

Departament d'Economia Aplicada

Electoral politics and the diffusion of
primary schooling: evidence from
Uruguay, 1914-1954

Paola Azar Dufrechou

**D
O
C
U
M
E
N
T

D
E

T
R
E
B
A
L
L**

18.01



Universitat Autònoma
de Barcelona

Facultat d'Economia i Empresa

Aquest document pertany al Departament d'Economia Aplicada.

Data de publicació : **Gener 2018**

Departament d'Economia Aplicada
Edifici B
Campus de Bellaterra
08193 Bellaterra

Telèfon: 93 581 1680
Fax: 93 581 2292
E-mail: d.econ.aplicada@uab.es
<http://www.uab.cat/departament/economia-aplicada/>

Electoral politics and the diffusion of primary schooling: evidence from Uruguay, 1914-1954

Paola Azar*

Universitat Autònoma de Barcelona

Institute of Economics, UDELAR

Abstract

Based on the compilation of Uruguayan department-level data, this paper argues that the extent of fiscal commitment to primary education during the first half of the 20th century can be explained by the interests of tactically motivated politicians. The empirical test relies on panel data fixed effects models covering 18 Uruguayan departments over 40 years. The main findings reveal that political motivations have had a significant role in schooling provision across the territory. Throughout the period, the incumbent government seems to have used the resource allocation in primary education both to reward its core supporters and to persuade political opponents.

Key words: *primary education, pork-barrel, economic history*

Acknowledgments

I am very grateful to O. Roca Sagalés, A. Herranz Loncan, L. Muinelo, A. Castellò-Climent; G. Cappelli and F. Mañé Vernet for helpful discussions and suggestions. All errors are my own responsibility.

*Departament d'Economia Aplicada, Universitat Autònoma de Barcelona, Bellaterra, Spain and Institute of Economics, Universidad de la República-Uruguay.
E-mail address: pazar@iecon.ccee.edu.uy

Introduction

The expansion of public primary education across the newly independent world was crucial in the development of modern states since the late 19th century. It was one of the first signs of a social relationship between state and masses and key to foster socialization and nation-building (Ansell and Lindvall, 2013). Besides, it played an essential role to provide the labour force with the new skills and values needed to make economies competitive in a world rapidly becoming more integrated.

Among the factors affecting public schooling provision, the economic history literature has posed inequality as one of the most important. In the case of Latin America, several scholars have stated that the high degree of landownership concentration would have delayed the implementation of public primary schooling in the region, leading to inequality in the distribution of human capital and slowing economic growth (Coastworth, 1993; Engerman and Sokoloff, 2000, Mariscal and Sokoloff, 2000). A similar argument has been put forward for US and Europe (Galor et al. 2009; Cinnirella and Hornung, 2013; Beltrán and Martínez, 2015; Goñi, 2016) and explored in combination with other aspects of the economic power of elites in several developing regions (Martinez Fritscher et al., 2010; Chaudhary et al., 2012).

Research dealing with the influence of political regimes and political actors has associated the spread of mass schooling to the extension of voting franchise (Lindert, 2004; Go and Lindert, 2010; Cappelli, 2016; Engerman and Sokoloff, 2001; Arroyo, 2016); the active role of some erudite elites (Gao, 2015) and democracy (De la Croix and Doepke; 2009; Gallego, 2010; Stasavage, 2005). This paper contributes to this strand of literature by making focus on the role of political competition. It argues that the extent of fiscal commitment to primary education might be explained by the interests of tactically motivated politicians. The hypothesis is explored for the case of Uruguay over the years 1914-1954, when a second leap in primary education development took place, following the foundational one at the last quarter of the 19th century. The chosen period allows taking advantage of the availability of the first reliable electoral data at the department level (especially after 1918) and it closes on the verge of the serious economic and political conflicts that characterized the 1960s (Caetano and Rilla, 1996).

The analysis frames into the “pork barrel” or “distributive politics” models that posit that government can allocate public resources seeking either to obtain a greater political support or to avoid losing it (Cox, 2009; Golden and Min, 2013). Though originally developed for the US, nowadays there is a wide array of empirical evidence about pork barrel politics in different countries. Some studies find distributive strategies favouring core districts and underline the role of powerful senior figures within government to get pork (Levitt and Snyder, 1995; Milligan and Smart, 2005; Golden and Picci, 2008). Others uncover marginal- or swing-district targeting (Denemark, 2000; Case 2001; Dahlberg and Johansson 2002; Veiga and Pinho, 2007, Castells and Solé, 2005).¹ The research often focuses on infrastructure expenditure or general government grants towards municipalities or provinces. Public education spending has not received much attention. The study by Vaishnav and Sicar (2010) is one rare example: they study public school construction in a southern Indian state.²

So far, from the perspective of economic history, few studies have examined pork-barrel politics. A pioneer one is Wright’s research-work on the distribution of New Deal resources between Western and Southern US states, based on the swing-voter hypothesis (Wright, 1974), which was revised in Wallis (1998). More recently, Curto et al. (2012) explored the effect of government and member of Parliament (MPs) strategies 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 historical research.

This paper contributes to this literature by evaluating whether the Uruguayan ruling parties have weighed their political strengths across regions when distributing funds to mass education. Moreover, from a domestic perspective, it provides new quantitative insights to complement the local historical qualitative research on the subject and also to understand Uruguayan regional development in historical perspective (García et al., 2015; Martínez et al., 2015). From a more general perspective, the present research might serve to identify new sources of the traditionally claimed backwardness and low quality of primary education

¹ For an extensive compilation of results, see Golden and Min (2013), who revise more than 150 studies of distributive politics in countries other than the United States.

² An alternative approach is provided by the “power resource theory”, which deals with other features of the partisan composition of governments, such as ideology and the potential influence of left or right wing parties or party families on education spending. See Garritzmann and Seng (2016) for a revision of the available literature.

systems consolidated by the mid-20th century in the Latin American region (Frankema, 2009; Lindert, 2010).

The empirical assessment is based on panel data fixed effects analysis using department-level data of the number of available schools (as a proxy of public spending in school provision), electoral results and legislative composition. The discussion includes 18 departments out of a total of 19. It excludes Montevideo, where the capital city is situated, because of its urban primacy and particular schooling structure, which makes it an extreme outlier when compared to the rest of the country.

Several reasons make Uruguay an interesting example to understand the relationship between politics and primary schooling diffusion. First, the early social preeminence of state in the country took place under a competitive party-system. In European societies, social protection laws and secular and free education stemmed from the development of an industrial society and a class compromise. Instead, in Uruguay it was the political elite, through state, that promoted the creation of a modern society. The so-called “traditional parties” were the tool with which the state intermediated between the interests of diverse social groups (Filgueira, 1995). Second, the action of governments has been influenced not only by the compromises between two strong political parties, but most importantly among their fractions. In fact, the Parliament activities were pervaded by continuous trade-offs to induce cooperation between the executive and the legislature (Lanzaro, 2004; Yaffé et al., 2004). Thus, according to previous research for the period 1920-2000, political fragmentation, legislative composition and the proximity of electoral years have entailed significant changes in fiscal and monetary variables, particularly since the mid-fifties (Aboal and Calvo, 2000; Aboal et al., 2003a; 2003b; Oddone, 2005).

Third, historians and other social scientists have reported that the partisan channeling of public resources was very distinct in the allocation of funds to social services such as pensions, labour and family protection or health (Zurbriggen, 2005). However, education has been claimed to be the most universal piece of the public social system, and it is usually assumed that the different ideological and political views were equally committed to its development (Filgueira, 1995). But, being public schools a visible part of a community's

infrastructure, why would the ruling elites have restrained the impulse to use the allocation of public education resources to their own advantage?

The findings of this paper reveal that political motivations have had a significant role in schooling provision across the territory. During a first phase, the incumbent government has used the resource allocation in primary education to reward its core supporters. However, from 1934 to 1954 the strategy has been to persuade political opponents. This coincides with times of higher political conflict and bargaining. Together with political motivations, the expansion of primary education was also favored by the extension of political voice and an increasing share of tertiary labor market activities. In contrast, social and wealth inequality adversely affected school provision, even in the self-conceived “highly egalitarian” Uruguayan society.

The rest of the chapter proceeds as follows. Section 2 describes the main features of the expansion of primary education in Uruguay. Section 3 is a review of the main characteristics of the Uruguayan political system which would have led to pork barrel tactics. Section 4 explains the data and empirical approach and section 5 provides the main results. Section 6 concludes.

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

As happened in other Latin American countries such as Argentina, Chile and Costa Rica, primary schooling expanded substantially in Uruguay since the end of the 19th century (Thorp, 1998). The Uruguayan system emerged and grew under the directives of the “Education Reform” led by J.P Varela during L. Latorre’s dictatorial government (1876-1879). The project was conceived as a powerful tool to fight barbarism and spread liberal values across the national territory. In Varela’s words, “...primary school (...) mainly aims at developing all [people’s] capacities and forces, to furnish them with health, strength and aptitudes to put them into action... the knowledge acquisition remains second” (Varela, 1874).

Ever since Varela’s reform, its principles became generally accepted in the country, where people continued to consider the development of a liberal and egalitarian culture as the principal objective of basic education (MEC, 2014). The consolidation of this idea was also the

merit of the reformist Colorado leader J. Batlle, who was President in two occasions (1903-1907 and 1911-1916) and left a permanent mark not only in his party but mainly in the Uruguayan society.³ Hence, the Varelian principles of free and compulsory schooling (since 1877) were extended to secondary and tertiary education in 1916. The public school system, that had started being operated by secular authorities in the late 19th century, achieved its complete secularization in 1909. In addition, the “Education Reform” and the further Batlle’s policies made great headway in the professionalization of teaching, the creation of infrastructure and the induction of parents to get their children into the education system (Bralich, 2011). As a result of this founding period, more than 2/3 of the population aged 15 and older was literate by 1930 (Lee and Lee, 2016 see Table A.1 in the Appendix).

Different from what happened in US and Europe, the origins of public school expansion in Uruguay were not part of a movement of democratization. It was the head of government, representing strongly liberal and anticlerical parties, who pushed the reforms. This was also the case in Argentina and Chile (Mariscal and Sokoloff, 2000), Brazil (Martinez Fritscher et al., 2010) and Peru (Arroyo, 2016). Hence, electoral reforms did not precede the expansion in public funded schools. Instead, the latter was seen as key to foster men’s participation in democracy. In fact, until the 1918 Constitution suffrage was only granted to male citizens meeting wealth and literacy requirements. And schooling expansion was actually a demand by the landholding elites, eager to fight barbarism and civilize masses in order to transform them into a disciplined labour force thanks partially to the fact that school funding did not require any special payment (Bralich, 2011).

Schooling, like the rest of government services, was centrally financed and organized. The same happened with the system of fiscal revenues. The growing financial needs of the primary education system were initially covered by funds coming from different tax sources: percentages of taxes on renting, inheritance, trade authorizations, motorcars, various types of basic consumption goods (foodstuff, clothes, etc). The 1934 Constitution changed this system and removed the fixed percentages. Since then, education funding, together with all other

³ Batlle’s government established a welfare state system in the country within which the intermediate education for women, industrial training and the expansion of secondary education played a central role (Lindhal, 1977).

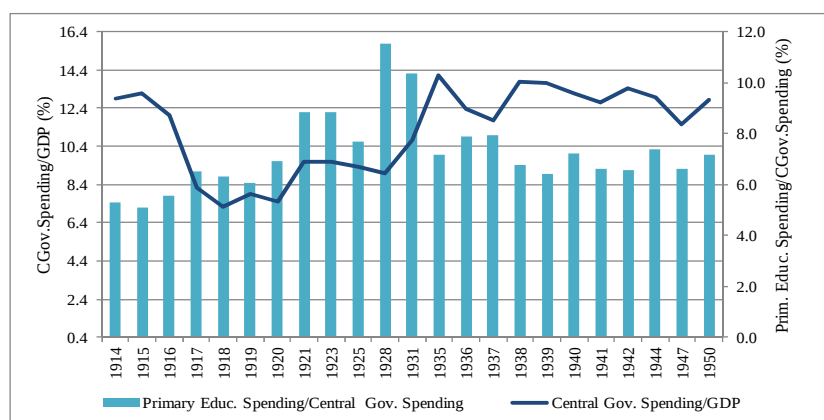
items of the national budget, had to be funded by the proceeds of total government revenues (Anselmi and Zaffaroni, 1941).

Within this framework, politicians' incentives to spend on primary education during the period depended on their perception about its benefits, as well as on the availability of fiscal resources. World War I put an end to a period of dynamic export-led growth, damaging the central source of government revenues (foreign trade taxes). However, government expenditure could recover during the 1920s and up to the 1929 crisis sudden stop increased from 7% of total GDP in 1918 to 11% in 1931. After the mid 1930s, public outlays remained rather stable until the end of the period. Under these budget constraints the expenditure share of primary education raised modestly, from 5.3% in 1914 to 7.4% in 1954 (Azar et al., 2009). Its highest levels were reached during the 1920s, particularly from 1924 to 1930, when primary education captured (on average) 9% of the total budget.⁴

Figure 1 shows two phases in the evolution of the primary education expenditure share. From 1917 to 1931 it expanded over a growing public budget. After 1931, both ratios remained rather constant. On the other hand, along with the expanding funding, the provision of schools clearly increased since 1914, after the early jumps in 1905 and 1911, under Batlle's government. Figure 2 shows that the series jumps in 1924 and keeps on slowly rising until the mid-1950s. By the end of the period, it had increased almost 80%. Accordingly, the number of teachers more than doubled, and the percentage of primary enrolment grew steadily from an estimated 29% in 1914 to almost 57% in 1954 (DGEa and DGEb, Table A.1).

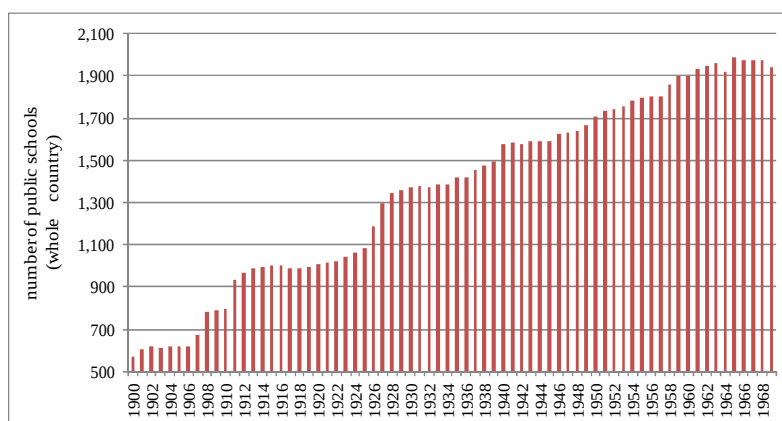
⁴ This orientation was supported by a law dated in October 1926 that modified the percentages of tax revenues devoted to primary schooling and widened the range of tax sources applied to this end (Acevedo, 1936).

Figure 1. Central Government and primary schooling expenditure shares



Source: Azar et al. (2009)

Figure 2. Total number of schools in the country



Source: Based on DGEa (Table A.1)

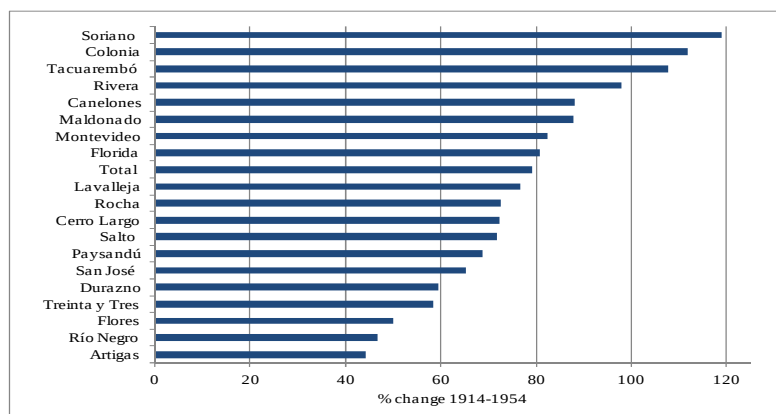
Traditionally public funding has favoured the South (close to Montevideo and the River Plate) and the West (the Uruguay River coastline), which were also regions with high income and welfare indicators.⁵ By contrast, lower funds have corresponded to the Northern and Eastern regions (by the Brazilian border), which have been described as a poor periphery, with the lowest records in terms of income per capita, infrastructure and social welfare.⁶ The central areas of the country were in an intermediate position (García et al., 2015; Lombardi and Veiga, 1979). Figure 3 shows however, that during the period the increase in the number of schools was general, and not concentrated in the richest part of the country or Montevideo. In fact,

⁵ This region includes the departments of San José, Colonia, Soriano, Río Negro and Paysandú.

⁶ The poorest departments have been Artigas, Rivera, Cerro Largo, Treinta y Tres and Tacuarembó. During the period, also Canelones was in the group.

some of the poorest departments, such as Tacuarembó and Rivera, were among those in which the number of schools grew more between 1914 and 1954. In fact, one relevant feature of the period is that along with the relevance of the capital-city government also raised its interest in the rest of the country.⁷

Figure 3. Change in the number of public schools across departments (1914-1954)



Source: Based on DGEa (Table A.1)

Table 1 presents some indicators of primary school development at the department level, as averages for the period 1914-1954. It confirms the variability of situations across the country and, specifically, the distinctive features of Montevideo. The latter concentrated 10% of the country's public funded schools and 60% of the private ones during the period. As a result, the ratio of private over public schools was 70% in Montevideo and 6% in the rest of the country. This justifies the exclusion of Montevideo from our analysis, as well as the focus on the rest of departments, where the public system emerged as the almost exclusive supplier. In this context, this study argues that if public funds were crucial to guarantee access to primary education in the different departments (except for Montevideo) their relevance might have turned them into an opportunity for political manipulation.

⁷ The idea that Montevideo had already established a proper schooling system under the Varelian Reform and the first Batllist presidency, seemed to have lain behind this orientation (MEC, 2014).

Table 1. Public primary education indicators by department (average 1914-1954)

Department	Primary enrolment/schools	Primary enrolment/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. CIDE established that the target value of the ratio school area/pupils should be 1.5 m².

Source: own computation based on DGEa (Table A.2)

So far, this picture about the dynamics of public school expansion reveals just a part of the story. According to several studies, at the end of the 1950s, the minimal conditions to secure an adequate educational performance were not provided, yet. The increase in infrastructure and current expenses was not enough to keep up with enrolment and to retain pupils into the system. Grade repetition, high drop-out rates and late enrolment were among the most important concerns (Otero, 1969; CIDE, 1965).⁸ By 1963, 15% of people over 30 years old were illiterate and less than 40% of adult population and 47% of labour force had completed primary education (Otero, 1969). Actually, as in Argentina and Chile, it took at least until the 1970s to achieve acceptable levels of grade promotion and school completion after having achieved full primary school enrolment rates (Frankema, 2009; Bértola and Bertoni, 1999).

⁸ CIDE stands for “Comisión de Inversión y Desarrollo Económico” (Commission for Investment and Economic Development).

From a comparative perspective, the country shares with its regional counterparts the failure to invest enough in public education at least until the 1930s, during the intense growth period associated to primary export expansion. Table 2 contains the average level of public primary education spending (as a proportion of GDP) for some middle and high income countries in 1914 and 1950. Uruguay does not stand out by the level of their public resources devoted to public education.

Table 2. Public primary education expenditure in selected countries (% GDP)

Countries	1914	1950
Chile	0.89	1.05
France	1.48	1.23
Japan	2.04	1.78
Spain	0.41	0.38
United Kingdom	0.98	0.91
United States	2.33	2.10
Uruguay	0.71	0.85
Total	1.35	1.24

Source: own computation based on UC Davis (Table A.4.1); Azar et al. (2009).

3. A look at Uruguayan politics

The present analysis aims to assess whether the incumbent government used school provision to persuade the electorate and, particularly, to reinforce its legislative outcomes. Therefore, it is important to understand the degree of influence of political parties on the government's decision making process in Uruguay during the period. The pork-barrel politics literature provides some clues to understand the Uruguayan case.

Two main theoretical models account for distortions in resource allocation. Lindbeck and Weibull (1987) and Dixit and Londregan (1998) show that the incumbent purchases votes by distributing money to regions in which there are many "swing voters" (those not specifically attached to any party) and low-income voters (cheaper to attract). Instead, Cox and McCubbins (1986) state that due to risk aversion, the incumbent government purchases votes by investing in districts where it already has high support.

This line of “electoral targeting” might be combined with a “legislative targeting”, as it happens when the distribution of benefits aims at optimizing legislative outcomes. The reason is that after the elections, legislative seats become more important than popular votes. Then, benefits could flow to senior figures in the governing coalition (as with “core” voters) or to pivotal legislators (the analogs of “swing” voters) whose support may be crucial in overcoming majority requirements in the legislative process (Cox, 2009). As a result, distributive benefits may be directed to persuade electorate as well as to bargain intermediate legislative outcomes, even with legislators belonging to the president’s own party (Cox and McCubbins, 1986; Evans, 2004). On the other hand, this dynamics would also reflect the higher ability or skills of certain senior representatives to attract resources to their constituencies. As it is shown below, this is the situation that most resembles the Uruguayan case.

The Republic adopted a presidential system and a bicameral organization of the legislative since its inception in 1830. Later, the 1918 Constitution laid the foundation of a real democratic system. It established universal, direct and secret ballot for all male-citizens and removed any requirement to be elector or elected.⁹ It also introduced Proportional Representation (PR) and established a National Administration Council (NAC). Composed by 9 members (6 from the winning Party and 3 from the major opposition party), the NAC would share the Executive Power with the President. They would be renewed by thirds every 2 years. The elected president would rule during 4 years and hold the Military power, the Internal Order responsibilities and the country’s international representation. The NAC would be in charge of the economy and the rest of domestic policy decisions. NAC members were elected independently from the President and its Chief could belong to a different fraction or even a different party.

This state of affairs lasted until the 1933 *coup d’etat*, which aligned some members of the Colorado Party with the majority of the National party, both seeking changes in the prevailing orientation of the Uruguayan social and economic system. The *de facto* government pushed the creation of a Constitutional Assembly to write down a new Constitution, approved in 1934. It was a mixture of liberalism, corporatism and statism and would influence the main

⁹ These new regulations came into force in 1923. The Constitution also stated that women’s citizenship rights could be granted by law. This happened in 1932.

aspects of the country's public policy for the next 40 years (Filgueira, 1995). The new regime did not suspend national elections, which were held in 1934 and 1938, though they were boycotted by important political fractions.¹⁰

The 1934 Constitution removed the NAC, and established that PR would not be applied to the Senate. Since then, the total number of Senators would be equally divided between the election winner and the major opposition party.¹¹ It also introduced the compulsory vote (though without sanctions), eliminated any difference in political rights of men and women and established that legislatures and executives would be elected at once, every 4 years. These rules would again be revised by the 1951 Constitutional Reform, which brought back a collegial Executive Power since 1952: the National Government Council. It counted on the joint participation of the two main political parties and was in force until 1967.

One long-lasting and fundamental principle common to all the electoral regulations since 1910 has been the "double simultaneous vote" (DSV). From 1934 onwards it has been applied to the election of all public officials (legislative and executive, at the national and local level). The DVS implies that voters had the power to choose from different lists within their preferred party: they choose the party as well as a specific group of politicians within it, all at the same time. As a result, the electoral rule could produce a winner who had not won the total popular vote but the majority support within the winning 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.

The collegiate reforms, the PR and the DVS set up strong incentives for party cooperation. Certainly, since the 19th century the Uruguayan history has evolved around the ups-and-downs of the two strong and statewide parties: the Colorado and the Nationalist. The Colorado party dominated the political arena until 1959. They were liberal, anticlerical and tied to urban areas. Instead, the Nationalists have been more conservative and more clearly linked to rural interests. Beyond these general features, differences in ideological background or social composition were negligible and each of those two parties was supported by ca. one -

¹⁰ Mainly, the Colorado Batllists and the Independent Nationalists, who emerged from an internal division of the National Party.

¹¹ This reform has been historically known as the "half-half Senate" or "*senado de medio y medio*" and was in force until 1942.

half of the total electors (Zurbriggen, 2005; González, 1990). Indeed, some intraparty ideological differences could be more significant than interparty ones. Other parties, such as Communists, Socialists, or Christian ones had a minority presence until the 1960s.

The DVS contributed both to create and to organize the so-called “fractionalized bipartism” (Buquet et al., 1998). Both major parties have been riven by policy disputes which made fractions highly visible. These could even be considered as “parties inside parties” (Lindahl, 1977). The Colorados have been divided into batllists and riverists (opposed to the social and economic proposals of President Batlle).¹² Besides, since 1917 batllists themselves split according to the loyalty to different leaders, situation that got worse after Batlle passed away in 1929. The Nationalists suffered divisions since 1930 due to personal disputes between the most conservative party-leader (L. A. de Herrera) and their opponents (later gathered under the Independent Nationalists).

The impact of the two-party system on electoral competition led to closely disputed results. Uruguay has 19 electoral districts, which coincide with the departments, and vary considerably in the number of representatives (from 2 to 32 or 45 depending on the year). Montevideo (excluded from the analysis) had 30 to 40% of total representation, so it was crucial in the electoral dispute. Nonetheless, given the narrow vote margins and the serious intraparty divisions, the rest of constituencies also became crucial for the electoral competition and post-electoral alliances.

Table 3 indicates the electoral occasions in which the vote margin between the main parties was lower than 10% at each constituency. It reveals that during the period, along with strong party loyalties, politics moved in narrow margins in the majority of departments, with the exception of Artigas, Maldonado and Rivera.

¹² The “riverist” fraction takes its name from the Colorado leader Fructuoso Rivera, first constitutional President of the Republic (1830-1834).

Table 3. Presence of vote margin under 10% across departments and elections

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

Source: own compilation based on Nahum (2007), Nohlen (1993), FSS and Acevedo (Table A.4.1)

Consequently, the Colorados, though being the dominant party, never obtained 3 consecutive majorities in the low Chamber during the period 1918-1933 and only gained one absolute majority (1946) between 1942 and 1954. On the other hand, the high levels of intraparty indiscipline, splits and personality disputes were translated into dissent, bargains and deals among the parliamentary representatives. As a result, coalition partners in the legislative arena changed frequently during government terms. Still, it is true that no matter how close they were, no fraction from one party would have moved to the opponent party (Altman et al, 2011). The same happened to a considerable number of voters who were firmly attached to their party and whose support was out of reach for the other.

Ultimately, the levels of cooperation and compromise among fractions benefited the working of Parliament by smoothing the decision-making processes and the levels of confrontation and conflict (Caetano and Rilla, 1996). They also brought significant benefits for politicians in terms of patronage and clientelism. These became visible during the 1930s, got worse in the 1940s and reached a maximum in the 1950s, as fraction proliferation increased (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” (Zurbriggen, 2005: 130).¹³

The current study explores primary education spending, which was funded by the central government and disbursed across departments. The role of Parliament was essential, because the national budget was discussed, approved and controlled by the legislative representatives. The present analysis is based on the performance of the members of the low chamber (*Diputados*): they were regulated by the same electoral rules and appointed following a regional proportional representation during the whole period. Moreover, some scholars consider that *diputados* reflect more clearly the high degree of fragmentation of the partisan politics and the relationship with the electorate, being much more responsive to their demands (Monestier, 1999; Buquet, 2003). In addition, as described above, during the period under study the president lacked a strong legislative power and was subject to continuous political bargain at the parliamentary arena.

4. Empirical approach

The empirical analysis is built upon a department-level historical dataset for 18 territorial units for the period 1914-1954. This regional approach had to overcome some data constraints. This is the case of the main outcome variable: public education spending per region is not available for the selected time-span. For this reason, public financial efforts are measured through the number of available schools at each department. This variable stands as a *proxy* for the public resources applied to the current operation of the primary education system across regions (Arroyo, 2016; Gao, 2015; Chaudhary, 2009). Despite being an indirect measure it is suitable since department heterogeneities in terms of school equipment did not seem to be wide according to Table 1. Besides, the rapid primary education expansion was mainly covered by renting private buildings (they represented over 70% of establishments), not by school construction. This reduces the importance of potential regional disparities in public infrastructure investment. As a robustness check, we also use the number of teachers hired by public schools as an alternative dependent variable. In all cases, data come from several National Statistics Yearbooks of the years covered by the study (DGEa in Table A.1).

¹³ Article 57 of the 1934 Constitution.

The period comprises 12 legislative terms which lasted 3 years until the 1934 Constitution and 4 years from then onwards. We study the political orientation of the *diputados* elected in representation of the different departments. Their total number (including Montevideo) changed from 90 (until 1916) to 123 (between 1917 and 1932) and finally ranged 99 since 1934. Each department elected at least 2 representatives, which made up a total sample of 70 deputies per election in the 18 departments (Montevideo excluded).

Data on the name, party affiliation, legislative term and department of origin of each one of the legislators have been extracted from the report “Parlamentarios uruguayos 1830-2005” edited by the Uruguayan Parliament (2006). However, this source does not identify political fractions. From 1925 to 1943 this has been re-constructed on the basis of the electoral ballots of each party by department and election published on line by the Uruguayan Electoral Office. The gaps for the rest of the period have been completed with data on elections and parties compiled by the area of Political Sciences of the FSS Databank, Nahum (2007) and Acevedo (1936).

This dataset allows computing the main political indicators to be assessed in the study. As discussed in the previous section, political priorities might affected spending decisions depending on the intensity of the challenge the incumbent party faced from others and also from intraparty fractions. In order to take into account the crucial role played by these fractions in local politics, we compute the degree of fragmentation of the party system (Laakso and Taaffepera, 1979).¹⁴

Let $\bar{x} = \sum_{i=1}^n x_i$ be the total number of parliamentary seats and $s_i = x_i/\bar{x}$ the shares of the seats of party i . Then the *Effective Number of Parties* (ENP) $= \frac{1}{\sum_{i=1}^n (x_i/\bar{x})^2} = (\sum_{i=1}^n s_i^2)^{-1}$, that is the inverse of the sum of squares shares. An increase in the value of ENP corresponds to a reduction in the degree of concentration of the political system. The ENP is simply the inverse of the Hirschman-Herfindahl index. It measures the level of political concentration, where the number of parties in competition is neither dependent on just the largest party's vote ($1/s_1$) nor distorted by alterations in the numbers or vote shares of very small parties

¹⁴ The measure has reached a high degree of consensus among scholars. Despite the drawbacks stressed by some authors suggesting new measures, it remains the most used when assessing the party-system fragmentation (Caulier, 2011).

(Taagepera and Shugart, 1989). The same computation applies to party fractions (ENF) by taking $s_i = x_i/\bar{x}$ as the shares of the seats of each political fraction within the party system.

Both, ENP and ENF have been estimated for each one of the departments and legislative terms. It is expected that the greater the number of parties or fractions the greater the chances presidents will not count with a majority support in the legislature (Shugart and Carey, 1992). As previously seen, though the system has produced a fractionalized party scheme, it became markedly more so after the democracy recovery in 1938. On average, the NEF was 2.16 between 1914 and 1930 and rose to an average of 2.85 for the span 1938-1954.

Besides, the distributive politics framework states that government could use schooling provision to induce cooperation between the executive and the legislative. Under the assumption that the extent up to which the president is compelled to seek legislative support hinges upon its legislative power, three variables are used to describe his position in each department. First, the “seat margin” is the difference of seats between the government’s party and the maximum of those occupied by an opposition party, as a share of the total available department seats. It is interpreted as an indicator of electoral competition: the higher the seat margin in favour of government, the lower the electoral competition in the department.

The other two indicators explicitly consider the influence of party fractions. The “Government Political Power Index” (GPPI) is obtained by multiplying the proportion of seats aligned with the president’s party times the share of seats of his political fraction within the party (Aboal et al., 2003a; Oddone, 2005). The higher the value of the GPPI the stronger is the president’s legislative support. The index has been calculated for each department and legislative term. As during the period 1919-1932, the NAC conducted the economy and took the most important domestic policy decisions, it is estimated in reference to the NAC’s President.

A second indicator is the share of seats aligned with the president beyond their partisan affiliation (over the total elected at each department level). Different from the previous measure, this “alignment” variable is allowed to change during the legislative term due to coalitions and intraparty conflicts. The required information has been compiled from several historical analyses (Acevedo, 1934 and 1936, Zum Felde, 1967; Caetano and Rilla, 1996; Nohlen, 1993).

A complementary perspective to legislative outcomes focuses on the electoral dispute. In this case, the discussion hinges upon the extent up to which the incumbent government has preferred to reward its core supporters or to maximize the probability of winning the election by allocating resources to swing districts.¹⁵ Following Milligan and Smart (2005) and Vaishnav and Sicar (2010) the electoral pressures on the ruling party are captured by the difference in vote shares between the main party in the central government and its main opponent (expressed in absolute values).¹⁶ A small difference in this vote margin in the last legislative election is assumed to define a “swing” constituency. The necessary data to estimate those differences are taken from Nahum (2007), Nohlen (1993), the FSS Databank and Acevedo (1936). The variable is not available for the whole period, because there is not information about the votes cast by parties at the department level in 3 legislative polls: 1913, 1919 and 1922.

Apart from political factors, scholars have suggested that an unequal distribution of land might slow down the expansion of public schooling (Engerman and Sokoloff, 2000; 2001; Galor et al., 2009). Indeed, Engerman and Sokoloff have stated that Argentina, Chile and Uruguay invested more in education than their regional counterparts because landownership inequality was less pronounced. In order to account for this hypothesis, a land Gini index is included in the analysis, which was elaborated by Castro et al. (2012) on the basis of information about the size of rural establishments (Table A.1).

Another driver for public schooling investment in Europe and the US has been the extension of political franchise or the “political voice” (Engerman and Sokoloff, 2000, Lindert, 2004). Though in Uruguay, school development preceded democratization, it is relevant to explore whether the electorate enlargement has contributed to foster the demand for primary schooling. The size of the potential electorate to be disputed by the parties is measured by the ratio of registered electors over total population. The indicator takes into account that literacy and wealth vote requirements were effectively removed in 1923 for men aged 18 and over and in 1938 for women. Suffrage has been compulsory since then.

¹⁵ Golden and Min (2013) state that as studies rely on aggregated data they are really comparing core and swing *electoral areas* or districts rather than core and swing voters, as predicted by the theory.

¹⁶ An alternative indicator is given by the votes needed for the incumbent government to gain/lose the majority. Unfortunately, the range of data available at the department level impedes this computation.

A group of other covariates aim to proxy the potential demand for public education provision, such as average population size and the birth rate at each department. The former has been constructed by interpolating the 1908 and 1963 Census data while the second has been built upon the total number of births published at several Statistics Yearbooks of the period.¹⁷ On the other hand, the previous local progress of schooling is given by the primary enrolment rate lagged one year (private and public). It was computed from the data on total primary enrolled students (DGEa) and an estimation of the primary-school age children at each department, *proxied* by those aged between 5 and 14 years (DGEb in Table A.1). The variable captures the preexisting direct demand on schooling.

Other socio-economic variables that could have affected the demand for education (economic growth, share of total value added, industrial composition, literacy rates, total years of education, etc) are not available at the department level on a yearly basis, so they were described through several proxies. For instance, secondary enrolment rates are expected to describe the broad educational standards prevailing at the department but also the local income level and even its distribution. The argument is that, until the late 1920s, secondary education was aimed to prepare students to enter University, so it stood as an exclusive domain of economic elites. Though by 1912, there was at least one public secondary school at almost each department capital, the real democratization of access started in 1935, when secondary institutions were separated from University (MEC, 2014). The variable is taken with a 6 year-lag in order to control for the education and income level of 18-24 year-old people, who may also be potential parents.

Similarly, the share of private primary enrolment over the total describes the potential trade-off between public and private education at the department level, probably influenced by the preferences of the groups belonging to the higher tail of income distribution. The variable is lagged one year. Data come from Nahum (2007), Education Yearbooks and census information for the interpolation of secondary school age population.

¹⁷ One serious data constraint for the period is that population Censuses have only been carried out in 1908 and then in 1963. The information for the long time span between them comes mainly from annual general statistics.

The labour force participation rate and the growth rate of the tertiary labour force aims to account for each department economic development. It may also reflect the progress of urbanization. These variables are expected to exert a positive effect on school provision (Lindert, 2004; Mitch, 2013). An additional incentive to foster public education might come from skilled labour demand. Following Cappelli (2016), the share of the labour force employed in agriculture and in secondary activities (in relation to tertiary activities) is used to capture the possible returns to human capital formation, assuming that skilled labour was not a prime request in agricultural societies or for the incipient industry. The information on labour market has been taken from García et al. (2015) and gaps fulfilled with interpolations.

Finally, the share of school-age children over people aged 55 and older is included to account for the potential generational conflict over public resources. If government tries to maximize its political support by favouring the allocation of funds towards the elderly, there would be a negative effect on school spending (Poterba, 1997; Grob and Walter, 2007). This was a plausible situation in the country, because pensions have historically been the main social transfers. In fact, the first pension rights were recognized in 1829 and consolidated in 1904: before the great mass expansion of public education (Azar et al., 2009).

One limitation of this analytical proposal concerns the treatment of rural schooling, which actually led the expansion of schooling throughout the country (MEC, 2014). However, lack of data on total and school age rural population and distance to urban centers have prevented from focusing on its specific development. Table A.1 summarizes the main data sources and Table A.2 reports summary statistics for the baseline variables.

The baseline specification is a panel data fixed effects estimation of the following model:

$$schools_{it} = \beta P_{it} + \gamma X_{it} + \alpha_i + \alpha_t + \mu_{it}$$

where $schools_{it}$ is the number of public schools at each year (t) and department (i); P_{it} includes the political variables; X_{it} stands for the set of control variables; α_i are department fixed effects, α_t are specific year-effects and μ_{it} is an error term.

The model would help to identify the drivers of variations in the number of schools within departments over time. The use of department fixed effects controls for unobserved characteristics of the departments that are constant over time, such as geographic features or differences in rural-urban concentration. 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. On the other hand, the potential non-independence of errors within departments is tackled by clustering standard errors at the department level.

Dependent and control variables are considered annually. Political factors (except for the legislative alignment with the president) are defined for each legislative term, so they are the same between elections. The model assumes that the number of schools each year is affected by the legislative configuration or the electoral results emerging from the previous election so that reverse causality problems are avoided.

5. Results

Table 4 presents the first set of results and summarizes the influence of the political variables on schooling provision. Column 1 shows a significant and positive relationship between the number of effective fractions and the available schools. So, a highly fragmented political system seemed to have fostered education spending at the department level. The variable keeps this influence and remains statistically significant across all specifications but one.

Columns 3 to 5 keep the prevailing intraparty competition variable (ENF) and alternatively add indicators describing government's seat margin, political power index (GPPI) and alignment of MPs. The coefficients of these three variables are negative and significant at 10% level.¹⁸ They suggest that lower president's legislative powers benefited school provision across regions. In other words, all else equal, it seems that the incumbent government party did not allocate resources to reinforce the strength of its already loyal legislators. Instead, the

¹⁸ This level of statistical significance could stem from the fact that the degree of party support to government is more difficult to assess as competition among political fractions grows (reflected in the highly significant NEF variable).

fund distribution appears to have been affected by the government's need to bargain with regional opposition representatives.

To complete this information, Columns 5 and 6 show the effect of the electoral margin on schools in order to assess whether public schooling provision was targeted to "core" or "swing" constituencies. The variable has a negative sign meaning that a reduction in electoral margin between the main parties (that is, a closer electoral dispute) implied an increase in school provision. Though suggestive, the coefficient is not significant. Still, this result might be affected by the lack of data on 3 elections (1913, 1919 and 1922). Following Milligan and Smart (2005), the vote margin has been interacted with a dummy variable indicating government held department. This is intended to capture possible differences in case the electoral dispute was settled in favour of the president's party. The effect of margin in government loyal departments is obtained from adding this coefficient (positive and non significant) to the interacted variable, highly significant and negative. The result is a negative sum suggesting that school provision was positively related to swing regions in which government has won the electoral dispute. The aim would have probably been to enhance its chances of re-election.

Table 4. Primary schooling, party competition and government legislative powers

Dep. Var. <i>Nº of public schools</i>	1	2	3	4	5	6
Effective N ^º Fractions (ENF)	0.974*** (0.298)	1.062*** (0.277)	0.909*** (0.310)	0.953*** (0.298)	0.809* (0.404)	0.386 (0.392)
Government Seat Margin		-1.327* (0.740)				
Gov. Political Power Index			-1.740* (1.029)			
Alignment with President				-1.412* (0.811)		
Vote Margin (VM)					-1.082 (3.902)	4.527 (3.525)
VM x Gov. held prov. (dummy)						-11.561** (5.239)
Gov. held prov. (dummy)						0.324 (1.030)
Land Gini index	-38.723** (14.416)	-39.632*** (13.362)	-41.244*** (13.571)	-38.735** (13.796)	-33.096** (12.678)	-44.496*** (12.012)
Potential Electorate	18.529* (9.088)	17.200* (8.957)	17.884* (8.956)	18.726* (9.217)	21.748 (20.827)	21.277 (19.438)
Population (thousands)	0.778*** (0.112)	0.777*** (0.113)	0.776*** (0.113)	0.777*** (0.115)	0.704*** (0.163)	0.662*** (0.162)
Birth rate (per thousands)	0.190** (0.080)	0.203** (0.080)	0.195** (0.080)	0.188** (0.082)	0.089 (0.086)	0.101 (0.085)
Primary enrolment (lag. 1)	39.942** (15.410)	41.642** (15.400)	40.078** (15.348)	40.456** (15.370)	29.118* (14.335)	30.872** (13.586)
Priv. school stud./total (lag. 1)	-43.869*** (15.092)	-43.573** (15.974)	-42.810** (15.461)	-44.773*** (15.216)	-43.770** (19.235)	-38.865* (18.526)
Secondary enrolment (lag. 6)	-57.105* (31.969)	-54.030* (28.517)	-54.823* (30.570)	-55.441* (30.941)	-29.413 (37.522)	-25.377 (30.774)
Labour force participation rate	81.651*** (18.970)	80.646*** (18.748)	80.488*** (18.712)	80.908*** (19.047)	75.032** (33.697)	61.079* (29.254)
Rate of growth of tertiary labourers	863.774** (311.049)	896.029** (312.200)	863.591** (320.492)	853.793** (313.314)	580.488 (456.283)	494.411 (437.362)
Active population in primary activities/total	-323.386*** (104.135)	-311.354*** (101.464)	-314.579*** (104.181)	-317.729*** (101.710)	-269.849** (103.636)	-246.467** (87.819)
Active population in secondary activities/total	-331.148*** (110.973)	-309.160** (110.927)	-322.619*** (111.194)	-326.996*** (106.194)	-274.869** (125.144)	-257.001** (114.024)
School aged/people over 55	20.788*** (5.338)	21.142*** (5.240)	20.680*** (5.345)	20.752*** (5.412)	7.873*** (2.421)	7.687*** (2.454)
Observations	551	548	549	551	443	443
R ²	0.606	0.610	0.616	0.611	0.694	0.735

Note: All columns include department and time fixed effects and a constant. A total of 18 departments are considered. Cluster robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

What emerges from the results is that school provision during the period seems to have been influenced by government political tactics. These were targeted to persuade swing voters (in

departments at risk of being lost) or opposition legislators, but not to reward party supporters or core constituencies.

Among the control variables, particular attention is given to the land Gini index. As previously mentioned, it has been argued that landownership inequality might have had an adverse effect on primary schooling expansion. Several authors have obtained evidence on this issue by applying an instrumental variable approach to scale down endogeneity problems aroused from omitted variables bias and reverse causality (Galor et al, 2009; Cinnirella and Hornung, 2013).¹⁹ Though the estimation performed in this study precludes the discussion of a causality relationship, the results do indicate that high levels of land inequality within departments were systematically associated with a lower school provision. Therefore, contrary to the traditional belief about the relative neutrality of landowners in the process of education diffusion, the estimation suggests that they had preferences against public schooling which in turn had an effect on the timing of its expansion.

Political voice also affected the commitment to fund schooling across departments. It is possible that the ruling elite perceived that school expansion could be in line with the interests of the extended electorate and this would have contributed to raise primary public schooling. The rest of controls in Table 4 plays an important role in the variation of the dependent variable: they yield the expected signs and are statistically significant. Hence, total population, birth rates and previous primary enrolment ratios have a positive impact on school expansion. In the same vein, a similar effect is found for the labour force participation and the growth rate of tertiary labour. This is consistent with the idea that urban regions are more prone to demand public education provision.

Another interesting pattern emerges from the negative and significant influence of secondary enrolment rates and the ratio of private primary school enrolment over total. They are intended to capture the preferences towards public education of people distributed at middle and high income levels. The evidence suggests that the interests of those who could afford to pay for schooling out of their pocket or had a previous choice in favour of a long educative career held back public primary education spending.

¹⁹ A variable correlated both with landownership and schooling would bias the results. This is the case of the quality of institutions (Sokoloff and Engerman, 2000).

Besides, different occupational groups had different preferences for schooling. A growing share of people at primary and secondary activities *vis-à-vis* those in the tertiary sector (the omitted category) seem to have dampened the support for public schooling. Given the incipient development of manufacturing and the preeminence of agricultural labour during most of the period, a widespread perception about the negligible advantages of acquiring more skills to perform these activities and the high opportunity costs of leaving the jobs to attend schools would account for this result.

A final driver of the schooling provision is the ratio of children respect to the elderly. The coefficient shows a strong association between school provision and the presence of younger population, indicating that the generational conflict over resources was not visible during the years under analysis.

One important distinction suggested by the historical literature refers to the peculiar dynamics that featured the years 1917 to 1931. As already noted, there was a significant increase in public education spending during this period (particularly from 1924 to 1930). Besides, the level of party fragmentation was not so pervasive and deep as it would become later. On account of these facts, is it possible that the political factors acted differently before and after 1931? In order to identify any changing pattern, a dummy variable for this period has been interacted with the political variables. Results are presented in Table 5.

Table 5. Political determinants of primary schooling by period

Dep. Var.: <i>Nº of public schools</i>	1	2	3	4	5
Effective Nº of Fractions (ENF)	0.895** (0.381)	1.013*** (0.315)	0.816** (0.363)	0.805** (0.364)	0.590 (0.401)
ENF x period 1917-1931	0.259 (0.624)	-0.119 (0.547)	0.308 (0.533)	0.264 (0.595)	0.207 (0.731)
Government Seat Margin (GSM)		-2.974** (1.060)			
GSM x period 1917-1931		3.600*** (1.102)			
Gov. Political Power Index (GPPI)			-3.374* (1.686)		
GPPI x period 1917-1931			4.041* (2.114)		
Alignment with President				-2.873** (1.065)	
Align. Pres. x period 1917-1931				4.679* (2.574)	
Vote Margin (VM)					-0.883 (4.776)
VM x period 1917-1931					8.039 (5.637)
Gov. held prov. x period 1917-1931					0.305 (1.966)
Vm xGov. held prov. x per. 1917-1931					22.085* (11.296)
Gov. held prov. (dummy)					-2.048** (0.937)
Land Gini index	-39.656** (15.099)	-47.362*** (12.920)	-45.774*** (13.481)	-45.920*** (15.197)	-47.330*** (12.920)
Potential Electorate	18.494* (9.174)	15.106** (7.135)	16.392* (8.175)	18.537** (8.673)	15.333 (19.493)
Population (thousands)	0.782*** (0.114)	0.755*** (0.113)	0.775*** (0.117)	0.783*** (0.118)	0.614*** (0.142)
Birth rate (per thousands)	0.192** (0.082)	0.210*** (0.069)	0.206** (0.077)	0.192** (0.081)	0.091 (0.075)
Primary enroll.(lag. 1)	39.931** (15.418)	43.239** (15.066)	40.409** (15.427)	41.127** (15.514)	29.844* (14.294)
Priv. school stud./total (lag 1)	-43.627*** (14.832)	-40.980** (16.183)	-40.750** (15.671)	-43.087*** (14.653)	-41.581** (16.448)
Secondary enroll. (lag. 6)	-59.409* (33.114)	-47.640 (27.879)	-51.975 (30.271)	-50.413 (30.098)	-12.883 (33.780)
Labour force participation rate	82.928*** (19.256)	74.507*** (18.383)	79.060*** (18.751)	80.658*** (19.128)	59.219** (24.999)
Rate of growth of tertiary labourers	876.580** (312.948)	749.158** (320.985)	845.693** (334.089)	878.337** (321.390)	294.846 (393.749)
Active pop. in prim. activities/total	-328.592*** (105.017)	-312.916*** (107.959)	-308.434*** (105.713)	-321.047*** (104.076)	-264.128** (92.693)
Active pop. in sec. activities/total	-336.444*** (112.352)	-327.266** (123.937)	-316.626** (115.223)	-331.511** (114.909)	-273.319** (129.040)
School aged /people over 55	20.909*** (5.284)	21.265*** (5.055)	20.727*** (5.344)	21.798*** (4.915)	6.946*** (2.112)
Observations	551	548	549	551	443
R ²	0.603	0.621	0.624	0.609	0.712

Note: All columns include department and time fixed effects and a constant. A total of 18 departments are considered. Cluster robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Columns 1 to 4 show that with the exception of the effect of NEF, which does not seem to vary between periods, the influence of other political variables was positive and significant before 1931 (the effect is obtained from adding the coefficients of the non-interacted and interacted political variables). Furthermore, in the case of vote margins and government held departments, the effect also becomes positive. This means that during this first sub-period, governments would have privileged those districts where they were politically stronger, that is where it obtained larger positive electoral margins and where its own legislators prevailed.

Finally, Table 6 explores whether the relationship between political factors and school expansion remains robust when the sample is divided between the rich and middle-income departments and the poor periphery (as described in Section 2). Columns 1 to 6 show that though the direction of the estimated effects does not bear differences with the baseline regressions, they seem to be stronger in the least developed departments. Besides, as previously found, government power measured by the seat margin during 1917-1931 privileged a core- supporter oriented strategy, a trend visible in both groups of departments (Columns 7 and 8). So far, the table suggests a revealing pattern: incumbent's political persuasion seems to have acted with more intensity in departments where public funds were probably more needed.

The effects of control variables are similar to the baseline tables, although the land Gini index is only significant in the rich and middle-income department sample. Thus, in poorer regions, craving for funds, land inequality would not have been so crucial to drive the resource distribution from central government.²⁰

²⁰ The few available observations for the periphery (given that there are no data for 3 electoral instances and this group is the smallest) prevented a robust computation of the vote margin effect.

Table 6. Political determinants of schooling provision by economic development of departments

Dep. Var.: <i>Nº of public schools</i>	1 Periphery dep.	2 Richer dep.	3 Periphery dep.	4 Richer dep.	5 Periphery dep.	6 Richer dep.	7 Periphery dep.	8 Richer dep.
Effective N° of Fractions (ENF)	0.976** (0.340)	1.149** (0.433)	0.962** (0.328)	0.998* (0.466)	0.763* (0.312)	1.041** (0.456)	1.425* (0.626)	1.046* (0.531)
ENF x period 1917-1931							-0.510 (0.904)	-0.055 (0.671)
Government Seat Margin (GSM)	-0.935 (0.582)	-1.398 (0.973)					-2.199* (0.994)	-3.006* (1.425)
GSM x period 1917-1931							2.378** (0.855)	3.253* (1.559)
Gov. Political Power Index (GPPI)			-2.088** (0.791)	-1.935 (1.861)				
Alignment with President					-2.054* (0.987)	-0.036 (1.103)		
Land Gini index	-2.148 (18.824)	-42.470** (16.177)	-5.405 (18.732)	-44.339** (15.311)	-5.103 (17.367)	-42.297** (15.965)	-7.110 (16.974)	-49.394** (17.132)
Other control vars.	YES	YES	YES	YES	YES	YES	YES	YES
Observations	179	369	180	369	182	369	179	369
Number of departments	6	12	6	12	6	12	6	12
R ²	0.300	0.437	0.310	0.430	0.320	0.439	0.321	0.375

Note: All columns include department and time fixed effects and a constant. All regressions include electorate, population, birth rate, primary enrolment rates, private/public school students, secondary enrolment rates, labour force participation, growth rate of tertiary labour, active population in primary and secondary activities over total and school aged people over 55.

Cluster robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Some robustness checks of the baseline results are presented in the next tables. In Table 7, the dependent variable is replaced by the number of teachers in public schools. This indicator works as a proxy for current public spending. The estimation results suggest that this variable was also affected by political factors. Except for estimates in Column 4, the coefficients show that a greater political fragmentation favoured teacher hiring. In Columns 1-3 higher government's legislative power is negatively related to the number of teachers, though the coefficient on alignment in Column 3 is not statistically significant. The estimates in Column 4 render non significant results for the vote margin approach. Finally, controlling for the impacts of the political variables over sub-periods the results in Column 5 contrast with those obtained in Table 5. Now, the interaction of the incumbent seat margin variable with the first sub-period (1917-1930) has the same net effect as the one found for the entire period. That is, the prevailing government orientation has been to persuade opposition or less "safe" provincial legislators. The result is the same when using the GPII variable.

Note that land inequality across departments has tended to decrease the teaching availability (the variable has the expected negative sign). However, the coefficient is not always statistically significant at conventional levels.

Table 7. Number of teachers as dependent variable

Dep. Var: <i>Nº teachers in public schools</i>	1	2	3	4	5
Effective N° Fractions (ENF)	2.109** (0.801)	1.462* (0.748)	1.603** (0.723)	0.286 (0.779)	2.274** (0.933)
Government Seat Margin (GSM)	-5.311** (1.959)				-8.002*** (2.458)
Government Political Power Index		-4.950* (2.859)			
Alignment with President			-2.334 (3.384)		
Vote Margin				13.886 (14.004)	
Vote Margin x Gov. held prov (dummy)				-11.119 (15.002)	
Gov. held prov. (dummy)				-5.283 (3.381)	
GSM x per. 17-31					6.167** (2.870)
Land Gini Index	-67.198 (43.993)	-73.162* (43.698)	-66.583 (43.421)	-77.394* (40.533)	-77.302 (48.373)
Other control vars.	YES	YES	YES	YES	
Observations	547	548	550	442	547
R ²	0.774	0.773	0.770	0.773	0.774

Note: All columns include department and time fixed effects and a constant. All regressions include electorate, population, birth rate, primary enrolment rates, private/public school students, secondary enrolment rates, labour force participation, growth rate of tertiary labour, active population in primary and secondary activities over total and school aged people over 55. Cluster robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 8 presents a first difference estimation. Similar to the fixed effects (FE) method, it eliminates all unobserved effects correlated with observed variables across departments. However, the assumption in FE is that errors are not serially correlated, while the first difference estimation let them assume a random walk process (Cameron and Trivedi, 2005). The estimations show how the number of schools has changed over time in response to changes in the independent variables. In Columns 1-3 first difference is applied to the annual dataset while in Columns 4-7 regressions have been computed at the legislative term level. The results mirror the findings in Table 4 in terms of the direction of the influence they describe. The estimation strategy provides significant and negative coefficients for the incidence of land inequality when applied to the legislative-term

dataset. However, the year to year variation for annual data does not provide variation enough to obtain statistically significant coefficients.

Table 8 First difference estimation of determinants of public schooling provision

Dep. Var. <i>Nº of Public Schools</i>	1	2	3	4	5	6
D. ENF	0.515* (0.267)	0.466* (0.259)	0.430 (0.254)	0.358* (0.175)	0.339* (0.167)	0.411** (0.159)
D. Gov. Seat Margin	-0.535** (0.234)			-0.929 (0.782)		
D. GPPI		-0.412 (0.525)			-1.279** (0.457)	
D. Alignment with President			-1.119*** (0.322)			-0.134 (0.421)
D. Land Gini Index	-0.859 (7.293)	0.245 (7.013)	-2.538 (7.116)	-22.812*** (7.394)	-23.558*** (7.540)	-20.257** (7.565)
Other control vars.	YES	YES	YES	YES	YES	YES
Observations	550	546	546	180	180	180
Dataset	Annual	Annual	Annual	Legis. term	Legis. term	Legis. term
R ²	0.366	0.361	0.357	0.783	0.784	0.781

Note: All columns include department and time fixed effects and a constant. All regressions include electorate, population, birth rate, primary enrolment rates, private/public school students, secondary enrolment rates, labour force participation, growth rate of tertiary labour, active population in primary and secondary activities over total and school aged people over 55. Cluster robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

To sum up, the results show that for the whole period the incumbent government tended to look to swing voter districts and opposition legislators to allocate public school funds. This rationale seemed to hide two distinct patterns when analyzing the school provision though it does not emerge so clear when considering teaching hiring (proxy of current expenditure) over time. Until the 1930s government would have targeted education spending to its core constituencies and to regions dominated by legislators from its own party. However, particularly after 1938, the tactics shifted and the departments more likely to receive education funds, all else equal, were those far apart from the president's party or with higher levels of electoral dispute. In addition, the effect of a closer race in the last election or of legislative bargains with the opposition seemed to have conducted pork barrel politics particularly in poorer regions.

6. Conclusions

The initial expansion of primary schooling system is largely a government outcome. Taking the Uruguayan case, this study explores the presence of tactical incentives in the allocation of primary schooling funds at the department level during the period 1914-1954. Drawing on the “distributive

politics” literature, it proposes an empirical approach based on indicators about party and electoral competition. To this end, a particular dataset combining historical information about school provision, electoral and political results have been compiled.

Despite its size, Uruguay is an upper-middle income country that has been a regional pioneer in terms of social and economic development, and in the establishment of solid democratic rules. In this setting, the case of an interference of politics in the diffusion of primary schooling becomes a reasonable concern given the strong partisan biases of local policy-making during the period and the manipulation of public resources in response to electoral competition found by the previous literature.

The main finding of the study suggests that political factors have played a relevant role in schooling provision across the territory. Influences have come from all the different indicators applied: the level of party-fragmentation, the legislative bargaining process and electoral dispute. This result contends the historical literature claiming that, unlike other matters of social policy, education was not affected by political strategies. Instead, politics seems to have had a distinct impact on the government commitment to fund basic education.

Interestingly, though the incumbent government would have kept a tactical resource allocation throughout the period, the direction of the influence shifted over time. During a first phase, school provision appears as more correlated to core voters and government’s party legislators. That is, during the period of political stability and education budget expansion that preceded the economic and political crisis of the 1930s, funds were allocated to departments where voters were clearly attached to the incumbent party (core supporters). However, from 1934 to 1954 the most favoured regions have been identified with the procurement of legislative support from opposition or from swing voter departments. This coincides with times of higher political conflict and bargaining. The opposition reward strategy also seemed to have been more intense in the less developed regions.

Landownership inequality, together with the effect of variables associated to the extant levels of education and wealth, adversely affected school provision. Meanwhile, widespread of political voice, the size of population and the importance of tertiary activities in the labour market favoured its expansion. In contrast to the received wisdom, these results reinforce the idea that public school

funds at the local level were not evenly distributed following purely children age requirements or the directives of a complete altruistic government.

To be sure, many education policy and budget constraint aspects (not discussed here) might have been pivotal to explain the disappointing primary schooling results by the 1960s (CIDE, 1965; Otero, 1969) and the low quality and educational attainments in upper education levels by the end of the 20th century (Hanushek and Woessman, 2012; Aedo and Walker, 2012). Indeed, it has been posed that Latin American countries (including Uruguay) have overcommitted funds to tertiary schooling at the expense of primary education, thus slowing down the achievement of school completion in the first cycle as well as knowledge acquisition goals (Frankema, 2009; Lindert, 2010). In addition to this established literature, this study drives the attention to the effects of pork barrel politics. The extent up to which funding decisions have been affected by political tactics might well have contributed to a suboptimal provision of basic education. So much worse given that this political agenda appeared to have hit harder on the poorer regions, which were in greatest need of public compensating mechanisms.

Being mass education one of the most relevant engines of development, it is possible that political strategies might have compromised the role of schooling to alleviate persisting territorial inequalities and to gear economic growth. Hence, by introducing a stance on early schooling linked to partisan politics, this paper provides evidence complementing the ongoing research lines on regional development disparities in the country and raise new questions on the historical roots of Latin American backwardness.

References

- Aboal, D. and Calvo, D. (2000). Política y Macroeconomía en el Uruguay del Siglo XX. Thesis dissertation. Facultad de Ciencias Económicas y de Administración, Universidad de la República, Montevideo.
- Aboal, D., Lorenzo, F., Moraes, J. and Oddone, G. (2003a). La Economía Política de los Déficit Fiscales en Uruguay. In Aboal, D. and Moraes, J. (eds), *Economía Política en Uruguay: Instituciones y actores políticos en el proceso económico*. Ediciones Trilce, Montevideo.
- Aboal, D., Lorenzo, F. and Rius, A. (2003b). Política Partidaria y Política Cambiaria: La evidencia para Uruguay desde 1920. In Aboal, D. and Moraes, J. (eds), *Economía Política en Uruguay: Instituciones y actores políticos en el proceso económico*. Ediciones Trilce, Montevideo.
- Acevedo, E. 1934; (1936). *Anales Históricos del Uruguay*. Tomo V and VI. Casa Barreiro y Ramos, Montevideo.
- Aedo, C., Walker, I. (2012). Skills for the 21st century in Latin America and the Caribbean. The World Bank, Washington, D.C.
- Altman, D. Buquet, D. and Luna, J.P. (2011). Constitutional reforms and political turnover in Uruguay: winning Batlle, losing the war. Documento 2/11, Instituto de Ciencia Política de la Facultad de Ciencias Sociales de la Universidad de la República.
- Ansell, B. and Lindvall, J. (2013). The political origins of primary education systems: ideology, institutions, and interdenominational conflict in an era of nation-building. *The American Political Science Review* 107(3), 505-522.
- Anselmi, J. and Zaffaroni, J. (1941). La instrucción primaria y su régimen financiero a través de las distintas etapas de su desarrollo. Ensayo de investigación de finanzas. Facultad de Ciencias Económicas y de Administración, Universidad de la República.
- Arroyo, L. (2016). The limits of the estado docente: education and political participation in Peru, 1876-1940. *Revista de Historia Económica/Journal of Iberian and Latin American Economic History* 34(1), 81-109.
- 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 finanzas públicas en el Uruguay del siglo XX*. Instituto de Economía. Editorial Fin de Siglo, Montevideo.
- Beltrán, F. and Martínez, J. (2015). Land access inequality and education in pre-industrial Spain. Discussion Papers in Economic and Social History 137, University of Oxford.

- Bértola, L. and Bertoni, R. (1999). Educación y aprendizaje. Su contribución a la definición de escenarios de convergencia y divergencia. Paper presented at Segundas Jornadas de Historia Económica, Montevideo.
- Bralich, J. (2011). José Pedro Varela y la gestación de la escuela uruguaya. *Revista Historia de la Educación Latinoamericana* 13(17), 43-70.
- Buquet, D., Chasquetti, D. and Moraes, J. (1998). Fragmentación política y gobierno en Uruguay: ¿un enfermo imaginario? Facultad de Ciencias Sociales: Montevideo.
- Caetano, G. and Rilla, J. P. (1996). Relaciones inter-partidarias y gobierno en el Uruguay (1942-1973). *Revista Uruguay de Ciencia Política* 8, 15-34.
- Cameron, C. and Trivedi, P. (2005). *Microeconometrics. Methods and applications*. Cambridge University Press, Cambridge.
- Cappelli, G. (2016). One size that didn't fit all? Electoral franchise, fiscal capacity and the rise of mass schooling across Italy's provinces, 1870–1911. *Cliometrica* 10, 311–343.
- Case, A. (2001). Election goals and income redistribution: Recent evidence from Albania. *European Economic Review* 45, 405–23.
- Castells, A. and Solé, A. (2005). The regional allocation of infrastructure investment: the role of equity, efficiency and political factors. *European Economic Review* 49, 1165-1205.
- Caulier, J.F. (2011). The interpretation of the Laakso-Taagepera Effective Number of Parties. documents de travail du Centre d'Economie de la Sorbonne.
- Chaudhary, L. (2009). Determinants of Primary Schooling in British India. *Journal of Economic History* 69, 269–302.
- Chaudhary, L. and Garg, M. (2015). Does history matter? Colonial education investments in India. *Economic History Review* 68(3), 937-961.
- Chaudhary, L. Musacchio, A., Nafziger, S. and Yan, S. (2012). Big BRICs, weak foundations: the beginning of public elementary education in Brazil, Russia, India and China. *Explorations in Economic History* 49, 221-240.
- CIDE. (1965). *Informe sobre el estado de la educación en Uruguay*. Tomo I. Plan Nacional de Desarrollo Económico y Social 1965-74, Montevideo.
- Cinnirella, F. and Hornung, E. (2016). Landownership concentration and the expansion of education. *Journal of Development Economics*, 121, 135-152
- Coatsworth, J. H. (1993). Notes on the Comparative Economic History of Latin America and the United States. In Bernecker, W. and Werner, H. (eds.), *Development and underdevelopment in*

- America: contrasts of economic growth in North and Latin America in historical perspective.*
Walter de Gruyter, New York.
- Cox, G. (2009). Swing voters, core voters and distributive politics. Department of Political Science
University of California, San Diego. Unpublished manuscript.
- Cox, G. and McCubbins, M. (1986). Electoral Politics as a redistributive game. *Journal of Politics*
48(2), 370–89.
- Curto, M., Herranz, A. and Solé, A. (2012). Pork-Barrel Politics in Semi-Democracies: The Spanish
“Parliamentary Roads” 1880-1914. *The Journal of Economic History* 72(3), 771-796.
- Dahlberg, M. and Johansson, E. (2002). On the vote-purchasing behavior of incumbent governments.
American Political Science Review 96, 27–40.
- De la Croix, D. and Doepke, M. (2009). To segregate or to integrate: education politics and
democracy. *The Review of Economic Studies* 76(2), 597-628.
- Denemark, D. (2000). Partisan pork barrel in Parliamentary systems: Australian Constituency-Level
Grants. *Journal of Politics* 62, 896-915.
- Dixit, A. and Londregan, J. (1998). Ideology, tactics, and efficiency in redistributive politics. The
Quarterly Journal of Economics 113, 497–529.
- Engerman, S. and Sokoloff, K. (2001). The evolution of suffrage institutions in the new world.
Working Paper 8512, National Bureau of Economic Research.
- (2000). Institutions, factor endowments and path of development in the new world.
Journal of Economic Perspectives 14(3), 217-232.
- Evans, D. (2004). Greasing the wheels: using pork-barrel projects to build majority coalitions in
Congress. Cambridge University Press, Cambridge.
- Filgueira, F. (1995). A century of social welfare in Uruguay. Growth to the limit of the Batllista social
state. Democracy and Social Policy Series, Working Paper 5. Kellogg Institute.
- Filgueira, C. and Filgueira, F. (1994). *El largo adiós al país modelo*. Ed. Arca, Montevideo.
- Filgueira, F. and Papadópulos, J. (1997). Putting conservatism to good use? Long crisis and vetoed
alternatives in Uruguay. In Douglas, A., Vilas, C., Hite, K, Martin, S., Piester, K. and Segarra, M.
(eds), *The new politics of inequality in Latin America*. Oxford.
- Frankema, E. (2009). The Expansion of Mass Education in Twentieth Century Latin America: A
Global Comparative Perspective. *Revista de Historia Económica/ Journal of Iberian and Latin
American Economic History* 27(03), 359–396.

- Gallego, F. (2010). Historical origins of schooling: the role of democracy and political decentralization. *The Review of Economics and Statistics* 92(2), 228-243.
- Galor, O., Moav, O. and Vollrath, D. (2009). Inequality in landownership, the emergence of human-capital promoting institutions and the Great Divergence, *Review of Economic Studies* 76(1), 143-179.
- 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. Facultad de Ciencias Económicas y de Administración. Universidad de la República, Uruguay.
- Garritzmán, J. and Seng, K. (2016). Party politics and education spending: challenging some common wisdom. *Journal of European Public Policy* 23(4), 510-530.
- Gao, P. (2015). Risen from chaos: what drove the spread of modern primary schooling in China in the early 20th century. Unpublished manuscript. London School of Economics and Political Science.
- Go, S. and Lindert, P. (2010). The Uneven Rise of American Public Schools to 1850. *Journal of Economic History* 70, 1-26.
- Golden, M. and Min, B. (2013). Distributive politics around the world. *Annual Review of Political Sciences* 16, 73-99.
- Golden, M. and Picci, L. (2008). Pork-barrel politics in postwar Italy, 1953-94. *American Journal of Political Science* 52(2), 268-289.
- González, L. (1990). Legislación electoral y sistemas de partidos: el caso uruguayo. *Revista Uruguaya de Ciencia Política* 4, 9-27.
- Goñi, M. (2016). Landed Elites and Public Education in England and Wales. Evidence from School Boards, 1870-99. Unpublished manuscript.
- Grob, U. and Wolter, S. (2007). Demographic change and public education spending: A conflict between young and old? *Education Economics* 15 (3), 277-292.
- Hanushek, E. and Woessmann, L. (2012). Schooling, educational achievement, and the Latin American growth puzzle. *Journal of Development Economics* 99(2), 497-512.
- Huber, E., Pribble, J. and Stephens, J. (2008). The politics of effective and sustainable redistribution. In Estache, A. and Leipziger, D. (eds.), *Fiscal Incidence and the middle class: implications for policy*, The World Bank, Washington, DC.
- Laakso, M. and Taaffepera, R. (1979). Effective Number of Parties: a measure with application to West Europe. *Comparative Political Studies* 12(1), 3-27.

- Lanzaro, J. (2004). Fundamentos de la democracia pluralista y estructura política del Estado en el Uruguay. *Revista Uruguaya de Ciencia Política* 14, 103-135.
- Levitt, S. and Snyder, J. (1995). Political Parties and the Distribution of Federal Outlays. *American Journal of Political Science* 39(4), 958-980.
- Lindbeck, A. and Weibull, J. (1987). Balanced budget redistribution and the outcome of political competition. *Public Choice* 52, 273-97.
- Lindert, P. (2010). The unequal lag in Latin American schooling since 1900: follow the money. *Revista de Historia Económica / Journal of Iberian and Latin American Economic History* 28(02), 375-405.
- (2004). *Growing public: social spending and economic growth since the eighteenth century*. Cambridge University Press, Cambridge.
- Lindhal, G. 1977. *Batlle. La segunda Constitución, 1919-1933*. Ed. Arca, Montevideo.
- Lombardi, M. and Veiga, D. (1979). Desigualdades internacionales en el Uruguay. Informe Final CLACSO-CIESU, Buenos Aires.
- Mariscal, E. and Sokoloff, S. (2000). Schooling, Suffrage, and the Persistence of Inequality in the Americas, 1800-1945. In Haber, S. (ed.), *Political Institutions and Economic Growth in Latin America*, 159-217. Hoover Institution Press, Stanford.
- Martinez Fritscher, A., Musacchio, A., Viarengo, M. (2010). The great leap forward: the political economy of Education in Brazil, 1889-1930. Working Paper 10-075, Harvard Business School.
- Martínez, J., Rodríguez, A. and Willebald, H. (2015). Regional income inequality in Uruguay during a century (1908-2008). Did the productive public policy contribute to an equalizing process? Paper presented in XVIIth World Economic History Congress "Diversity and Development", Kyoto.
- Milligan, K. and Smart, M. (2005). Regional Grants as Pork-Barrel Politics. CESifo Working Paper 1453.
- Mitch, D. (2013). The economic history of education. In: Whaples R. and Parker R. (eds), *Routledge handbook of modern economic history*: 247-264. Routledge, New York.
- Monestier, F. (1999). Partidos por dentro: La fraccionalización de los partidos políticos en el Uruguay (1954-1994). In Fundación de Cultura Universitaria (ed), *Los partidos políticos uruguayos en tiempos de cambio*, Montevideo.
- Nohlen, D. (1993). *Enciclopedia electoral latinoamericana y del Caribe*. Instituto Interamericano de Derechos Humanos, San José de Costa Rica.

- Oddone, G. (2005). *El largo declive económico de Uruguay durante el siglo XX*. Phd. Thesis. Departament d'Historia i Institucions Econòmiques, Universitat de Barcelona.
- Otero, M. (1969). *El sistema educativo y la situación nacional*. Serie Nuestra Tierra, Montevideo.
- Piñeiro, R. (2004). Elección de diputados y fraccionalización partidaria en Uruguay, 1942-1999. *Revista Uruguaya de Ciencia Política* 14, 15-42.
- Poterba, J. (1997). Demographic structure and the political economy of public education. *Journal of Policy Analysis and Management* 16 (1), 48-66.
- Real de Azúa, C. (1964). *El impulso y su freno*. Ediciones de la Banda Oriental, Montevideo.
- Shugart, M. and Carey, J. (1992). *Presidents and assemblies. Constitutional design and electoral dynamics*. Cambridge University Press, Cambridge.
- Stasavage, D. (2010). Democracy and Education Spending in Africa. *American Journal of Political Science* 49(2), 343-358.
- Stokes, S., Dunning, T. and Nazareno, M. (2013). *Brokers, voters and clientelism. The puzzle of distributive politics*. Cambridge Studies in Comparative Politics. Cambridge University Press.
- Thorp, R. (1998). *Progress, poverty and exclusion: an Economic History of Latin America in the 20th century*. International Development Bank, Washington.
- Vaishnav, M. and Sircar, N. (2010). The politics of pork: building schools and rewarding voters in Tamil Nadu. Unpublished manuscript. Dep. Political Sciences, Columbia University.
- Varela, J. P. (1874). *La Educación del Pueblo*. Sociedad de Amigos de la Educación Popular, Montevideo.
- Veiga, L. and Pinho, M. (2007). The Political Economy of Intergovernmental Grants: Evidence from a Maturing Democracy. *Public Choice* 133(3/4), 457-477.
- Wallis, J. (1998). The political economy of New Deal spending revisited again: with and without Nevada. *Explorations in Economic History* 35, 140-170.
- Wright, G. (1974). The political economy of New Deal spending. *Review of Economics and Statistics* 59, 30-38.
- Yaffé, J., Filgueira, F. and Garcé, A. (2004). *Los dos ciclos del Estado uruguayo en el siglo XX*. Instituto de Ciencia Política, Ediciones de la Banda Oriental, Montevideo.
- Zum Felde, A. (1967). *Proceso histórico del Uruguay*. Arca, Montevideo.
- Zurbriggen, C. (2005). Estado, empresarios y redes rentistas durante el proceso sustitutivo de importaciones en Uruguay. El path-dependence de las reformas actuales. Phd. Thesis in Political Sciences. Universität Tübingen.

Appendix

Tabla A.1 Data sources

Variables (department level)	Data sources
Nº of schools (private and public)	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.
Nº of teachers (private and public)	DGEa- Dirección General Estadísticas, (various years). National Statistics Yearbook, Montevideo
Enrolment in primary schools (public and private)	
Enrolment in secondary institutions (public and private)	
Births per department	
Parliament representatives by party and fraction	Asamblea General. 2006. Parlamentarios uruguayos 1830-2005, Montevideo.
Votes casts and electorate	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.
Total Population	DGEb- Dirección General de Estadística. Population and Household Census 1908 and 1963.
Population by age bracket	Nahum, B. (coord). 2007. Estadísticas Históricas del Uruguay 1900-1950. Tomo I. Departamento de Publicaciones, Universidad de la República, Montevideo.
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..
Population by economic activity	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
Labour force participation	Martínez, J., Rodríguez, A. and Willebald, H. 2015. Regional income inequality in Uruguay during a century. Paper presented in the XVIIth World Economic History Congress "Diversity and Development", Kyoto.
Public primary education expenditure (countries)	UC Davis. Global price and income history group. Data retrieved from http://gpih.ucdavis.edu/Government.htm .
Total schooling years (countries)	Lee, J. and Lee, H. 2016. Human Capital in the Long Run. Journal of Development Economics 122: 147-169.

Table A.2. Descriptive variables

Variable		Mean	Std. Dev.	Min	Max	Observations
Nº of public schools	overall	68	25.31	21	168	N = 738
	between		21.47	30	128	n = 18
	within		14.31	25	108	T = 41
Nº of teachers in public schools	overall	152	78.90	35	483	N = 737
	between		51.08	67	300	n = 18
	within		61.28	-23	335	T-bar = 40.9
Effective Nº Political Fractions (ENF)	overall	2.39	0.80	1.00	6.00	N = 738
	between		0.37	1.81	3.12	n = 18
	within		0.71	0.85	5.27	T = 41
Alignment with President	overall	0.54	0.32	0.00	1.00	N = 738
	between		0.05	0.45	0.68	n = 18
	within		0.31	-0.13	1.09	T = 41
Government Political Power Index (GPPI)	overall	0.21	0.22	0.00	1.00	N = 736
	between		0.09	0.08	0.50	n = 18
	within		0.20	-0.29	1.04	T-bar = 40.8
Government Seat Margin	overall	0.09	0.42	-1.00	1.00	N = 735
	between		0.26	-0.32	0.61	n = 18
	within		0.33	-1.02	1.29	T-bar = 40.8
Vote margin	overall	0.16	0.12	0.003	0.60	N = 574
	between		0.082	0.057	0.35	n = 18
	within		0.093	-0.023	0.50	T = 31.8
Potential Electorate	overall	0.38	0.21	0.02	2.22	N = 738
	between		0.03	0.32	0.43	n = 18
	within		0.21	-0.01	2.17	T = 41
Population (thousands)	overall	77.78	32.55	12.44	210.32	N = 738
	between		29.66	30.38	165.40	n = 18
	within		15.08	-75.18	122.69	T = 41
School aged /people over 55	overall	2.37	0.83	0.90	5.25	N = 738
	between		0.51	1.82	3.48	n = 18
	within		0.66	1.16	4.24	T = 41
Land Gini index	overall	0.69	0.14	0.16	0.84	N = 666
	between		0.14	0.22	0.81	n = 18
	within		0.02	0.60	0.75	T = 37
Birth rate (per thousands)	overall	22.10	10.25	8.84	259.04	N = 738
	between		2.12	18.60	26.52	n = 18
	within		10.04	9.88	256.63	T = 41
Private school students/total	overall	0.06	0.04	0.00	0.20	N = 702
	between		0.04	0.01	0.14	n = 18
	within		0.02	0.01	0.16	T = 39
Secondary enrolment	overall	0.03	0.02	0.00	0.14	N = 644
	between		0.01	0.02	0.05	n = 18
	within		0.02	0.00	0.14	T = 35.7
Primary enrolment rate	overall	0.38	0.09	0.20	0.70	N = 738
	between		0.04	0.33	0.48	n = 18

Variable (cont.)		Mean	Std. Dev.	Min	Max	Observations
Primary enrolment rate	overall	0.38	0.09	0.20	0.70	N = 738
	between		0.04	0.33	0.48	n = 18
	within		0.09	0.22	0.63	T = 41
Active population in primary activities/total	overall	0.44	0.07	0.23	0.60	N = 738
	between		0.05	0.33	0.52	n = 18
	within		0.04	0.32	0.61	T = 41
Active population in secondary activities/total	overall	0.22	0.04	0.15	0.33	N = 738
	between		0.04	0.17	0.29	n = 18
	within		0.01	0.17	0.27	T = 41
Labour force participation rate	overall	0.40	0.08	0.25	0.60	N = 738
	between		0.06	0.32	0.55	n = 18
	within		0.05	0.28	0.57	T = 41
Rate of growth of tertiary labourers	overall	0.02	0.01	0.01	0.08	N = 738
	between		0.01	0.01	0.04	n = 18
	within		0.01	0.00	0.06	T = 41

Source: Tabla A.1

Últims documents de treball publicats

NUM	TÍTOL	AUTOR	DATA
17.04	Defence Spending, Institutional Environment and Economic Growth: Case of NATO	Natalia Utrero-González, Jana Hromcová and Francisco J. Callado-Muñoz	Juliol 2017
17.03	Pro-environmental behavior: On the interplay of intrinsic motivations and external conditions	Mariateresa Silvi and Emilio Padilla Rosa	Abril 2017
17.02	Driving factors of GHG emissions in EU transport activity	Lidia Andrés and Emilio Padilla	Març 2017
17.01	Innovation, public support and productivity in Colombia	Isabel Busom, Jorge-Andrés Vélez-Ospina	Gener 2017
16.10	How do road infrastructure investments affect the regional economy? Evidence from Spain	Adriana Ruiz, Anna Matas, Josep-Lluís Raymond	Juny 2016
16.09	Euro, crisis and unemployment: Youth patterns, youth policies?	Atanu Ghoshray, Javier Ordóñez, Hector Sala	Maig 2016
16.08	Changes in fuel economy: An analysis of the Spanish car market	Anna Matas, José-Luis Raymond, Andrés Domínguez	Maig 2016
16.07	Institutional Reforms to Integrate Regulation and Competition Policy: Economic Analysis, International Perspectives, and the Case of the CNMC in Spain	Francesc Trillas, Ramon Xifré	Maig 2016
16.06	Behavioral Regulatory Agencies	Francesc Trillas	Maig 2016
16.05	El impacto de la forma y estructura espacial urbana sobre las emisiones de CO2 en Concepción (Chile). ¿Es compatible una baja densidad residencial con un	Ivan Muñiz, Carolina Rojas, Carles Busuldu, Alejandro García, Mariana Filipe, Marc Quintana	Abril 2016
16.04	¿Conlleva la descentralización de la población y del empleo un modelo de movilidad más eficiente? Evidencia para el caso de Ciudad de México 2000-2010	Ivan Muñiz, Vania Sánchez Trujillo	Abril 2016
16.03	Television and voting in Catalonia	Iván Mauricio Durán	Gener 2016
16.02	Economía de la Europeriferia	Ferran Brunet	Gener 2016
16.01	NOx emissions and productive structure in Spain: an input-output perspective	Vicent Alcántara, Emilio Padilla, Matías Piaggio	Gener 2016
15.08	Student preconceptions and learning economic reasoning	Isabel Busom, Cristina López-Mayán	Diciembre 2015