

Durable Goods for Enduring Voters? Preliminary Evidence from a School Construction Program in Argentina

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Abstract: There is ample agreement that politicians often target goods to particular groups of voters, but a heated debate remains on whether they favor core or swing voters. In this paper, I propose a theory of distributive politics that takes into account the nature of the good being distributed, and argue that politicians will use goods that are short-lived or easily taken away to obtain the support of swing voters, but will use durable goods or goods that cannot be easily removed to fuel the loyalty of their core supporters. Within the context of Argentina, previous studies provide support in favor of the first part of this argument. I provide preliminary evidence in favor of the second part, showing that the construction of new schools over the period 2003-2012 favored districts that had supported the Kirchners' rise to power.

In recent years, there has been growing interest in understanding why some governments provide more public goods than others, with the answers pointing for instance to the role of income inequality (e.g., Engerman and Sokoloff 2000; Goldin and Katz 1998), ethnic diversity (e.g., Alesina, Baqir and Easterly 1999; Habyarimana et.al. 2007), cultural norms (e.g., Putnam 1993; Tsai 2007), democratization (e.g., Lindert 2004; Stasavage 2005; Ansell 2008; Naidu 2012) and, within democracies, the type of electoral rules in place and the presence of parliamentary or presidential governments (e.g., Cox n.d.; Persson and Tabellini 2000). At the same time, many scholars have noted that not every good that is publicly-provided is a public good—in the sense that no-one can be excluded from consumption of that good—and that competition for political support often leads electorally-motivated politicians to target goods to particular groups of districts or voters, while excluding others, regardless of the equity and efficiency implications of their distributive strategies.

While there is ample agreement that politicians target goods with electoral goals in mind, scholars do not agree on *how* those goods are targeted, with much debate centering on whether the distribution favors core supporters (e.g., Cox and McCubbins 1986; Levitt and Snyder 1995; Calvo and Murillo 2004) or swing voters (e.g., Lindbeck and Weibull 1987; Stokes 2005). For instance, Cox and McCubbins (1986) argue that whenever politicians distribute goods with electoral goals in mind, they face the risk that the recipients of those goods will take the goods but then, once in the voting booth, cast their vote for another candidate; and that to minimize the chances that this will

occur, a risk-averse politician will choose to distribute goods to voters who have consistently voted for him in the past—that is, his core voters. Stokes (2005) questions this, and asks, why would a politician target goods to individuals who are likely to vote for him anyway? Rational politicians, she argues, will distribute goods mostly to those individuals who are relatively indifferent between competing political parties, because these are the individuals for whom an extra benefit might make a difference at the time of voting. Critiques of Stokes' argument point out that politicians need to cultivate voters' loyalty; if they take it for granted and distribute goods only to swing voters, they will eventually lose the support of their core constituents.

The empirical evidence does not support one argument in favor of the other. Instead, the evidence suggests that politicians target both core *and* swing voters (for a review, see Stokes, Dunning, Nazareno and Brusco 2012). Stokes et.al. (2012) provide one plausible explanation for this mixed strategy, highlighting the role of asymmetric information between party leaders and the local brokers that they hire to win elections. They argue that the interest in winning elections leads brokers to invest resources in swing voters, who are the ones that can make a difference in terms of electoral outcomes, but the interest in maintaining their jobs leads brokers to invest in mobilizing core voters to rallies that send a signal to party leaders about the broker's strength and competence. Dixit and Londregan (1996) provide another explanation, arguing that whether political parties distribute goods to swing or core voters depends on the technologies available for the distribution of transfers: if parties are relatively equal in their ability to redistribute benefits to all groups (e.g. if goods are delivered through an impersonal bureaucracy), then swing groups will be targeted, but if parties can target different groups more effectively, each party will target particularistic benefits to its core group.

In this paper, I explore an alternative explanation for the empirical finding that politicians target goods to both core and swing voters. I argue that the nature of the good that is being distributed, and in particular, whether its benefits are short-lived or durable, affects whether the good will be distributed among core or swing voters. In the next section, I flesh out my main hypotheses, namely that politicians will try to win the support of swing voters using short-lived goods, but will keep the distribution of durable goods primarily for core voters. To test my hypothesis that durable goods are more likely to be distributed among core voters, I rely on a preliminary analysis of a school construction program funded by the national government in Argentina over the period 2003-2012. The data and methods are described in Section III, and the results presented in Section IV. I conclude with a discussion of the implications of these findings for further research.

I. DISTRIBUTIVE POLITICS WITH SHORT-LIVED AND DURABLE GOODS

Whether political parties target core or swing voters is likely to depend on the nature of the good they are distributing and, in particular, whether the good is one that yields benefits in the short term and can be easily removed in the future, or whether the good is one that cannot be easily removed and yields a long-term flow of benefits. A large proportion of the goods that parties distribute for electoral purposes are of the former kind: food, milk, medicine, construction materials, utility bill payments, temporary jobs, or cash transfers (Brusco, Nazareno and Stokes 2004). These are either consumer goods that are short-lived, that is, they run out after a short period of time (e.g., food, milk, medicine), and/or goods whose benefits can be sustained over time

only if the politician renews his decision to provide these goods to the voter (e.g., temporary jobs). Still, other goods that politicians can distribute are difficult to remove and, once provided, they tend to yield a flow of benefits that lasts for several periods: schools, jobs protected by civil service laws, land, roads. How do these features influence politicians' decision on whether to distribute goods to core or swing voters?

The extant literature usually agrees that buying the support of swing voters is more expensive than buying the support of core voters. Politicians will choose to pay this higher price only if core voters' support is not sufficient to win an upcoming election. But today's swing voters may not be tomorrow's swing voters. If politicians buy off today's swing voters by distributing goods that are not reversible and that yield long-term benefits, and if those swing voters are no longer needed to win subsequent elections, then politicians will be wasting resources: in subsequent elections, they will be wasting resources among voters whose support no longer makes a difference to the politician's future. A more optimal approach for politicians needing to buy off the support of swing voters for an upcoming election is to provide these voters with goods that are short-lived, in sufficient amounts so as to make them vote for the politicians in the upcoming election but without making a commitment to distribute goods indefinitely. In contrast, goods that are *not* reversible should be reserved for core voters: the distribution of these goods can contribute to maintain the long-term loyalty of these voters; their consistent support in past elections also helps dissipate concerns that distributing these goods to these voters might end up constituting a waste of resources in the future. Based on this, I hypothesize that politicians will distribute durable, non-reversible goods mostly among core voters, and will rely on short-lived, reversible goods to win the support of swing voters.

A recent article by Albertus (2012) also explicitly addresses how the nature of the good that is being distributed affects whether politicians target core or swing voters, but his predictions run in the opposite direction of what I have proposed, so it is worth taking a moment to consider why this might be the case. A key assumption underlying the theory advanced by Albertus is that, in order for swing voters to agree to support a politician or political party today, the politician or party must be able to make a credible commitment that he "will not simply pay them today and return only when they need another swing vote in the future" (Albertus 2012: 6). Put differently, Albertus assumes that swing voters will only accept to support a politician if he promises a constant flow of benefits into the future. I do not make this assumption. In the theoretical argument I outline above, it is perfectly possible for a swing voter to respond to short-term incentives only. Which of these assumptions is more reasonable is unclear and, ultimately, the adjudication between these theoretical accounts relies on the testing of their competing empirical implications. In what follows I provide preliminary evidence in favor of the hypothesis that politicians will distribute durable, non-reversible goods mostly among core voters, drawing on data from an Argentine school construction program.

II. EMPIRICAL APPROACH

Under the assumption that the benefits conferred by the construction of new schools are relatively durable,¹ I examine a school construction program carried out in Argentina over 2003-2012 to assess if school construction patterns are consistent with the hypothesis outlined above, that new schools will be predominantly constructed to favor core voters. I test this at the district level, exploring whether new schools were more likely to emerge in core districts.

Background

At the end of 2001, Argentina's deteriorating economy spiraled into massive street riots which led to the resignation of President Fernando De la Rúa, a member of the UCR party. Eduardo Duhalde, a member of the opposition PJ (Peronist) party, was appointed by the Legislative Assembly as temporary President and, while in power, he promoted Nestor Kirchner's candidacy for the 2003 presidential elections. Kirchner won the 2003 elections with support from only 23 percent of the national electorate, but the PJ as a whole, with its three different candidates, won over 60 percent of the national vote. Once Kirchner had been elected, the PJ united under his leadership. Nevertheless, he made substantial efforts to consolidate his power, mounting a campaign to blame the country's hardships on the economic policies pursued in the 1990s (under PJ rule), making alliances with industrial sectors and labor unions, and building a reputation for rewarding governors and local politicians who were on his side with greater transfers from the national government. His sister was appointed Minister of Social Development and worked closely with local politicians to expand access to new social welfare programs. His son created a political youth organization to mobilize support for his father, including through partisan militancy in primary schools. His wife, Cristina Fernández de Kirchner, was elected President at the end of 2007 and again in 2011, continuing with her husband's political agenda.

In the realm of education policies in particular, Kirchner sought to reestablish the damaged relationship between the PJ party and the teachers' unions. He introduced collective bargaining at the national level and made a commitment—which became law in 2006—to increase federal expenditure in education to at least 6 percent of GDP. A substantial portion of the increased expenditure in education went to the construction of new schools. Between 2003 and 2007, 416 new schools were constructed throughout the country with funding from the national government and the Inter-American Development Bank, and another 862 schools were constructed between 2008 and 2012.

Under this school construction program, provincial governments had the right to submit proposals for the construction of new schools in specific districts, but in principle the proposals had to be in line with two criteria established by the national government. First, new schools had to be located

¹ Even if the schools were understaffed and poorly funded, and the children attending these schools learned little to nothing, the benefits provided by these schools might still be positive and persistent (e.g., by providing free child care and enabling parents to go to work). Further, adults are often ill-equipped to judge the quality of the schools to which their children have access, and even in cases where measures of individual school quality are readily available (which is not the case of Argentina), attractive school buildings go a long way in fooling voters.

in districts that had unmet demand for education, as judged primarily by indicators of school enrollment. Second, new schools had to be located in districts whose poverty rate was above the average poverty rate of their province. The national government was in charge of overseeing compliance with these criteria, and had the final say on whether the proposals submitted by the provinces would be funded or not. The data that the national government used to corroborate whether these criteria were met came from the 2001 Census.

In the preliminary analysis that follows, I focus on exploring the patterns of construction of the 455 pre-primary schools (kindergarten and preschool) that were constructed between 2003 and 2012, which represent 36 percent of all schools constructed in this period. The national government determined, based on data from the 2001 Census, that all 531 districts in the country had “unmet demand” for pre-primary education.² The only relevant eligibility criteria, then, was whether a district had an above-average poverty rate within its province: 298 districts satisfied did, whereas another 233 did not.

Data and Methods

Did the school construction program funded by the national government favor pro-PJ districts? I combine data on the location of new schools, electoral results, and district-level characteristics, to provide a preliminary response to this question. Data on the number of schools that were constructed in each district over the period of analysis were provided by the Inter-American Development Bank and the National Ministry of Planning and Infrastructure. Data on pre-primary enrollment rates, poverty rates, and population size at the district level are from the 2001 Census. For electoral data, given the difficulty to obtain official data for recent elections, I use the dataset compiled by Lupu and Stokes (2009), which provides district-level results of all presidential elections up to 2003. I test both whether more schools were constructed in districts where the PJ obtained a larger margin of victory in 2003, as well as whether more schools were constructed in districts where the PJ was consistently a winner in presidential elections since the return of democracy in 1983. For the purpose of my analysis, the dataset has two main limitations. First, for 2003, it provides district-level information about the vote share of all PJ candidates combined, but not the specific vote share of Néstor Kirchner. Thus, I can explore whether the national government favored core PJ districts, but can say nothing about whether there was a bias toward core “Kirchnerist” districts. Second, the dataset compiled by Lupu and Stokes (2009) does not go beyond 2003, so I cannot assess whether and how the results of the 2007 presidential elections affected the patterns of school construction after that year.³

² 47 percent of eligible children did not attend pre-primary school in 2001. Part of this reflects a lack of demand (i.e., parents who did not want to enroll their children in pre-primary education), but part of it reflects a lack of supply. In particular, enrollment in kindergarten became mandatory in Argentina in 1993, but as of the 2001 Census, no district in the country had achieved universal enrollment in pre-primary education.

³ District-level data on the results of the presidential elections of 2003 and 2007 are available in hundreds of separate PDFs. Before investing time in hand-entering these data, I have tried to obtain the data in a spreadsheet from the Ministry of the Interior, so far without success. If I pursue this project further, I will have to enter the data myself.

To explore whether more pre-primary schools were constructed in core districts, it is important to account for other factors that are correlated with support for the PJ party and that might influence the decision on whether to construct a new school. I control for three possible confounding factors at the district level: pre-primary school enrollment rates, poverty rates, and population size. The PJ party has a strong basis of support among poorer districts,⁴ and poorer districts tend to face more severe shortages in the supply of pre-primary education. As such, core PJ districts are more likely to be eligible for school construction not necessarily for political reasons but for equity reasons. In addition, the PJ has a strong basis of support in very large and very small districts, and less support in medium-sized ones. For a given school enrollment rate and a given poverty rate, some core districts may benefit from more new schools not because they are core but because they need more schools in order to serve a larger population.

With these considerations in mind, I estimate the following model as a preliminary test of the hypothesis that more schools were constructed in core PJ districts:

$$(1) Y_i = \beta_0 + \beta_1 PJmargin2003_i + \beta_2 PJmarginSq_i + \beta_3 Enroll_i + \beta_4 Pov_i + \beta_5 Popn_i + \beta_5 Popnsq_i + \gamma_j$$

where Y_i is the number of schools constructed in district i over the entire period 2003-2012; $PJmargin2003_i$ is the PJ's margin of victory in district i in the presidential election of 2003, and $PJmarginSq_i$ is the squared term; $Enroll_i$ is the pre-primary school enrollment rate of district i in 2001; Pov_i is the poverty rate of district i in 2001; $Popn_i$ is the population size (in thousands) of district i in 2001, and $Popnsq_i$ is the squared term; and γ_j is a set of dummies that control for province fixed effects (there are 23 provinces plus the City of Buenos Aires). The key parameters of interest are β_1 and β_2 .

I also estimate a model in which, instead of measuring partisanship based on the 2003 presidential elections, I take into account the results of all presidential elections held in 1983, 1989, 1995, 1999 and 2003. I classify districts in which the PJ won at least 4 of these 5 elections as "historical core" districts; those in which the PJ lost at least 4 of the 5 elections as "core opposition" districts; and the rest as "core swing districts." Finally, I estimate similar models—with the PJ's margin of victory in 2003 and with consistency of support for the PJ in 1983-2003—but looking not at the total number of schools that were constructed, but at whether any schools were constructed at all within a district. The results with this alternative dependent variable are substantively the same, so in the section that follows I focus on discussing the results for the models described above.

III. PRELIMINARY RESULTS

A preliminary look at descriptive data shows that core districts were overrepresented among the set of districts that got a new pre-primary school. To facilitate the description, I categorize districts into three distinct groups (core, swing, opposition) based on the following arbitrary definitions: core districts are those where the PJ won by 10 or more points in the 2003 presidential elections; opposition districts are those where it lost by 10 or more points; and the rest are swing districts. As

⁴ The correlation between the PJ's margin of victory at the district level in 2003 and the districts' poverty rate in 2001 is 0.52 (p-value<0.000).

shown in Table 1, core districts represent 70 percent of all districts in which at least one school was constructed, compared to 63 percent of districts in which no school was constructed. Alternatively, the data show that 41 percent of core districts had at least one new school, compared to 35 percent of swing districts.

Table 1. School construction by district type

Districts	New school was constructed		Total
	No	Yes	
Core	206 63%	142 70%	348 66%
Swing	93 28%	50 25%	143 27%
Opposition	29 9%	11 5%	40 8%
Total	328 100%	203 100%	531 100%

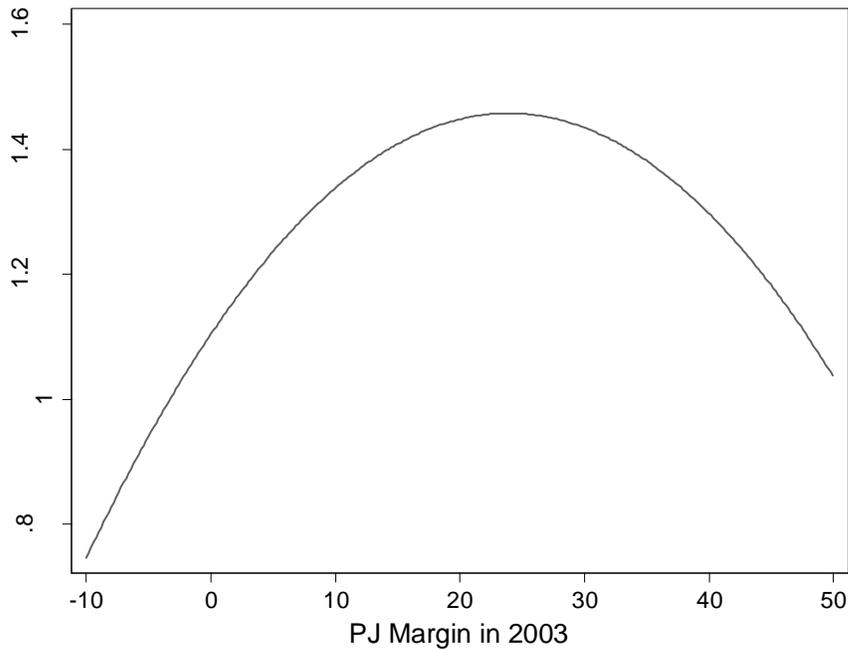
SOURCES: Data on school construction was provided by the National Ministry of Planning and Infrastructure. Electoral data from Lupu and Stokes (2009).

Another way to explore whether there was a bias in favor of core districts is to look at the subset of 81 districts that were not eligible for a new pre-primary school based on the criteria established by the national government, but where a new school was nevertheless constructed. The loose application of the formal criteria to allocate new schools suggests that the construction of schools may have been used for political purposes. Did the national government “bypass” the established criteria more often for core districts than for other districts? A bivariate linear probability model suggests that being a core district increased the chances that a non-eligible district got a new school by 14 percentage points.

Nevertheless, the overrepresentation of core districts among the set of districts in which a school was constructed may reflect the fact that districts in which the PJ party has strong electoral support also tend to be poorer and, by virtue of their higher poverty, they are more likely to be eligible for construction of a new school. This underscores the importance of accounting for the role of poverty and other factors that are associated with PJ support and that may contribute to decisions regarding the location of new schools. Regression analysis provides an estimate of the role of political support in explaining the number of pre-primary schools constructed in each district, *net of the contribution of poverty rates, school enrollment rates, and population size*.

I employ a Tobit model to estimate Equation 1 because the data on the dependent variable (the number of schools constructed in a district) are left-censored. The main relationship of interest is depicted in Figure 1, and the full results shown in the first panel of Table 2. The preliminary results are partially consistent with the hypothesis that the national government financed more new schools in districts where the incumbent party had obtained a greater level of support in the 2003 presidential elections.

Figure 1. Predicted number of new schools as a function of district support for the PJ in 2003



NOTE: Predictions are for a district with the mean pre-primary enrollment rate, mean poverty rate, and mean population size. SOURCES: Data on school construction was provided by the National Ministry of Planning and Infrastructure. Electoral data come from Lupu and Stokes (2009). Pre-primary enrollment, poverty, and population data come from the 2001 Census.

As shown in Figure 1, over a wide range, an increase in the PJ's margin of victory is associated with an increase in the predicted number of new schools, but after a certain threshold (for margins of victory above 25 percentage points), an additional increase in the PJ's margin of victory is associated with fewer new schools. This suggests that the national government targeted districts that were overall supportive, but not too supportive, of the PJ party.

Although the evidence is consistent with the argument that politicians look at recent electoral results to identify the districts that support them, and then target durable goods to those districts to fuel their loyalty, there is no evidence of a relationship between school construction and *historical* loyalty to the PJ party, as measured by the party's success in the presidential elections of 1983, 1989, 1995, 1999 and 2003. This is shown in the second panel of Table 2. In line with much of the literature pointing to voters' short memory, politicians appear to have a short memory too.

Another interesting finding that arises from both models, and one that deserves further exploration, is that, if poverty is a predictor of school construction at all, poorer municipalities appear to benefit less, not more, from the school construction program compared to wealthier municipalities. The coefficient on the poverty rate variable is marginally statistically significant at the 15 percent level under Model 1, and significant at the 10 percent level in Model 2, but negative in both cases.

Table 2. Tobit model of the number of schools constructed in each district

Model 1	Coefficient	
<i>PJ margin in 2003</i>	0.0296	**
	(0.0139)	
<i>PJ margin in 2003, squared</i>	-0.0006	***
	(0.0002)	
<i>Pre-primary enrollment rate</i>	-0.0414	***
	(0.0054)	
<i>% under the poverty line</i>	-0.0201	
	(0.0145)	
<i>Total population</i>	0.0000	***
	(0.0000)	
<i>Total population, squared</i>	0.0000	***
	(0.0000)	
<i>Constant</i>	2.1933	***
	(0.1181)	
Province fixed-effects	Yes	
No. of observations	531.0000	
Model 2		
<i>Historical core district</i>	0.1569	
	(0.3373)	
<i>Historical opposition district</i>	0.1520	
	(1.2622)	
<i>Pre-primary enrollment rate</i>	-0.0403	***
	(0.0054)	
<i>% under the poverty line</i>	-0.0275	*
	(0.0151)	
<i>Total population</i>	0.0000	***
	(0.0000)	
<i>Total population, squared</i>	0.0000	***
	(0.0000)	
<i>Constant</i>	2.2290	***
	(0.1201)	
Province fixed-effects	Yes	
No. of observations	531	

NOTE: Standard errors in parenthesis. Statistically significant at the *10%; **5%; or ***1% level. SOURCES: Same as Figure 1. In Model 2, “historical core districts” are those where the PJ won at least 4 of the 5 presidential elections between 1983 and 2003; and “historical opposition districts” where it lost at least 4. The remaining districts are the omitted category.

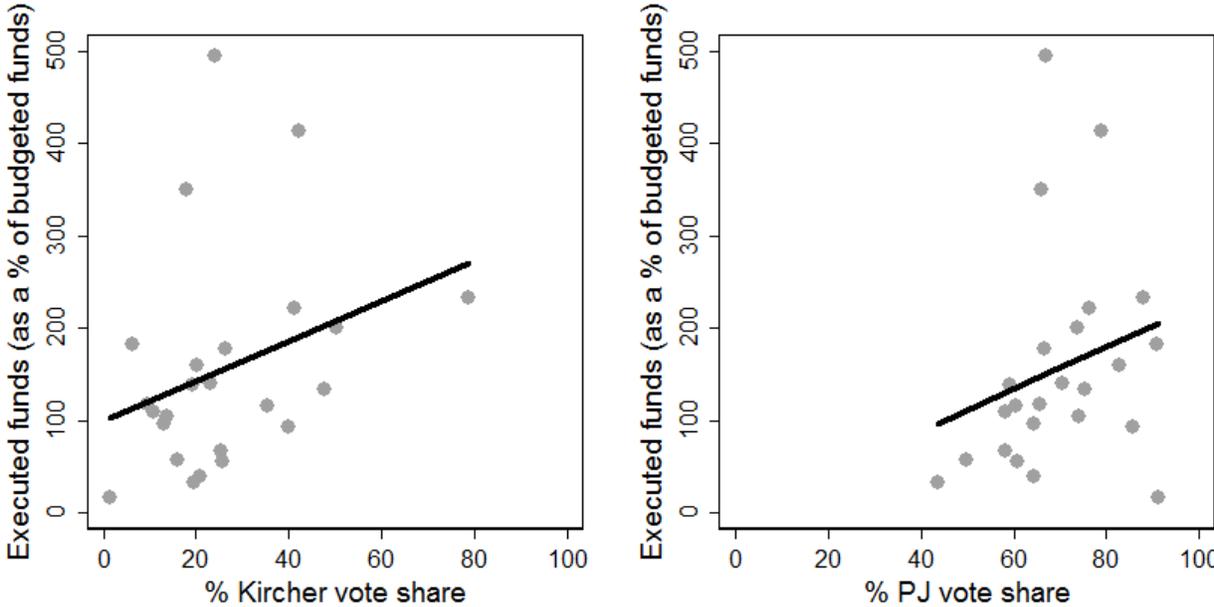
Next steps in the analysis

Further research is needed before we can be confident that the evidence supports the proposed theory. The first step is to hand-enter the district-level results of the 2003 presidential elections disaggregating the PJ’s vote share by candidate. With these data, I will be able to look at whether

support of Kirchner, more than support of the PJ in general, predicts the location of new schools. Some preliminary patterns, based on provincial-level data, suggest that the national government was more sensitive to the votes gained by Kirchner than to the votes gained by the PJ in general. Figure 2 below shows the relationship between the Kirchner and PJ vote shares on one hand, and the funds that the national government devoted to school construction in each province as a share of what it should have devoted based on fiscal rules for intergovernmental transfers. The latter ratio indicates whether the government spent more than it should have (when the share is above 100%) or less than it should have (when the share is below 100%) based on pre-existing fiscal agreements between the national and provincial governments. The positive slopes on the graphs indicate that the national government tended to overspend in provinces where the PJ in general and Kirchner in particular obtained a larger share of the vote. Nevertheless, regression analysis reveals that only the relationship with the vote share for Kirchner is statistically significant.

Another step for further research is to examine whether the patterns of school construction varied over time, and if they did, how. Doing this would require hand-entering the district-level results of the 2007 presidential elections, when Cristina Fernández de Kirchner was elected. By 2007, the Kirchner matrimony had consolidated their power both within the PJ and across the country, and won the presidential election with no difficulty. The question is whether, having consolidated their power, their distributive strategy changed after 2007 or not. Combining the 2003 and 2007 electoral data, and the district-by-year school construction data, may shed some light on this. To further look at whether the patterns of school construction varied over time, or whether the theory holds across various administrations, I could also incorporate data from the 1990s, when the presidency of Carlos Menem funded and administered a large national program of construction of pre-primary schools (Berlinski and Galiani 2007).

Figure 2. Overspending by the national government as a function of provincial support for Kirchner and the PJ in 2003



IV. CONCLUSIONS

This essay provides very preliminary evidence consistent with the theory that politicians are likely to prioritize core rather than swing voters when it comes to distributing goods with durable benefits. A complete test of the theory I have proposed also requires evidence that politicians prioritize swing over core voters when it comes to distributing short-lived goods and/or goods that can be easily removed. Other scholars have provided evidence of this in the Argentine context, Stokes (2005) shows that local brokers target swing voters disproportionately when providing food, medicine, and other short-lived consumer goods that are typically transferred close to elections; and Weitz-Shapiro (2006) and Casas (2012) provide evidence that swing voters are more likely to obtain government-funded temporary jobs. Of particular relevance is the study by Casas, which examines the same period in this study. Together, this evidence supports my theory of how the nature of the goods that are being distributed affects who benefits from that distribution.

Nevertheless, further research is needed to understand how the nature of the distributive good affects politicians' distributive strategies. Albertus (2012), which to my knowledge is the only one who has explicitly explored this question to date, finds evidence from Venezuela that runs in the opposite direction of the theory proposed here. It is unclear why this is the case. My intuition is that the case of Venezuela that Albertus analyzes is one in which the national government made substantial investments not just to win over swing voters in one election, but *to convert swing voters into core voters*. This may help explain why durable goods were targeted to swing voters in the Venezuelan context, and is consistent with my argument that durable goods are better targeted at those with whom politicians expect to have an enduring relationship.

In addition to providing an alternative theoretical explanation for the empirical pattern that politicians target goods to both core and swing voters, the evidence I have presented raises concerns regarding the political manipulation of education resources. Of particular concern is the finding that poorer municipalities benefitted from less, not more, school construction. While ordinary citizens often view education as an important equalizer across society, this paper and recent work by Kramon and Posner (2012) suggests that politicians use public education to advance their own political agenda, applying criteria that may have nothing to do with what is good for society. When and how politicians take advantage of their control over the provision of education to pursue their own interests, and with what consequences for social equity and economic development, are challenging and interesting questions for further research.

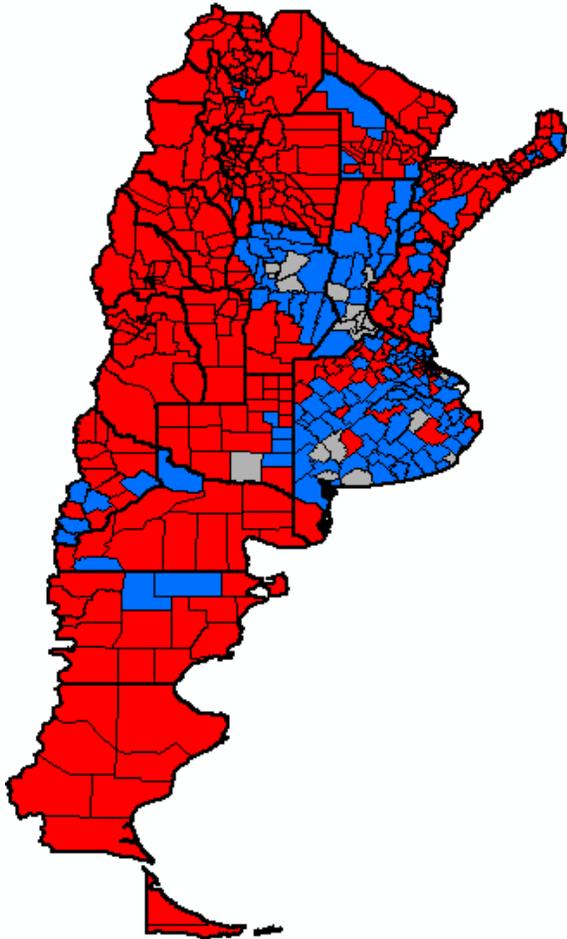
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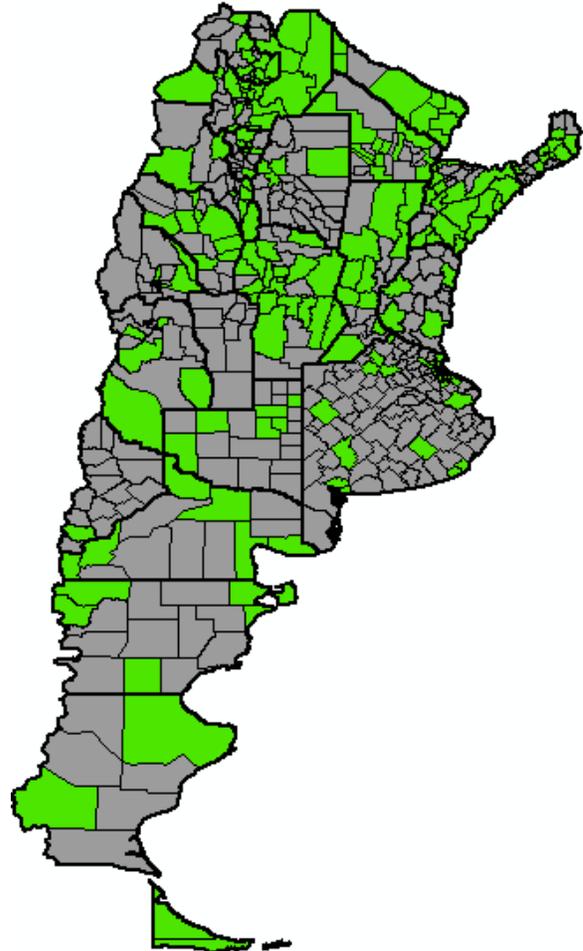
APPENDIX: The geographic distribution of electoral support and new schools

Figure 1a. Support for the PJ in the 2003 presidential elections



Districts where the PJ won by 10 points or more in 2003 are in red; where it lost by 10 point or more, in grey; other districts, in blue. Based on electoral data from Lupu and Stokes (2009).

Figure 1b. Distribution of pre-primary schools constructed in 2003-2012



Districts where a new school was constructed in green; districts with no construction in grey. Based on data provided by the Ministry of Planning and Infrastructure.