

# The Role of Labor Unions as Political Machines: Evidence from the Case of the Mexican Teachers' Union \*

VERY PRELIMINARY – PLEASE DO NOT CIRCULATE

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## Abstract

In this paper we analyze the electoral role of the Mexican teacher's union as a political machine. To study its effect on electoral outcomes, we exploit variation across time in its political alliances, whether polling stations are located in schools –which facilitates the machine's operation– and its strength across Mexican states. Our findings suggest that the candidates supported by the machine of the teacher's union experience a significant increase in their vote share when a polling station is located in a school. However, such an effect is only present in the areas where the leadership of the teacher's union exerts influence over its affiliates.

**JEL:** D72, J51

**Key words:** electoral fraud, labor union, political machine.

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# 1 Introduction

In most contemporary societies labor unions constitute powerful organizations. Traditionally, unions engage in collective action to pursue the narrow interests of their members. However, they are often politically captured to operate as political machines, and consequently, have a broader effect on the political system. While the potential impact of the capture of labor unions can be significant, there is relatively little research studying their electoral role.

In this paper we analyze the electoral role of the Mexican National Educational Workers Union (SNTE) –the largest union in Latin America– as a political machine.<sup>1</sup> The SNTE is widely known to engage in systematic voter mobilization to support the various parties and candidates with whom it forges political alliances over time. To study the effect of the SNTE on electoral outcomes, we exploit variation across time in the political alliances of the SNTE, the location of polling stations, which affects how intensively the machine of the SNTE can operate, and the strength of the SNTE across Mexican states.

Labor unions have unique characteristics that allow them to influence labor issues that affect the wellbeing of their members, such as higher wages, better working conditions, etc. To begin with, unions enjoy a high level of *de facto* political power due to their ability to impose large externalities on society, for example through strikes or demonstrations (see Acemoglu et al. (2005)). Such power enables unions to push for or block legislation or policies that affect the interest of their members. Additionally, the large number of members and high levels of discipline within their organizations allow unions to deliver the votes of their members to specific parties or candidates in exchange for policy concessions.

However, the use of the political power of unions has not often been restricted to influence issues that benefit their members. Their large number of members, organizational capacity and extended presence make unions natural targets for political capture. Due to their ubiquitous presence, labor unions provide a natural structure for voter mobilization. As a result, unions have often been used as political machines where their members act as political brokers who deliver votes through their mobilization and influence on voters. Common examples are the Argentinean and Mexican labor unions, which were traditionally at the service of the Peronist party and the Institutional Revolutionary Party (PRI), respectively.

To understand the role of labor unions as political machines, we study Mexico’s largest teachers’ union, the SNTE. There is widespread anecdotal evidence that the SNTE operates as a political machine. Figures from the popular press suggest that the SNTE’s leadership controls more than 320,000 teachers over whom it exerts pressure to mobilize voters to support the candidates it is aligned to (Solano (2009)). The SNTE has forged different alliances with

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<sup>1</sup>More than 1.4 million teachers are affiliated to the SNTE (Hernández (2013)).

various parties to support different candidates over time. These alliances followed the political trajectory of the until recently SNTE's main leader, Elba Esther Gordillo. Gordillo made the headlines in March of 2013 when she was imprisoned on alleged corruption and graft charges, which led her to step down from the SNTE's leadership..

To estimate the electoral effect of the SNTE's political machine, we exploit three sources of variation. First, we use variation over time on the alliances between SNTE and different parties for specific offices. While SNTE has historically supported the PRI, it recently created its own party –the New Alliance Party (PANAL)– and forged electoral alliances with other parties for the presidential races, where the PANAL stood no chance of success. Second, we exploit variation in the strength of SNTE across different states. In a subset of states teachers are under the control of competing organizations. Finally, we use variation in the location of polling stations, in particular, whether polling stations are located in schools. As we document below, teachers are particularly likely to exert influence over voters whenever polling stations are located in schools through their more direct interaction with parents and their role as election officials.

Our findings suggest that the candidates supported by the SNTE's machine experience a 2 pp increase in their vote share when a polling station is located in a school. These results are robust to the inclusion of state, municipality or section fixed effects and to the inclusion of state-specific time controls. Additionally, we can rule out alternative explanations associated to the differential electoral behavior of more educated voters since our results remain qualitatively similar when we control for the presence of different types of schools in the electoral sections where voters are organized.

Importantly, we find no effect of the SNTE's machine in the states where the SNTE does not exert influence over teachers. This is reassuring and suggests that our estimates indeed capture the role of SNTE as a political machine and the way in which its members are compelled to mobilize voters for the parties and candidates supported by the SNTE.

Our findings shed light on a wide range of issues. First, they highlight the potential role of labor unions as political machines and of union members as political brokers. This is of particular importance for public sector unions whose members interact with citizens on a regular basis, and are often responsible for the allocation of public funds and the delivery of essential public goods such as health, education and security among others. Thus, understanding the electoral role of public unions becomes fundamental for the understanding of clientelism in many developed and developing countries. Our findings also stress the importance of the location of polling stations and the way in which such location can exacerbate clientelism. In fact, in many democracies it is common for polling stations to be located in schools and for teachers to play the role of election officials. Whenever teachers are part of a political

machine that can mobilize and sway voters in favor of a given candidate, locating polling station in schools may facilitate the role of teachers as political brokers and undermine the quality of democracy.

This paper is related to various strands of the literature. First, our paper is related to the literature on clientelism that studies how political machines and political brokers mobilize and compel voters through coercion or targeted benefits (see for example Chandra (2004), Stokes (2005), Nichter (2008), Larreguy (2013)).<sup>2</sup> Our paper is also related to Feigenbaum (2013) who studies the effect of the presence of unions on the democratic party vote share in the United States. Our paper is close to the work by Berger et al. (2008) who provide evidence that the location of polling stations influence voters' decisions in the United States.

The remainder of the paper proceeds as follows. In section 2, we provide background information on the historical origins of SNTE and of its role as a political machine. In section 3, we present the empirical approach and the data. In section 4, we show our main results, and present robustness check of our analysis. Section 5 concludes.

## 2 Background

### 2.1 The SNTE as a Political Machine

The Mexican National Educational Workers Union –commonly known as the SNTE, its acronym in Spanish– is the largest union in Latin America, with over 1.4 million members. Formed in 1949, the SNTE is divided in 59 local sections across 32 states. Some states are divided into multiple local sections since in some cases federal, state and private school workers are grouped into different sections. Through most of its history the federal leaders of the SNTE exerted the monopoly over the control of its local sections.<sup>3</sup> However, in the past decades they have started facing competition from the National Coordinator of Educational Workers (CNTE) and some state independent unions, a phenomenon that we discuss in depth later.

Since its genesis the leadership of the SNTE has exploited the far-reaching structure of the SNTE turning it into a political machine originally at the service of the long-ruling Institutional Revolutionary Party (PRI). However, in 2005 the traditional alliance between the SNTE and the PRI suffered a rupture. Since this break the SNTE has formed varying

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<sup>2</sup>Hicken (2011), Kitschelt and Wilkinson (2007) and Schaffer (2007) provide a broad overview of clientelistic practices in developing countries.

<sup>3</sup>When the Agreement for the Modernization of Basic and Normal Education –ANMEB, its acronym in Spanish– was signed in 1992, the federal leaders of the SNTE not only became the sole intermediaries in labor negotiations, such as salaries or benefits for the members, but they also gained the right to appoint or replace the leaders of the local sections. Thanks to the ANMEB the national leaders of the SNTE further strengthened their power over the control of the sectional leaders.

alliances with candidates of different parties. To understand the nature of those alliances, it is important to know the trajectory of the until recently main SNTE's leader, Elba Esther Gordillo.

Gordillo was the main leader of the SNTE for more than two decades and held powerful positions within the PRI. She started presiding the SNTE in 1989 and had to step down in 2013 due to her imprisonment for the embezzlement of USD 160 millions. Gordillo joined the PRI's ranks in 1970 and occupied several PRI positions reaching the party's vice-presidency in 2002 and becoming the head of the PRI faction in the Chamber of Deputies in 2003. However, in light of the 2006 presidential elections, Gordillo started a political war against Roberto Madrazo for the PRI's presidential candidacy. As a result, Gordillo lost her leadership position in the PRI faction in the Chamber of Deputies when PRI deputies voted to oust her as head. Gordillo accused Madrazo of trying to bribe her with the party's presidency in exchange for supporting his candidacy. Ultimately, the PRI expelled Gordillo from its ranks and Madrazo ran as presidential candidate representing the PRI.

After leaving the PRI in 2005 Gordillo founded her own political party –the New Alliance Party (PANAL)– to participate in the 2006 federal elections. The political machine of the SNTE then passed on to the service of the PANAL. The Mexican presidency became no longer a feasible goal for Gordillo.<sup>4</sup> Instead, the focus of Gordillo and the PANAL in the federal election has been the share of federal representatives and senators that are chosen by proportional representation.<sup>5</sup> However, Gordillo saw a way to profit from the votes the SNTE's political machine could collect for the presidential elections.

In 2006 Gordillo sold the votes of the SNTE's political machine for the presidential race to the candidate of the National Action Party (PAN), Felipe Calderón.<sup>6</sup> According to the analysts, the alliance that the PAN forged with the SNTE was essential for the victory of Felipe Calderón. He won by 0.58% winning margin (243,934 votes), which the SNTE's political machine could easily account for. The deal between Gordillo and the PAN was made public and the candidate of the losing party – Andrés Manuel López Obrador from the Party of the Democratic Revolution (PRD) – brought the result of the election to court. Recordings of Gordillo stating the sale of the votes of the SNTE's political machine for the presidential race to the PAN were used as evidence during the federal electoral court case.

In 2012 Gordillo sold the votes of the SNTE's political machine for the presidential election

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<sup>4</sup>Because of the lack of a natural base of supporters most analysts did not expect that the PANAL would reach the minimum vote share in the 2006 federal election to keep its registry to compete in federal elections.

<sup>5</sup>Mexico congressmen are chosen through a mixed system of plurality voting (PV) and proportional representation (PR). Out of 500 representatives, 300 are chosen through PV and 200 by PR. Out of 128 senators, 96 are elected by PV, and 32 through PR.

<sup>6</sup>The PANAL also made a strategic choice of its presidential candidate –Roberto Campa Cifrián– to draw voters away from Felipe Calderón's main challenger for the Mexican presidency.

to the PRI's candidate, Enrique Peña Nieto (Hernández and Durán (2011)).<sup>7</sup> The press revealed the existence of the *Ágora* plan, a highly complex strategy designed for the SNTE's political machine to supply the PRI's presidential candidate with 5 million votes (Avilés (2012)). The *Ágora* plan entailed driving 3 millions 434 thousand 125 citizens to the polling stations, the use of 27 thousand 473 members of the SNTE's political machine, and a total cost of 151 million 277 thousand 750 Mexican pesos. The work of the SNTE's political machine probably contributed to the victory of Enrique Peña Nieto since his winning margin –3 millions 329 thousand 785 votes (6.77%)– was considerably below the number of votes that the SNTE's political machine supposedly contributed with.

## 2.2 Erosion of the Power of the SNTE

As anticipated above, in the past decades the SNTE's monopoly over the control of its local sections has been challenged. In 1979 the educational workers that disagreed with the practices of the federal leaders of the SNTE organized themselves under the umbrella of the CNTE to challenge their power (Cutz (2009)). Currently, the CNTE controls local sections of the states of Chiapas, the Federal District, Guerrero, Michoacán, and Oaxaca (Santibañez and Jarillo (2008)) and it also has a significant presence in local sections of the states of Chihuahua, Hidalgo, Morelos, Nuevo León, Puebla, Querétaro, Tlaxcala and Zacatecas (Jaramillo (2008), Simonnet (2012)). Additionally, educational workers from the states of Baja California and Tabasco are organized in independent state teachers' unions (Simonnet (2012)).

Later we exploit the erosion of the power of the SNTE in several states as a robustness check in the identification of the electoral impact of the SNTE's political machine. A potential concern of this exercise is that local sections where the SNTE's control is stronger are also places where clientelistic practices are more frequent or strongholds of a certain party. Figure 1 shows graphically the distribution of the influence of the SNTE in the Mexican territory. Neither a correlation with places characterized by political clientelism nor with strongholds of a certain party are apparent.

## 2.3 SNTE's Strategies for Voter Mobilization

To understand the empirical strategy we outlay in Section 3 it is important to review the different strategies that the SNTE's political machine utilizes for voter mobilization. The

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<sup>7</sup>Additionally, the PANAL made again a strategic choice of its presidential candidate –Gabriel Quadri– to draw voters away from Andrés Manuel López Obrador, who was once more one of the two main contenders for the Mexican presidency.

SNTE's political machine has a pyramidal structure where the SNTE's leaders mobilize school directors and teachers, who subsequently mobilize the parents of their students.

The SNTE's leaders control school directors and teachers mostly through coercion. In the local sections under the SNTE's control, the SNTE enjoys full discretion over the appointment, firing and reallocation of teachers, as well as over bonuses, preferred loans, etc. Consequently, in an environment where 70% of school teachers are waiting for an appointment, teachers are threatened that they will lose their job or will not have access to one if they do not work for the SNTE's machine or do not get enough votes (Cantú (2009), Pereyra (2012), Rojas (2012)).

There are various strategies that are used to monitor and enforce teachers' performance. For example, in the so called 10 x 1 strategy teachers are requested to provide copies of the voting credential of ten parents, whose turnout is later monitored at the polling stations by SNTE's affiliates (Cantú (2009), Rojas (2012)). The SNTE also uses cut-off strategies through which, if the teachers in charge of the mobilization of the parents that belong to a polling station are unable to deliver a predetermined amount of votes, they investigate and punish those who did not do their job (Del Valle (2009) and Coronel (2012)).

In turn, school directors and teachers mobilize parents through different means. To begin with, teachers play a central role in their communities (Cantú (2009)). As such, they can influence the vote of uneducated parents and act as political brokers. Teachers normally mediate the access to fellowships that SNTE obtains from the Secretariat of Public Education (SEP). Additionally, they threaten uneducated parents that they will take away from them the social programs that they receive from the State government (Tiradero del Bote (2012)). Ultimately, teachers drive parents to vote on the election day, which is an illegal practice in México. School directors also contribute to mobilize parents with threats that they will not enroll their children the following academic year if they do not turn out to vote for the indicated candidate (Llaven (2012), López (2012)).

## **2.4 Why the Location of Polling Stations in Schools matters**

The SNTE's political machine exerts a considerable effort to place school directors and teachers as polling station officials, and thus, to monitor the votes they have secured from parents Franco (2012). The polling station officials have a significant interaction with voters. They are responsible for asking voters for their voting credential, crossing it against the list of voters registered at the polling station, and marking their thumb with ink to signal they have voted to prevent double voting. Consequently, the sole presence of the school director or a teacher as a polling station official operates as control mechanism for parents that turn out to vote in the school where they send their children (Galán (2012)).

The location of the polling stations in schools makes it easier for the SNTE’s machine to allocate school directors and teachers as polling station officials (Rivera (2012)). To begin with, polling station officials are trained in the location of the polling stations, and thus, school directors and teachers can identify the parents who are supposed act as officials. School directors and teachers can then use their influence to deter parents from showing up as polling station officials on the day of the election. While the Mexican electoral law establishes that absent polling station officials should be replaced by the first individual that is lined up to vote, school directors and teachers often abuse their authority to act as replacements.

### 3 Empirical Strategy and Data Description

#### 3.1 Empirical Strategy

In our baseline empirical strategy we exploit two of the sources of variation explained in Section 2: the alliances that the SNTE established with various parties for different races over time, and the fact that the location of the polling stations in schools makes it easier for the SNTE’s political machine to operate. With these two sources of variation we use two complementary identification strategies to test the prediction that the candidates that were *de facto* supported by the SNTE got more votes in the places where the machine operated more intensively.

First, we test whether, among the candidates that were *officially* aligned to the SNTE, those that were *de facto* supported by the SNTE got more votes in polling stations located in schools. The candidates that were *officially* supported by the SNTE’s machine were those affiliated to the PRI in 2000, and the PANAL in 2006 and 2012. For elections for representative to the Chamber of Deputies the SNTE always supported its official candidates, and thus, for this office the *official* and *de facto* candidates coincide. For presidential elections, the *official* and *de facto* candidates coincide for 2000 but differ in 2006 and 2012 since the SNTE supported the presidential candidate of PAN and PRI, respectively. We define a *de facto official* dummy that takes a value of one for candidates from the SNTE’s official parties who received the *de facto* support from the SNTE for a given office, and zero otherwise. The coding of the dummy can be summarized as follows:

Year	2000		2006		2012	
Race	P	R	P	R	P	R
SNTE’s <i>official party</i>	PRI	PRI	PANAL	PANAL	PANAL	PANAL
<i>De facto official</i>	1	1	0	1	0	1

where P and R indicate the races for president and representative to the Chamber of Deputies, respectively.

Second, we can test whether among all the candidates of the parties to whom the SNTE sold the votes and supported *de facto* for the presidential race, those who were *de facto* supported by the SNTE got more votes in polling stations located in schools. We refer to parties to whom the SNTE sold the votes for the presidential race as *other parties*. For the 2000 elections the *other party* coincides with the party officially supported by the SNTE, the PRI. For 2006 and 2012 the *other parties* correspond to the PAN and the PRI, respectively. We can define a dummy variable *de facto other* that takes a value of one for candidates from the *other parties* who received the *de facto* support from the SNTE for a given office, and zero otherwise. The coding of the dummy can be summarized as follows:

Year	2000		2006		2012	
Race	P	R	P	R	P	R
<i>Other party</i>	PRI	PRI	PAN	PAN	PRI	PRI
<i>De facto other</i>	1	1	1	0	1	0

Consider the electoral results for the races for president and representative for the years 2000, 2006, and 2012. To execute the first identification strategy, we focus on the vote share of the candidates of the party that was *officially* aligned to the SNTE as an outcome of interest. Since SNTE’s machine operated more intensively in polling stations located in schools, in those polling stations, we should observe a larger electoral support for *official candidates de facto* supported by the SNTE. To explore this hypothesis, we run the following regression,

$$y_{pemsto} = \beta_0 + \beta_1 \cdot off_{to} + \beta_2 \cdot pss_{pemst} + \beta_4 \cdot off_{to} \cdot pss_{pemst} + \eta_{es} + \gamma_{st} + \epsilon_{pemsto}, \quad (1)$$

where  $y_{pemsto}$  is the vote share for the *official party* of the SNTE in polling station  $p$  in electoral section  $e$  in municipality  $m$  in state  $s$  in year  $y$  for office  $o$ ,  $off_{to}$  is a dummy variable that indicates whether SNTE’s *official candidate* is *de facto* supported by the SNTE machine, and  $pss_{pemst}$  is a dummy variable that indicates whether the polling station is located in a school. In our most robust specification we include fixed effects for electoral sections,  $\eta_{es}$ .<sup>8</sup> We also control for state-year fixed effects,  $\gamma_{st}$ , to flexibly account for state specific-time trends. The prediction that the candidates who were *de facto* supported by the SNTE got more votes in the places where the machine operated more intensively implies that  $\beta_3 > 0$ .

To execute the second empirical strategy, we focus instead on the vote share of the candidates of the *other parties* (to whom the SNTE sold the votes and supported *de facto* for the presidential race), as an outcome of interest. Since SNTE’s machine operated more intensively in polling stations located in schools, in those polling stations, we should observe

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<sup>8</sup>We also report regressions with state and municipality fixed effects.

a larger electoral support for candidates from *other parties de facto* supported by the SNTE. We test this prediction by running the following regression,

$$y_{pemsto} = \beta_0 + \beta_1 \cdot oth_{to} + \beta_2 \cdot pss_{pemst} + \beta_4 \cdot oth_{to} \cdot pss_{pemst} + \eta_{es} + \gamma_{st} + \epsilon_{pemsto}, \quad (2)$$

where  $y_{pemsto}$  is the vote share for the *other party* (PRI in 2000 and 2012 and PAN in 2006), and  $oth_{to}$  is a dummy variable that indicates whether the candidate of the *other party* was *de facto* supported by the SNTE. Again, the prediction that we are testing implies that  $\beta_3 > 0$ .

### 3.2 Data Description

As an outcome variable, we use election data at the polling station level for the federal races for president and chamber of deputies for the years 2000, 2006 and 2012. The data comes from the “Elections in Mexico” website. The Federal Electoral Institute (IFE) and various state electoral institutes supply its content.<sup>9</sup>

To identify whether a polling station is located in a school, we made use of the Mexican freedom of information law and requested the IFE to provide the location of each polling station during the federal elections for the years 2000, 2006 and 2012.<sup>10</sup>

To compute the number of primary and secondary schools of different types in every electoral section, that we use in our section on robustness checks, we first obtained coordinates of the universe of primary and secondary schools from the Mexican Public Education Secretary website.<sup>11</sup> Then, together with the demarcation of each electoral section, which we got from the IFE, we used ArcGIS to compute the number of primary and secondary schools of each type in every electoral section.

Finally, we use several studies and newspaper articles to code up the local school sections where there are school directors and teachers that are dissident to the control of federal leaders of the SNTE. We mainly obtained data on the local school sections under the control of either the CNTE or independent state teachers’ unions from Jaramillo (2008), Santibañez and Jarillo (2008), and Simonnet (2012).

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<sup>9</sup>The information was accessed through <http://www.eleccionesenmexico.org.mx/>

<sup>10</sup>The information was requested through <https://ciudadania.ife.org.mx/infomex/ActionInitSAILoginINFOMEX.do>

<sup>11</sup>The information was accessed through <http://www.snie.sep.gob.mx/SNIESC>

## 4 Results

### 4.1 Baseline Results

The regression results based on equations (1) and (2) are reported in Tables 1 and 2, respectively. The specification in column 1 includes state fixed effects while the specification in column 2 includes municipality fixed effects. In column 3 we report the most demanding specification where we include electoral section fixed effects.

The results in Table 1 confirm that candidates from parties *officially* affiliated to the SNTE who are *de facto* supported by the SNTE receive on average roughly 2 additional percentage points in polling stations located in schools. The point estimates are remarkably stable across the different specifications which is reassuring and suggests that our estimates are not being driven by omitted variables at the municipal or electoral section level. Moreover, notice that the coefficient  $\beta_2$  on the main effect for whether the polling station is located in a school is very small and statistically insignificant. This suggests that SNTE's official party (PRI in 2000 and PANAL in 2006 and 2012) does not necessarily obtain more votes whenever the polling station is in a school.

These findings provide evidence on the importance of SNTE as a political machine and suggests that our results do not simply reflect the underlying preferences of voters from polling stations located in schools. Rather, our results suggest that those who vote in schools are more likely to support the candidate that the SNTE leadership wants them to support (and have instructed teachers to deliver votes for) rather than the *official* party affiliated with the SNTE.

Additionally, relative to the average electoral support enjoyed by PANAL (4% of the votes), the estimated effect is very large. The differential success enjoyed by candidates *de facto* supported by the SNTE in polling stations located in schools could explain roughly half of the vote share of PANAL.

The results presented in Table 2 are consistent and complement our results from Table 1. The estimates for  $\beta_3$  suggest that candidates from *other parties* (i.e., parties not officially *affiliated* with SNTE but whom the SNTE deliberately supported in the presidential race) receive an additional two percentage points whenever they are *de facto* supported by the SNTE and the polling station is located in a school. Again, reassuringly all point estimates are stable across the different specifications.

The similarity in the estimates of  $\beta_3$  that we obtain from the different identification strategies based on equations (1) and (2) is important for the interpretation of our results. The estimates based on (1) show us that the *official* party of the SNTE receives an additional two percentage points in polling stations located in schools whenever the SNTE decides to

support it *de facto*. Which party receives the votes that do not go to SNTE’s official party when the SNTE does not support *de facto* its own official candidate? The estimates based on (2) show that these votes do not go to any other party, but go precisely (and almost entirely) to the *other party* that the SNTE decides to support *de facto*. Thus, the estimates from both empirical strategies are complementary and corroborate the importance of SNTE as a political machine in mobilizing voters for the candidate it supports *de facto*.

In sum, our baseline results presented in Tables 1 and 2 provide evidence of a *causal* effect of SNTE’s *de facto* support of a candidate on that candidate’s vote share. Moreover this result is only present whenever the SNTE is able to exert more effective influence on voters which we capture by the polling station being located in a school. The stability of the point estimates across specifications and across the different identification strategies gives us further confidence in our results and interpretation.

## 4.2 Robustness Checks

In this section we perform a series of robustness checks and address other potential concerns with our identification strategies.

One potential problem is that the location of a polling station might be correlated with the availability of schools in a given electoral section and thus, with the presence of more educated voters. In other words, the polling station being located in a school may not only capture the fact that the SNTE’s machine operates more intensively in those areas but also the presence of more educated people. If we believe that more educated people are more strategic in their voting decisions (e.g., they do not ‘waste’ their vote for the presidential race by voting for the PANAL presidential candidate in the 2006 and 2012 elections), then our estimate of  $\beta_3$  may confound the effect of SNTE as an electoral machine with the strategic decision of more educated voters.

However, this concern is not supported by the fact that survey data do not suggest that more educated voters are more likely to vote for PANAL (see, CIDE/CSES (2009)). Moreover, notice that the results presented in Table 2 show that in races for president, the votes that PANAL loses in schools do not go to any candidate but precisely to the candidate supported by the SNTE. At least for the 2006 election, an alternative hypothesis based on strategic voting would have implied that a sizable fraction of these votes should have gone to the PRD given how close and uncertain the outcome of that specific race was.

Nonetheless, in order to address this potential concern we perform a series of robustness checks. First, we control for the availability of different types of schools in an electoral section. Second, we exploit the fact that the SNTE’s machine does not operate as intensively in many local school sections since these fell under the control of the CNTE or state independent

teacher’s unions. Thus, we can test whether the effect we estimate is absent in the dissident areas where the SNTE’s machine is less present.

Table 3 and Table 4 present analogous specifications to those reported in Table 1 and Table 2, respectively, and include controls for the number of different types of schools. In particular, we include measures for the number of indigenous primary schools, CONAFE primary schools, public general primary schools, private primary schools, public secondary schools, private secondary schools, and telesecondary schools, as well as the interaction of these variables with a dummy variable that indicates whether the candidate was *de facto* supported by the SNTE’s machine. While the estimated coefficients on the effect of the SNTE’s machine is somewhat smaller relative to the corresponding specifications with no controls, they remain sizable and statistically significant. Thus, our estimates are robust to controlling for the presence of schools in the polling station area. Note that the relative drop in the coefficient is partially explained by the fact that the controls also capture the presence of the SNTE’s machine, which ideally we would not want to control for. Thus, we should interpret these estimates as a lower bound.

Tables 5 and 6 present the corresponding estimates for aligned and dissident local school sections. There is no evidence of a differential electoral performance of candidates *de facto* supported by the SNTE in polling stations located in schools, in school sections where the SNTE does not exert control over teachers. Notice that the coefficient on the triple interaction reported in the last row of each table, which captures the additional effect in dissident school sections, is negative and similar in absolute value to the baseline estimate reported in the third row. In fact, the total effect on dissident school sections (computed by adding the coefficients in the third and sixth rows) is statistically indistinguishable from zero.

These results provide further evidence on the role of the SNTE as a political machine and rule out to a great extent any alternative interpretations based on the electoral behavior of more educated voters. Such alternative explanations would need to justify a differential behavior of educated voters across school sections aligned to and dissident from the SNTE, which seems highly unlikely.

## 5 Conclusion

In this paper we provide evidence on the role of the SNTE as a political machine. Candidates who receive the *de facto* support of the SNTE obtain on average two additional percentage points in places where teachers can exert a more effective influence on voters, which we capture with the polling station being located in a school. The effect is sizable and can explain up to half of the vote share obtained on average by PANAL, SNTE’s official party

founded in 2005. Consistent with our interpretation, we only find evidence of such an effect in places where the SNTE leadership exerts control over teachers. Our results are also robust to the inclusion of fixed effects at the state, municipal and electoral section level, and to various measures for the presence of schools in the corresponding electoral section, the minimum level at which voters are grouped into.

We are currently working on some additional exercises to further document the mechanism by which the teachers controlled by the SNTE influence voters and affect electoral outcomes. To provide quantitative evidence on teachers' explicit influence on electoral outcomes, we have requested the IFE for data on the number of substitutions of polling station officials. As described in section 2, teachers may be able to exert more effective influence on polling stations located in schools precisely by identifying and substituting election officials. We can then explicitly test whether the substitution of election officials occurs more often in polling stations located in schools.

We are also working on an additional identification strategy and on an additional measure to capture the intensity and effectiveness with which the SNTE can mobilize voters in some areas. In particular, in order to address the potential endogeneity of having a polling station located in a school, we will use an identification strategy based on the fact that polling stations are usually located in the largest localities within municipalities. Thus, we will construct an instrument based on the interaction between a measure for the relative size of the locality and of the availability of schools in the locality.

As an alternative measure on the effectiveness with which teachers can mobilize voters (particularly parents of school children) in a given area, we will exploit spatial variation in the location of polling stations and schools. Assuming that parents send their kids to the closest school, we can construct a measure of the extent to which those who vote in a school are also likely to send their kids to that particular school. This will allow us to assess the relevance of some of the mechanisms described in section 2 such as the extent to which teachers can threaten parents with the continuing enrollment of their kids.

Overall, our current set of results contribute to the existing literature on clientelism and stresses the importance of labor unions as political machines. They also point to the importance of understanding the consequences of the location of voting precincts. Voting precincts located in areas where political brokers are more effective at mobilizing, coercing or monitoring voting may exacerbate clientelistic practices. These are important and exciting areas for future research.

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## Appendix A: Figures and Tables

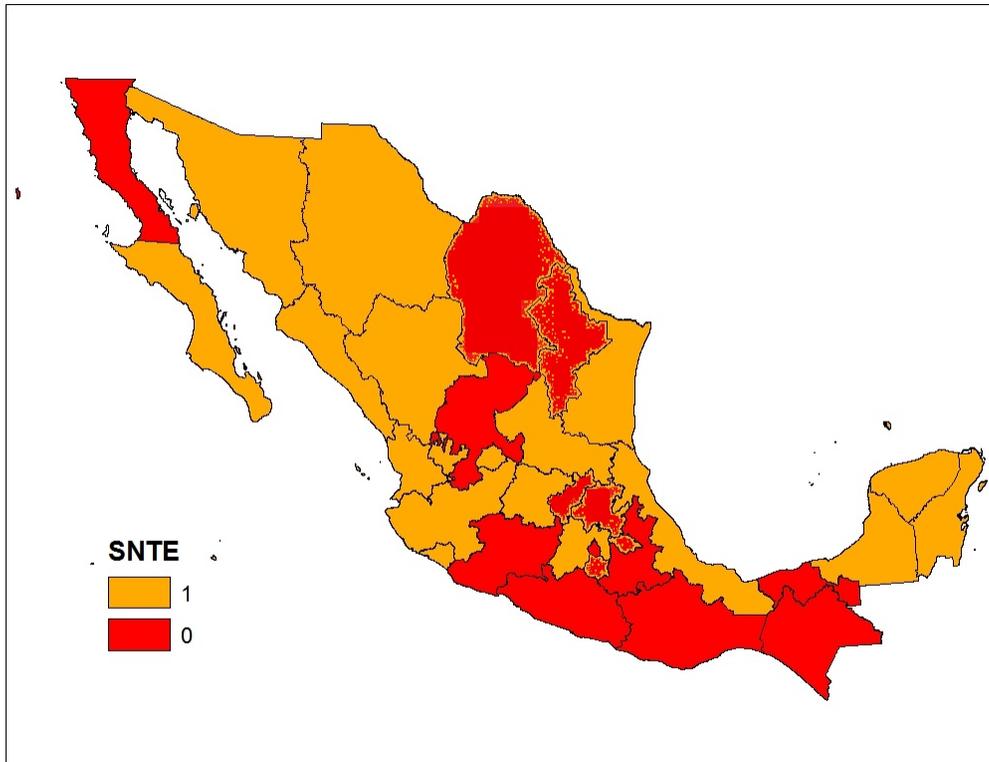


Figure 1: Distribution of the Influence of the SNTE in México

Table 1: The Effect of a Polling Station in a School on Vote Share of Official Candidates with De Facto Support

	(1)	(2)	(3)
De Facto Official	.0155***	.0173***	.0155***
	[.0034]	[.003]	[.0034]
Polling Station at a School	.0012*	-0.0019	0.0013
	[6.1e-04]	[.0011]	[9.1e-04]
De Facto Official * Polling Station at a School	.0173***	.0145***	.0173***
	[.0026]	[.0023]	[.0026]
State Fixed Effect	Yes	No	No
Municipality Fixed Effect	No	Yes	No
Electoral Section Fixed Effect	No	No	Yes
Mean Outcome	0.0308	0.0308	0.0308
St. Dev. Outcome	0.0354	0.0354	0.0354
Observations	699,503	699,503	699,503
R - squared	0.8176	0.8521	0.822

Note: In all specifications, the unit of observation is the polling station, we include state-year fixed effects, and standard errors are clustered at the state level. The outcome variable is the vote share for the parties officially aligned to the SNTE –the PRI in 2000, and the PANAL in 2006 and 2012. De Facto Official is a dummy variable that indicates that the candidate was *de facto* supported by the SNTE’s machine. \*  $p < .1$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

Table 2: The Effect of a Polling Station in a School on Vote Share of Candidates from Other Parties with De Facto Support

	(1)	(2)	(3)
De Facto Other	-0.0034	-0.0027	-0.0034
	[.0044]	[.0037]	[.0043]
Polling Station at a School	0.0053	-0.0028	0.0043
	[.0041]	[.0018]	[.0032]
De Facto Other * Polling Station at a School	.017***	.016***	.017***
	[.0037]	[.003]	[.0037]
State Fixed Effect	Yes	No	No
Municipality Fixed Effect	No	Yes	No
Electoral Section Fixed Effect	No	No	Yes
Mean Outcome	0.3959	0.3959	0.3959
St. Dev. Outcome	0.157	0.157	0.157
Observations	699,503	699,503	699,503
R - squared	0.3246	0.4323	0.3455

Note: In all specifications, the unit of observation is the polling station, we include state-year fixed effects, and standard errors are clustered at the state level. The outcome variable is the vote share for the parties to whom the SNTE sold the votes for presidential election –the PRI in 2000 and 2012, and the PAN in 2006. De Facto Other is a dummy variable that indicates that the candidate was *de facto* supported by the SNTE’s machine. \*  $p < .1$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

Table 3: The Effect of a Polling Station in a School on Vote Share of Official Candidates with De Facto Support (with School Controls)

	(1)	(2)	(3)
De Facto Official	.0099*** [.0035]	.0137*** [.0032]	.01*** [.0035]
Polling Station at a School	9.10E-04 [8.5e-04]	-0.0011 [.0012]	0.001 [9.5e-04]
De Facto Official * Polling Station at a School	.0103*** [.0021]	.0099*** [.002]	.0103*** [.002]
State Fixed Effect	Yes	No	No
Municipality Fixed Effect	No	Yes	No
Section Fixed Effect	No	No	Yes
Mean Outcome	0.0308	0.0308	0.0308
St. Dev. Outcome	0.0354	0.0354	0.0354
Observations	699,503	699,503	699,503
R - squared	0.825	0.8547	0.8289

Note: In all specifications, the unit of observation is the polling station, we include state-year fixed effects, and standard errors are clustered at the state level. The outcome variable is the vote share for the parties officially aligned to the SNTE –the PRI in 2000, and the PANAL in 2006 and 2012. De Facto Official is a dummy variable that indicates that the candidate was *de facto* supported by the SNTE’s machine. School Controls include controls for the number of indigenous primary schools, CONAFE primary schools, public general primary schools, private primary schools, public secondary schools, private secondary schools, and telesecondary schools, as well as their interaction with actual candidate. \*  $p < .1$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

Table 4: The Effect of a Polling Station in a School on Vote Share of Candidates from Other Parties with De Facto Support (with School Controls)

	(1)	(2)	(3)
De Facto Other	-.0095** [.0043]	-.007* [.0037]	-.0095** [.0043]
Polling Station at a School	0.0049 [.0041]	-0.0016 [.0019]	0.0039 [.0031]
De Facto Other * Polling Station at a School	.0092*** [.0033]	.0106*** [.0024]	.0093*** [.0032]
State Fixed Effect	Yes	No	No
Municipality Fixed Effect	No	Yes	No
Section Fixed Effect	No	No	Yes
Mean Outcome	0.3959	0.3959	0.3959
St. Dev. Outcome	0.157	0.157	0.157
Observations	699,503	699,503	699,503
R - squared	0.3404	0.4383	0.3606

Note: In all specifications, the unit of observation is the polling station, we include state-year fixed effects, and standard errors are clustered at the state level. The outcome variable is the vote share for the parties to whom the SNTE sold the votes for presidential election –the PRI in 2000 and 2012, and the PAN in 2006. De Facto Other is a dummy variable that indicates that the candidate was *de facto* supported by the SNTE’s machine. Actual candidate is a dummy variable that indicates that the candidate was *de facto* supported by the SNTE’s machine. School Controls include controls for the number of indigenous primary schools, CONAFE primary schools, public general primary schools, private primary schools, public secondary schools, private secondary schools, and telesecondary schools, as well as their interaction with other candidate. \* p<.1, \*\* p<.05, \*\*\* p<.01.

Table 5: The Effect of a Polling Station in a School on Vote Share of Official Candidates with De Facto Support in Aligned and Dissident School Sections

	(1)	(2)	(3)
De Facto Official	.0123** [.0048]	.0155*** [.0043]	.0124** [.0048]
Polling Station at a School	.0022*** [6.0e-04]	-0.0016 [.0013]	.0028*** [9.3e-04]
De Facto Official * Polling Station at a School	.0219*** [.0032]	.0172*** [.0032]	.0219*** [.0031]
De Facto Official * Dissident	0.0118 [.0092]	0.0068 [.0081]	0.0117 [.0092]
Polling Station at a School * Dissident	-0.0043 [.0027]	-0.0015 [.0034]	-.0053* [.0026]
De Facto Official * Polling Station at a School * Dissident	-.0184** [.0069]	-.0106* [.0062]	-.0183** [.0069]
State Fixed Effect	Yes	No	No
Municipality Fixed Effect	No	Yes	No
Electoral Section Fixed Effect	No	No	Yes
Mean Outcome	0.0308	0.0308	0.0308
St. Dev. Outcome	0.0354	0.0354	0.0354
Observations	699,503	699,503	699,503
R - squared	0.8178	0.8521	0.8222

Note: In all specifications, the unit of observation is the electoral section, we include state-year fixed effects, and standard errors are clustered at the state level. The outcome variable is the vote share for the parties officially aligned to the SNTE –the PRI in 2000, and the PANAL in 2006 and 2012. De Facto Official is a dummy variable that indicates that the candidate was *de facto* supported by the SNTE’s machine. \*  $p < .1$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .

Table 6: The Effect of a Polling Station in a School on Vote Share of Candidates from Other Parties with De Facto Support in Aligned and Dissident School Sections

	(1)	(2)	(3)
De Facto Other	-0.0064 [.0066]	-0.0054 [.0053]	-0.0066 [.0064]
Polling Station at a School	.0102* [.0054]	-0.0012 [.0023]	.0093** [.0043]
De Facto Other * Polling Station at a School	.0206*** [.0052]	.0191*** [.004]	.0208*** [.0049]
De Facto Other * Dissident	0.012 [.0109]	0.0103 [.0092]	0.0123 [.0107]
Polling Station at a School * Dissident	-.0204* [.0101]	-0.0072 [.0049]	-.0189** [.0088]
De Facto Other * Polling Station at a School * Dissident	-0.0152 [.0142]	-0.0125 [.0099]	-0.0157 [.0144]
State Fixed Effect	Yes	No	No
Municipality Fixed Effect	No	Yes	No
Section Fixed Effect	No	No	Yes
Mean Outcome	0.3881	0.3881	0.3881
St. Dev. Outcome	0.1522	0.1522	0.1522
Observations	699,503	699,503	699,503
R - squared	0.3255	0.4325	0.3463

Note: In all specifications, the unit of observation is the electoral section, we include state-year fixed effects, and standard errors are clustered at the state level. The outcome variable is the vote share for the parties to whom the SNTE sold the votes for presidential election –the PRI in 2000 and 2012, and the PAN in 2006. De Facto Other is a dummy variable that indicates that the candidate was *de facto* supported by the SNTE’s machine. \*  $p < .1$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ .