

Feeding the Leviathan: political competition and soft budget constraints. Evidence from Argentine subnational districts.

*Oswaldo Meloni**

ABSTRACT:

This paper presents evidence of the influence of political competition on the behavior of fiscal policy in Argentine provinces from 1987 to 2015. Contrary to the predominant theory and empirical evidence from subnational districts my estimations of a dynamic panel data show that political competition is associated with increases in public outlays and changes in its composition. This finding is strongly related to the large vertical fiscal imbalances that characterize the Argentine fiscal federalism. I conjecture that governors use the additional low-cost spending power given by federal transfers to feed clientelistic networks, increase public employment and direct subsidies to constituencies, thus enhancing their chances to remain in office.

KEYWORDS: political competition; soft budget constraints, fiscal policy, vertical fiscal imbalance, fiscal federalism.

JEL CLASSIFICATION: D72; P16.

Alimentando al Leviatán: competencia política y restricciones presupuestarias blandas. Evidencia de los distritos subnacionales argentinos.

RESUMEN:

Este trabajo presenta evidencia de la influencia de la competencia política en el comportamiento de la política fiscal en las provincias argentinas de 1987 a 2015. Contrariamente a lo que postula la teoría predominante y a la evidencia empírica de los distritos subnacionales, mis estimaciones de un panel dinámico muestran que la competencia política está asociada con aumentos en los desembolsos públicos y cambios en su composición. Este hallazgo está fuertemente relacionado con los grandes desequilibrios fiscales verticales que caracterizan al federalismo fiscal argentino. Conjeturo que los gobernadores utilizan el poder adicional de bajo costo dado por las transferencias federales para alimentar redes clientelares, aumentar el empleo público y los subsidios directos a su electorado, aumentando así sus posibilidades de permanecer en el cargo.

PALABRAS CLAVE: competencia política; restricciones presupuestarias blandas; política fiscal; desbalance fiscal vertical fiscal; federalismo fiscal.

CLASIFICACIÓN JEL: D72; P16.

1. INTRODUCTION

Since Brennan and Buchanan (1980) a standard assumption in economic models analyzing the political markets has been the Leviathan hypothesis that characterizes politicians as power-maximizing agents that seek to take full advantage of the size of the public sector as a mean to attain power and rents. The limit on this behavior is the amount of revenue they can raise from the taxpayers. Provided political competition, incumbents trade-off the probability of losing office due to an increase in taxes to finance spending against the utility that this increase delivers to the party. Under this setting, the fact that power can be challenged by opposition parties is key to mitigate fiscal illusion and to provide a credible threat

* Universidad Nacional de Tucumán and RedNIE, Argentina.
Autor para correspondencia: omeloni@herrera.unt.edu.ar

to incumbents that office rents, corruption and inefficiencies can be reduced, which in turn leads to lower taxation.

In other words, the underlying assumption in this model is that incumbents face hard budget constraints. However, this is not usual situation encountered by politicians from subnational jurisdictions that financed a large fraction of local expenditures with sizable discretionary central government transfers. This is the case of various federations such as Argentina, Brazil, Russia and Venezuela. In particular, Argentina is a very interesting case since the fiscal rules governing the relationship between the federal government and subnational jurisdictions are complex and the policy outcomes have been very poor and inefficient (Saiegh and Tommasi, 1999). As pointed out by Saiegh et al. (2001) and Spiller and Tommasi (2003), the presence of large Vertical Fiscal Imbalances (VFI) in most sub national districts result in perverse incentives to citizens and local authorities. On one hand, voters have incentives to reward governors and mayors who are competent in extracting resources from the central government, thus minimizing the amount of local taxes paid by residents. On the other hand, local incumbents enjoy a large share of the political benefit of spending and pay just a fraction of the political cost of taxation. Most of the money they spent on public goods comes from the “common pool” of resources administered by the central government. Local authorities use that additional low-cost spending power given by federal transfers to feed clientelistic networks, increase public employment, direct subsidies to constituencies, thus enhancing their chances to remain in office. Therefore, a stiffer political competition, rather than limiting the size of government as assumed in the standard model described above, may end up augmenting it. In this setting it is expected to find a strong association between the margin of victory and an expansive fiscal behavior.

This paper attempts to improve the understanding of the connection between political competition and fiscal behavior delivering evidence from Argentine subnational jurisdictions. I estimate a dynamic panel data that comprises all 24 Argentine districts and 8 consecutive gubernatorial elections from 1987 to 2015. To preview my results, I find strong evidence that incumbents increase outlays and change the composition of spending strategically when facing a harder political competition. This opportunistic conduct that defies the prescriptions of the standard model is more perceptible the larger the weight of transfers in total provincial revenue. My results are in line with the research of Jones et al. (2012) and Meloni (2016) that emphasize the role of vertical imbalance on voter’s behavior and political budget cycles, respectively.

The rest of the paper is organized as follows. Next section surveys the empirical literature on political competition and the size of government focusing on studies at subnational level. Section 3 explains the most salient characteristics of Argentine fiscal federalism. Section 4 describes the empirical investigation as well as the data. Section 5 discuss the results while section 6 concludes.

2. BACKGROUND LITERATURE

The theoretical literature linking political competition and economic performance in general and fiscal behavior in particular can be traced back to the beginnings of the political economy field. Downs (1957) and later Stigler (1972), Barro (1970) and Wittman (1989) claim that electoral competition compels parties to adopt the policies that reflect the preferences of the median voter. The main argument is that electoral competition minimizes the principal – agent problem by reducing political rents and thus enhancing voter’s welfare. Other models such as Persson and Tabellini (2000) and De Paola and Scoppa (2009) center the attention on political competition as a way to improve economic performance and fiscal policy by means of the selection of high-quality politicians that choose more efficiency-oriented policies and limit interest groups pressures to transfer resources through distortionary taxation. In general, all these models associate a stronger competition with growth promoting—tax structure, lower government outlays and higher infrastructure spending as percentage of total state government expenditure. Moreover, these models usually assume that only a credible threat of being displaced by a strong competitor induces incumbents to pursue sound economic policies.

A substantial body of evidence supports the view that competition improves policy making and operates as a check against bigger government. The evidence comprises cross- countries investigations as

Aidt and Etrvovic (2011) that found that reforms such as eliminating restrictions on participation based on literacy or gender limit the size of government enhanced political competition in Latin America, as well as country studies that focus on the fiscal behavior of subnational districts such as Rogers and Rogers (2000), Solé- Ollé (2006), Besley et al. (2010), Rosenzweig (2015), González (2017) and Chamon et al. (2019).

Relying on data from the US states from 1950 to 1990, Rogers and Rogers (2000) find that greater political competition in the race for governor limit the size of government measured in terms of both, expenditures and revenues. However, they also recognize that there is marginally significant evidence in the 1980–90 subsample that greater political competition leads to larger government, when government size is measured in terms of revenue per capita. Similarly, Besley et al. (2010) working with a panel of the 48 continental U.S. States from 1929 to 2001 find evidence that “the lack of political competition in a state is associated with anti-growth policies: higher taxes, lower capital spending, and a reduced likelihood of using right-to- work laws”.

The case of Spain, considered by Solé- Ollé (2006), also backs the hypothesis that political competition limits the size of the government, but its effectiveness depends on the political ideology of the party. Using data on spending, own revenues and deficit for more than 500 Spanish local governments over 8 years (1992–1999), and information on the results of two local electoral contests (1991 and 1995) Solé- Ollé shows that left-wing governments increase spending, taxes and deficits as the electoral margin increases, whereas for right-wing governments, a greater margin of victory led to reductions in all these variables.

Chamon et al. (2019) also find evidence on the benefits of political competition on sound fiscal policy. They exploit a discontinuity in Brazilian municipal election rules: in municipalities with less than 200,000 voters mayors are elected with a plurality of the vote but in municipalities with more than 200,000 voters a run-off election takes place among the top two candidates if neither achieves the majority of the votes. At a first stage, they show that the possibility of runoff increases political competition. At a second stage, they use the discontinuity as a source of exogenous variation to infer causality from political competition to fiscal policy. Their second stage results suggest that political competition induces more investment and less current spending, particularly personnel.

The investigation on Tanzania by Rosenzweig (2015) deserves close attention because the environment is not characterized by strong political completion but on the contrary by a dominant-party regime. That is, localized electoral competition does not threaten the incumbent party dominance but still, increases in local electoral competition leads to substantially greater access to local public goods because of the ruling party's intention to expand its power.

Only a few works sustain that elections might not provide incumbents with the appropriate incentives to check government expansion. Bracco et al. (2013) show that tight political races may induce to more spending and more taxes via tax substitution. In their model, stronger political competition leads to more taxes and spending but for reasons different from Rumi's. In their model fiscal illusion impulses that result. Elected politicians exploit the facts that voters are not fully informed on the costs of public goods provision and also that they tend to underestimate their aggregate tax burden from tax instruments (like sale taxes or indirect taxes in general) that are paid in small amounts over time, compared to tax instruments (like the property taxes, or income taxes) for which taxpayers make lump-sum payments of their aggregate tax liabilities on an annual basis. Faced by high electoral competition, incumbents substitute salient taxes with less salient ones. Bracco et al. hypothesis is successfully tested using a dataset on Italian municipal elections for 1999-2008.

The case of the Indian states studied by Gosh (2010) for the period 1980–2004 also concludes that tighter political competition increases economic expenditure. The author conjectures that career concern hypothesis, which suggests that politicians increase developmental spending in order to improve their re-election prospects but offers no explanation how tax increases to finance additional spending affects voting behavior.

The scarce evidence on Argentine districts is mixed. González (2017) distinguish between electorally secure governors, that is incumbents with exceptionally low probability of being displaced by

the opposition and electorally weak governors, that face a very competitive environment. Using a panel data for the 24 Argentine provinces between 1993 and 2009, he finds that the former increase social spending on goods that benefit a broader number of voters to expand their electoral base (as well as to show their achievements in office and advance their political careers outside the province) while the latter increasing personnel spending.

Conversely, Rumi (2009) working with a panel of Argentine provinces for 1983- 2003 finds that political alternation (a measure of political competition) significantly increases the deficits incurred by provinces. She argues that effective political competition, that assures the alternation of political parties, modifies the planning horizon of governments and hence the fiscal conduct of incumbents. If the probability of retaining the governmental control in the next period is low, the incumbent may decide to increase expenditure because future costs are not completely internalized. It can also be the case that the incumbent strategically misbalances its counts to improve its probability of reelection.

None of the papers surveyed above discuss how the rules governing the relationship between the central government and the subnational districts affect the link between political competition and fiscal behavior. The only exception is a theoretical work by Bardhan and Yang (2004). They are skeptic about the influence of political competition on sound fiscal policy but for reasons related to the rules of the game between the National Executive and local authorities in a federal setting. They claim that political competition can generate economic costs if the central government distribute resources from a common pool among districts. In their model, local incumbents increase public expenditures because they realize that the marginal benefits of public spending are greater than the social marginal costs. The reason is that the benefits of public spending are concentrated within a specific jurisdiction or a particular interest group, while the costs are spread out across the whole of society. Following their same line of reasoning, my paper tests empirically the impact of political competition on fiscal behavior under a similar federal setting described by Bardhan and Yang.

3. CHARACTERISTICS OF ARGENTINE FISCAL FEDERALISM

Argentina is a middle-income developing country organized as a federal republic with 24 districts, the Autonomous City of Buenos Aires (known as CABA, its acronym in Spanish) which is the national capital, plus 23 provinces. Like most federations, there are local taxes collected by provinces and federal taxes levying by the central government. The fiscal structure of Argentina is peculiar. On one hand, provincial governments undertake more than 50% of total spending in the country, yet they collect only a small fraction of taxes. So, transfers from the federal government account for a large fraction of provincial total revenue. The range goes from as high as 90% on average in the poor province of Formosa to only 10% in the City of Buenos Aires. On the other hand, transfers come from federal taxes that are collected centrally, which generates a “common pool” of resources that are distributed among the 24 jurisdictions partly through an automatic mechanism called federal tax-sharing agreement (FTSA) and partly discretionary according to short-run political convenience giving the incumbent president a great discretionary power to align governors, even governors from opposition parties, to national policies. The collection of the main taxes included in the FTSA, like the value-added tax, financial transactions tax, increase sharply in good times and decrease abruptly in bad times so transfers, both automatic and non-automatic behave procyclically¹.

Under this revenue system provinces behave as if they face a soft budget constraint increasing spending and reducing local tax collection effort. Thus, local politicians benefit from spending and pay only a small fraction of the political cost of taxation. Moreover, citizens have incentives to reward with their vote those who are effective at extracting resources from the central government rather than controlling public spending destiny. Therefore, profligacy is rewarded at the ballots rather than punished because taxpayers do not pay for additional public spending. In this game, local authorities have electoral incentives to get as much money through intergovernmental transfers as possible and federal authorities

¹ A handful of provinces that produce oil and gas also receive automatic grants that vary primarily according to international prices.

are inclined to give as much money from the common pool of resources as possible in exchange for political loyalties.

Larger intergovernmental discretionary transfers are expected to be associated with increases in targeted provincial expenditures that help incumbents to compete advantageously with the opposition. On the other hand, the districts that receive a larger share of funds from the Central government are more likely to be subject to political pressures from their constituencies but mainly from their demanding clientelistic network to spend the money right away². In other words, vertical fiscal imbalances make electoral opportunism cheaper and more profitable.

4. EMPIRICAL SPECIFICATION

To test the conjectured connection between political competition and fiscal behavior I work with a panel data that comprises all 24 Argentine provinces and 8 consecutive gubernatorial elections from 1987 to 2015. Since its return to democracy in 1983, Argentina has held gubernatorial elections regularly every four years in most of its 24 provinces³. I exclude the 1983 election from my data set because there was no party allied with the military regime and therefore there was no incumbent in that election.

I estimate the following dynamic model where Fiscal variables are assumed to depend on its lagged value, the margin of victory of the incumbent party in the preceding gubernatorial election and several political and socio-economic variables to account for variability in the data due to factors other than the margin of victory:

$$Fiscal_{it} = \alpha_0 + \alpha_1 Fiscal_{it-1} + \alpha_2 Margin_{it-1} + Z_{it} + X_{it} + \varepsilon_{it} \quad (1)$$

4.1. DEPENDENT VARIABLES

I test the impact of political competition on five variables measuring fiscal behavior: Total Expenditures per capita, which is a measure of government size, and its two main components, Current and Capital Expenditure. I also include Personnel expenditures which is the main item comprised in the current expenditures account and the Ratio of Current to Capital Expenditures, which is a proxy for strategic fiscal behavior⁴. By expanding the size of the public sector, the incumbent party not only augments rents and power but also its probability of remaining in office. In particular, increasing current expenditures such as direct transfers, the number of public officials and public sector salaries to mention the most frequent, gives voters short-term utility of consumption. On the other hand, changing the mix of expenditures in favor of capital expenditures may capture a portion of their constituency with a marker preference for spending in infrastructure and other “visible” public goods as suggested by Drazen and Eslava (2010)⁵.

4.2. KEY INDEPENDENT VARIABLE

The independent variable of primary interest in my analysis is the lagged margin of victory (MARGIN) in gubernatorial election calculated as the difference between the votes obtained by the

2 Recently, Meloni (2018) showed that all categories of public expenditures, except for capital expenditures, behaved procyclically for the period 1985-2007.

3 The exceptions are the provinces of Corrientes and Santiago del Estero that were intervened twice by the Federal Government and Tierra del Fuego, and the City of Buenos Aires whose executive authorities were appointed by the President until 1991 and 1996 respectively. The provinces of Catamarca and Tucuman were also intervened by the Federal Government, but their electoral calendars were altered scarcely.

4 Provincial Budgets are classified in two main items: Current Expenditure Account and the Capital Expenditure Account. The first one is greatly influenced by salaries, public sector consumption and social security expenses. The second main component of the budget contains mainly direct investment and financial transfers to the provinces.

5 The ratio of current to capital expenditures can be thought as a proxy for populism. Hence, it is expected that a stronger political competition leads to increase in capital relative to current expenditures.

winning governor and the votes obtained by the runner-up⁶. MARGIN is the most concrete measure for ex ante political contestability. Smaller margins of victory are associated with stiffer political competition while larger values correspond to provinces and periods with less electoral dispute. Governors want to increase the difference with the runner-up as much as they can for the obvious reason that a weak opposition gives them a larger margin of operation. Additionally, since elections for local representatives and governors are held simultaneously and their results are highly correlated, a wider margin of victory gives winners a larger number of seats at the local parliament which is crucial to pass bills.

Table 1 shows how hard were the gubernatorial races in Argentine provinces in each of the nine elections from 1983 to 2015. To this purpose I classified election results in three categories: very tight (the margin of victory is lesser or equal than 5%) tight (the difference between the winner and the runner-up is greater than 5% but lesser or equal than 10%) and non-tight (the margin of victory is greater than 10%). To correctly interpret this classification, consider that in all first-round gubernatorial elections under study, there were three candidates or more running for governor.

TABLE 1
Margin of Victory in gubernatorial elections. Number of Provinces with very tight, tight, and non-tight races

	Election Year (Gubernatorial elections) *								
	1983	1987	1991	1995	1999	2003	2007	2011	2015
Very Tight race (Margin < 5%)	7	8	4	5	4	4	4	4	5
Tight race (5% < Margin < 10%)	3	7	6	3	8	4	4	3	6
Non-tight race (Margin > 10%)	14	9	14	16	12	16	16	17	13
Total	24	24	24	24	24	24	24	24	24

Note: Results from first round gubernatorial elections except for CABA (1983, 1987 and 1991) and Tierra del Fuego (1983 and 1987) that I use Representatives results as a proxy for gubernatorial elections.

* Elections were held in these years for all districts except for CABA, Córdoba, Corrientes, Santiago del Estero and Tierra del Fuego.

Notice that as democracy gets older, electoral competition lessens. It can be observed that the number of provinces with very tight races fell from 6 in the 80s and the 90s (the exception is 1995) to 3 in the 2000s.

Over the period covered by this study, the two main national parties that participate in gubernatorial elections, Peronist and Radical, experienced fragmentation and transformation, particularly the Radical party, after the crisis of 2001/2002⁷. Nonetheless, new coalitions emerged what kept the electoral concentration ratio, measured by the share of the winner plus the runner-up party, above 80% with a relatively low dispersion. Table 2 reports the statistics of the concentration ratio of the two largest parties in each election. Notice that despite the winner and runner-up parties were changing

⁶ First rounds elections were computed for all districts except for the Chaco, Chubut, Corrientes, Tierra del Fuego and the City of Buenos Aires (CABA) that admitted various second round elections in the lapse 1983-2015.

⁷ The Peronist party is officially known as Partido Justicialista and the radical Party is named Unión Cívica Radical. Both parties formed large coalitions to dispute gubernatorial elections.

through time and provinces, MARGIN remains a valid and comparable measure of political competition across time and provinces⁸.

TABLE 2
Concentration Ratio of the two largest parties (winner plus runner -up) for each gubernatorial election across all provinces (%)

Election	Average	Standard deviation	Coeff. of relative variation
1983	83,4	9,3	0,11
1987	83,9	12,4	0,15
1991	84,6	10,0	0,12
1995	86,4	9,9	0,11
1999	90,5	10,3	0,11
2003	82,3	12,6	0,15
2007	81,2	11,5	0,14
2011	84,3	8,2	0,10
2015	85,6	9,8	0,11

4.3. CONTROLLING FOR SOCIOECONOMIC AND POLITICAL INFLUENCES

My empirical study contains several political and socioeconomic control variables, included in Vector Z and Vector X respectively, which have been found in the extant literature to explain the fiscal behavior of incumbent parties. In regard to the political control variables, I expect that a governor running as his/her party's gubernatorial candidate (coded REELECTION) increase the size of the public sector and decrease the Ratio of Current to Capital expenditures more than any other candidate of the incumbent party because incumbency gives him/her an advantage directing resources to targeted constituencies which serves to his/her political campaign and also because is less costly to manage post-election fiscal adjustment. REELECTION is defined as a binary variable that takes the value 1 if the incumbent governor runs for reelection and 0, otherwise. I also include a dummy variable, called ALIGNMENT, capturing the potential advantages of alignment between the party which controls the governorship at the provincial level and the party of the sitting president at the time of the election. It is not easy to tell which the expected sign of this relationship is. On one hand, focusing on federal transfers seems natural to expect a positive correlation between president-governor alignment with our dependent variables. This is the result obtained by Curto-Grau et al. (2018) for Spain⁹. Nonetheless, it can also be claimed that provinces where the governor is affiliated to the same party as the President spent less than those leaded by the opposition because they are more likely to internalize the effect of spending an additional unit of national resources due to internal party discipline. Even in a scenario of weak party obedience, allied governors may take advantage, in terms of electoral results, in supporting national policies aimed at controlling spending and fiscal deficit. This is the argument put forward by Jones, Sanguinetti and Tommasi (2000) in their study on Argentina's fiscal federalism in the 80s and the 90s.

Vector X includes the population density (DENSITY) to control for economies of scale in public spending and the averages over the gubernatorial period of the rate of unemployment (coded U), GDP per capita (GDP) and the Vertical Fiscal Imbalance (VFI). I expect them all to be positively associated with public outlays and the composition of expenditures except for VFI. As GDP per capita and

⁸ Table 1A in the Appendix reports the concentration ratio of the two largest parties (winner plus runner -up) for each province in eight gubernatorial elections from 1987 to 2015.

⁹ Curto-Grau et al. (2018) find that a mayor belonging to the party of the regional president obtains twice the amount in grants received by an opposition's mayor.

unemployment increase, local governments usually react increasing all categories of expenditures, but current expenditures in higher proportion than capital outlays. Conversely, I predict a negative correlation between VFI and all groupings of expenditures because my definition of VFI is local tax collection as percentage of total revenues in a given province. Governors facing diminishing proportion of federal transfers usually respond with lower expenditures since constituencies tend to punish electorally increasing in local taxes.

Table 3 shows the descriptive statistics for all the variables used in the empirical investigation. It can be, fiscal variables including my measure of vertical fiscal imbalance, vary substantially across time and provinces. Likewise, control variables as well as my measure of political competition, Margin of Victory, display high dispersion.

TABLE 3
Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Total Expenditure per capita (average Gubernatorial period) (pesos of 2004)	192	2670,1	1762,8	706	11304
Current Expenditure per capita (average Gubernatorial period) (pesos of 2004)	192	2169,0	1452,5	633,7	9103,3
Capital Expenditure per capita (average Gubernatorial period) (pesos of 2004)	192	520,3	490,9	57,9	4140,9
Personnel Expenditure per capita (average Gubernatorial period) (pesos of 2004)	192	1248,5	791,1	376,7	5277,4
Ratio of Current to Capital Expenditures	192	6,2	3,9	1,1	23,7
Margin of Victory (%)	192	18,2	17,3	0,16	84,54
Vertical Fiscal Imbalance	192	19,8	16,8	3,05	85,94
GDP per capita (pesos of 2004)	192	14320,0	10927,3	4152,5	54745,7
Unemployment (%)	192	8,4	4,0	0,7	19,8
Reelection	192	0,42	0,49	0	1
Alignment	192	0,6	0,5	0	1
Population Density (inhabitants per squared Kilometers)	192	638,9	3011,0	1	15271

5. DISCUSSION OF RESULTS

Results for my basic specifications are presented in Table 4. All models include time dummy variables for each gubernatorial election. I estimate the dynamic panel with the two-step system GMM technique with robust standard errors to cope with a dataset that has many panels and few periods. In my dataset, the number of periods is 9 and the number of panels is 24. The instruments employed to estimate the difference equation are the differenced variables that are not strictly exogenous with all their lags in levels, that is, Unemployment, VFI, Reelection, Alignment and Density. Whereas the lags of the first differences of the same variables were used as instruments to estimate the level equation. According to Hansen J test for joint validity of the instruments, the instruments used are valid in all equations. Following Roodman (2009), I kept the number of instruments below the number of groups (districts) to avoid biasing coefficient estimates.

The results obtained support the choice of the dynamic model. The lagged dependent variable is statistically significant at 1% in all the equations. The estimated coefficients range from .59 (ratio of current to capital expenditures) to .8 (current expenditures) confirming that inertia is especially

important in budgetary studies. Control variables have mixed performance depending on the equation except for Vertical fiscal imbalance that has the predicted sign and statistical significance at usual levels in all five equations, indicating that provinces with higher participation of local taxes in total revenues spend less than those financing a large portion of their spending with federal transfers and favor capital expenditures rather than current expenditures.

The estimated coefficients of my key explanatory variable, Margin, are negative and statistically significant at customary levels in all regressions, foretelling that governors will augment outlays as the electoral distance with the runner-up reduces¹⁰. The estimated values indicate that Capital expenditures are more responsive than current expenditures to changes in the margin of victory in the previous election. In light of the standard theory this finding is rather contradictory since constituencies are expected to vote against any spendthrift behavior financed with local taxes. But this is no valid under a setting featuring soft budget constraints. Governors receiving transfers from the federal authority can increase spending at no visible cost for local voters. Transfers provide incumbents with additional spending power that serves to maintain the clientelistic networks not only in the proximity of election but also during the whole gubernatorial period. Organizing a clientelistic-based winning electoral machines like the ones prevailing in Argentine provinces, as documented by Gibson (2004), Stokes (2005) and Weitz-Schapiro (2012) among others, takes time and fiscal resources. Party bosses and brokers obtain the loyalty of clientele through active regular exchanges that intensify as the election date approaches¹¹. Thus, incumbent governments “invest” public funds from federal transfers in delivering goods and services and also public jobs rather than “spending” in non-visible infrastructure, like sewers, or in small political impact infrastructure like secondary roads, ports, and airports. Another reason that prompts bosses and brokers to feed the clientelistic network at any time, even if far from election years, is the uncertainty about the availability of federal resources. Recurrent crises and recessions have taught politicians to invest in advance to organize and consolidate clientele to avoid being surprised by shocks that may deprive them from “enough” resources during elections years¹². Hence, depending on the phase of the business cycle, opportunity rather than opportunism may be the driving force of public expenditure.

TABLE 4
Dynamic Panel Data Estimations

Observations: 192 Districts: 24 All regressions include time effects

Dynamic panel-data estimation, two-step system GMM with robust standard errors

	Total Expenditures	Current Expenditures	Capital Expenditures	Personnel Expenditures	Ratio Current to Capital Expenditures
L1.	0,71485*** (0,12138)	0,80514*** (0,15513)	0,70237*** (0,12424)	0,75200*** (0,12561)	0,58559*** (0,16403)
Margin	-0,00135** (0,00063)	-0,00175* (0,00092)	-0,00283* (0,00172)	-0,00223*** (0,00072)	-0,00470* (0,00260)
VFI	-0,00583* (0,00314)	-0,00571** (0,00268)	-0,04954*** (0,01288)	-0,01190* (0,00701)	0,02021*** (0,00788)

¹⁰ To provide more robustness to the results, Tables 2A and 3A, in the Appendix, show the regressions in a more parsimonious way. Table 2A reports the result when only the variable MARGIN is considered. Then, Table 3A adds the variables controlling for economic factors. Notice that the estimated coefficients for the MARGIN variable not only have the correct sign but also are fairly stable. I thank an anonymous referee for suggesting me this robustness check.

¹¹ In non-electoral years politicians exchange good and services for political support in various rallies and demonstrations such as the opening of legislative sessions, protests against bills backed by the opposition or bearing incumbent party bills.

¹² Meloni (2018) shows that public expenditures of subnational districts are procyclical and one of the main sources of procyclicality are the discretionary intergovernmental transfers.

TABLE 4 CONT.
Dynamic Panel Data Estimations

Observations: 192 Districts: 24 All regressions include time effects
Dynamic panel-data estimation, two-step system GMM with robust standard errors

	Total Expenditures	Current Expenditures	Capital Expenditures	Personnel Expenditures	Ratio Current to Capital Expenditures
Ln GDPpc	0,21426* (0,12533)	0,17640 (0,16438)	-0,00298 (0,11576)	0,22535 (0,14985)	0,07110 (0,16641)
Unemployment	-0,01523*** (0,00565)	-0,01513 (0,00932)	-0,04578*** (0,016670)	-0,02314** (0,01086)	0,02055* (0,01178)
Reelection	0,04946*** (0,01922)	0,01271 (0,03001)	0,02048 (0,04584)	0,07173** (0,02935)	0,06263 (0,05968)
Alignment	0,02092 (0,02868)	0,07071* (0,04346)	0,08098 (0,15014)	0,06000 (0,04645)	-0,06212 (0,04386)
Density	0,00001 (0,00001)	0,00002 (0,00002)	0,00031** (0,00012)	0,00006 (0,00005)	-0,00011** (0,00005)
Constant	0,52712 (0,56878)	0,12302 (0,79554)	2,99081** (1,28717)	0,17117 (0,74532)	-0,15884 (1,57225)
# of Instruments	22	19	18	18	23
Arellano-Bond test for AR(1) in first differences:	z= -1,95 Pr>z=0,054	z= -2,03 Pr>z= 0,042	z= -3,16 Pr>z = 0,002	z = -2,15 Pr>z = 0,031	z = -2,76 Pr>z = 0,006
Arellano-Bond test for AR(2) in first differences:	z = -0,38 Pr>z= 0,706	z= -0,19 Pr>z= 0,852	z= -0,58 Pr>z = 0,563	z= -0,52 Pr>z =0,535	z = -1,28 Pr>z =0,201
Sargan test of overid. restrictions:	chi2(6)= 8,46 Prob>chi2= 0,206	chi2(2)= 0,48 Prob>chi2= 0,788	chi2(1) = 0,20 Prob>chi2= 0,654	chi2(1) = 0,40 Prob>chi2 = 0,529	chi2(7) = 5,48 Prob>chi2 = 0,602
Hansen test of overid. restrictions:	chi2(6)= 6,36 Prob>chi2= 0,384	chi2(2)= 4,25 Prob>chi2= 0,119	chi2(1)= 1,05 Prob>chi2= 0,306	chi2(7)= 2,66 Prob > chi2 = 0,103	chi2(7)= 7,99 Prob > chi2 = 0,333

Note: Dependent variables are expressed in logarithms. Standard errors in parenthesis below coefficient.
*** Significant at .01. ** Significant at .05. * Significant at .10.

Table 5 shows the elasticities of different categories of spending with respect to the margin of victory calculated from estimated coefficients and sample averages. All categories of expenditure are very inelastic with respect to the margin of victory but the smaller the category, the larger the response to increases in political concentration. As predicted capital expenditures have a greater response to increases in electoral competition than current expenditures.

TABLE 5
Estimated Elasticities of fiscal variables with respect to Margin of Victory.

Fiscal Variable	Estimated Coefficient	Elasticity with respect to margin of Victory
Total Expenditure per capita	-0,00135	-0,02458
Current Expenditure per capita	-0,00175	-0,03187
Capital Expenditure per capita	-0,00283	-0,05153
Personnel Expenditures per capita	-0,00223	-0,04061
Ratio of Current to Capital Expenditures	-0,0047	-0,08559

Note: the sample average of Margin is 18.2%.

Notice that as in Rumi (2009) I found that the incumbent's fiscal response to a stronger electoral competition is the opposite to the one predicted by the standard model. Nonetheless, the underlying reasons for the incumbent's behavior in her model are quite different from my setting. While in Rumi's model incumbents facing a low probability of reelection increase fiscal deficits because they do not fully internalize the costs of deficits, in this paper incumbents increase spending independently of their probability of reelection and regardless they are facing or nor their last term in office. Moreover, the estimated coefficient of Reelection in the Total expenditure regression (Table 4) is positive and statistically significant suggesting that incumbents that run for a new term in office augment outlays to increase their chances to remain in office.

If my hypothesis about the fiscal behavior of governors facing stronger electoral competition is correct, it should be observed that the larger the proportion of local taxes with respect to total revenues (my definition of VFI), the lesser the fiscal response. Under this logic, provincial constituencies reward those governors who provide higher spending financed with transfers from the federal government. To operationalize my conjecture, I include the interaction term $MARGIN \cdot VFI$ in the set of explanatory variables of equation (1). The results, exhibited in Table 6, provide strong support for my hypothesis. The estimated coefficient of the interaction term is positive and statistically significant in all five regressions.

Remarkably, the full effect of Margin (taking into account the interaction effect) for all five measures of incumbent's fiscal behavior is positive only for the four biggest districts, CABA, Buenos Aires, Cordoba and Santa Fe that, not surprisingly, have the highest local taxes collection as percentage of total revenues (my measure of vertical fiscal imbalance). Put it differently, in these districts, incumbents behave as predicted by the standard theory but in the rest of the provinces that receive large transfers from the federal government, local authorities use that additional low-cost spending power given by federal transfers to increase their chances to remain in office. Using the estimated coefficients in Table 6 is easy to compute the values of VFI that are the tipping points of the effect of MARGIN on budget outlays. For example, the total effect of MARGIN on Total Expenditures is negative for provinces with VFI less than 26%. On the contrary, if VFI surpasses 26% the total effect of Margin on Total outlays is positive¹³.

My estimates are not only statistically significant but also economically and politically important. Large vertical fiscal imbalances induce subnational districts to profligacy as well as diminishes the probability of alternation, worsening the quality of democracy¹⁴.

¹³ I thank an anonymous referee for suggesting me this computation.

¹⁴ Some types of federal fiscal structures incentive fiscal responsibility while others lead to profligacy. This is developed in the fiscal federalism and decentralization literatures (Rodden 2006, Weingast 2009).

TABLE 6
Explaining the paradox. The influence of VFI

Observations: 192 Districts: 24 All regressions include time effects
Dynamic panel-data estimation, two-step system GMM with robust standard errors

	Total Expenditures (1)	Current Expenditures (2)	Capital Expenditures (3)	Personnel Expenditures (4)	Ratio Current to Capital Expenditures (5)
L1,	0,767158*** (0,14806)	0,80082*** (0,15452)	0,74324*** (0,16997)	0,59543*** (0,09924)	0,77954*** (0,13178)
Margin	-0,00297*** (0,00088)	-0,00380*** (0,00102)	-0,00673*** (0,00246)	-0,00345*** (0,00131)	-0,01129*** (0,00370)
VFI	-0,00595* (0,00326)	-0,00662* (0,00393)	-0,01793* (0,01105)	-0,0100*** (0,00274)	0,00151 (0,00674)
Margin*VFI	0,00011*** (0,00004)	0,00014** (0,00006)	0,00027* (0,00015)	0,00009* (0,00005)	0,00030** (0,00014)
Ln GDPpc	0,1992928 (0,13752)	0,33613** (0,16389)	0,4725404 (0,47252)	0,34118*** (0,11447)	-0,005454 (0,14292)
Unemployment	-0,018809 (0,01543)	-0,0103304 (0,01865)	-0,0367809 (0,02722)	-0,01979** (0,00778)	0,0027519 (0,01415)
Reelection	0,04557** (0,02190)	0,0342952 (0,06009)	-0,038974 (0,06044)	0,07609*** (0,01611)	0,073284 (0,05815)
Alignment	0,172659 (0,22588)	0,3235238 (0,24280)	0,72734** (0,30027)	0,0386 (0,04389)	-0,09243 (0,09222)
Density	0,00001 (0,00001)	0,000004 (0,00001)	0,000044 (0,00004)	0,00001 (0,00001)	-0,0000333 (0,00003)
Constant	0,1506542 (1,35431)	-1,580039 (1,80866)	-2,94408 (4,69451)	-0,15824 (0,64161)	0,7775957 (1,49811)
# of Instruments	21	20	20	21	20
Arellano-Bond test for AR(1) in first differences:	z = -2,02 Pr>z=0,044	z = -2,69 Pr>z = 0,007	z = -2,27 Pr>z = 0,023	z = -2,29 Pr>z = 0,022	z = -3,47 Pr>z = 0,001
Arellano-Bond test for AR(2) in first differences:	z = -0,72 Pr>z = 0,471	z = -0,67 Pr>z = 0,503	z = -1,28 Pr>z = 0,200	z = -0,68 Pr>z = 0,497	z = -0,81 Pr>z = 0,419
Sargan test of overid, restrictions:	chi2(3) = 7,46 Prob>chi2 = 0,059	chi2(2) = 2,32 Prob>chi2 = 0,314	chi2(2) = 2,67 Prob>chi2 = 0,263	chi2(4) = 7,00 Prob>chi2 = 0,136	chi2(3) = 3,57 Prob>chi2 = 0,312
Hansen test of overid, restrictions:	chi2(3) = 4,91 Prob>chi2 = 0,178	chi2(2) = 3,93 Prob>chi2 = 0,140	chi2(2) = 3,19 Prob>chi2 = 0,203	chi2(4) = 6,66 Prob>chi2 = 0,155	chi2(4) = 2,21 Prob > chi2 = 0,529

Note: Dependent variables are expressed in logarithms. Standard errors in parenthesis below coefficient.
*** Significant at .01. ** Significant at .05. * Significant at .10.

6. CONCLUDING REMARKS

This paper contributes to a broader scholarly agenda that seeks to advance in a more comprehensive cross-country comparisons of subnational fiscal behavior across federations. In particular, this paper seeks to improve the understanding of the connection between political competition and fiscal behavior analyzing the Argentine case.

My main conclusion is that, contrary to the suggestion of the standard theory and the predominant empirical evidence, incumbent parties facing tougher electoral competition increase public spending and change the composition of expenditures favoring capital outlays. I argue that this result is caused by the structure and political workings of Argentine fiscal federalism. The rules and procedures governing the fiscal relations between the country's national government and provinces make it entirely rational for local incumbent parties facing stiffer competition to increase spending, in particular current expenditure. The flow of discretionary transfers from the federal government to the provinces guarantees the delivery of utility of consumption to voters without taxing them.

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REFERENCES

- Aidt, T. and Etrvovic, D. 2011. Political competition, electoral participation and public finance in 20th century Latin America. *European Journal of Political Economy* 27: 181-200.
- Bardhan, P. and Yang, T. 2004. Political completion in economic perspective. BREAD Working Paper 078.
- Barro, R. 1970. The control of politicians: an economic model. *Public Choice* 15: 19-42.
- Besley, Timothy, Persson, Torsten, Sturmm, Daniel (2010) Political competition and economic performance: theory and evidence from the United States *Review of Economic Studies* (2010) 77, 1329–1352.
- Bracco, E., Porcelli, F. and Redoano, M. (2013) Political competition, tax salience and accountability: theory and some evidence from Italy. *European Journal of Political Economy* 58: 138-163.
- Brennan, G. and Buchanan, J. 1980. The power to tax: analytical foundations of a tax constitution. Cambridge University Press.
- Calvo, E. and Murillo, M. 2004. Who delivers? Partisan Clients in the Argentine Electoral Markets. *American Journal of Political Science* 48: 750-1.
- Curto- Grau, M., Solé-Ollé, A. and Sorribas- Navarro, P. 2018. Does Electoral Competition Curb Party Favoritism? *American Economic Journal: Applied Economics*, 10(4): 378–407
- Chamon, M., Firpo, S., Mello, J. and Pieri, R. 2019. Electoral rules, political competition and fiscal spending: regression discontinuity evidence from Brazilian Municipalities. *The Journal of Development Studies* 55 (1): 19-38.
- Dixit, A. and Londregan, J. 1998. Ideology, tactics and efficiency in redistributive politics. *Quarterly Journal of Economics* 119: 497-529.

- Drazen, A. and Eslava, M. (2010) Electoral manipulation via voter-friendly spending: theory and evidence. *Journal of Development Economics* 92, 39-52.
- Gibson, E. 2004. Subnational authoritarianism: territorial strategies of political control in democratic regimes. Annual Meeting of the American Political Science association.
- González, L. (2017) Electoral Competition and Social Spending in the Argentine Provinces. *Journal of Politics in Latin America* 1: 1–XX
- Ghosh, S. (2010) Does Political Competition Matter for Economic Performance? Evidence from Sub-national Datapost. *Political Studies* 58: 1030-1048.
- Jones, M., Sanguinetti, P. and Tommasi, M. (2000) Politics, institutions, and fiscal performance in a federal system: an analysis of the Argentine provinces. *Journal of Development Economics* 61: 305-333
- Jones, M., Meloni, O. and Tommasi, M. 2012. Voters as Fiscal Liberals. Incentives and Accountability in Federal Systems. *Economics and Politics* 24(2): 135-156.
- Lindbeck, A. and Weibull, J. 1987. Balanced-budget redistribution as the outcome of political competition. *Public Choice* 52: 273-277.
- Meloni, O. 2014. Electoral opportunism and vertical fiscal imbalance. *Journal of Applied Economics*. Vol. XIX(1):145-168
- Meloni, O. 2018. Turning a Blind Eye to Policy Prescriptions: Exploring the Sources of Procyclical Fiscal Behavior at the Subnational Level. *Public Finance and Management*, 18(3-4): 265-284
- Mueller, D. 2003. *Public choice III*. Cambridge University Press.
- Nicolini, J., Posadas, J., Sanguinetti, J., Sanguinetti, P. and Tommasi, M. 2002. Decentralization, Fiscal Discipline in Sub-National Governments and the Bailout Problem: The case of Argentina. Inter-American Development bank Research network Working Paper.
- Padovano, F. and Ricciuti, R. 2009. Political Competition and Economic Performance: evidence from the Italian regions. *Public Choice* 138, 263-277.
- Peltzman, S. 1992. Voters as fiscal conservatives. *Quarterly Journal of Economics* 107, 325-345.
- Persson, T. and Tabellini, G. 2000. *Political Economics: explaining economic policy*. MIT Press.
- Rodden, J. 2006. *Hamilton's Paradox: The Promise and Peril of Fiscal Federalism*. New York: Cambridge University Press.
- Rogers, D. and Rogers, J. 2000. Political competition and state government size: do tighter elections produce looser budgets? *Public Choice* 105: 1- 21.
- Roodman, D. 2009. A Short Note on the Theme of Too Many Instruments. *Oxford Bulletin of Economics and Statistics*, 71(1): 135-158
- Rosenzweig, S. 2015. Does electoral competition affect public goods provision in dominant-party regimes? Evidence from Tanzania. *Electoral Studies* 39: 72-84.
- Rumi, C. 2009. Political Alternation and the fiscal deficits. *Economics Letters* 102: 138–140.
- Saiegh, S. and Tommasi, M. 1999. Why is Argentina's Fiscal Federalism so Inefficient? Entering the Labyrinth. *Journal of Applied Economics* II(1), 169-209.
- Saiegh, S., Sanguinetti, P. and Tommasi, M. 2001. Fiscal Federalism in Argentina: Policies, Politics, and Institutional Reform, *Economia*, Primavera, 157-200.
- Spiller, P., Tommasi, M. 2003. The institutional foundations of public policy: a transactions approach with application to Argentina. *J. Law Econ. Org.* 19, 281–306.
- Solé-Ollé, A. 2006. The effects of party competition on budget outcomes: Empirical evidence from local governments in Spain. *Public Choice* 126: 145-176.

- Stigler, G. 1972. Economic competition and political competition. *Public Choice* 13: 91-106.
- Stokes, S. 2005. Perverse Accountability: A Formal Model of Machine Politics with Evidence from Argentina. *American Political Science Review* 99 No.3.
- Weingast, B. 2009. Second generation fiscal federalism: The implications of fiscal incentives. *Journal of Urban Economics* 65: 279-93.
- Weitz-Shapiro, R. 2012. What Wins Votes: Why Some Politicians Opt Out of Clientelism. *American Journal of Political Science* 56(3): 568-583.
- Wittman, D. 1989. Why democracies produce efficient results? *Journal of Political Economy* 97: 1395-1424.

APPENDIX

TABLE 1 A.
Concentration Ratio of the two largest parties (winner plus runner -up) for each province in eight gubernatorial elections from 1987 to 2015 (%)

Province	Average	Standard deviation	Coeff. relative variation
Buenos Aires	75,7	11,3	0,15
Catamarca	92,5	6,3	0,07
Chaco	91,7	8,2	0,09
Chubut	86,6	5,5	0,06
Cordoba	84,7	8,6	0,10
Corrientes	81,1	11,7	0,14
Entre Rios	85,5	9,7	0,11
Formosa	93,0	10,4	0,11
Jujuy	82,1	9,7	0,12
La Pampa	82,8	8,6	0,10
La Rioja	93,3	8,8	0,09
Mendoza	77,9	8,5	0,11
Misiones	87,7	10,7	0,12
Neuquen	78,9	4,2	0,05
Rio Negro	82,5	9,4	0,11
Salta	85,4	7,7	0,09
San Juan	77,4	12,1	0,16
San Luis	88,2	6,0	0,07
Santa Cruz	97,5	1,0	0,01
Santa Fe	85,4	12,1	0,14
Santiago	86,0	6,5	0,08
Tierra del Fuego	80,2	11,2	0,14
Tucumán	80,7	11,4	0,14
CABA	74,2	7,6	0,10

TABLE 2 A
Dynamic Panel Data Estimations

Observations: 192 Districts: 24 All regressions include time effects

Dynamic panel-data estimation, two-step system GMM with robust standard errors

	Total Expenditures	Current Expenditures	Capital Expenditures	Personnel Expenditures	Ratio Current to Capital Expenditures
L1.	1,00004*** (0,08069)	0,88853*** (0,10936)	0,95602*** (0,19606)	0,84700*** (0,11308)	0,93426*** (0,11621)
Margin	-0,00116** (0,00054)	-0,00147* (0,00082)	0,00074 (0,00197)	-0,00192** (0,00089)	-0,00296 (0,00190)
Constant	,05288 (0,61668)	0,03415 (1,00451)	0,36600 (1,06171)	1,41097* (0,77397)	-0,48128 (0,31030)
# of Instruments	10	10	10	10	10
Arellano-Bond test for AR (1) in first differences:	z = -1,59 Pr > z = 0,111	z = -1,70 Pr > z = 0,090	z = -2,59 Pr > z = 0,010	z = -1,63 Pr > z = 0,103	z = -4,05 Pr > z = 0,000
Arellano-Bond test for AR (2) in first differences:	z = -0,06 Pr > z = 0,953	z = 0,12 Pr > z = 0,906	z = 0,06 Pr > z = 0,952	z = -0,61 Pr > z = 0,545	z = -1,05 Pr > z = 0,293
Sargan test of overid. restrictions:	chi2(1) = 0,00 Prob > chi2 = 0,969	chi2(1) = 0,00 Prob > chi2 = 0,966	chi2(1) = 0,00 Prob > chi2 = 0,981	chi2(1) = 0,00 Prob > chi2 = 0,962	chi2(1) = 0,01 Prob > chi2 = 0,907
Hansen test of overid. restrictions:	chi2(1) = 1,70 Prob > chi2 = 0,192	chi2(1) = 4,20 Prob > chi2 = 0,040	chi2(1) = 0,07 Prob > chi2 = 0,795	chi2(1) = 2,62 Prob > chi2 = 0,105	chi2(1) = 0,21 Prob > chi2 = 0,645

Note: Dependent variables are expressed in logarithms. Standard errors in parenthesis below coefficient.
*** Significant at .01. ** Significant at .05. * Significant at .10.

TABLE 3A
Dynamic Panel Data Estimations

Observations: 192 Districts: 24 All regressions include time effects

Dynamic panel-data estimation, two-step system GMM with robust standard errors

	Total Expenditures	Current Expenditures	Capital Expenditures	Personnel Expenditures	Ratio Current to Capital Expenditures
L1.	0,67812***	0,70216***	0,85764***	0,62537***	0,93996***
	0,16553	0,14137	0,15729	0,14364	0,13724
Margin	-0,00159**	-0,00174**	-0,00114	-0,00221***	-0,00069
	0,00075	0,00074	0,00200	0,00084	0,00190
VFI	-0,00519	-0,0045701	-0,00408	-0,00658*	0,00058
	0,00427	0,00315	0,00525	0,00348	0,00357
Ln GDPpc	0,21287	0,24454*	0,28049	0,32195**	-0,10713
	0,19136	0,14382	0,23707	0,15188	0,23449
Unemployment	-0,0193312**	-0,0219	-0,07159*	-0,02625	0,05038
	0,0076811	0,01550	0,0392901	0,01701	0,03987
Constant	0,89497	0,29925	-1,14162	0,02825	0,85440
	(0,65675)	(0,84384)	(2,25918)	(0,84353)	(2,18525)
# of Instruments	17	16	16	16	16
Arellano-Bond test for AR(1) in first differences:	z = -1,81 Pr > z = 0,07	z = -4,22 Pr > z = 0,000	z = -3,59 Pr > z = 0,000	z = -3,58 Pr > z = 0,000	z = -3,53 Pr > z = 0,000
Arellano-Bond test for AR(2) in first differences:	z = -0,28 Pr > z = 0,779	z = 0,04 Pr > z = 0,970	z = -0,20 Pr > z = 0,842	z = -0,87 Pr > z = 0,384	z = -1,07 Pr > z = 0,285
Sargan test of overid. restrictions:	chi2(5) = 8,32 Prob > chi2 = 0,140	chi2(4) = 1,65 Prob > chi2 = 0,799	chi2(4) = 4,42 Prob > chi2 = 0,352	chi2(4) = 2,67 Prob > chi2 = 0,614	chi2(4) = 0,92 Prob > chi2 = 0,921
Hansen test of overid. restrictions:	chi2(5) = 5,29 Prob > chi2 = 0,382				

Note: Dependent variables are expressed in logarithms. Standard errors in parenthesis below coefficient.

*** Significant at .01. ** Significant at .05. * Significant at .10.