



# Determinants of party and mayor reelection in local governments: An empirical examination for Argentina during 1983-2011\*

*Determinantes de la reelección de partido y de intendente en los gobiernos locales: Un examen empírico de la Argentina durante 1983-2011.*

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## ABSTRACT

*This paper examines the determinants of reelection of parties and mayors in Argentine local elections during the 1983-2011 period. Using a unique and comprehensive database recording local election results for over 1200 local governments, we test three potential sources of variation: structural factors, political/institutional variables and economic variables. We find that incumbency advantage is strongly and significantly related with a higher probability of reelection. We also find some evidence supporting the economic voting hypothesis, that local economic conditions are relevant for explaining re-election of local governments. We also find that local governments where parties and mayors have been in office for a long time have greater re-election chances. Finally, we find that governments with municipal charters have lower probability of reelection. Summing up, there seems to be both economic and politico-institutional factors behind re-election rates of parties and mayors in Argentine local governments.*

**Keywords:** Reelection; Transfers; Fiscal Policy; Local Governments

**JEL Codes:** H72; C23; C25

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## RESUMEN

*En el presente documento se examinan los factores determinantes de la reelección de partidos e intendentes en las elecciones locales de la Argentina durante el período 1983-2011. Utilizando una base de datos única y completa que registra los resultados de las elecciones locales para más de 1200 gobiernos locales, probamos tres fuentes potenciales de variación: factores estructurales, variables políticas/institucionales y variables económicas. Encontramos que la ventaja de la titularidad está fuertemente y significativamente relacionada con una mayor probabilidad de reelección. También encontramos algunas pruebas que apoyan la hipótesis del voto económico, de que las condiciones económicas locales son relevantes para explicar la reelección de los gobiernos locales. También encontramos que los gobiernos locales donde los partidos y los alcaldes han estado en el cargo durante mucho tiempo tienen mayores posibilidades de reelección. Por último, encontramos que los gobiernos con cartas municipales tienen menores probabilidades de reelección. En resumen, parece haber factores tanto económicos como político-institucionales detrás de las tasas de reelección de partidos y alcaldes en los gobiernos locales argentinos.*

Palabras clave: Reelección; Transferencias; Política fiscal; Gobiernos locales

Códigos JEL: H72; C23; C25.

## I. BACKGROUND AND MOTIVATION

Most federal regimes are either of two types: a two-tiered layout with local governments integrated into state governments or three-or-more-tiered layout with autonomous or semi-autonomous local governments. The latter is for example the case of Argentina, Brazil, South Africa and Switzerland. However, there are stark differences in autonomy of the local level between these countries. One dimension where this is particularly true is regarding asymmetries between political and financial autonomy. In this case, local governments are faced with strong electoral incentives having little (if any) financial autonomy.

While there has been much study on the relationship between economic and political variables and electoral outcomes in federal regimes, most of the work has focused on federal-state relations. Only a small frac-

tion of both theoretical and applied work has studied economic and political aspects of inter-governmental relations looking at the local level (Brollo & Nannicini, 2012; Timmons & Broid, 2013; Arvate, 2013; Sour, 2013; Boulding & Brown, 2014; Freille & Capello, 2014; Bracco et al. 2015; Rodríguez-Chamussy, 2015).

The study of electoral dynamics at the local level is important for several reasons. Firstly, local governments may be both economically and electorally relevant. A large part of economic activity is ultimately based in and around cities regardless of whether these are part of larger administrative unit. Therefore, the existence of high local tax bases may encourage a high degree of political competition and also some degree of inter-level conflict for those resources. Naturally, if the distribution of economic resources is concentrated in only a handful of cities across a country, then this argument may be less important. But even if a municipality is economically marginal it can still be politically relevant due to overrepresentation in provincial legislative bodies and to political alignment with the upper level government. The interaction between economic asymmetries and political relevance may give rise to a wide range of inter-level coalitional dynamics.

Secondly, the existence of local elections allows us to draw better insights into voter preferences and the way they reward or punish politicians at different levels. This concern can be related to the long-standing literature on economic voting.<sup>1</sup> The central idea is known as the responsibility (accountability) hypothesis: voters hold the government responsible for economic events. In this sense, local economic conditions may influence national electoral results. This is especially true when there are no local elections and therefore voters use the local environment as a proxy for the country's general situation; they may also consider that national government policies have an impact on the local economy. When there are local elections, however, this idea may not always ring true. The problem is that the responsibility hypothesis does not account for the fact that voters may have different beliefs and information when rewarding or punishing incumbents from different levels (Martins & Veiga, 2013). For instance, one could argue that local governments should not be held accountable for economic results which are beyond their control, like monetary or trade policy. It is clear that there may a problem of assigning responsibility for local economic

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1. For an excellent survey of this literature, see Paldam (1981).

conditions between local and the provincial and national levels of government. Unless voter preferences and political parties are homogeneous across jurisdictions, it would be reasonable to expect that the way in which voters allocate responsibility between different levels varies across jurisdictions.

Thirdly, in many countries, especially those with a federal regime, public goods provision has become more decentralized in recent decades. While the central level expenditures are dominated by transfers to governments and persons, sub-national governments are responsible for the provision of most public services. Local governments in particular are especially important in the provision of infrastructure. On the revenue side, there is great heterogeneity across countries. On most federations, states are exclusively entitled to collect at least one broad-based tax such as a sales tax and rely on transfers from the national government. Local governments, on the other hand, rely mostly on property taxes and transfers from the state government. There are significant disparities in the degree of financial dependence from upper-level jurisdictions. For example, the share of local governments own-source revenue averages 83% of total municipal revenues for Canada and over 40% for United States. In contrast, these shares are significantly lower in developing countries: local governments in Brazil, Mexico and Argentina collect locally on average around 35%, 30% and 25% of total revenues, respectively.

A high degree of financial dependence from the provincial and national government may create incentives to politically capture local governments by making them financially dependent from upper level governments (Gibson & Calvo, 2000). In these cases, it would be important to study whether inter-governmental transfers from upper to lower-level governments are related with local election outcomes. Unfortunately, we were unable to collect homogeneous data on transfers to municipalities in Argentina.<sup>2</sup>

In this paper, we undertake what we believe is the first comprehensive empirical study of the determinants of re-election of parties and mayors in local-level elections in Argentina. We explore several hypothesis ranging from economic voting to institutional explanations. Our contribution in this paper is two-fold. Firstly, we provide an explanation of the determinants of elec-

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2. Each province has a different tax-sharing arrangement within its territory with multiple classifications of transfers and grants. In addition to this, there is just no publicly available data for 2/3 of the provinces.

toral outcomes in local elections for the entire democratic period from 1983 to 2011. Secondly, we contribute to the growing literature on sub-national politics in Argentina by focusing on local rather than provincial elections. The plan of the paper is as follows. In section 2, we review the literature and outline some theoretical considerations that motivate our analysis. Section 3 describes characteristics of the Argentine local government system. Section 4 describes the data and the methodology of estimation. Section 5 concludes.

## II. LITERATURE

There is a vast and expansive literature on the relation between electoral outcomes and economic, political and institutional characteristics. There are various competing and complementary hypotheses as to what drives electoral performance of incumbents and challengers both in economics and political science. Perhaps the most established and long-standing theory is that of political business cycles. This literature suggests a theoretical and empirical link between macroeconomic performance and electoral patterns. More specifically, incumbent governments can manipulate the economy to seek re-election and they will do that by increasing spending (and deficits) before elections. Alesina & Roubini (1992) provide an excellent review and comprehensive empirical tests of the early models of Nordhaus (1975), and Hibbs (1977) and the rational-choice models of Rogoff & Sibert (1988), Rogoff (1990), and Alesina (1987). While they find no evidence of a systematic opportunistic cycle of the Nordhaus type –increase of pre-electoral output and employment-, they do find post-electoral increases in inflation which may be consistent with pre-electoral budget cycles as suggested by the rational-choice models.<sup>3</sup> These findings were replicated in several empirical papers which found the existence of political budget cycles –larger deficits in election years due to spending for both developed and developing countries (Shi & Svensson 2002a; Shi & Svensson 2002b; Persson & Tabellini 2005; Brender & Drazen 2005; Brender & Drazen 2008). These cycles have also been found to be very relevant in countries with unstable and new democracies such as Latin American countries. Using different periods and countries, several papers find sizeable increases in expenditure and lower budget surpluses in the year before the election (Ames, 1987; Kraemer, 1997; Nieto Parra & Santiso, 2009; Barberia & Avelino, 2011)].

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3. This may be particularly relevant for the case of fiscal favours to key constituencies.

The studies mentioned above examine political budget cycles at the country level. It is only in recent years, with the growing availability of data, that scholars have turned to study political business cycles and more generally the determinants of electoral performance at the sub-national level. Levitt (1995) shows that higher federal transfers to a constituency increases the congressional incumbent's vote share by a significant margin. Veiga & Veiga (2007) is one of few studies that focus on political budget cycles at the municipal level using Portuguese data. Their results support the hypothesis of strong opportunistic behaviour by incumbents. Akhmedov & Zhuravskaya (2004) use monthly regional-level data for Russia and find significant political budget cycles and also find these increase the probability of getting reelected. Using a panel for 268 US cities over a 30 year period, Bee & Moulton (2015) find a significant increase in public employment in the election year but no changes in spending or taxes. Using data from Chinese counties, Guo (2009) documents the existence of a political budget cycle even in a non-election setting: mayors increase spending to advance their chances of advancing their political careers. Finally, a recent study by Alesina & Paradisi (2017) finds significant political budget cycles for Italian cities by means of lowering tax rates as election nears. This result echoes Besley & Case (1995b) which suggest that a state's fiscal performance, as measured by tax policy relative to neighbouring jurisdictions, is central to voters' decision to reelect or oust an incumbent.

Several papers have studied the effect of political institutions on policy choices and election outcomes. Besley & Case (1995a) find that gubernatorial term limits have significant effects on economic policy choices. Governors who faced term limits and therefore could not run for reelection (known as lame ducks in the political science jargon) were associated with higher taxes and government spending relative to incumbents who were able to run for another term. Brender (2003) finds that fiscal performance of mayors has a positive impact on incumbent's reelection in Israel local elections. Other authors have explored features of the political system as determinants of reelection of parties and mayors. Ferraz & Finan (2011) find a significant association with political institutions and reelection.

There has been growing interest to examine political budget and cycles and determinants of electoral outcomes at the sub-national level in Latin America. There has been a large number of studies exploring economic and

political determinants of state and local election outcomes in Brazil. Sakurai & Menezes-Filho (2008) finds that mayors with higher spending (especially capital spending) increase their (and their party's) reelection prospects. Titunik (2009) finds that incumbency has a strong negative effect on the probability of reelection for Brazilian municipalities. Sakurai & Menezes-Filho (2011) find a significant political business cycle for Brazilian municipalities in the 1989-2005 period. Using state-level data, Arvate et al. (2009) find no evidence that a political budget cycle increased the reelection of governors and in fact they find quite the opposite: fiscally conservative states have a higher probability of re-election.

A large part of this research effort in Latin America may be loosely tied to the strand that studies inter-governmental relations. According to Cingolani, Mazzalay & Nazareno (2009), recent work on the area of intergovernmental relations stress the allocation and distribution of financial resources between the different levels of government. The literature on fiscal federalism has gradually shifted from the study of efficiency and welfare effects associated with different decentralized settings to the study of the political rents derived by governments from different levels from the allocation and distribution of funds and grants (Bordalejo, 2005; Paniagua 2012). In other words, this literature highlights the role and examines the consequences of the existing institutional arrangements, the different trends at the subnational level and the wide range of motivations of political actors.

In this sense, the study of political aspects of federalism involves a fundamental question: whether the logic behind the the inter-governmental allocation of resources is programatic or particularistic. This depends on different factors –economic, political, etc- as has been pointed out by Cingolani, Mazzalay & Nazareno (2009). Factors such as political power, electoral competition and the institutional design are relevant to explain the degree to which different parties and politicians can engage in either type of allocation. In light of this, it is important to note the role of the characteristics of the electoral and party system. This is all the more relevant in federal countries where electoral politics takes place amidst a mix of national, regional and local parties competing for offices at different levels of government.

There is also a small but growing literature studying determinants of electoral outcomes at the local level in Argentina. Porto & Porto (1999)

suggest that fiscal performance during the election year and the previous year is a significant predictor of the probability of reelection of local mayors in the Buenos Aires province. Similarly, Porto & Porto (2000) find that capital expenditures are associated with a greater probability of reelection. More recently, a paper by Cingolani, Mazzalay & Nazareno (2009) finds that municipalities and townships which receive discretionary transfers in the election year increase their probability of reelection. Another paper by Paniagua (2012) find that provincial transfers are distributed politically to municipal governments in her study of two Argentine provinces, Buenos Aires and Córdoba. Rumi (2014) shows evidence that suggest that the federal government manipulates total transfers to favour state governments which are politically aligned. Finally, Freille & (Capello 2014) examine the determinants of electoral outcomes for local governments of the province of Cordoba. They find that the probability of reelection is increasing in the amount of per capita discretionary transfers.

Suárez Cao (2011) examines whether Argentine political federalism has become more entrenched as political competition at the sub-national level has become ever more influential on national politics. The author suggests that the 1994 Constitutional reform strengthened the power asymmetries between the President and the governors against the latter although governors still retain some bargaining power over two aspects: the legislative coalition and territorial support for the Presidential race. Other authors have suggested that it is not the state-level but rather the local-level government which has gained a prominent role in federal politics. This is what Fenwick (2010) argues suggesting that given certain institutional configurations, the national government may better achieve its policy goals by collaborating directly with local governments. She shows that this appears to have been the case in the area of social protection in Brazil. The type of institutional arrangements leading to an effective national-local coalition, she argues, is less likely to appear in a country like Argentina where local governments are more likely to be captured by state-level governments. González (2012) also provides a comparative study between Argentina and Brazil concluding that state-level governments have maintained (Argentina) or reduced (Brazil) their political power in the period 1983-2009.

Despite these recent contributions, determinants of re-election of local parties and mayors have been studied only either for selected provinces



and/or for certain elections. In this paper we aim to provide a more general study of the determinants of electoral outcomes at the local level covering a large number of local governments and elections. Using a uniquely assembled dataset, we study determinants of re-election of parties and mayors in Argentina.

### **III. LOCAL GOVERNMENTS IN A FEDERAL COUNTRY: THE ARGENTINE CASE**

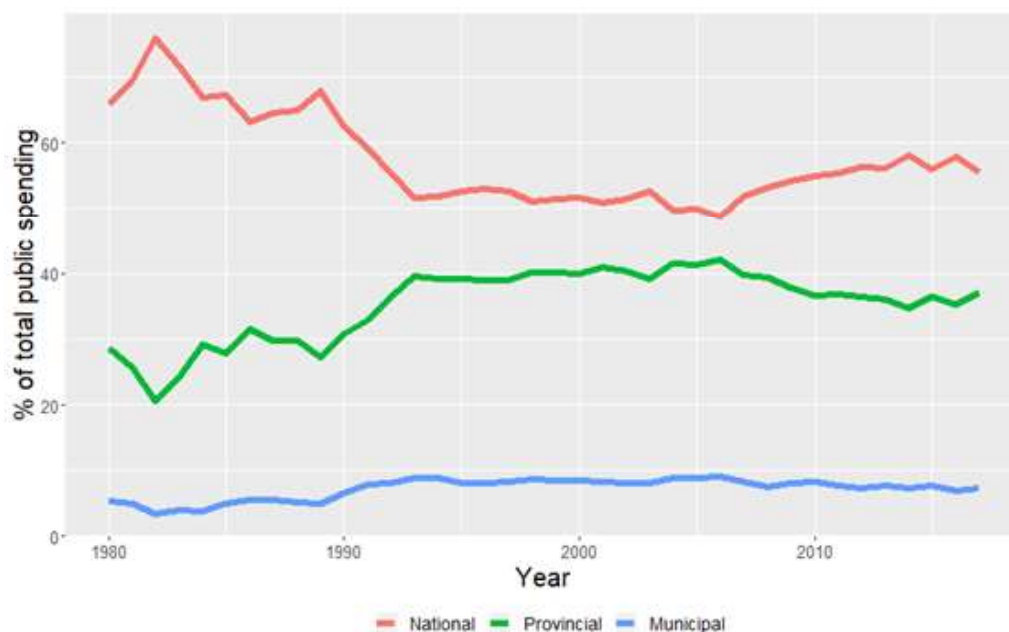
Argentina is a federal country divided into 23 provinces and one autonomous city, Buenos Aires. These provinces are divided into 2218 autonomous municipalities, the only exception being the autonomous city of Buenos Aires which consists of 15 communes comprising over 48 neighbourhoods. The financial relations between different levels of government are stipulated by the so-called Régimen de Coparticipación Impositiva. This regime basically sets up a tax-sharing scheme between the Federal and provincial levels of government: there are both nation- and province-level taxes. The latter are raised and collected by the provinces while the former are raised and collected by the Nation. A fraction of the amount collected in national taxes –called the Masa Co-participable– is “devolved” to the provinces (the so-called automatic transfers) while the rest goes to finance expenditures by the National government and the Social Security System. The Federal government also grants discretionary, non-automatic transfers to the provinces.

After the Federal level, provinces are the second most important level of government accounting for nearly 40% of total consolidated public spending. Provinces have political, judicial and administrative autonomy. The National Constitution of 1994 grants them autonomy to create and establish their own laws and to decide upon their electoral system, their administration of justice. They can create administrative or socio-economic regions, set up their own taxes and sign international agreements and treaties. Provinces are also autonomous to manage their own natural resources and are in charge of providing several social services as primary and secondary education.

Although total spending by local (municipal) governments has been increasing in the last 40 years, it represents a minor fraction –around 8%- of total consolidated public spending. The composition of total public consoli-

dated spending from 1980 to 2017 can be seen in Figure 1. Spending by all local governments have slowly increased over the last 40 years going from around 5% of total consolidated public spending to around 8% in 2017. It can be noted, however, that there have been significant changes in the spending shares of provincial and national levels.

**Figure 1. Composition of total consolidated spending by level of government**



Fuente: elaboración propia

Local governments are autonomous in that they elect their own executive and legislative officers. Mayors and councillors are chosen through free regular elections held either autonomously or concurrently with provincial or national elections. Municipalities have exclusive and shared competences. The exclusive powers include waste collection and management, public transportation and street lighting. In practice, it is the provinces which grant legal status and autonomy their local governments. This means that the degree of local government autonomy varies across provinces. This is particularly true when it comes to financial autonomy. Each province regulates the fiscal arrangements with the local government level. In practice, this means that there are often tensions between the two levels over the financial arrangements.

Around a half of local governments have the legal status of municipality. In most provinces, a population of at least 10000 is required for a municipality to earn the right of sanctioning their own municipal charter equivalent to a Constitution for the national level. Smaller local governments are not given this right. In many aspects, Argentine municipalities are afforded a great deal of autonomy by law. Due to the tax-sharing system, however, in practice municipalities are heavily dependent on both automatic and discretionary transfers from above (both provincial and national level). This is the case for the large majority of Argentine local governments where own-source municipal revenues amount to less than half of total revenues; in many cases, own-source revenues are less than 10% of total revenues. In other words, on average for municipalities in over half of the Argentine provinces, only around 3 out of 10 pesos –the local currency- are locally collected.<sup>5</sup>

Municipal governments in Argentina are heterogenous in several aspects. They differ in total population –three municipalities with over a million inhabitants while several municipalities in Chaco, Corrientes and other provinces have less than 1000 inhabitants-, economic status –from rich and resourceful agricultural and industrial districts with large tax bases to desolate and impoverished municipalities with little own-source revenues-, and the extent of their capacity and autonomy –municipalities providing a wide range of public services to municipalities providing only the most basic set of services. Figure 2 shows the average local government population and the total number of local governments by province. The five largest provinces –Buenos Aires (BUE), Mendoza (MZA), Córdoba (CBA), Santa Fe (SFE), and Entre Ríos (ERI) have very different distributions of local governments. While the first two have the largest average population by local government, local governments in the latter are amongst the least populated districts on

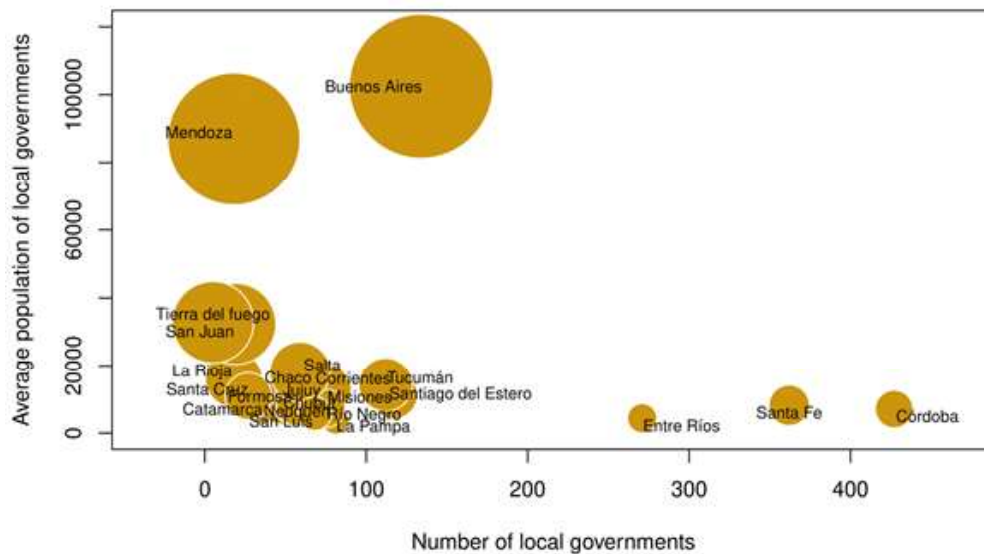
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4. Each province has its own municipal regime which, among other things, specify the population criteria for being considered a municipality and provisions regarding their autonomy. The population requirements are usually higher in larger provinces –criteria range from 2000 to 10000 for Santa Fe, Córdoba and Salta- than in smaller provinces –criteria range from 500 to 1000 for Catamarca, Corrientes, Chaco, La Pampa, Neuquén and Santa Cruz. Several provinces define different types of municipalities according with population size; this often entails different fiscal and political autonomy regimes. The legal status for units not meeting the population requirement for a municipality varies between provinces –Comisión de Fomento, Comuna, Comisión Municipal, Delegación Municipal, Comisión Rural- although most of them face similar restrictions on their fiscal and political autonomy.

5. This includes the sale of public assets and capital resources which are highly volatile.

average. For all the other provinces, however, a clear pattern emerges: there seems to be negative association between total number of local governments and average population size.

**Figure 2. Number of local governments and average population by district size (total population)**



Fuente: elaboración propia

#### IV. DATA AND METHODOLOGY

Our data includes 1804 local governments. If we rank municipal governments according to their population size, the top 1%, 5% and 10% comprised 35%, 68% and 80% of total population in 2011. Equivalently, the remaining 90% of the local governments –around 1750 local governments– comprise only around 20% of total population.

Our data comes from different sources. Data for the period 1983-1999 was obtained from Cao (1999). The remaining periods were assembled by consulting the Dirección Nacional Electoral and the electoral authority of each province. Economic data were obtained from various Census of Popu-

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6. There are 1947 local governments in our original database but we exclude two provinces from consideration, Corrientes and Santiago del Ester. These provinces were intervened by the Federal government during the 90's decade. Due to these interventions, local elections were often held at irregular periods and did not follow the electoral calendar of other provinces. In our estimations, we also exclude all those local governments which do not have complete and full information on electoral results for the full period
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lation. The gender of mayors was automatically assigned by matching mayor names with names in the directory of Registro Nacional de las Personas. All other data were obtained from municipalities and provincial official websites.

Although we have a balanced panel structure –1804 local units observed for 8 periods– we were unable to collect election data for all governments and periods. We have complete data –all 8 (eight) municipal elections for all local governments– only for a few provinces (Buenos Aires, Chaco, San Juan, Santa Fe, Mendoza). For most provinces we missing data particularly for the first 3 or 4 elections. If we exclude the 1983, 1987 and 1991 election, our data on election and re-election covers almost 94% (parties) and 87% (mayors) of total amount of elections in this period (a total of 9026 local government elections). In summary, we have complete electoral history on incumbency, reelection/change for over 1245 local governments and 851 local mayors. This will be our sample for the empirical analysis.

As we noted earlier, local governments are heterogeneous along several dimensions. We have highlighted a few of these dimensions above but it is also important to see if there is heterogeneity along electoral lines. Table 1 shows aggregate electoral results grouping by the population size of the local government. We show the number of government units falling into each group, the number of elections (although our data covers 8 elections, 1983 is the base year so there is no re-election data). Several things are important to note. Firstly, there is significant heterogeneity in terms of population size. However, it can be seen that over 90% of governments in our sample are under 50000 inhabitants and 67% are under 10000 inhabitants. In other words, a large majority of local governments in Argentina are relatively small in terms of population. Secondly, re-election rates of both parties and mayors vary according to size. Re-election rates of parties tend to be around 60% for very small and small municipalities, they decrease to 52-55% for middle-sized municipalities and they are around 50% for very large municipalities. For mayors, the numbers are between 5 and 15% smaller than for parties although, unlike for parties, there is a marked downward trend as municipalities increase in population.

We build on a very basic model of re-election by just including two types of variables: incumbency dummies for 6 major parties (type of parties) identified in our dataset –*inc3JUS* if incumbent party is *Partido Justicial-*

**Table 1: Re-election rates of parties and mayor - By local government population size (in thousands)**

Population	0-0.5	0.5-1	1-Feb	2-Oct	Oct-50	50-100	100-500	500	Total
<b>Parties</b>									
of govts	85	111	189	451	299	53	46	11	1245
of elections	7	7	7	7	7	7	7	7	N/A
Total elections	666	953	1410	3233	1815	281	297	60	8715
Re-election	360	581	830	1872	957	156	177	30	4963
Change	306	372	580	1361	858	125	120	30	3752
RR	54.05	60.97	58.87	57.90	52.73	55.52	59.60	50.00	56.20
<b>Mayors</b>									
of govts	80	78	121	261	213	44	44	10	851
of elections	7	7	7	7	7	7	7	7	N/A
Total elections	576	657	885	1932	1321	246	282	58	5957
Re-election	323	372	479	908	557	109	123	25	2896
Change	253	285	406	1024	764	137	159	33	3061
RR	56.08	56.62	54.12	47.00	42.17	44.31	43.62	43.10	48.38

Note: RR, the re-election rate is calculated as the number of re-elections relative to total number of elections. For parties, there are 1245 government units and 7 election periods. For mayors, there are 851 government units and 7 election periods.

*ista*, *inc3UCR* for *Unión Cívica Radical*, *inc3PPPR* for a provincial-based party, *inc3PROG* for a progresist-oriented party, *inc3VEC* for local-based party; the remaining variables are political alignment with the state level government (*alignp3*) and population size. Due to data limitations, we were unable to collect enough data on the local government's degree of electoral competition and other political variables. We expand this baseline model to introduce a few additional controls for structural (economic and social) factors that may have an effect on the probability of re-election. Our baseline model is therefore:

$$r_{i,t} = \alpha.INC_{i,t} + \beta.alignp3_{i,t} + \gamma.pop_{i,t} + \epsilon_{i,t}$$

where  $r_{i,t}$  is a dummy taking value of 0 if a party/mayor of local government  $i$  is re-elected on election  $t$ ; *INC* are a set of party incumbency dummies; and *alignp3* <sub>$i,t$</sub>  is a dummy scoring 1 if the incumbent local party is politically aligned with the incumbent provincial party.<sup>9</sup>

## V. PARTIES

We first examine the determinants of re-election of parties. Since the outcome variable is binary –1 when a party/mayor is reelected; 0 otherwise–, we use a generalized linear model to run the data models. Table 2 present the results of the regressions of re-election of parties and mayors respectively. Looking at column 1 we see that all variables have the expected sign. Incumbency is associated with higher probability of re-election, especially for the two major national parties –*Partido Justicialista* and *Unión Cívica Radical*– and for provincial-based parties. It is also important to note, that compared to other uncategorized parties (the reference category), also progresist-oriented party and local-based parties, they have associated a greater probability of re-election. Being aligned with the provincial party is associated with a greater probability of being reelected. Population size does not seem to be associated with the probability of being reelected.

The remaining three models split the full period in three sub-periods according to changes in political leadership and economic policies: the Alfonsín years (1983 through to 1991); the Menem years (1995, 1991 and 2003

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9. In practice, we measure this if both incumets belong to the same party label. There is no easy way to build a more realistic political alignment variable.

**Table 2. Re-election of parties: Baseline and sub-period models**

	All	1983-1991	1995-2003	2007-2011
<i>inc3JUS</i>	2741*** (0.538)	2849*** -1.066	13.549 -225.547	2121*** (0.634)
<i>inc3PPPR</i>	2694*** (0.547)	2459** -1.092	13.050 -225.547	2897*** (0.655)
<i>inc3PROG</i>	1903*** (0.551)	2961*** -1.106	11.113 -225.548	1645** (0.657)
<i>inc3UCR</i>	2190*** (0.536)	2807*** -1.060	12.776 -225.547	1928*** (0.633)
<i>inc3VEC</i>	1997*** (0.546)	2318** -1.109	12.860 -225.547	1524** (0.648)
factor(year)1991		0.527 (0.604)		
factor(year)1999			0.121 (0.094)	
factor(year)2003			0.565** (0.091)	
factor(year)2011				0.092 (0.098)
alignp3	0.731*** (0.062)	0.806*** (0.161)	0.352*** (0.083)	1531*** (0.126)
Pop	0.00000 (0.00000)	0.00000 (0.00000)	0.00000** (0.00000)	0.00000 (0.00000)
Constant	1935*** (0.535)	2717** -1.215	12.249 -225.547	1828*** (0.632)
Observations	7,458	1,249	3,719	2,49
Log Likelihood	4,275.618	700.320	2,163.605	1,323.391
Akaike Inf. Crit.	8,567.235	1,418.639	4,347.210	2,664.781

Note: \*p<0.1 \*\*p<0.05 \*\*\*p<0.01

elections); and the Kirchner period (2007 and 2011 elections). Although this may be arbitrary, the political dynamics and economic structure of each of these periods were starkly different and it is probably a good idea to consider them separately to see whether there are different regimes within each



sub-period. Results are very similar for both the initial and final sub-period but the middle period has several interesting results. Firstly, incumbency dummies are no longer significant. Secondly, the political alignment coefficient is much smaller than in the two other sub-periods. The main reason for these changes, we believe, is due to the unprecedented number of party changes around the 1999-2003 period, exacerbated by the huge socio-economic crisis of the year 2001-02.

Table 3 incorporates additional controls. Firstly, model 1 includes two variables that further capture political aspects: *alignn2* which is a dummy measuring whether the local government is aligned with the national party; *yrspr3* is a variable that records the number of years that the party has been in power. Somewhat surprisingly, *alignn2* is found to be negatively correlated with the probability of re-election at the local level. On the other hand, the longer the party has been in power is associated with a higher probability of re-election, which is expected. In the next model, we run the incumbency dummies, the political controls and some economic variables. Unfortunately, the economic indicators are only available at the department level.<sup>10</sup> This is the reason why column 2 sees a huge drop in the number of observations. Looking at the sign of the economic variables, regional economic conditions are positively associated with the probability of local re-election. It appears that short term indicators such as percent of population employed, *popocupdept* are more important when it comes to explaining re-election of incumbents. Long-term conditions, measured in this case using the percent of population with unmet basic needs, *nbipobdept* are not significantly associated with re-election of local governments.

The next two columns reproduce the same models analyzed above but we estimate them using generalized linear mixed-effects models. These models allow for estimation of random intercepts for groups and variables. In our case, since we have only a few economic and political variables, we aim at controlling at least partly for the unobserved heterogeneity in our sample. For this reason, we test for regional heterogeneity, including random effects terms for both province and department. Basically, we estimate a mean and a standard deviation for each random intercept both at province-level and department-level. Figure 3 shows a plot drawing means and

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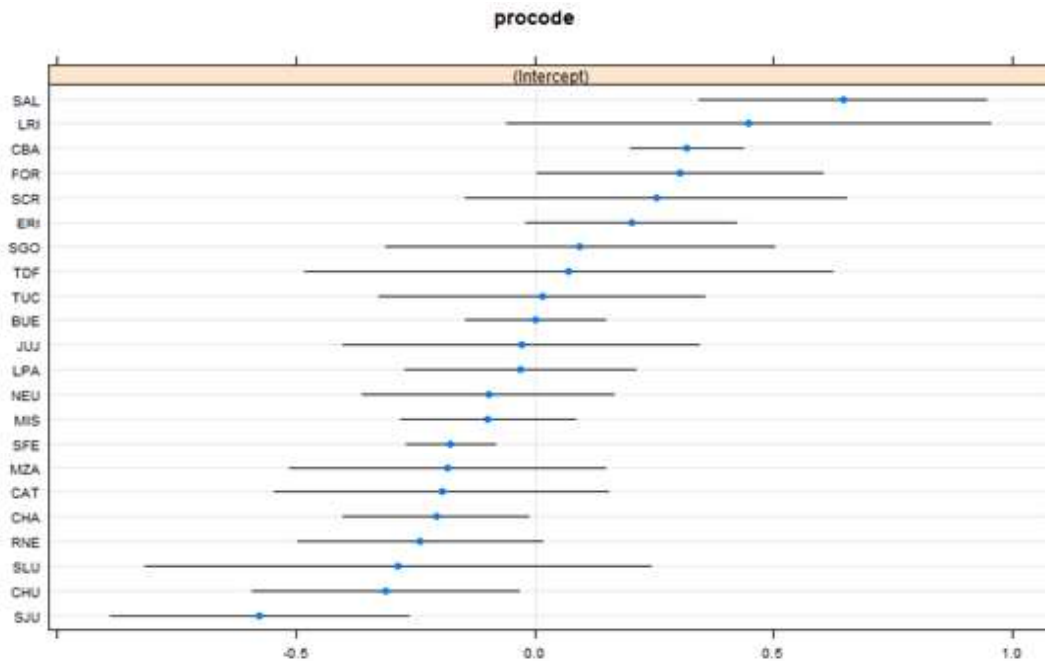
10. Departments are administrative units in which provinces are divided. They have no political or electoral relevance but they are often used since they are units of data aggregation.

**Table 3. Re-election of parties: Economic controls and linear mixed models**

	(1)	(2)	(3)	(4)
<i>inc3JUS</i>	2698*** (0.539)	1802*** (0.646)	1963*** (0.326)	2133*** (0.670)
<i>inc3PPPR</i>	2617*** (0.548)	3105*** (0.693)	1983*** (0.349)	3862*** (0.732)
<i>inc3PROG</i>	1883*** (0.551)	1633** (0.699)	1163*** (0.343)	2062*** (0.720)
<i>inc3UCR</i>	2166*** (0.538)	0.961 (0.649)	1374*** (0.325)	0.848 (0.675)
<i>inc3VEC</i>	1949*** (0.546)	1605** (0.663)	1124*** (0.337)	1616** (0.685)
<i>alignp3</i>	0.727*** (0.062)	1365*** (0.115)	0.578*** (0.056)	1095*** (0.125)
<i>alignn2</i>	0.170*** (0.058)	0.219 (0.134)	0.155*** (0.055)	0.066 (0.146)
<i>yvsp3</i>	0.020*** (0.004)	0.031*** (0.006)	0.011*** (0.004)	0.027*** (0.007)
<i>popocup_dept</i>		0.021** (0.008)		0.016* (0.009)
<i>nbipob_dept</i>		0.012 (0.009)		0.010 (0.012)
<i>pop</i>	0.00000 (0.00000)	0.00000 (0.00000)		
Constant	2041*** (0.535)	2672*** (0.761)	1117*** (0.331)	2388*** (0.821)
Observations	7,458	2,49	8,715	2,49
Log Likelihood	4,259.021	1,341.295	4,978.327	1,305.802
Akaike Inf. Crit.	8,538.043	2,706.589	9,978.654	2,637.603
Bayesian Inf. Crit.			10,056.450	2,713.264

Note: \*p<0.1 \*\*p<0.05 \*\*\*p<0.01

**Figure 3: Random intercepts for “provinces” (Parties)**



standard deviation for each province. It can be seen that there is a significant degree of heterogeneity being captured by these random intercepts.

## VI. MAYORS

On average for the whole sample, mayor re-election rates are lower than those of parties. The mean re-election rate of parties stands at 56% while that of mayors stands at 48% (see Table 1. This may be due to several factors such as the existence of term limits, furthering political careers, and other institutional constraints such as party primaries. For example, our data shows that the re-election rate for mayors in governments with municipal charter is only 37% while it is almost 40% higher (reelection rate of 49%) in governments without municipal charter. In this section we test a model of mayor re-election using a model much like that of the previous section but with a few variables controlling for personal and local-level characteristics.

The first column in Table 4 includes all years. Columns 2 through 4 run the models using specific time periods. Model 2 includes elections from 1983, 1987 and 1991, model 3 includes the 1995, 1999 and 2003 election

and finally model 4 includes only 2007 and 2011. The choice of sub-periods is not entirely arbitrary as each period corresponds itself with a different political and economic structure (Alfonsín and aftermath during 1983 and 1991; Menem and aftermath during 1995 and 2003; Kirchners 2007, 2011.). All variables have the expected sign but party incumbency dummies are no longer significant: while this may seem odd, it may be partly explained due to the fact that mayors are often quite independent from party structures.<sup>11</sup> Only the alignment dummy seems to be significantly associated with the re-election of mayors.

In Table 5 we run additional models controlling for other socio-economic and institutional factors. We focus on several variables. Firstly, we include variables controlling for the number of years the party and/or mayor has been in power. While the number of years a party has been in power is not significant, the number of years a mayor has been in office is indeed positive and significant. Secondly, the existence of municipal charter may affect the probability of re-election of mayors negatively since charters often include restrictions on candidate re-election and impose strict term limits.<sup>12</sup> We test for this using variable *carta* in column 2. The coefficient for this variable is negative and significant implying a negative association between re-election limits and the probability of re-election of mayors. Finally, we include economic controls measuring employment and poverty level. The results are similar for the re-election of parties: higher employment is associated with a higher probability of re-election. However, the poverty indicator is significantly and positively associated with the probability of re-election. This result is a bit counterintuitive as we would expect citizens to punish incumbents with bad economic records. One likely explanation is that poverty is a more structural feature than employment and that citizens do not hold their local mayors accountable for it. Finally, we include one individual-level control, the gender of incumbent mayors. It can be seen that being a male mayor is associated with a greater probability of re-election.

Table 6 provides additional regressions that are used as robustness checks on the variables tested throughout the previous models. Models 1

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11. Departments are administrative units in which provinces are divided. They have no political or electoral relevance but they are often used since they are units of data aggregation.

12. We only record whether a municipality has sanctioned a municipal charter or not. Due to the large number of municipalities that have charters, it would be impossible to record a variable measuring term limits.

**Table 4. Re-election of mayors: Baseline and sub-period models**

	All	1983-1991	1995-2003	2007-2011
<i>inc3JUS</i>	0.594 (0.381)	0.084 (0.594)	13.476 -308.038	0.717 (0.512)
<i>inc3PPPR</i>	0.101 (0.404)	0.045 (0.599)	13.161 -308.038	0.420 (0.577)
<i>inc3PROG</i>	0.766* (0.400)	0.870 (0.620)	14.064 -308.038	0.554 (0.534)
<i>inc3UCR</i>	0.527 (0.379)	0.095 (0.572)	13.397 -308.038	0.967* (0.513)
<i>inc3VEC</i>	0.812** (0.395)	0.387 (0.618)	13.899 -308.038	0.847 (0.534)
factor(year)1991		0.043 (0.617)		
factor(year)1995		0.129 (0.624)		
factor(year)1999		0.756 (0.710)	0.127 (0.098)	
factor(year)2003		0.198 (0.625)	0.194** (0.098)	
factor(year)2007		0.069 (0.627)		
factor(year)2011		0.691 (0.617)		0.204** (0.102)
<i>alignp3</i>	0.088 (0.068)	0.225 (0.186)	0.143 (0.096)	0.248** (0.126)
<i>Pop</i>	0.00000* (0.00000)	0.00000** (0.00000)	0.00000 (0.00000)	0.00000 (0.00000)
Constant	0.580 (0.376)	0.308 (0.833)	13.487 -308.038	0.855* (0.507)
Observations	5,106	1,666	2,547	1,699
Log Likelihood	3,525.596	1,126.182	1,749.377	1,167.263
Akaike Inf. Crit.	7,067.192	2,280.364	3,518.754	2,352.526

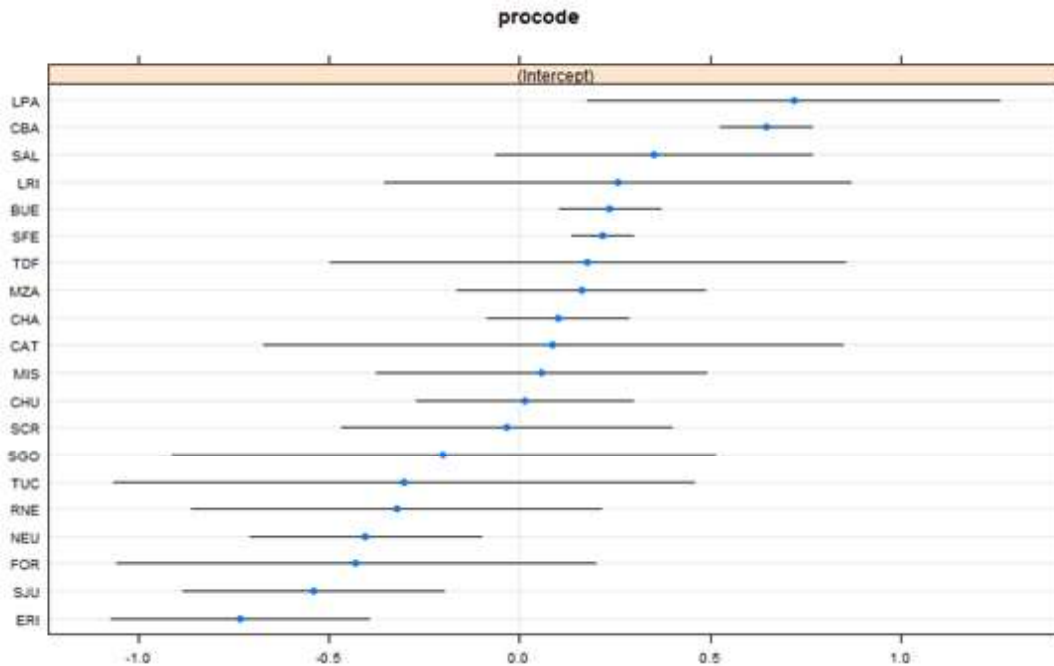
Note: \*p<0.1 \*\*p<0.05 \*\*\*p<0.01

**Table 5. Re-election of mayors: Additional institutional and economic controls**

	(1)	(2)	(3)	(4)
<i>inc3JUS</i>	0.654*	0.642*	0.672	0.641
	(0.383)	(0.382)	(0.559)	(0.561)
<i>inc3PPPR</i>	0.147	0.200	0.849	0.814
	(0.405)	(0.405)	(0.631)	(0.633)
<i>inc3PROG</i>	0.769*	0.754*	0.613	0.580
	(0.400)	(0.401)	(0.609)	(0.611)
<i>inc3UCR</i>	0.585	0.588	0.500	0.484
	(0.381)	(0.380)	(0.566)	(0.567)
<i>inc3VEC</i>	0.818**	0.813**	0.982*	0.939
	(0.395)	(0.396)	(0.588)	(0.590)
<i>alignp3</i>	0.086	0.093	0.375***	0.379***
	(0.068)	(0.068)	(0.129)	(0.129)
<i>alignn2</i>	0.093	0.101	0.005	0.003
	(0.062)	(0.062)	(0.146)	(0.146)
<i>yrsp3</i>	0.002			
	(0.005)			
<i>yrsm</i>	0.015**	0.012*	0.017*	0.016*
	(0.007)	(0.006)	(0.010)	(0.010)
<i>carta</i>		0.501***	0.543**	0.543**
		(0.141)	(0.217)	(0.218)
<i>popocup_dept</i>			0.032***	0.033***
			(0.009)	(0.009)
<i>nbipob_dept</i>			0.021**	0.022**
			(0.010)	(0.010)
<i>gendM</i>				0.553***
				(0.190)
<i>pop</i>	0.00000	0.00000	0.00000	0.00000
	(0.00000)	(0.00000)	(0.00000)	(0.00000)
Constant	0.686*	0.665*	2324***	2842***
	(0.379)	(0.380)	(0.699)	(0.724)
Observations	5,106	5,106	1,7	1,7
Log Likelihood	3,522.074	3,515.716	1,154.320	1,149.975
Akaike Inf. Crit.	7,066.148	7,053.432	2,334.639	2,327.950

Note: \*p<0.1 \*\*p<0.05 \*\*\*p<0.01

**Figure 4: Random intercepts for “provinces” (Mayors)**



and 2 include some interaction terms to check for the possibility that the effect of poverty on re-election is condition on the political alignment variables. We find that the poverty (*nbipobdept*) loses significance, both the non-interacted and the interacted term. Finally, including a control for the level of education (the percent of people who are eligible to attend school actually attending) does not bring a significant coefficient. Models 3 and 4 are run using generalized linear mixed effects for those variables that we find significant in previous tables. It can be seen that most of the significant variables we found when running pooled logit regression are also significant here. Incumbency dummies, however loose significance. This may be due to the fact that some of these effects are being captured by the mixed effects both at the department and province level. A visualization of the random intercepts for each province can be seen in Figure 4. These tables confirm the significant and positive association between the probability of re-election and incumbency, and the existence of municipal charter.

**Table 6: Re-election of mayors: Economic controls and linear mixed models**

	(1)	(2)	(3)	(4)
<i>inc3JUS</i>	0.846 (0.544)	0.707 (0.558)	0.308 (0.296)	0.786 (0.580)
<i>inc3PPPR</i>	0.615 (0.607)	0.330 (0.617)	0.230 (0.347)	1.101 (0.681)
<i>inc3PROG</i>	0.942 (0.595)	0.839 (0.607)	0.298 (0.316)	0.729 (0.634)
<i>inc3UCR</i>	0.506 (0.541)	0.350 (0.556)	0.073 (0.294)	0.520 (0.577)
<i>inc3VEC</i>	1105* (0.572)	0.900 (0.587)	0.388 (0.314)	1089* (0.606)
<i>alignp3</i>	0.390** (0.191)	0.184 (0.119)	0.046 (0.063)	0.335** (0.141)
<i>nbipob_dept</i>	0.001 (0.010)			0.014 (0.014)
<i>gendM</i>				0.545*** (0.194)
<i>yrsM</i>	0.022** (0.010)	0.021** (0.010)	0.014** (0.006)	0.010 (0.010)
<i>carta</i>	0.376* (0.212)	0.426** (0.214)	0.448** (0.153)	0.635*** (0.238)
<i>alignp3:nbipob_dept</i>	0.015 (0.013)			
<i>edasiste_dept</i>		0.018 (0.017)		
<i>popocup_dept</i>				0.030*** (0.009)
Constant	1028* (0.543)	1389* (0.753)	0.554* (0.316)	2811*** (0.793)
Observations	1,883	1,716	5,944	1,7
Log Likelihood	1,281.821	1,171.262	4,049.284	1,137.344
Akaike Inf. Crit.	2,585.642	2,362.523	8,120.569	2,302.688
Bayesian Inf. Crit.			8,194.160	2,378.826

Note:\*p<0.1 \*\*p<0.05 \*\*\*p<0.01



## VII. CONCLUDING REMARKS

In this paper we have studied the determinants of electoral outcomes in local elections –municipalities and townships- for a large sample of Argentine local governments during the 1983-2011 period. Our results suggests that re-election rates for local parties and mayors are related with both structural, institutional and economic characteristics. The main three factors that we have found to be statistically relevant to explain differences in re-election rates of local parties and mayors are the incumbency dummies, the existence of a municipal charter, and the percent of employed population. There seems to be important regional/provincial election effects although we do not find large heterogeneity at the department level.

We believe these findings are to be taken cautiously. There are main reasons to do so. Firstly, there are many economic, political and institutional variables we do not observe that may be relevant to explaining re-election rates of parties and mayors. Secondly, for several variables, we do not have data at the local level and only census-level data at the department level. Due to these data being available at a less frequent periods, the greater detail on economic aspects comes at the expense of reducing sample sizes.

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## **IX. APPENDIX AND DATA SOURCES**

The data for this paper has been collected over several years from many different sources. Data on elections and incumbencies were originally collected from Cao (1999)'s book "Elecciones y reelecciones en el nivel municipal argentino: 1983-1999". We recoded and updated these data using information from the electoral bodies of all 24 Argentine electoral districts. We also obtained information from various secondary sources such as on-line local newspapers and radios, websites specializing in local affairs and think-tanks aggregating electoral information.