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Paola Azar *

Resumen

Este trabajo analiza la relación entre la distribución de escuelas primarias en el territorio y el poder político del presidente para Uruguay entre 1914 y 1954. La estrategia empírica se basa en estimaciones para datos de panel que utilizan información sobre filiación política de los legisladores, competencia electoral y número de escuelas a nivel departamental. Las estimaciones sugieren que la provisión de escuelas estuvo sujeta a manejos políticos. Controlando por factores económicos y demográficos, la provisión de escuelas fue menor en departamentos en que el presidente no necesitaba conquistar apoyos políticos. Esta orientación general se modificó en el tiempo como respuesta a la mayor fragmentación al interior de los partidos. Los hallazgos sugieren que los intereses políticos tuvieron incidencia en la provisión de infraestructura para la educación primaria en el territorio, contradiciendo lo que suelen sostener los análisis históricos tradicionales.

Palabras clave: escuelas públicas, motivaciones políticas, Uruguay

Código JEL: D72, H75, I28, N36.

Abstract

This paper analyses the relationship between school provision and the political power of the president in Uruguay between 1914 and 1954. The empirical test relies on panel fixed effects models based on newly compiled information about the partisan orientation of legislative members, the electoral competition and the schooling diffusion at the department-level. The estimates suggest the use of school provision as a pork barrel good. Ceteris paribus, school provision was lower in districts where government did not need to capture votes or to obtain legislative support. The direction of the influence shifted over time as an answer to increasing political fragmentation. Against the traditional historical narrative, these findings suggest that political interests did influence the provision of basic schooling over the territory.

Keywords: public schooling, distributive politics, pork barrel, Uruguay

JEL Classification: D72, H75, I28, N36.

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1. Introduction

The rise of mass schooling was crucial in the development of modern states. It was one of the first signs of a social relationship between the state and masses and central to foster socialization and nation-building (Ansell and Lindvall, 2013). It was seemingly decisive to provide the labor force with the new skills and values needed to integrate economies in a more connected world (Galor and Moav, 2006). Yet, the spread of public schooling since the end of the 19th century occurred unevenly across countries and regions. The studies about schooling development have greatly associated these differing diffusion paths to the unequal distribution of socioeconomic and political power (Lindert, 2004; Engerman and Sokoloff, 2005; Galor et al, 2009). This rich (and growing) literature analyzes topics as voting franchise extension, conflicts between landowner or local and erudite elites, or disputes about centralization and decentralization of school systems and whether they affected the potential of public education. However, this established literature has not explicitly considered the influence of organized political actors, such as political parties.

The interest in political actors and, particularly the focus on how they use their control over public resources to reinforce their electoral advantage are discussed in the political economy literature on "pork barrel or distributive politics". This literature shows that politicians develop strategies to obtain or reward electoral and partisan support by means of a tactical and uneven distribution of the public funds. Following Stokes et al. (2011), pork barrel goods are those non-programmatic allocations (not subject to public debate or criteria), not targeted at individuals (that is, they are purely non excludable and non-rival public goods) and decided on the basis of partisanship. Could this definition apply to school provision? Did pork barrel politics play any role to explain the diffusion of mass schooling? In this paper, I look into these questions in the case of primary schooling spread across Uruguayan regions during the first half of the 20th century (1914-1954).

Uruguay provides an interesting setting for this research. Mass education developed remarkably fast since the end of the 19th century until the mid-1950s: as a result, less than 20% of population was illiterate in the 1940s (Mitchell, 1998). As an urbanized, ethnically homogenous and egalitarian society in the Latin American context, the schooling diffusion did not come across social conflicts typical of fragmented societies. However, being the education system highly centralized, the reach of schooling depended on central government

initiatives which happened to be highly conditioned by the influence of political parties.

The two-party system, riven by multiple political fractions had enormous influence in the action of governments (Filgueira, 1995; Zurbriggen, 2006). The electoral competition between parties and their fractions was very intense, particularly in regions outside the capital city (Montevideo). Consequently, to get his agenda passed the president entered into continual bargains and deals with the parliamentary representatives from his own as well as from the opposition party (Caetano and Rilla, 1996; Lanzaro, 2004). This constant need to get political loyalties and support led to a widespread diffusion of patronage and pork. Historians document that the distribution of political benefits became visible during the 1930s, got worse in the 1940s and reached a maximum in the 1950s, as party-fraction proliferation increased (Filgueira, 1995, Real de Azúa, 1964). This background makes it suggestive to analyze the policy initiatives regarding schooling spread under the lens of the distributive politics literature.

Within the field, two main theoretical models account for distortions in resource allocation. One argues that politicians will direct rewards to their “core” base supporters (Cox and McCubbins, 1986). The other predicts that resources will be targeted towards "swing" or "pivotal" voters (Lindbeck and Weibull, 1987; Dixit and Londregan, 1998). Both formulations are based on “electoral targeting” as they analyze the potential of distributive allocations to shift voters from one party to other or to cement the voter’s loyalty due to shared programmatic commitments (Goldin and Min, 2013). Additionally, parties may engage in “legislative targeting”, that is, the distribution of benefits to pivotal legislators in order to maximize legislative outcomes or deals (Cox, 2010).

In line with the aforementioned arguments, in this paper I evaluate the contribution of the legislative and electoral targeting hypotheses to explain school provision in Uruguay during the period 1914-1954. I focus at the department level (i.e. province level) using a newly collected dataset linking the number of available schools to the share of members of Parliament (MPs) by their party of affiliation and the local electoral results. These data covers 18 departments: all but the one where the capital city is situated. The reason is threefold: the public schooling system was almost the only one available in these regions; the involvement and compromises between the local MPs and their constituencies were far closer than in the capital city and the electoral margins of victory were narrower than in Montevideo (where just one of the parties, the “Colorado”, always prevailed). The period starts with the second leap in the history of school provision in Uruguayan and closes on the verge of the

economic and political conflicts which emerged since the second half of the 1950s (Caetano and Rilla, 1996).

I exploit the variation in the political strength of the president, the intraparty fragmentation and the electoral competence to examine its relationship with school provision at the local level. The empirical strategy is based on panel models with department fixed effects. These take into account the unobserved time-invariant differences between regions, which could explain the variation in the school supply over the territory. The models also control for economic and demographic factors that might have influenced the schooling spread.

The findings reveal a political discrimination of the incumbent government against loyal (or "core") departments and suggest the use of school provision as a pork barrel good. Ceteris paribus, school provision was lower in districts where government did not need to capture votes or to obtain legislative support. I also show that the degree of political fragmentation made a difference in the strategic allocation of schooling resources: it spurred school provision at the local level as long as the presence of government loyal legislators was low. Moreover, I find a first phase before 1938, when party fragmentation and thus political conflict was less intense, where school provision was significantly associated to president loyal constituencies. To the best of my knowledge, this is the first study that quantifies the factors behind the diffusion of mass schooling in the country, complementing the qualitative historical literature.

The paper proceeds as follows. Section 2 reviews the related literature. Section 3 describes the main features of the expansion of primary education and the political system in Uruguay. Section 4 explains the data and section 5 describes the empirical approach and the main results. Section 6 concludes.

2. Related literatura

The spread of mass schooling has been extensively analyzed through the lens of the extension of the electoral franchise and the role of local autonomy. These works argue that both processes allowed the demand for redistribution policies to be met with new sources of local funding, as in the case of US and Prussia (Go and Lindert, 2010; Lindert, 2004). The same idea has been recently discussed for the case of Brazil, Russia, India and China (Chaudhary et al, 2012), Italy (Capelli, 2016; Cappelli and Vasta, 2020) and Peru (Arroyo, 2016). Other scholars emphasize the relationship between schooling rise and the influence of some powerful elites. A negative association is documented in Cinnirella and Hornung (2016) for Prussia, in Goñi (2018) for the UK; in Beltrán and Martínez (2018) for Spain or Mariscal and Sokoloff (2000) for Latin America. Barriers

emerged as elites saw education spread as a threat to preserve the current social order. Instead, some scholars find that elites promote schooling diffusion as a way to cease crime and modernize the economies. This is the case of Elis (2011) for Argentina, Andersson and Berge (2018) for Sweden and Cvrcek and Zajicek (2019) for the Imperial Austria.

Overall, this literature is mainly concerned with the implications for schooling diffusion of the distribution of social and economic power. This paper contributes to this line of studies but it changes the focus to consider the influence of the distribution of partisan political power. On doing so, it fames into the pork barrel or distributive politics models.

Though originally developed for the two-party US political system, nowadays there is a wide array of empirical evidence about pork barrel politics in different countries. Some scholars find distributive strategies favoring core districts (Levitt and Snyder, 1995; Golden and Picci, 2008). Others uncover swing-district or pivotal legislative targeting (Dahlberg and Johansson 2002; Castells and Solé, 2005; Stokes 2005). The research often focuses on infrastructure expenditure or transfers to local governments. However, public education spending has not received much attention. One rare example is Vaishnav and Sicar (2010), who consider public school construction in a southern Indian state at the end of the 20th century.

So far, few economic history papers have examined the role of pork-barrel politics. A pioneer one is Wright's analysis about the distribution of New Deal resources between US states (Wright, 1974), later revised in Wallis (1998). More recently, Curto et al. (2012) explored the effect of the tactics of government and parliament representatives on the allocation of public funds for roads during the Spanish Restoration (1880-1914). However, the onset of education provision has not been considered from this perspective in the economic history research.

This paper is also related to the discussion on the causes of inequality and development failures in the Latin American region. It follows the concern about the delayed schooling spread as a source of inequality in the distribution of human capital and ensuing slow economic growth put forward in Coastworth (1993) or Mariscal and Sokoloff (2000). More specifically, it may complement the works about the under commitment of public funds to mass schooling and social areas examined in Frankema (2009), Lindert (2010) and Arroyo and Arroyo and Lindert (2017). By looking into the tactics of politicians in relation to public school provision, this paper examines another plausible reason for the suboptimal provision of basic education.

In the case of Uruguay, several historical studies document the role of public schooling as a tool for nation building and economic modernization (Barrán, 1989; Bralich, 2011, MEC, 2014). The design of education policies needed to improve the educational performance deserved great public attention in the 1960s. A sizeable number of investigations gave birth to a voluminous study on the state of education compiled in CIDE (1965). Though the work revealed a series of drawbacks of the system of public education, the shortage of funding and their geographical allocation were not a matter of serious debate.

In fact, the idea that the whole political system had always been committed to the development of public education is commonly shared by Uruguayan analysts (Filgueira, 1995). As a consequence, scholars provide evidence on the provision of pensions, public jobs, public services or housing as pork barrel goods. But education has not been regarded as a part of the partisan rewarding system (Rama, 1970; Forteza, 2003, Zurbriggen, 2006). A critical challenge of the present paper is to contend the Uruguayan historical narrative about schooling spread. In this sense, the present paper is more related to a political economy strand in the analysis of fiscal and monetary performance in the country that finds an impact of political and electoral variables when exploring the period 1900-2000 (Aboal et al., 2003a; 2003b).

3. Historical setting

3.1. The expansion of public primary education in Uruguay (1914-1954)

After conquering its independence in 1825, Uruguay went under severe and repeated internal conflicts. During these rough times, the emerging public education system was virtually absent outside the capital city and featured by disorder and lack of resources. The only real effort to spread mass schooling followed from the dynamic work of an intellectual young elite gathered in the "Friends of Popular Education Society" in the 1860s. Deeply moved by the conviction about the role of education for nation building and the need to fight the sizeable influence of church on education, they promoted school construction, founded popular libraries and provided teacher training courses. Their donations complemented the scarce public funding (Bralich, 2011).

Mass schooling diffusion conceived as a strategically articulated campaign to achieve economic and social modernization came true under the "Education Reform" plan led by J. P. Varela under the presidency of L. Latorre (1876-1880). The project sought to fight barbarism and spread liberal values across the national territory. School attendance was made mandatory, free and

progressively separated from religious principles (Education Law of 1877). As a result of these directives, the number of available schools increased by 66%, gross primary enrollment reached almost 35% and illiteracy adults reached 41% of the total population at the end of the 19th century. All these records were highly remarkable in the Latin American context of the period (Frankema, 2009). Since its emergence, the education system was highly centralized in terms of funding and governance and remained the same until the present.

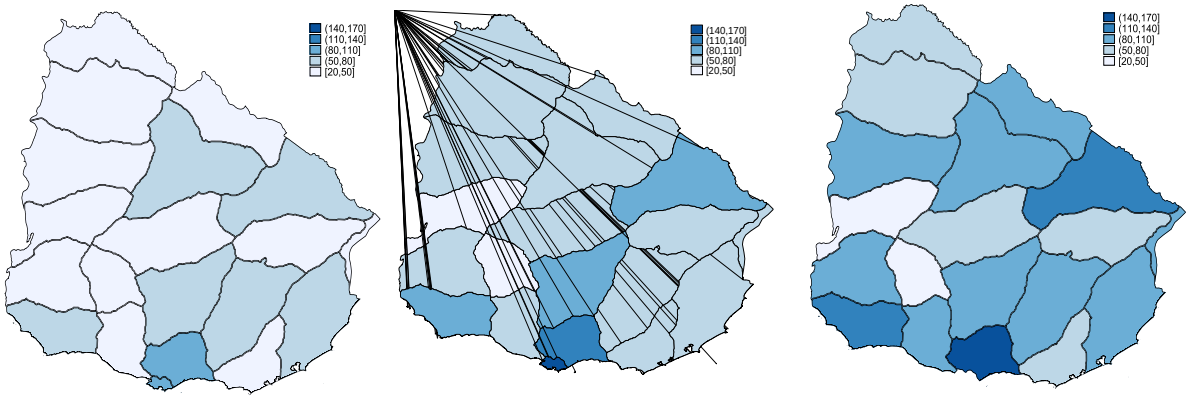
Different from some cases in Europe and the US where a broad franchise allowed people to voice their demand for public education, in Uruguay the "Education Reform" preceded the male universal enfranchisement (enacted by the 1918 Constitution). Indeed, public schooling initially expanded under a de facto government and had a dynamic diffusion before any electoral reform. Moreover, the available historical analyses suggest that the elites saw in education an economic opportunity for economic growth. Particularly, landholding elites would have advocated for schooling expansion, eager to fight barbarism and civilize masses in order to transform them into a disciplined labor force (Barrán, 1989; Bralich, 2011). This is true even though since 1879 a "Primary Schooling Tax" was added to the land and property taxation (Anselmi and Zaffaroni, 1941).

Government continued developing the schooling system at the beginning of the 20th century. The number of schools grew by 120% from 1910s to 1950s while primary enrollment rates escalated from 48.7% to 75.5% and the number of teachers per student increased by 50% (DGEAa and MEC, 2014 in Table A.1). Public schooling gathered more than 83% of total enrollment, a record that remained unchanged until the end of the century. It is worth noting that this progress was at odds with the amount of public resources mobilized for primary education. As a share of the public budget, primary schooling expenditure just rose from 5.3% in 1914 to 7.4% in 1955 and grew from 0.71% in 1910 to 0.85% in the1950s as a share of GDP (Azar et al., 2009 in Table A.1). The figure was below the Chilean record (1.05%) and that of developed economies as the US, UK or France: 2.1%, 0.91% and 1.2%, respectively (UC Davis in Table A.1). The pace of primary schooling expansion started declining after the mid-1950s, together with a shift in the geographical resource distribution. As a result, the southern regions of the country, more densely populated and closer to the capital city gained preeminence, in opposition to the past even school spread over the territory (MEC, 2014).

Figure 1 shows the changes in school supply across departments comparing 1914, 1930 and 1955. At the southern part of the country, Montevideo and its surrounding area always stood out as the territory with the highest number of

schools. The schooling expansion was mainly covered by renting private buildings: this method was applied in over 70% of the available establishments (DGEAa in Table A.1).

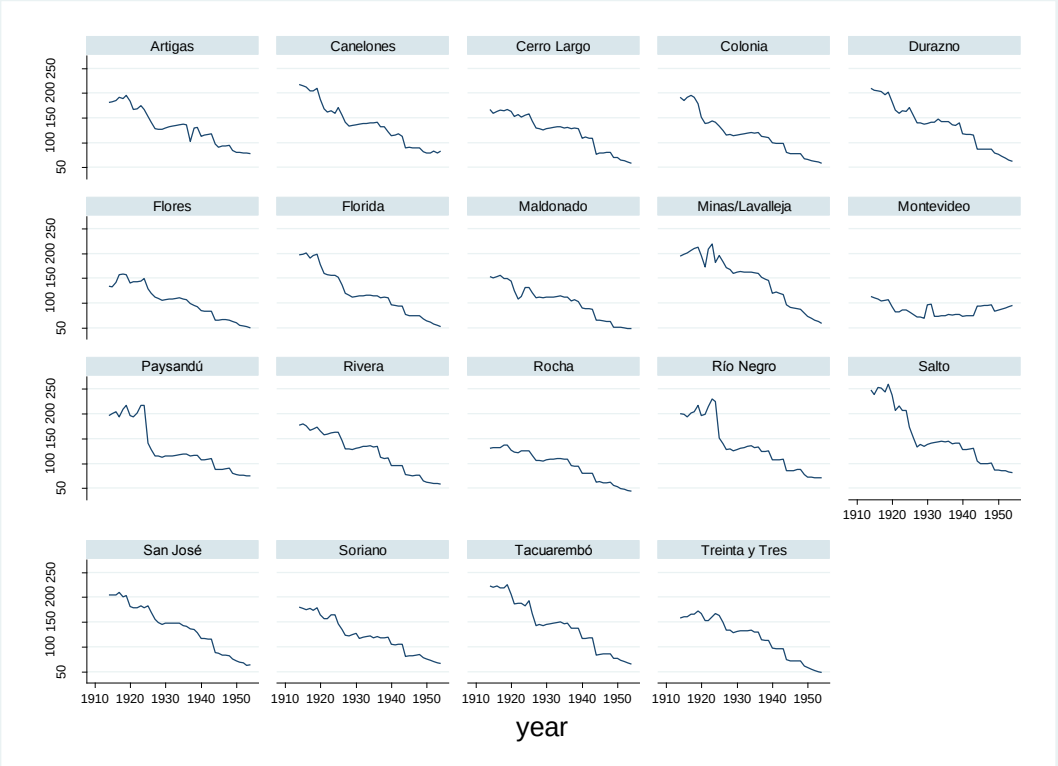
Figure 1. Number of schools per department
1914 (left), 1930 (center) and 1955 (right)



Source: own computation based on data sources in Table A.1

Also a significant drop in the ratio of primary school aged children over public school teachers is observed in all departments but in Montevideo (Figure 2). As already mentioned, the reason is that since the beginning of the period, the schooling system was more developed in the capital city than outside it. In the rest of departments though decreasing, the ratio variations were not entirely uniform across space and time.

Figure 2. Children at school age over teachers by department (1914-1954)



Source: own computation based on data sources in Table A.1

A look at the quality of the established schools in the territory shows that availability, facilities (school area per children) and teachers per school confirm a rather homogenous pattern among all departments, except for Montevideo (Table A.2). Because of these differing characteristics of Montevideo in terms of schooling supply and demand (it is the most populated area of the country), this department has been left out of the sample. Besides, during the period, rural schooling -typical of the regions outside the capital city- had a leading role in the total school provision.

3.2. The Uruguayan political system

The Republic adopted a presidential system and a bicameral legislative organization since its inception in 1830. The 1918 Constitution established direct and secret ballot for all male-citizens and removed any requirement to be elector or elected. It also introduced Proportional Representation (PR) and supplemented the presidential power by a National Administration Council (NAC) of 9 members (6 of the winning party and 3 of the major opposition party). The NAC's president was in charge of the economy and domestic policy decisions and the Council itself was renewed by thirds every 2 years. The executive president held the military and police powers and the international representation. His term lasted 4 years. Additionally, legislative elections were held every 3 years. This state of affairs lasted until the 1933 coup d'etat. The new regime promoted the approval of a new Constitution (in 1934) which removed the NAC, set the legislative and executive terms in 4 years and introduced a universal franchise with compulsory vote (though without sanctions). The PR would still be applied to the election of the president and deputies (Low Chamber members) but the Senate would be equally divided between the election winner and the major opposition party. National elections were not suspended during this de facto regimen that lasted until 1942. The government system would again be revised by the 1951 Constitutional Reform, which brought back a collegial executive power which was in force from 1952 until 1967.

Since the mid-19th century Uruguay consolidated a two-party system between the "Colorados", which held government until 1959 and the "Nationals", the major opposition party. Other political forces such as communist, socialist or Christian ones had a negligible presence until the 1960s. These two main parties were divided by dramatic internal conflicts which made their fractions highly visible. Divisions aroused due to party member's loyalty to different leaders

holding personal disputes as well as to contentions between conservative or progressive visions.

The leading parties kept a hard electoral competence, particularly outside Montevideo. Table 1 shows the occasions in which the vote difference between the two major parties was lower than 10% at the 18 constituencies.

Table 1. Vote difference under 10% across departments and elections

Departments	Just Legislative elections				National elections					
	1916	1925	1928	1931	1934	1938	1942	1946	1950	1954
Artigas										
Canelones	X		X							
Cerro Largo					X	X	X	X	X	X
Colonia	X	X		X						X
Durazno	X				X	X		X	X	
Flores				X			X		X	
Florida		X			X	X		X	X	
Lavalleja	X	X	X	X	X	X		X		X
Maldonado										
Paysandú	X	X	X	X	X					X
Río Negro		X		X	X	X				X
Rivera										
Rocha	X	X	X	X						X
Salto			X	X						
San José						X		X	X	X
Soriano	X		X	X				X		X
Tacuarembó	X	X	X	X	X	X				
Treinta y Tres					X	X		X	X	

Source: own computation based on data sources in Table A.1

According to the data, politics moved in narrow electoral margins in most departments as reflected in the number of "undefined" or changeable constituencies. This situation makes it plausible that government adopted electoral targeting strategies in order to persuade potential voters who may swing to the opposition or against it in the next election.

As in all presidential systems, no institutional mechanism ensures the cooperation between the executive and legislative powers. Hence, the president's chances to carry out his agenda depended on the prevailing electoral legislation and on his legislative powers (Shugart and Carey, 1992). In Uruguay, the electoral rule in force between 1910 and 1996 was based on the principle of "double simultaneous vote" (DSV) which stimulated the operation of a "fractionalized two-party system" (Buquet, 2003). It established that the election-day, voters could choose their preferred party as well as a specific group of politicians within it, all at the same time. The elected candidates did not get the majority of total votes but the major support within the most voted party (Altman et al, 2011; Piñeiro, 2004). Similarly, a legislative majority of the

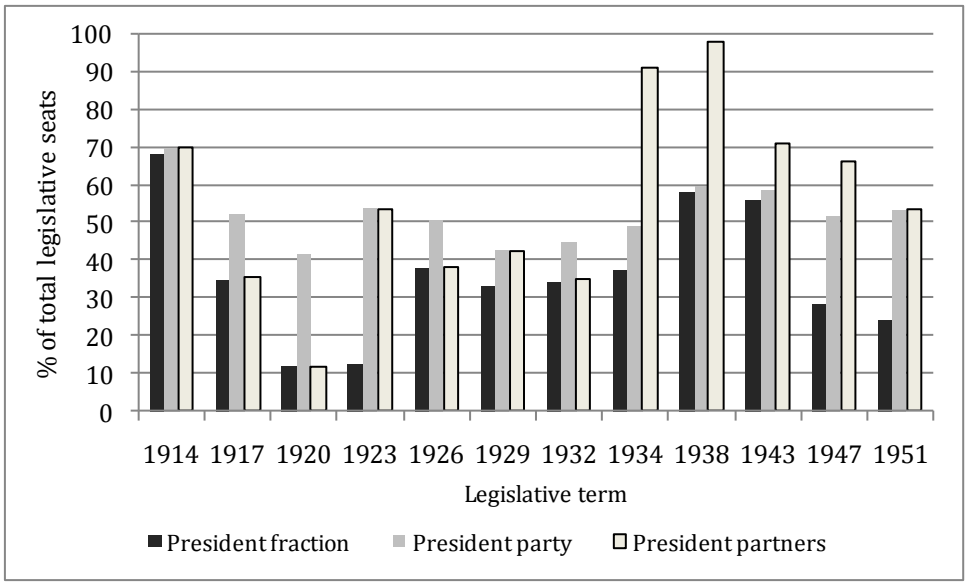
president's party did not necessarily correspond with the preeminence of his political fraction.

As a result, the electoral legislation fueled the conflicts between the executive and the legislature. Consider that from 1918 to 1933, the Colorados (the governing party) could never obtain 3 consecutive majorities in the Low Chamber and reached only one absolute majority at both parliament Chambers in 1946. Besides, the president's fraction was not the most powerful one inside his party in one third of the total legislative terms.

The Uruguayan Constitution assigned low legislative powers to the president. Indeed, some scholars claimed that the current political system resembled a parliamentary regime, particularly from 1934 to 1952 (Aboal et al., 2003a). In this setting, parliamentary bargaining was essential to reduce confrontation and conflict and to build alliances (Caetano and Rilla, 1996). Thus, seeking to optimize legislative outcomes, government set deals and bargained to persuade legislators, both from the opposition and from his own party. In view of the electoral outcomes, this "legislative targeting" became critical to reach the majority requirements in the legislative process.

Figure 3 features the basis of the president political power among the MPs. It shows the average share of deputies belonging to the president's fraction, to the president's party and that of MPs aligned with the president beyond their partisan affiliation (president's partners). The latter measure accounts for the transitory coalitions which featured each of the 12 legislative terms comprised in the period. It was built based on historical and political analyses (Acevedo, 1934 and 1936, Zum Felde, 1967; Caetano and Rilla, 1996; Nohlen, 1993).

Figure 3. Share of MPs by president's fraction, party and political partners (averages)



Note: The figure shows averages per legislative term, but the range of president's partners was subject to changes and reconfigurations in the interim. The variable is not the same at the beginning and at the end of each period in the following terms: 1923, 1926, 1932, 1938 and 1947 (different from the other two measures).

Source: own computation based on data sources in Table A.1

The president could just rely on the political support of his fraction until the mid-1930s, which account for a 30% of the total legislative terms under analysis (1917, 1920, 1926 and 1932). Thus, in this sub-period, the nominal president party seats did not necessarily translate into president partners, except in 1923 and 1929. From then onwards, as party fragmentations increased, the share of MPs aligned with the president increasingly grew above his fraction support. This followed from a strategy oriented to capture loyalties from fractions of the major opposition party, while the strongest president's opposition was in his own party.

This bargaining process developed along with the distribution of patronage and pork, which became highly visible in the 1930s, grew substantially in the 1940s and reached a maximum in the 1950s, as party fractions proliferated (Filgueira, 1995, Real de Azúa, 1964). Such was the case that the 1934 Constitution made explicit that "civil servants should serve the nation not the political fractions" (Article 57).

Mass schooling diffusion at the local level was a highly visible public good. It was also a sign of prestige, community cohesion and progress. This paper examines whether the electoral competition together with the legislative bargains during the period moved the incumbent government to use school provision across departments as a pork barrel good.

4. Data

The main measure of school provision is the number of available schools per year at the department level. This is the preferred measure, as they are clearly visible to the community. Alternatively, I use schools per 1000 school aged children and the number of available teachers, which signal another sort of schooling funding. As in previous studies, these variables stand as *proxies* for the public resources allocated to primary education, given the unavailability of expenditure information at the local level (Chaudhary, 2009).

Education variables are merged with data about the MPs published by the Uruguayan Parliament (2006). This analysis focuses on the Low Chamber MPs (*diputados*) for three reasons. First, they were elected as representatives at the department level and the electoral rules for their appointment remained unchanged during the period. Second, scholars argue that they reflected clearly the fragmentation of partisan politics and held a close relationship with their constituencies, being much more responsive to their demands than Senate representatives (Monestier, 1999). Finally, they were as important as senators for the decision-making process, because any bill proposal was separately discussed and approved by one chamber and then delivered to the other, no matter the order.

I collected information on the name, party affiliation, legislative term and department of every deputy over the period. However, their political fractions were not available. Hence, from 1925 to 1943 they were obtained from the electoral ballots of every party by department and election, accessed at the Uruguayan Electoral Office website. The gaps for the rest of the period have been completed following the Political Sciences database of the Social Sciences Faculty (SSF), Nahum (2007) and Acevedo (1936) (see Table A.1). Data on the number of votes cast by party and fraction have been collected from Nahum (2007), Nohlen (1993), SSF dataset and Acevedo (1936). Regretfully, there was not department level information about 3 legislative polls: 1913, 1919 and 1922.

The final sample consists of a panel of 18 departments observed during 40 years and 12 legislative elections. In the first 7 instances, the president and NAC elections were held independently. The average number of elected deputies was 70, and there were at least 2 representatives per department.[1] Political variables correspond to one legislative term.

The elected deputies at each legislative term are divided into the share of the president's party, the president's fraction and the opposition representatives in

[1] There were some exceptions with only one deputy, namely Flores in 1914, 1929 and 1932 and Rio Negro in 1926 and 1929.

each department. Based on these, I compute the "president political power" index (PPP) by multiplying the share of deputies belonging to the president's party fraction times the share of seats of his party at the department level (Aboal et al., 2003a). Given the frequent disputes between both groups during the period, the PPP index expresses the political strength of the president based on his fraction within the party. The higher the index, the stronger was the president's own support. In terms of the distributive politics models, it identifies the share of the core or loyal MPs. Between 1919 and 1932 the NAC conducted the economy and took the most important domestic policy decisions. Therefore, for those years the index was estimated in reference to the NAC's president.[2]

To account for the party fragmentation, I use an index of the "effective number of fractions" (ENF) computed as the inverse of a Hirschman-Herfindahl index. It relates the number of fractions in parliament to the distribution of seats among them (Laakso and Taafepera, 1979). The ENF increases with the number of fractions. It is expected that the greater the number of fractions the fewer chances of the president to count with a high support or with a solid core of MPs in the legislature (Shugart and Carey, 1992). The ENF is computed for each department and legislative term. Table 2 shows it increase over time, particularly since 1938.

[2] Due to the differing timing of executive and legislative elections, the MP's alignment could change in the middle of the legislative term because the NAC president did.

Table 2. Effective number of fractions (ENF) at the department level by legislative term

Legislative term	Mean ENF
1914-1917	1.64
1917-1920	2.16
1920-1923	2.11
1923-1926	2.11
1926-1929	2.40
1929-1932	2.23
1932-1933	2.59
1934-1938	2.08
1938-1942	2.67
1943-1947	2.93
1947-1951	2.71
1951-1954	2.65

Note: the legislative terms of the period start and finish in February.

Source: own computation based on data sources in Table A.1

The intensity of the electoral competition at the local level is given by the "vote margin". It is computed as the difference in the vote shares of the president's party and its main opponent, in absolute values (Case, 2001). "Swing constituencies" correspond to departments where this difference is small (e.g. 10 per cent or lower). The distinction is relevant because the incumbent government might face the dilemma of rewarding his supporting constituencies or alternatively, maximize the probability of winning the next election by allocating resources to swing districts.

A set of covariates aims to control for alternative factors other than politics that may have influenced school provision. They are measured annually and at the department level. Population size, birth rates and school-age children over people aged 55 and more control for the potential demands for education expansion among the population. Particularly, the elderly could be more interested in funding social security than schooling (Grob and Walter, 2007). Population by age bracket was obtained by interpolating census data from 1908 and 1963.

Previous local progress in schooling is measured by primary enrollment lagged 3 years (to capture the situation at the beginning of each legislative period). It is estimated by dividing the number of primary enrolled students by the number of school aged children (between 5 and 14 years old). The share of private primary enrollment over the total is included as a lagged variable to control the potential trade-off between the public and private provision. Three variables control for the development of labor market: the share of labor force working in

agriculture, the rate of growth of those in the services sector and the labor participation rate. The first two capture the interest in human capital formation, given that skilled labor was not a prime request in agricultural societies but it became increasingly relevant as urbanization and service sector activities grew (Lindert, 2004). The last one is used as a *proxy* of economic dynamics at the department level. Also, as stated in the literature landed elites might have slowed down the expansion of public schooling. Hence, I include a measure of landownership concentration in the constituency (Castro et al, 2012 in Table A.1). Finally, based on estimates of GDPs at the department level for 1908, 1936 and 1955, I divide departments into richer and poorer ones if they are above or under the mean Uruguayan, respectively, GDP during the period (Martínez et al., 2019).

In the estimation of the role of vote margin, I add a control for the share of women older than 20 over the total population. It has been argued that they could be a more sensitive electorate for social demands, particularly those regarding children (Alesina and Giuliano, 2009). The voter turnout is also considered, as the extension of the "political voice" might have contributed to foster the demand for primary schooling (Lindert, 2004). It is constructed by dividing the number of votes by the electorate.[3] Table 3 presents the descriptive statistics of the variables. Table A.1 reports the data sources.

[3] Between 1918 and 1937 only men aged 18 and more were eligible to vote. Women were included from then onwards. Due to data availability, the electorate is computed as the number of men (and men and women since 1938) older than 20 years old.

Table 3. Descriptive statistics, 1914-1954

Variable	Description (at the department level)	Mean (sd)
Number of public schools		67.38
		(24.54)
Number of teachers		146.7
		(70.84)
Schools/1000 school aged kids		4,14
		(0.95)
President Political Power	President's party MPs x president's political fraction	0.24
		(0.22)
Political fragmentation (ENF)	$\frac{1}{\sum_{i=1}^{n}(x_i/\bar{x})^2}$ $\bar{x}$: total: nº of seats; x_i: seats of political fraction	2.42
		(0.81)
Vote margin	Vote shares of the president's party- vote share of main opposition party (absolute values)	0.16
		(0.13)
Voter turnout	Number of votes/electorate (percentage)	40.1
		(10.30)
Population	In thousands	78.53
		(32.34)
School aged pop./aged 55+	Ratio	2.37
		(0.76)
Landownership concentration	Gini index on land property extensions (as a percentage)	68.79
		(13.88)
Birth rates	Per thousands	22.38
		(10.89)
Share private prim. enrollment	Pupils in private schools as a percentage of the total	6.12
		(4.26)
Total primary enrollment	Private and public enrollment as a percentage of the school aged population (*proxy* 5-14 years old)	35.93
		(7.67)
Share labor force in agriculture	As a percentage	43.53
		(6.42)
Growth rate tertiary laborers	As a percentage	2.12
		(0.76)
Labor force participation	As a percentage	39.67
		(7.86)
Women aged 20+/pop(1938-…)	As a percentage	33.46
		(1.76)

Note*:* Due to data unavailability for landownership concentration and private primary enrollment for all the years in the period, the number of observations is 594.

5. Politics as a determinant of school provision

To examine the influence of political motivations on school provision at the department level, I estimate a panel data model with department-fixed effects. The baseline specification is the following:

$$Y_{it} = \beta P_{it} + \gamma X_{it} + \alpha_i + \lambda_t + \mu_{it} \quad (1)$$

Here Y_{it}denotes the number of public schools at each year (t) and department (i); P_{it} includes political variables (i.e. PPP; ENF, vote margin); X_{it}represents the set of control variables;α_i are department fixed effects, λ_t are specific year-effects and μ_{it} is an error term.

The department fixed effects control for unobserved local characteristics that are constant over time, such as geographic, institutional and cultural features. Therefore, coefficients are identified through within variation instead of through cross-sectional variation. Likewise, the year fixed effects capture unobserved external changes over time which may produce similar effects across departments, such as constraints or expansions in national budget which are centrally decided. The potential non-independence of errors within departments is tackled by clustering standard errors at the department level.

One possible concern is reverse causality, in case more schools increased the probability that a party or fraction was re-elected. However, in the dataset, the number of schools attached to each year is affected by the political indicators emerged from the previous election.

In the regression analysis, I proceed in four steps. First, I look into the link between school diffusion and president political strength (PPP) and fragmentation of the party system. Then, I explore whether the impact of these political variables changed during the period. The presence of different time dynamics is evaluated with an interaction of the political variables with an indicator variable for the sub-period (1914-1937). These years were featured by low levels of intraparty fragmentation and a preeminence of the president's fraction within his party as opposed to the situation in the following terms (Figure 3 and Table 2). In the third step, I use equation (1) to assess the influence of the electoral competence at the local level and explore the influence of swing constituencies. Finally, the outcome variable is changed to explore the robustness of the obtained results.

5.1. President political strength and party fragmentation

Table 4 presents a first set of outcomes based on equation 1. Column 1 shows how demographic and economic factors shape school provision and columns 2 to 4 include the political variables.

Table 4. Political determinants of school provision

Dependent variable:	Number of public schools			
	(1)	(2)	(3)	(4)
Political power of president (PPP)		-3.104***	-3.490**	-2.238*
		(1.052)	(1.272)	(1.138)
PPP x richer departments			1.708	
			(2.965)	
Political fragmentation (ENF)				0.871**
				(0.340)
Population	0.709***	0.700***	0.705***	0.706***
	(0.099)	(0.101)	(0.101)	(0.103)
School aged pop./aged 55+	17.576***	18.650***	18.718***	18.199***
	(5.150)	(4.895)	(4.821)	(4.630)
Birth rates	0.323***	0.321***	0.323***	0.321***
	(0.049)	(0.050)	(0.050)	(0.051)
Total primary enrollment (lagged)	0.337***	0.330***	0.334***	0.347***
	(0.115)	(0.114)	(0.113)	(0.118)
Share private prim. enrollment (lagged)	-1.258**	-1.297**	-1.316**	-1.275**
	(0.545)	(0.488)	(0.477)	(0.459)
Landownership concentration	-0.613**	-0.644**	-0.645**	-0.569**
	(0.262)	(0.243)	(0.245)	(0.241)
Labor force participation	0.513**	0.491**	0.499**	0.508**
	(0.222)	(0.215)	(0.219)	(0.219)
Share labor force in agriculture	-1.258**	-1.297**	-1.316**	-1.275**
	(0.545)	(0.488)	(0.477)	(0.459)
Growth rate tertiary laborers	7.734**	7.836**	7.998**	7.676**
	(2.937)	(2.785)	(2.795)	(2.691)
Department FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	594	594	594	594
R-squared	0.691	0.684	0.681	0.687

Robust standard errors clustered at the department level in parentheses. All regressions include a constant. *** p<0.01, ** p<0.05, * p<0.1

In all cases, the coefficients of the control variables are significant and reveal interesting results. Total population, the ratio of children over elderly people, the birth rates and the previous primary enrolment exerted a positive impact on local school availability. The coefficients are highly significant, showing a strong association between school provision and the presence of a younger population. Indeed, there is evidence of a generational conflict over resources as a growing presence of elderly population at the department level seems to reduce school provision. The coefficient for the share of private students is negative. This suggests that those who could afford to pay for schooling out of their pocket

held back the diffusion of public primary education. In the same vein, a higher landownership concentration is negatively related with public school provision. Though the estimation might be biased, its high significance points out to landowners' preferences against public schooling.[4] This effect is at odds with the traditional belief about the relative neutrality and even sympathy of landowners with the diffusion of mass education in the country. Also labor market indicators are important predictors of public school provision. Labor force participation and the expansion of tertiary labor relate public schooling diffusion with the level of economic development and the idea that urban regions are more prone to demand for public education provision. Conversely, the negative impact of agriculture laborers is consistent with their perception about the negligible advantages of acquiring more skills to perform primary activities and the high opportunity costs of leaving their jobs to attend schools.

The estimates in columns 2 to 4 provide quantitative support for the hypothesis on the influence of political motivations in school provision. Column 2 shows that departments with a higher president political power had a lower school provision. All else equal, the incumbent government did not target the schooling resources to the departments of its own MPs. The negative and significant effect of the PPP may be interpreted as signaling a reward for the departments where government in need of political support had to bargain with opposition legislators (within and outside its own party). This effect could be mediated by the level of economic development of the department. If, for example, government just benefited his richest domains, the index would become positive in interaction with territories featured by above average GDPs. However, according to column 3 this relationship is not statistically significant.

Finally, column 4 shows a positive link between school provision and the fragmentation of the political system at the local level. The PPP variable keeps its sign and influence. Therefore, the growth of party fractions at play, which increased the chances of political dissent with the president's directives, seemed to have promoted the school provision. The coefficients indicate that when the PPP increases by one standard deviation schools decrease by 0.02 standard deviations- a decrease representing 50% of one school. Instead, in the case of the party fragmentation one standard deviation increase in ENF increases the school provision in 73% of one school.

5.2. The changing influence of political variables

[4] Scholars have provided evidence on the relationship between landownership concentration and education expansion by correcting endogeneity problems associated to omitted variables bias and reverse causality (Beltran and Martínez, 2018; Cinnirella and Hornung, 2016).

In column 1 the index on PPP is interacted with the ENF indicator. The sum of coefficients of each single variable with that of the interacted indicator adds more information to the baseline estimates in Table 4. First, the effect of core or loyal MPs on school provision at the local level (measured through PPP) is positive whenever the degree of fragmentation is low. Hence, subtle levels of political conflict among fractions led government to invest in regions where it already had high support. This impact changes as fragmentation increases, a typical feature of the period. In those cases, in line with estimates in Table 4, the higher the president's power the lower the school provision. Second, there is a variation in the influence of fragmentation on the outcome variable depending on the PPP at the local level. Fragmentation had a positive impact on school provision just for low values of the PPP index. Government would benefit the school provision, probably to generate goodwill in those departments where there was political competence and it needed legislative support. However, as the incumbents felt safer (as PPP increases), the school provision would decrease no matter the degree of local political conflict.

In column 2 a variable for the period 1914-1938 is interacted with the PPP index. The results show that the effect of PPP differs between that period and the following, as the level of party fragmentation became more pervasive and the power of the president's fraction within its own party decreased (Figure 3). In the first sub-period, government favored those departments where it was politically stronger. However, faced with the urgency of seeking political support, it changed its tactics afterwards.

When the period interaction is also applied to the fragmentation index, the coefficient is not significant (column 3). This is consistent with a low political fragmentation during the first years of the period, which became relevant later. The results remain unchanged in column 4, which combines the two previous estimations.

Table 5. Political determinants and relevance of the period 1914-1937

Dependent variable:	Number of public schools			
	(1)	(2)	(3)	(4)
Political power of president (PPP)	4.650**	-8.737***	-2.309*	-8.484***
	(2.131)	(2.519)	(1.184)	(2.418)
Political fragmentation (ENF)	1.609***	0.808**	1.290**	1.027**
	(0.407)	(0.332)	(0.507)	(0.483)
PPP x ENF	-3.996***			
	(1.333)			
PPP x period 1914-1937	0.699***	9.323***		8.906***
	(0.098)	(2.819)		(2.762)
ENF x period 1914-1937	18.154***		-0.987	-0.509
	(4.478)		(0.788)	(0.748)
Population	0.319***	0.674***	0.694***	0.669***
	(0.049)	(0.102)	(0.104)	(0.103)
School aged pop./aged 55+	0.372***	17.895***	17.946***	17.777***
	(0.123)	(4.062)	(4.441)	(3.961)
Birth rates	-0.411*	0.306***	0.316***	0.304***
	(0.219)	(0.049)	(0.051)	(0.049)
Total primary enrollment (lagged)	-0.604**	0.396***	0.350***	0.395***
	(0.240)	(0.126)	(0.115)	(0.125)
Share private prim. enrollment (lagged)	0.494**	-0.364	-0.405*	-0.369
	(0.214)	(0.217)	(0.218)	(0.214)
Landownership concentration	-1.249***	-0.677***	-0.517**	-0.646***
	(0.425)	(0.228)	(0.230)	(0.215)
Labor force participation	7.428***	0.474**	0.473**	0.458**
	(2.517)	(0.208)	(0.219)	(0.213)
Share labor force in agriculture	4.650**	-1.165***	-1.202**	-1.132***
	(2.131)	(0.311)	(0.418)	(0.291)
Growth rate tertiary laborers	1.609***	6.894**	7.204**	6.686**
	(0.407)	(2.503)	(2.529)	(2.449)
Department FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	594	594	594	594
R-squared	0.693	0.705	0.698	0.710

Robust standard errors clustered at the department level in parentheses. All regressions include a constant. *** p<0.01, ** p<0.05, * p<0.1

5.3. Electoral competition

Table 6 presents the estimates which focus on the electoral competition between parties measured in terms of votes. They seek to provide further evidence on the direction of the government's influence on school provision by considering loyal or "swing" constituencies instead of legislative seats.

Following the same specification as in equation (1), the main political variable here is represented by the vote margin. According to the estimates in column 1, this variable alone bears no impact on the outcome variable. Then, in column 2 I examine its interaction with a dummy for those departments where the president's party obtained a victory. This captures the possible differences on

the vote margin impact depending on whether the electoral dispute was settled in favor of the president's party. The coefficients show that school provision was lower in those departments where the president's party prevailed. Alternatively, the positive effect of the vote margin where the opposition party won suggests that school provision was positively related to regions held by the major opposition party. These results are consistent with the idea that school diffusion might have been used to persuade opposition constituencies and to obtain political support from their MPs.

The relationship is robust to the introduction of the share of female population in the electorate (allowed to vote since 1938). The estimates in column 3 suggest that women's presence in the electorate spurred the spread of schools at the local level. Besides, all regressions include the voter turnout in order to account for the size of the electorate in each department, which though being positive is not statistically significant.

As a whole, these results show that the school provision benefitted not only swing constituencies but also those aligned with the opposition. This complies with the increasing intra-party conflicts which pushed the incumbent to capture political support outside its own party.

Table 6. Electoral competition and school provision

Dependent variable:	Number of public schools		
	(1)	(2)	(3)
Vote margin	0.105	8.011*	8.080*
	(4.568)	(4.144)	(4.096)
Vote margin x government held dept.		-15.911*	-14.948*
		(9.018)	(8.123)
Voter turnout	0.042	0.082	0.077
	(0.095)	(0.084)	(0.080)
Women aged 20+/pop. (since 1938)			1.392**
			(0.577)
Population	0.730***	0.726***	0.719***
	(0.134)	(0.139)	(0.130)
School aged pop./aged 55+	17.526**	17.830**	13.095**
	(6.591)	(6.336)	(4.822)
Birth rates	0.022	0.020	0.080
	(0.096)	(0.091)	(0.077)
Total primary enrollment (lagged)	0.308**	0.281**	0.239
	(0.125)	(0.133)	(0.157)
Share private prim. enrollment (lagged)	-0.349	-0.359*	-0.462***
	(0.206)	(0.180)	(0.143)
Landownership concentration	-0.498**	-0.565***	-0.497***
	(0.179)	(0.179)	(0.136)
Labor force participation	0.513*	0.498*	0.536**
	(0.283)	(0.258)	(0.254)
Share labor force in agriculture	-1.371**	-1.485**	-0.877
	(0.634)	(0.630)	(0.578)
Growth rate tertiary laborers	7.920**	8.413**	4.464
	(3.723)	(3.718)	(3.459)
Department FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	468	468	468
R-squared	0.690	0.693	0.798

Robust standard errors clustered at the department level in parentheses. All regressions include a constant. *** p<0.01, ** p<0.05, * p<0.1

5.4. Different outcome variables

In Table 7, the dependent variable is alternatively replaced by the number of teachers in public schools and the number of schools per 1000 children aged 5 to 15. This is a way to explore the robustness of results about the impact of political variables on schooling provision.

Columns 1 and 4 include the PPP index and the political fragmentation. Then in columns 2 and 5 I add a dummy for the period 1914-1937 interacted with the political power of president. All else equal, the results show a negative association of the outcome of interest to the PPP index and a positive correlation with the political fragmentation. This reinforces the findings about the influence of some government political motivations on the distribution of schooling resources over the territory. However, different from the estimates in Table 5, the period dummy does not indicate a change of the influence related to

teacher provision. Besides, the control variables keep their sign and impact though in the case of schools per children the demographic variables (population and birth rates) stop being statistically significant.

Finally, columns 3 and 6 consider the electoral competition approach. The results remain qualitatively similar to those in Table 6. Using the alternative outcomes, again the effect of the electoral competition in government-held constituencies is negative and larger in magnitude than the coefficient for the vote margin (also significant). These findings suggest that persuading the opposition or less safe constituencies played a role in the public provision of primary schools

Table 7. Political determinants of school provision changing the dependent variable

	Number of teachers			Schools per 1000 kids		
	(1)	(2)	(3)	(4)	(5)	(6)
Political power of president (PPP)	-8.031**	-23.657**		-0.102*	-0.642**	
	(3.254)	(8.296)		(0.054)	(0.239)	
Political fragmentation (ENF)	1.881*	1.725*		0.035*	0.028*	
	(0.917)	(0.879)		(0.018)	(0.016)	
PPP x period 1914-1937		22.391**			0.768**	
		(7.734)			(0.268)	
Vote margin			39.137**			0.063
			(14.004)			(0.299)
Vote margin x government held dept.			-60.806**			-0.920*
			(27.014)			(0.506)
Voter turnout			0.352			0.009
			(0.396)			(0.007)
Women aged 20+/pop. (since 1938)			2.882**			0.205***
			(1.288)			(0.051)
Controls						
Department FE						
Year FE						
Observations	593	593	485	594	594	485
R-squared	0.800	0.805	0.822	0.818	0.830	0.883

All regressions include population, birth rates, total primary enrollment (lagged), share private primary enrollment (lagged), landownership concentration, labor force participation, share labor force in agriculture, rate of growth of tertiary laborers. Robust standard errors clustered at the department level in parentheses. All regressions include a constant. *** p<0.01, ** p<0.05, * p<0.1

6. Conclusions

Following the historical narrative, the spread of the educational system in Uruguay benefitted from the consensus of all political and social actors. The idea tended to leave this subject outside the explorations of the patron-client networks which featured partisan politics during the period. However, this paper argues that in a setting of political fragmentation, strong partisan biases and patronage, there are reasons to suspect that mass schooling diffusion was influenced by the need of the incumbent government to obtain MPs' support beyond its own party structures.

Based on panel data estimations at the department level, I find evidence to suggest that school provision was used as a pork barrel good. After controlling for economic and social features, the estimates show that school allocation was lower in departments belonging to government core MPs or with vote margins in favor of the president's party. Moreover, the conflicts expressed in the degree of political fragmentation had a positive an influence on school provision as long as the incumbent did not hold the major share of local MPs. Interestingly, political fragmentation made a difference in the strategic allocation of schooling resources. During a first phase, school provision appeared as more correlated to government's loyal legislators. However, from 1938 onwards, in times of higher political controversies and bargaining, the most favored regions were identified with the opposition MPs. Using alternative outcome variables to identify the schooling diffusion yielded the same results.

Given that the electoral rule and the party fragmentations made it difficult for the president to have a strong legislative power, these results are in line with the distributive politics argument about legislative and electoral targeting of public resources. In the case of Uruguay, the schools seem to have been used to award opposition districts or MPs who did not belong to the government core base of support.

Though this paper does not claim that politics was a fundamental driver of school provision, the influence of partisan politics suggests that loyalties and tactical interests affected its distribution over the territory. Then, along the traditional economic policy arguments held in the literature, the role of partisan politics appears as a novel explanation to the process of mass schooling diffusion. An additional implication of the results points to the effect of the distorting influence of politics on schooling provision as a source of the uneven regional development of the country in the long run. This is an issue which remains open for further research.

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Appendix

Table A.1. Data sources

Variables (department level)	Data sources
Nº of schools (private and public) Nº of teachers (private and public) Enrolment in primary schools (public and private) Enrolment in secondary institutions (public and private) Births per department	MEC, Ministerio de Educación y Cultura. 2014. 140 años de la educación del pueblo: aportes para la reflexión sobre la educación en Uruguay. Tomo I. MEC, Montevideo. DGEa- Dirección General Estadísticas, (various years). National Statistics Yearbook, Montevideo
Parliament representatives by party and fraction Votes casts and electorate	Asamblea General. 2006. Parlamentarios uruguayos 1830-2005, Montevideo. CEU- Corte Electoral Uruguay. Data retrieved from http://www.corteelectoral.gub.uy/historial hojas de votación. Acevedo, E.1934; 1936. Anales Históricos del Uruguay. Tomo V and VI. Casa Barreiro y Ramos, Montevideo. FSS-Faculty of Social Sciences Databank. Data retrieved from http://cienciassociales.edu.uy/bancosdedatos. Nahum, B. (coord). 2007. Estadísticas Históricas del Uruguay 1900-1950. Tomo I. Departamento de Publicaciones, Universidad de la República, Montevideo. Nohlen, D. 1993. Enciclopedia electoral latinoamericana y del Caribe. Instituto Interamericano de Derechos Humanos, San José de Costa Rica.
Gini Land Index	Castro, P., Pradines, V. and Riestra, V. 2012. Los determinantes del precio de la tierra en el largo plazo. Thesis dissertation. Facultad de Ciencias Económicas y de Administración, Universidad de la República, Montevideo..
Total population & population by age bracket	DGEb- Dirección General de Estadística. Population and Household Census 1908 and 1963. Nahum, B. (coord). 2007. Estadísticas Históricas del Uruguay 1900-1950. Tomo I. Departamento de Publicaciones, Universidad de la República, Montevideo.
Population by economic activity Labour fore participation	García, M., Martínez, J. and Willebald, H. 2015. Crecimiento y estructura productiva regional en Uruguay en la primera mitad del siglo XX. Serie Documentos de Trabajo. Instituto de Economía. Universidad de la República, Uruguay
Public primary education expenditure (countries) In Uruguay	UC Davis. Global price and income history group. Data retrieved from http://gpih.ucdavis.edu/Government.htm. Azar P., Bertino, M., Bertoni, R., Fleitas, S., García, U., Sanguinetti, C., Sienra, M. and Torrelli, M. (2009). *¿De quiénes, para quiénes y para qué? Las finanzaspúblicas en el Uruguay del siglo XX*. Instituto de Economía- Editorial Fin de Siglo, Montevideo.

Table A.2. Public primary education indicators by department (average 1914-1954)

Department	Primary enrollment/schools	Primary enrollment/ teacher	School area/pupils (m2)*
Artigas	78.4	41.6	1.34
Canelones	96.0	43.6	1.59
Cerro Largo	75.3	41.4	1.62
Colonia	93.5	41.8	1.48
Durazno	87.4	43.6	1.29
Florida	85.4	41.4	1.42
Flores	74.4	35.2	1.57
Lavalleja	84.5	42.8	1.27
Maldonado	84.2	40.3	1.28
Montevideo	**349.6**	**36.0**	**1.11**
Paysandú	93.0	39.3	1.23
Rivera	100.7	46.5	1.28
Río Negro	92.4	41.7	1.47
Rocha	87.5	42.3	1.31
Salto	102.8	42.4	1.25
San José	81.9	39.6	1.35
Soriano	90.3	41.3	1.29
Tacuarembó	87.9	43.6	1.33
Treinta y Tres	77.5	41.7	1.54
Total	101.2	41.4	1.37

*Data available only for 12 years in the period 1914-1945.
Source: own computation based on DGEa (Table A.1)