015)	(0.015)
actualtreat	0.028	0.022	0.028
	(0.019)	(0.018)	(0.017)
Constant	0.341***	-0.044***	0.202
	(0.012)	(0.015)	(0.168)
Strata Controls	NO	YES	YES
Build/Ind Controls	NO	NO	YES
Observations	4,747	4,747	4,747
R-squared	0.005	0.094	0.121

Table 10: TOT Estimates for 2010 Regionals

	(1)	(2)	(3)
VARIABLES	vote2011_1st	vote2011_1st	vote2011_1st
Panel (a): First rounds in 2011 cantonal			
male.actualtreat	-0.004	-0.005	-0.006
	(0.026)	(0.027)	(0.027)
male	0.050***	0.057***	0.046**
	(0.018)	(0.018)	(0.018)
actualtreat	0.020	0.024	0.026
	(0.022)	(0.021)	(0.021)
Constant	0.230***	0.976***	0.257
	(0.015)	(0.021)	(0.183)
Strata Controls	NO	YES	YES
Build/Ind Controls	NO	NO	YES
Observations	3,579	3,579	3,579
R-squared	0.003	0.087	0.118
	vote2011_2nd	vote2011_2nd	vote2011_2nd
Panel (b): Second rounds in 2011 cantonal			
male.actualtreat	-0.021	-0.014	-0.017
	(0.028)	(0.029)	(0.029)
male	0.054***	0.053***	0.043**
	(0.019)	(0.019)	(0.019)
actualtreat	0.009	0.016	0.021
	(0.023)	(0.022)	(0.022)
Constant	0.294***	1.000***	-0.090
	(0.016)	(0.000)	(0.204)
Strata Controls	NO	YES	YES
Build/Ind Controls	NO	NO	YES
Observations	3,578	3,578	3,578
R-squared	0.002	0.074	0.105
	vote2011_av	vote2011_av	vote2011_av
Panel (c): Average of both rounds in 2011 cantonal			
male.actualtreat	-0.012	-0.009	-0.011
	(0.024)	(0.025)	(0.024)
male	0.052***	0.055***	0.044***
	(0.016)	(0.016)	(0.016)
actualtreat	0.014	0.020	0.023
	(0.020)	(0.019)	(0.019)
Constant	0.262***	0.500***	0.084
	(0.014)	(0.000)	(0.175)
Strata Controls	NO	YES	YES
Build/Ind Controls	NO	NO	YES
Observations	3,578	3,578	3,578
R-squared	0.003	0.079	0.116

Table 11: TOT Estimates for 2011 Cantonals

Section V.5: LATE Results

Finally, we now look at results from the instrument variable regression. Due to the nature of the differences between the original assignment to treatment and actual treatment, it is likely that randomization still holds in which case the TOT estimates would not likely be biased. Yet, the LATE estimates illustrate a conservative approach. Table 12 below does this for the 2010 regional elections. The ATE is "male.actualtreat" which is the fitted values from the first stage regression. There continues to be positive ATE's across all rounds and specifications as seen before in the ITT and TOT estimate tables. For the average of the rounds the differential impact for men is greater at 1.9 percentage points for strata fixed effects and individual and building controls. This is only slightly greater than the previous TOT estimate by 0.2 percentage points. We continue to see insignificant coefficients for the ATE in Table 12.

Table 13 below shows the LATE estimates for the 2011 elections. We can see that in panel (a) the ATE becomes positive signifying that men have a greater differential impact. However, this is an extremely low value which is 0 percentage points when all controls are added. The second round now looks at a negative sign favoring the differential impact for women. We see a 2, 1.3 and 1.7 percentage point increase for women across all specifications in Table 13. Finally, this leads to an average effect of negative 0.8 percentage points in column 3 of panel (c). Therefore, we can see that the TOT estimates and the LATE estimates for 2011 is consistent with my theory of women having a greater impact than men while the analysis for the 2010 elections yields an opposite result as seen by the positive signs. However, none of the ATE's I have estimated are significant from 0.

	(1)	(2)	(3)
VARIABLES	vote2010_1st	vote2010_1st	vote2010_1st
Panel (a): First rounds in 2010 regional			
actualtreat	0.028	0.016	0.023
	(0.023)	(0.020)	(0.019)
male.actualtreat	0.025	0.023	0.020
	(0.026)	(0.026)	(0.025)
male	0.036**	0.047***	0.039**
	(0.017)	(0.016)	(0.016)
Constant	0.314***	0.346***	-0.240
	(0.015)	(0.010)	(0.170)
Strata Controls	NO	YES	YES
Build/Ind Controls	NO	NO	YES
Observations	4,747	4,747	4,747
R-squared	0.005	0.096	0.114
	vote2010_2nd	vote2010_2nd	vote2010_2nd
Panel (b): Second rounds in 2010 regional			
actualtreat	0.007	0.005	0.015
	(0.023)	(0.020)	(0.020)
male.actualtreat	0.024	0.018	0.013
	(0.026)	(0.026)	(0.026)
male	0.033*	0.040**	0.031*
	(0.017)	(0.017)	(0.017)
Constant	0.378***	0.350***	-0.518***
	(0.014)	(0.011)	(0.171)
Observations	4,747	4,747	4,747
R-squared	0.003	0.088	0.116
Strata Controls	NO	YES	YES
Build/Ind Controls	NO	NO	YES
	vote2010_av	vote2010_av	vote2010_av
Panel (c): Average of both rounds in 2010 regional			
actualtreat	0.017	0.010	0.019
	(0.021)	(0.018)	(0.018)
male.actualtreat	0.024	0.020	0.017
	(0.023)	(0.023)	(0.023)
male	0.035**	0.044***	0.035**
	(0.015)	(0.015)	(0.015)
Constant	0.346***	0.348***	-0.379**
	(0.013)	(0.009)	(0.158)
Strata Controls	NO	YES	YES
Build/Ind Controls	NO	NO	YES
Observations	4,747	4,747	4,747
R-squared	0.005	0.094	0.121

Table 12: LATE Estimates for 2010 Regionals

	(1)	(2)	(3)
VARIABLES	vote2011_1st	vote2011_1st	vote2011_1st
Panel (a): First rounds in 2011 cantonal			
actualtreat	0.008	0.009	0.014
	(0.025)	(0.022)	(0.022)
male.actualtreat	0.005	0.002	0.000
	(0.029)	(0.029)	(0.028)
male	0.046**	0.054***	0.043**
	(0.019)	(0.019)	(0.018)
Constant	0.235***	0.111	-0.549***
	(0.016)	(0.077)	(0.184)
Strata Controls	NO	YES	YES
Build/Ind Controls	NO	NO	YES
Observations	3,579	3,579	3,579
R-squared	0.003	0.087	0.117
	vote2011_2nd	vote2011_2nd	vote2011_2nd
Panel (b): Second rounds in 2011 cantonal			
actualtreat	0.008	0.007	0.014
	(0.026)	(0.023)	(0.023)
male.actualtreat	-0.020	-0.013	-0.017
	(0.030)	(0.031)	(0.030)
male	0.053***	0.053***	0.043**
	(0.019)	(0.019)	(0.019)
Constant	0.294***	0.067	-0.596***
	(0.017)	(0.063)	(0.179)
Strata Controls	NO	YES	YES
Build/Ind Controls	NO	NO	YES
Observations	3,578	3,578	3,578
R-squared	0.002	0.074	0.105
	vote2011_av	vote2011_av	vote2011_av
Panel (c): Average of both rounds in 2011 cantonal			
actualtreat	0.008	0.008	0.014
	(0.023)	(0.020)	(0.020)
male.actualtreat	-0.007	-0.005	-0.008
	(0.026)	(0.026)	(0.026)
male	0.050***	0.054***	0.043***
	(0.017)	(0.017)	(0.016)
Constant	0.265***	0.089	-0.572***
	(0.015)	(0.066)	(0.172)
Strata Controls	NO	YES	YES
Build/Ind Controls	NO	NO	YES
Observations	3,578	3,578	3,578
R-squared	0.003	0.079	0.116

Table 13: LATE Estimate for 2011 Cantonals

Section V.6: LATE Robustness Check

In order to check for the sensitivity of my regression results, I exclude the Middle Eastern population and redo my LATE estimation on the average of rounds in both the 2010 and 2011 elections. While I believe that the Middle East displays characteristics of gender bias like Asia and Africa, I was not able to find papers that carefully test this claim. I do this for the average of both rounds to see the mean final effect and I use LATE since it is the most conservative estimation approach. Table 14 below illustrates these results. We can see the ATE variable to continue having positive effects for the 2010 elections. This effect is 2.1 percentage points and 1.6 percentage points more for men than women, without and with individual and building controls respectively. However, we can see that the previously negative average treatment effect for the 2011 elections as seen in panel (c) of Table 13 has become more positive. Without individual and building controls there is now a 0.2 percentage point increase for men and with all controls the effect is 0. However, the average treatment effects remain insignificant from zero.

	(1)	(2)	(3)	(4)
VARIABLES	vote2010_av	vote2010_av	vote2011_av	vote2011_av
male.actualtreat	0.021	0.016	0.002	-0.000
	(0.023)	(0.023)	(0.026)	(0.026)
actualtreat	0.013	0.022	0.009	0.014
	(0.018)	(0.018)	(0.020)	(0.020)
male	0.047***	0.038**	0.052***	0.041**
	(0.015)	(0.015)	(0.017)	(0.017)
Constant	0.346***	-0.403**	0.088	-0.564***
	(0.009)	(0.162)	(0.066)	(0.185)
Strata Controls	YES	YES	YES	YES
Build/Ind Controls	NO	YES	NO	YES
Observations	4,636	4,636	3,497	3,497
R-squared	0.095	0.122	0.079	0.116

Table 14: LATE excluding Middle East

Section VI: Conclusion

In this paper I have replicated the study of the effects of a voter outreach program implemented in France during the 2010 on immigrants and extended the estimates by gender. I have found that for the 2010 regional elections there has been a positive differential impact for men as compared to women across all estimation techniques and specifications, robust to the exclusion of the Middle Eastern population. However, these effects were not significant. When I looked at the persistence effect of this in the 2011, cantonal elections the effect was negative, signifying a greater impact for women compared to men of the program. The average of the rounds yielded this effect across all estimations and specifications however this was insignificant, and the negative magnitude fell when the Middle Eastern population was excluded.

One possible explanation of this change in direction of effect across elections could be that since there is a psychological effect of the program which made women feel more important in this decision, it took some time for this effect to manifest, causing the negative effects to be seen in the 2011 elections rather than the 2010 elections. But since I did not find any significance within my results, this is not a substantiated claim. The insignificance of these results corresponds to the same results the authors had found for the 2011 elections, where they state that the program seemed to have a diminishing overreaching effect.

In order to estimate a true causal effect of treating gender bias norms, we would need a program that is designed to do that. This program was not specified towards isolating the presence of female exclusion within household decision making and future research projects can devise a program which can answer that claim, like the study in Pakistan by Gine and Mansuri in 2018. Once this ideal program has been established, the research design I have implemented will be able to evaluate the effect of the program on voter turnout during the presence of gender bias.

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