# "In consideration of the children", really? Adoption of the school-rhythm reform by French municipalities

Cassette, Aurélie and Farvaque, Etienne

Universités de Lille, Université du Havre, Skema Business School

2013

# "In consideration of the children", really? Adoption of the school-rhythm reform by French municipalities

Aurélie Cassette[1] Etienne Farvaque[2]

**Abstract**
This research looks at the determinants of the adoption of the school-rhythm reform by French municipalities. The possibility opened to mayors to adopt the reform sooner (2013) or later (2014) offers the opportunity to measure how much the interests of the children have weighted on the decision. As our results reveal strong partisan biases to be prevalent, and financial reasons to be influential, it can be affirmed that the children's interest has clearly not been the only consideration in mind.

**Keywords**: Elections, Budget, Reform.

[1] EQUIPPE-Universités de Lille (France). Contact: aurelie.cassette@univ-lille1.fr
[2] EDEHN, Université du Havre and Skema Business School (France). Contact: etienne.farvaque@univ-lehavre.fr

## 1. Introduction

And finally Nessie got a face. After years of political and medical bickering, commissions, committees, reports, reviews, and recommendations, the French government has finally embraced a reform of the school rhythm, one of the regularly emerged, and rapidly drowned, debates in French politics.
The reform is basically defined by a new school-days schedule, reducing the number of hours worked during any single day, and extending the number of school days to 4 and a half (while it had been reduced to 4 days in 2008). Concretely, school days are limited to 5 hours and a half, and no half-day can be superior to 3 hours and a half. This is obtained by extending the half-days worked to the Wednesday morning (or the Saturday morning upon derogation). The government justifies the reform by comparing the French system to the ones existing in the OECD, the former being characterized by longer days, induced by a larger number of hours per year and a smaller number of days, and weeks, worked. Hence, the government goes, the interest of the children (better learning conditions and / by less tiresome days) should finally prevail, and the reform does precisely that.

However, since the government first hinted at the reform, protests have been heard, and even after its (still partial) implementation, mayors object to the cost of the reform. Some base their critics on the fatigue to which the reform would have exposed the pupils since September 2013. These assessments may be far-fetched after only weeks of implementation, but may hide that, beyond the children's wellness, there are at least two costs related to the reform. First, there are overt ones, linked to the activities that have to be (publicly) funded to occupy the children after the (reduced) school hours. Second, there are political costs, more implicit but no less present in a mayor's mind, as the municipal election looms a few months after the implementation of the reform, in March 2014. If parents, and / or taxpayers, are upset by the reform, the mayors fear, they may express their anger at the incumbents (i.e., those whom will have implemented the reform) and probably even more strongly if the municipality is from the same side of the political spectrum as the government (i.e., Left).

Interestingly, the adoption of the reform can be delayed, upon a decision by municipalities, for one year, thus coming into full effect over France in 2014 at the latest. As an incentive, the government has created a specific subsidy ("fonds d'amorçage") and has budgeted 250 millions euros to cover the transition costs for the fast-adopters. The mayors' representative body (Association des Maires de France) has derided the budget line as insufficient, as it estimates the reform to cost between 600 and 800 millions euros per year.

This possibility of quick adoption or postponement lies at the heart of this paper, as our aim is to highlight the determinants of adopting the reform in 2013, instead of 2014. The question is interesting because, although much has been written about the link between the political cycle and the adoption of reforms the conventional wisdom suggests that governments should not introduce reforms close to elections as reforms lead to electoral losses[3]. In the context at hand here, the French government has apparently followed this conventional path, implementing the reform quickly, maybe anticipating that the costs will be borne by the local politicians, and that they will be gone by the next Presidential election. But then the question of why about 20% of the municipalities have embraced quickly the reform rises even more strongly.

We thus examine the determinants of the adoption in 2013 of the school rhythm reforms, and do find strong evidence of a partisan bias in the adoption of the reform. Financial factors have also significantly influenced the decision. Practical considerations may have played, as we find that the number of schools and the proportion of school-age children potentially reduced the probability of an adoption in the first year of the reform. All in all, then, the interest of the children may have been present, but has not been the only motivation for taking the risk of changing the school day's schedule right before an election.

[3] See, e.g., Alesina, Roubini and Cohen (1997) for a classical treatment of the political business cycles and Brender and Drazen (2005) for an example of a political budget cycle model.

The rest of the paper is organized with the following structure: Section 2 details the data and method used in the analysis. Section 3 discusses the results, while Section 4 concludes.

## 2. Data and Method

Our sample includes all the municipalities with more than 3,500 inhabitants. This threshold is related to the fact that two different voting rules exist, depending upon the size of the municipality, with the two rounds list system applying above 3,500 inhabitants. 2608 French municipalities (Corsica excluded) are subjected to this two-round electoral rule in 2008. These account for 7% of French municipalities but host 60% of the French metropolitan population. The threshold is also induced by the absence of school in many of the smaller municipalities, meaning that they often share the school with several other municipalities often belonging to the same inter-communal structure. In such a case, municipalities must cooperate to determine if they wish to implement the school rhythm reform in 2013, which makes it more difficult to identify the determinants of the choice. Applying the threshold induced by electoral legal rules permits to avoid a selection bias in the estimations.

The dependent variable we consider is the probability of choosing to implement the reform in September 2013. $Reform_i$ is defined as follows: it takes the value 1 if municipality *i* has chosen to implement the reform in 2013 and 0 if a derogation has been requested to delay its implementation to 2014. Nearly 24% of the municipalities from the sample chose to implement the reform from the first year, as can be seen from Table 1, which contains the statistics that describe our data set.

--- Insert Table 1 about here ---

A first series of independent variables includes budget data, at the city level. As municipalities are endowed with competence over primary school, they must finance the

after school activities generated by the reform. Municipalities and their representative bodies provide various estimates of the per-pupil cost of the reform, which suggests that budgetary concerns are an important determinant of the willingness to implement the reform. Even though it has created the "fonds d'amorçage" to incentivize municipalities to adopt the reform fast, the central government is globally reducing the amount of general grants to local governments. Hence, municipalities may have to raise local taxes to finance the reform, and they may be reluctant to increase these taxes, especially right before the next election. By the same reasoning, the level of municipal debt should also affect mayors' choices. We thus assume that local choices by mayors are constrained by the structure of their municipal budget.

The "*Local taxes*" and "*Debt*" variables are expressed in euros per capita in the basic set of estimates. 2012 data are used as the choice to implement the reform has been taken between January and March 2013. In some robustness checks, these two variables will be expressed relative to the average value observed in municipalities from the same stratum of population size. In other ones, the change in per-capita taxes and debt over the term will be introduced, to consider if budget dynamics are more influential than period-wise variables.

A second set of data is related to the mayor. Two subgroups of variables are available to depict her characteristics: personal characteristics and political ones. Even if the municipal council is the decision-making body, power is centralized in the hands of the mayor who has authority over the municipality's civil servants and takes all decisions relative to the implementation of its budget. As a consequence, personal characteristics of the mayor could affect the probability of an early implementation of the reform.

Detailed information on personal characteristics of mayors is provided through the national directory of elected officials (French interior ministry). Age (*AGE*) is included as to reflect potential nostalgia for school weeks that run on four and a half days as it was the norm up to 2008. The proportion of women mayors is still extremely low. A dummy variable accounts for the fact that the mayor is a woman (*WOMAN*). Four dummy variables are built to describe the socio-professional categories of the mayors: *TEACHER*, *CIVIL SERVANT*, *PUBLIC ENTERPRISES* and *PHYSICIAN*. These specific

socio-professional categories are used as proxies of the sense of public service and of the capacity to focus on the children's best interests. The dummy *TEACHER* equals 1 if the mayor is a teacher (from preschool teachers to higher-education teaching personnel). On the one hand, with a significant knowledge of how schoolchildren and students learn best, they should be the best motivated to an early implementation of the reform. On the other hand, they could be unfavorable to a reform that increases the weekly working hours of their fellows without pay compensation. Civil servants (other than teachers) and workers in public enterprises should bear in mind –to some extent- the public service values and the will to ensure quality education to children. Physicians should be responsive to the impact of the school time schedule on children's health. They are in a position to promote a reform directed towards the interests of children, not their parents'.

The second subgroup of variables accounts for the links between the local and national political contexts. The dummy variable *COALGOV* equals 1 if the mayor is from the governmental coalition, and 0 otherwise. Mayors from the governmental coalition should be more prone to support the reform and to undertake it without delay. Mayors from other leftist parties (*OTHER LEFT*) should also favor the reform. A positive sign is thus expected for these variables. To account for the "cumul des mandats" that characterizes France's political personnel[4], we include two dummy variables that are equal to one if the mayor is a deputy (*DEPUTY*), or a senator (*SENATOR*), and 0 otherwise.[5]

Finally, a weak electoral support should restrict the available policy space the mayor needs to implement an highly controversial reform, while strong past electoral results should provide more leeway for local public choices. Electoral support can be expressed either by a dummy variable equal to 1 if the mayor was elected in the first round in the last election (*1$^{ST}$ ROUND*), or by the absolute margin between the mayor and her main challenger at the final round (*MARGIN*). The number of consecutive mandates won by the mayor also deals with the past electoral support. We build three dummy variables to account for the number of terms of office and the ability of the mayor to be reelected: "*2nd term*", "*3rd term*" and "*more than 3 terms*". The expected sign for all these variables is positive: implementing a controversial reform should not prevent the

[4] See François (2006).

[5] In what follows, we will also make use of a dummy *LEFT*, combining *COAL_GOV* and *OTHER LEFT* to consider all the parties from the Left side of the political spectrum.

reelection of the mayor, which could increase the probability of starting the new school schedule in 2013.

The third set of variables relates to the local school context itself. First, it has to be acknowledged that practical and budgetary difficulties may arise when applying the reform to larger numbers of school-age children and public schools. The larger the proportion of school-age children in the municipal population (*Share of school-age children*) is, the larger the global cost of extracurricular activities to be financed by the municipality. 80% of municipalities have 10 public schools at most. We thus introduce a dummy variable "*Less than 10 schools*" (equal to 1 if there are less than 10 public schools in the municipality). The large number of schools can create problems to hire and manage group leaders able to organize games, cultural and sporting activities during extracurricular activities. Also, school directors and parents could have conflicting preferences on the new organization of the school week between educational institutions, which may complicate the municipal choice and delay the implementation of the reform.
According to various reports and studies (see, e.g., Hugonnier, 2010, Suchaut, 2009, Davila and Delvolvé, 1994), if the low performance of French pupils can result from too long school days, the worst performances are experienced by children in deprived urban areas. Schools in those areas belong to a Priority Education Network whose objective is to attenuate the impact of socio-economic inequalities on school performance. We introduce a dummy variable that takes the value 1 if some schools in the municipality belong to a priority education network, and 0 otherwise. Children in these municipalities would greatly benefit from a reform whose aims are to improve learning and to foster educational success and we can expect mayors to be more inclined to quickly implement the reform. Besides, poorer municipalities receive additional grants from the State to implement the reform (atop from the "fonds d'amorçage", a lump-sum grant which amounts to 50€ per pupil and an additional grant of 40€ per pupil if the municipality is located in a poor surrounding). This additional grant is designed to encourage mayors of poor municipalities to implement the reform quickly. The additional State aid is dedicated to the poorest municipalities, the ones that receive the targeted urban solidarity

grant ("*DSU-cible*") or the targeted rural solidarity grant ("*DSR-cible*")[6]. To analyze if the additional State aid has an incentive effect on the probability to implement the reform in 2013, we introduce two dummy variables: the first one ("aid to poor urban municipalities") is equal to 1 if the municipality receives the targeted urban solidarity grant and 0 otherwise, the second one ("aid to poor rural municipalities") is equal to 1 if the municipality receives the targeted rural solidarity grant.

We study the effect of these political, budgetary and socio-economic characteristics of the municipality over the probability to implement the reform in 2013. The probit decision model used in this study is thus:

$$Reform_i = 1 \; if \; R_i = \alpha Budget_i + \beta Pol_i + \gamma Socioeco_i + c + e_i > 0$$
$$= 0 \; otherwise$$

where $R_i$ is the inobservable latent dependent variable, $Budget_i$ are budget data at the municipal level, $Pol_i$ are political variables, $Socioeco_i$ are socio-economic characteristics of the municipality, c is the intercept and $e_i \sim N(0,1)$ is a disturbance term.

In addition to the standard White correction for heteroskedasticity, we correct for clustering using the Froot's correction (Froot, 1989). We therefore correct for the correlation of errors between municipalities within a specific department.

Among the characteristics of the mayor is a dummy variable "*LEFT*" equals to 1 if the mayor belongs to a leftist party. We will interact this variable with some other variables to strengthen and refine the analysis. However, the magnitude and standard errors of the interaction effect in nonlinear models are not correctly estimated. As stated by Ai and Norton (2003), the magnitude of the interaction effect in nonlinear models does not equal the marginal effect of the interaction term, and can be of opposite sign. We will thus introduce interaction terms in the estimation following the methodology built by Norton, Wand and Ai (2004) to compute the magnitude of the interaction effect.

[6] These grants are attributed according mostly to the fiscal capacity of the municipality, and the average income of inhabitants.

## 3. Results

Table 2 details, in the first two columns, our baseline regression results. They indicate that the reform has been more easily embraced in smaller municipalities, the ones that host less than 10 schools. The proportion of school age children significantly, strongly and negatively influences the probability of adoption in 2013. Interestingly, belonging to the Priority Education Network has not influenced the adoption.

Financial factors have clearly played a role, as the specific aid to poorer urban municipalities has a positive influence on the probability of adoption, but only in urban municipalities. The level of taxes has been a clear impediment to the quick adoption of the reform, probably for fear of the increase in spending related to the extra-curricular activities.[7] Interestingly, though, the level of debt has a positive impact on the dependent variable. A first interpretation is that mayors in relatively highly indebted municipalities embrace the reform because they are searching for new sources of funds, even if temporary ones, and thus respond to get the extra transfers from the government. A second interpretation is that they accept the extra costs, and will blame the government for the financial situation of the municipality.[8]

Few variables related to the mayor's appear to be significant, except for the age and a profession in the civil service. The latter can be understood as either a revelator of a form of loyalty towards the state legislation, or a bias towards values related to the Left, a feature we will investigate further below (in relation to this result, it is worth noting that teachers and physicians have a positive leaning - although not statistically significant - towards the reform). The impact of age can be related to a nostalgia effect of the rhythm schools had before 2008.

However, the most important coefficients are the ones attached to the alignment of the mayor with regard to the governmental coalition. And the variables related to the local political context (see column (2) in Table 2) are not significant, highlighting the strong

[7] It has to be remembered that municipalities live under a "golden rule", i.e., a balanced-budget rule except for investment spending. As such, financing extra-curricular activities falls on the operating expenditures budget item line. On this issue and its influence on municipal elections, see Cassette et al. (2013).

[8] In both cases, mayors rely on the voters' myopia, a feature supported by the large existing evidence on retrospective voting (see, e.g., Dubois, 2007).

impact of the national situation. All in all, then, these first results reveal a strong impact of political, practical, and financial factors. They thus reveal that the children's interest may not have been the only motivation to embrace of the reform early on.

--- Insert Table 2 about here ---

A first robustness check appears in the third column of Table 2, and considers the financial variables (municipal taxes and debt) with regard to the stratum (i.e., the range of cities with relatively identical population size) the municipality belongs to. The thrust of the results stand robustly. Municipalities that levy more local taxes per capita than other municipalities of similar size have a lower probability of implementing the reform in 2013. When a municipality is heavily indebted compared to municipalities that are similar in size, it reduced its probability of implementing the reform quickly. In a second robustness check (columns (4) and (5)), we introduce the change in per-capita financial variables during the mayor's term. The fact that the financial variables, when considered over the term, are not robustly significant reveals the voters' myopia (Dubois, 2007).

--- Insert Table 3 about here ---

Table 3 provides further robustness checks, by checking for interactions between some of our variables of interest. As stated above, the procedure allows for only one interaction to be tested in each further regression, and Table 3 includes all of these supplementary checks. While the effect of financial variables over the probability of implementation is independent of the mayor's political affiliation (columns (4) and (5)), the other robustness checks in Table 3 (columns (1) to (3)) confirm the prevalence of a partisan bias in the adoption of the school rhythm reform. If the mayor is also a deputy or a senator from the Left, then the probability of a quick adoption of the reform is even more important. Finally, when interacting the profession with political affiliation, it appears that being a civil servant does no longer significantly impact the probability of implementing the reform quickly. Only left-leaning civil servants have a positive

influence on the dependent variable, confirming one of the interpretations hinted at above.

## 4. Conclusion

The French government has finally, after years of political stand-ups, hesitations, announcements and objections, enforced a reform of the school's day rhythm. Even though successive governments, from the Left as well as from the Right, have claimed that a reform was necessary to improve on children's training skills, facilitate their learning and respect and increase the pupils' wellness, the reform itself has long been shelved before being implemented in fall 2013.

The interests of the children may have been lost from sight in the dust of the political duels between the Left and the Right, as our results clearly reveal a strong partisan bias in the early adoption of the reform. Political calculus has been the most important factor in the adoption of the reform in 2013 instead of 2014, as the law authorizes. Financial factors have played a role too, but they have been overshadowed by political considerations.

## References


Ai, C. R., Norton E. C.. 2003, "Interaction terms in logit and probit models", *Economics Letters,* 80(1):123 129.

Alesina A., Roubini N., Cohen G., 1997, *Political Cycles and the Macroeconomy*. MIT Press, Cambridge, MA.

Brender A., Drazen A., 2005, "Political budget cycles in new versus established democracies", *Journal of Monetary Economics*, 52, 1271-1295.

Cassette A., Farvaque E., Héricourt J., 2013, "Two-round elections, one-round determinants? Evidence from the French municipal elections", *Public Choice*, 156(3-4), 563-591.

Davila W., Delvolvé N., 1994, "Les effets de la semaine de quatre jours sur l'élève", *Enfance*, (47)4, 400-407.

Dubois E., 2007, "Les déterminants économiques du vote 1976-2006 : trente ans de fonctions de vote en France", *Revue d'économie politique,* 117, 243-270.

François A., 2006, "Testing the "Baobab Strategy" of the French politicians. The "cumul des mandats" as a way of obtaining political resources and limiting electoral competition", *French Politics*, (4), 269-291.

Hugonnier B., 2010, *Vaincre l'échec à l'école primaire*. Institut Montaigne

Norton E.C., Wand H., Ai C., 2004, "Computing interaction effects and standard errors in logit and Probit models", *The Stata Journal*, 4(2), 154-167.

Suchaut B., 2009, "L'organisation et l'utilisation du temps à l'école primaire : enjeux et effets sur les élèves", Conférence, Cran-Gevrier, Haute-Savoie. http://halshs.archives-ouvertes.fr/docs/00/39/55/39/PDF/09003.pdf

## Table 1. Descriptive statistics

| Variable | | Source | Obs. | Mean | Std Dev. | Min | Max |
|---|---|---|---|---|---|---|---|
| REFORM | 1 if the school rhythm reform has been implemented in the municipality as soon as September 2013 | Departmental services of the Ministry of National Education. | 2608 | 0,24 | 0,427 | 0 | 1 |
| Less than 10 schools | 1 if there are less than 10 schools in the municipality | French national statistics office | 2608 | 0,814 | 0,388 | 0 | 1 |
| POP2-14 | Part population 2 - 14 ans | | 2608 | 0,16 | 0,025 | 0,076 | 0,263 |
| Priority Education Network | 1 if some schools in the municipality belong to a priority education network, 0 otherwise | | 2608 | 0,206 | 0,405 | 0 | 1 |
| Aid to poor urban municipalities | 1 if municipality received the targeted urban solidarity grant, 0 otherwise | Census of the Ministry of Finance | 2608 | 0,111 | 0,314 | 0 | 1 |
| Aid to poor rural municipalities | 1 if municipality received the targeted rural solidarity grant, 0 otherwise | | 2608 | 0,156 | 0,363 | 0 | 1 |
| Local taxes | Local taxes in thousands of euros per capita | | 2608 | 0,5043 | 0,2430 | 0,042 | 3,898 |
| Debt | Municipal Debt (thousands of euros per capita) | | 2608 | 0,9487 | 0,6990 | 0 | 11,447 |
| COALGOV | 1 if the mayor and the majority in Parliament belong to the same political party, 0 otherwise | Ministry of Internal Affairs | 2608 | 0,329 | 0,47 | 0 | 1 |
| OTHER LEFT | 1 if the mayor is from other leftist parties, 0 otherwise | | 2608 | 0,18 | 0,384 | 0 | 1 |
| WOMAN | 1 if the mayor is a woman, 0 otherwise | | 2608 | 0,108 | 0,311 | 0 | 1 |
| AGE | age of the mayor | | 2608 | 61,3 | 9,2 | 29 | 89 |
| TEACHER | 1 if the mayor if a teacher, 0 otherwise | | 2608 | 0,153 | 0,359 | 0 | 1 |
| CIVIL SERVANT | 1 if the mayor is a civil servant, 0 otherwise | | 2608 | 0,149 | 0,356 | 0 | 1 |
| PUBLIC ENTERPRISES | 1 if the mayor works in a public enterprise, 0 otherwise | | 2608 | 0,049 | 0,216 | 0 | 1 |
| PHYSICIAN | 1 if the mayor if a physician, 0 otherwise | | 2608 | 0,038 | 0,193 | 0 | 1 |
| DEPUTY | 1 if the mayor is a deputy, 0 otherwise | | 2608 | 0,063 | 0,243 | 0 | 1 |
| SENATOR | 1 if the mayor is a senator, 0 otherwise | | 2608 | 0,028 | 0,164 | 0 | 1 |
| 1st round | 1 if the mayor was elected in the first round of the preceding election, 0 otherwise | | 2608 | 0,673 | 0,469 | 0 | 1 |
| MARGIN | absolute margin between the mayor and her main challenger at the final round of the preceding election | | 2608 | 0,713 | 0,598 | 0 | 6,98 |
| 2nd term | 1 if the mayor spends her 2nd term in office, 0 otherwise | | 2608 | 0,378 | 0,485 | 0 | 1 |
| 3rd term | 1 if the mayor spends her 3rd term in office, 0 otherwise | | 2608 | 0,156 | 0,363 | 0 | 1 |
| more than 3rd term | 1 if the mayor already spent more than 3 terms in office, 0 otherwise | | 2608 | 0,147 | 0,354 | 0 | 1 |

**Table 2. Results: Baseline and Robustness Checks**

| | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| Less than 10 schools | 0.0720*** | 0.0700** | 0.0784*** | 0.0821*** | 0.0681** |
| | (0.027) | (0.027) | (0.027) | (0.028) | (0.027) |
| POP2-14 | -1.6677*** | -1.7185*** | -1.6290*** | -1.5684*** | -1.6309*** |
| | (0.401) | (0.396) | (0.396) | (0.406) | (0.395) |
| Priority Education Network | -0.0354 | -0.0343 | -0.0368 | -0.0317 | -0.0339 |
| | (0.027) | (0.027) | (0.027) | (0.028) | (0.028) |
| Aid to poor urban municipalities | 0.0894** | 0.0865** | 0.0889** | 0.1032** | 0.0852** |
| | (0.038) | (0.038) | (0.039) | (0.041) | (0.038) |
| Aid to poor rural municipalities | -0.0244 | -0.0233 | -0.0219 | -0.0045 | -0.0259 |
| | (0.030) | (0.030) | (0.029) | (0.029) | (0.029) |
| Local taxes (per capita) | -0.1996*** | -0.1997*** | | | -0.2305*** |
| | (0.076) | (0.075) | | | (0.081) |
| Debt (per capita) | 0.0498*** | 0.0504*** | | | 0.0491*** |
| | (0.016) | (0.015) | | | (0.017) |
| Local taxes (relative to stratum) | | | -0.0935** | | |
| | | | (0.043) | | |
| Debt (relative to stratum | | | 0.0518*** | | |
| | | | (0.015) | | |
| Δlocal Taxes (2007-2012) | | | | 0.0253 | 0.1828* |
| | | | | (0.089) | (0.103) |
| ΔDebt (2007-2012) | | | | 0.0351 | 0.0054 |
| | | | | (0.026) | (0.028) |
| COALGOV | 0.3537*** | 0.3551*** | 0.3577*** | 0.3555*** | 0.3511*** |
| | (0.032) | (0.032) | (0.032) | (0.032) | (0.032) |
| OTHER LEFT | 0.1310*** | 0.1339*** | 0.1342*** | 0.1335*** | 0.1306*** |
| | (0.031) | (0.032) | (0.032) | (0.032) | (0.031) |
| WOMAN | 0.0343 | 0.0404 | 0.0336 | 0.0292 | 0.0362 |
| | (0.027) | (0.028) | (0.027) | (0.027) | (0.027) |
| AGE | 0.0019** | 0.0016** | 0.0019** | 0.0018** | 0.0019** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| TEACHER | 0.0331 | 0.0320 | 0.0331 | 0.0343 | 0.0321 |
| | (0.025) | (0.025) | (0.025) | (0.025) | (0.025) |
| CIVIL SERVANT | 0.0593** | 0.0604** | 0.0608** | 0.0638*** | 0.0590** |
| | (0.024) | (0.024) | (0.024) | (0.024) | (0.024) |
| PUBLIC ENTERPRISES | 0.0779 | 0.0774 | 0.0830* | 0.0758 | 0.0742 |
| | (0.048) | (0.047) | (0.048) | (0.048) | (0.047) |
| PHYSICIAN | 0.0177 | 0.0218 | 0.0205 | 0.0094 | 0.0187 |
| | (0.047) | (0.048) | (0.048) | (0.045) | (0.048) |
| DEPUTY | 0.0101 | 0.0035 | 0.0109 | 0.0155 | 0.0084 |
| | (0.044) | (0.043) | (0.045) | (0.044) | (0.044) |
| SENATOR | -0.0127 | -0.0189 | -0.0132 | -0.0128 | -0.0147 |
| | (0.045) | (0.044) | (0.045) | (0.046) | (0.044) |
| 1st ROUND | | 0.0155 | | | |
| | | (0.021) | | | |
| MARGIN | | 0.0068 | | | |
| | | (0.018) | | | |
| 2nd TERM | | 0.0107 | | | |
| | | (0.024) | | | |
| 3rd TERM | | 0.0333 | | | |
| | | (0.029) | | | |
| More than 3rd term | | 0.0114 | | | |
| | | (0.029) | | | |
| Observations | 2,608 | 2,608 | 2,608 | 2,608 | 2,608 |

** denotes significance at 10%; ** at 5%; *** at 1%. Marginal effects computed at means. Robust errors into parentheses. Froot (1989) correction for departmental-level cluster correlation.*

**Table 3. Results: Robustness Checks - Checking for Interactions**

| | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| Less than 10 schools | 0.0563** | 0.0574** | 0.0567** | 0.0572** | 0.0600** |
| | (0.028) | (0.028) | (0.029) | (0.028) | (0.028) |
| POP2-14 | -1.9441*** | -1.9349*** | -1.9143*** | -1.9219*** | -1.9492*** |
| | (0.422) | (0.420) | (0.421) | (0.425) | (0.420) |
| Priority Education Network | -0.0407 | -0.0407 | -0.0383 | -0.0384 | -0.0395 |
| | (0.027) | (0.027) | (0.028) | (0.028) | (0.028) |
| Aid to poor urban municipalities | 0.0846** | 0.0858** | 0.0803** | 0.0818** | 0.0847** |
| | (0.037) | (0.037) | (0.037) | (0.037) | (0.037) |
| Aid to poor rural municipalities | -0.0320 | -0.0325 | -0.0334 | -0.0328 | -0.0311 |
| | (0.029) | (0.028) | (0.028) | (0.029) | (0.028) |
| Local taxes (per capita) | -0.1991*** | -0.2003*** | -0.2004*** | -0.2011*** | -0.2393** |
| | (0.075) | (0.074) | (0.075) | (0.074) | (0.119) |
| Debt (per capita) | 0.0472*** | 0.0469*** | 0.0478*** | 0.0525*** | 0.0480*** |
| | (0.015) | (0.016) | (0.016) | (0.019) | (0.016) |
| LEFT | 0.2426*** | 0.2469*** | 0.2372*** | 0.2636*** | 0.2145*** |
| | (0.025) | (0.026) | (0.026) | (0.038) | (0.069) |
| WOMAN | 0.0278 | 0.0298 | 0.0267 | 0.0296 | 0.0298 |
| | (0.027) | (0.027) | (0.027) | (0.027) | (0.027) |
| AGE | 0.0015* | 0.0016** | 0.0017** | 0.0016** | 0.0016** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| TEACHER | 0.0399 | 0.0399 | 0.0444* | 0.0402 | 0.0398 |
| | (0.025) | (0.025) | (0.025) | (0.025) | (0.025) |
| CIVIL SERVANT | 0.0743*** | 0.0735*** | -0.0238 | 0.0748*** | 0.0752*** |
| | (0.024) | (0.024) | (0.047) | (0.024) | (0.024) |
| PUBLIC ENTERPRISES | 0.0713 | 0.0696 | 0.0739 | 0.0700 | 0.0708 |
| | (0.046) | (0.046) | (0.045) | (0.046) | (0.046) |
| PHYSICIAN | 0.0298 | 0.0272 | 0.0269 | 0.0289 | 0.0300 |
| | (0.048) | (0.048) | (0.048) | (0.048) | (0.047) |
| DEPUTY | -0.0661 | 0.0309 | 0.0298 | 0.0315 | 0.0317 |
| | (0.056) | (0.045) | (0.045) | (0.045) | (0.045) |
| SENATOR | 0.0039 | -0.1085* | 0.0033 | 0.0043 | 0.0043 |
| | (0.046) | (0.064) | (0.047) | (0.047) | (0.047) |
| DEPUTY*LEFT | 0.1563** | | | | |
| | (0.075) | | | | |
| SENATOR*LEFT | | 0.1715* | | | |
| | | (0.098) | | | |
| CIVIL SERVANT*LEFT | | | 0.1429*** | | |
| | | | (0.044) | | |
| DEBT*LEFT | | | | -0.0165 | |
| | | | | (0.030) | |
| LOCAL TAXES*LEFT | | | | | -0.0473 |
| | | | | | (0.116) |
| Observations | 2,608 | 2,608 | 2,608 | 2,608 | 2,608 |

* denotes significance at 10%; ** at 5%; *** at 1%. Marginal effects computed at means. Robust standard errors in parentheses. Froot (1989) correction for departmental-level cluster correlation.