Economics Letters 102 (2009) 125–127

Contents lists available at ScienceDirect

Economics Letters

journal homepage: www.elsevier.com/locate/econbase

Fiscal conservatism in a new democracy: "Sophisticated" versus "naïve" voters ☆

Paulo Roberto Arvate [a], George Avelino [a], José Tavares [b,*]

[a] School of Business and Economics, Getúlio Vargas Foundation, São Paulo, Brazil
[b] Universidade Nova de Lisboa, Faculdade de Economia, Lisboa, Portugal

ARTICLE INFO

Article history:
Received 26 November 2007
Received in revised form 22 November 2008
Accepted 26 November 2008
Available online 14 December 2008

Keywords:
Budget deficits
Elections
Political cycles
Fiscal conservatism

JEL classification:
D72
E62
H72
H77

ABSTRACT

We use data from gubernatorial elections in Brazil to test the electoral reactions of "sophisticated" and "naïve" voters to fiscal surpluses. Our results complement Brender and Drazen [Brender, Adi, and Drazen, A., (2005b), "How do budget deficits and economic growth affect reelection prospects? Evidence from a large cross-section of countries", NBER Working Paper 11862, National Bureau of Economic Research, Cambridge, Massachusetts]: we find no evidence of fiscal illusion while, in some cases, a fiscal surplus may actually increase the probability of reelection.

1. Motivation

Since Nordhaus (1975), the idea that government incumbents can manipulate the economy to seek re-election by increasing budget deficits just before elections has taken root. Nordhaus' model assumes "naïve" voters who do not anticipate the future costs of current deficits.[1] Though later models introduced rational "sophisticated" voters that use information more efficiently, the evidence on electoral fiscal cycles is far from consensual. Peltzman (1992) suggests that American voters are "fiscal conservatives" and tend to penalize incumbents which are not, and Alesina et al. (1998) show that deficit cuts do not harm re-election probabilities or the popularity of cabinets for OECD countries. In a recent paper covering a wide range of developed and developing countries, Brender and Drazen (2005a) suggest the presence of electoral fiscal cycles in "new democracies" only. However, Brender and Drazen (2005b) show that even in new democracies an increase in fiscal deficits does not pay off in higher re-election prospects.[2] The Nordhaus argument suggests that the lack of "voter sophistication", especially present in new democracies, may benefit elected officials who run up deficits.

This paper tests explicitly how voter "sophistication" relates with "fiscal conservativeness" — that is, rewarding fiscal surpluses at the polls — using data from four state gubernatorial elections in Brazil between 1990 and 2002, a period in which Brazil could be considered a "new democracy"[3] Several reasons make Brazil an excellent case for studying the fiscal preferences of voters in new democracies. Brazil is the fourth largest democracy in the world — after the United States, India, and Indonesia — established in the late 1980s, it is a large developing economy with substantial economic and social diversity across states, and shows a recent history of large budget deficits at both federal and state levels. Importantly, Brazil imposes mandatory voting on the population, so that neither the "sophisticated" nor the "naïve"

☆ We are grateful for the comments of Allan Drazen, Enlinson Mattos, Carlos Pereira, Mariano Tommasi, participants in seminars at Michigan State University, LACEA and ANPEC, as well as an anonymous referee for useful comments. Tavares is grateful for the financial support of Nova Forum and *Fundação para a Ciência e Tecnologia*. Arvate and Avelino thank the financial support of GVPesquisa.

* Corresponding author. Tel.: +351 21 380 16 00; fax: +351 21 387 09 33.
E-mail addresses: Paulo.Arvate@fgv.br (P.R. Arvate), George.Avelino@fgv.br (G. Avelino), jtavares@fe.unl.pt (J. Tavares).

[1] This motivation for running a deficit is non-partisan, or "opportunistic", in that it does not depend on the ideological preferences of policy-makers.

[2] Veiga and Veiga (2007) find that the political payoff to opportunistic spending before municipal elections increased after democracy became well-established in Portugal. Brender (2003) uses information on local elections in Israel to argue for an important connection between the level of voter information and their response to fiscal stimuli.

[3] Brazil has democratized in 1985 and has since experienced four gubernatorial democratic elections up to 2003. This condition qualifies Brazil as a new democracy according to the criteria of four democratic elections established by Brender and Drazen (2005a,b). One advantage of a sub-national analysis is that we can examine the choice of the deficit levels within the same national institutional and economic context. In addition, there is strong evidence that the governor's ability to manipulate fiscal policy is similar across all states. See Santos (2001).

0165-1765/$ – see front matter © 2008 Elsevier B.V. All rights reserved.
doi:10.1016/j.econlet.2008.11.030

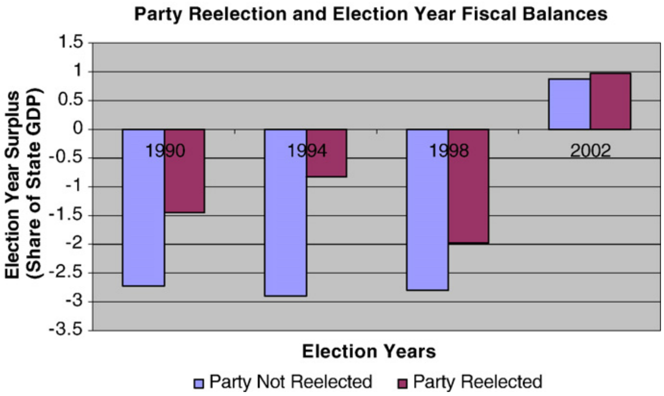

Fig. 1. Voters as fiscal conservatives. Fiscal policy in election years and re-election.

can abstain from expressing their electoral preferences. We rely on these unique country characteristics and find that while governing parties and coalitions that run larger deficits were not benefited at the polls through higher re-election probabilities. States with populations displaying a level of schooling higher than the states median level, fiscal profligacy was actually detrimental for re-election probabilities.

2. Evidence

Fig. 1 below shows the average deficits for re-elected party coalitions in Brazilian state elections, and compares them to their counterparts that are not re-elected.[4] In spite of large average deficits in the 1990, 1994 and 1998 elections, in states where governors ran lower deficits the chances of re-election seem higher, which constitutes *prima-facie* evidence that voters are "fiscal conservatives". In the last term, lasting from 1999 to 2002, states transformed an average deficit of 2.5% into an average surplus of around 1% of state GDP. This was the direct effect of a process of debt restructuring conducted by the federal government that severely hardened states budget constraints. Interestingly, the comparison between the 1990 and 2002 elections shows that the extreme overall fiscal tightening actually made the reelection probability of state governors increase from 26 to 44%, additional indirect evidence of fiscal conservativeness. In sum, the new institutional context of hard budget constraints at state level did not harm re-election probabilities in general, quite the opposite.

We use the average value of schooling years at state level to construct an indicator that proxies for voter's "sophistication": fewer years of education than the states median level we take to indicate a state where voters are relatively "naïve".[5] The idea is that less-educated, less sophisticated voters might be more vulnerable to fiscal profligacy and reward deficits at the ballot box. In Table 1 we interact the change in the fiscal surplus variable — both in the election year and in the remaining term — with the state-level indicator that take the value 1 if the state shows an average years of study lower than the country median.[6] Our results are clear: there is no evidence whatsoever that voters ever reward fiscal profligacy at the polls. An increase in the fiscal surplus, interacted with voter sophistication or not, is never associated with a negative and statistically significant coefficient. In sum, running up deficits do not pay politically. In addition, in states with relatively more "sophisticated" voters, an increase in the fiscal surplus does pay off electorally, and significantly so: an increase of 1% in the state budget surplus in percent of state GDP leads to an increase of about 5% in the chances of reelection. In "less sophisticated" states, the coefficient on the interacted fiscal surplus variable suggests that "naïve" voters do not punish surpluses and might also reward them.[7] In sum, the evidence favors the view that voters are fiscal conservative, and though there may be differences between "sophisticated" and "naïve" voters, neither rewards deficits at the polls.

Table 1
Reelection and fiscal policy in Brazil — "sophisticated" versus "unsophisticated" voters

Estimation method: PROBIT	Dependent variable		Governing party reelection	
Independent variables	[1]	[2]	[3]	[4]
Fiscal Surplus Election Year Change	1.19	1.41		
	(0.82)	(0.89)		
Fiscal Surplus Term Change (Excluded the Electoral Year)		1.01		
		(0.46)		
Fiscal Surplus Election Year Change*Schooling Years ABOVE Median			4.68**	5.15**
			(2.25)	(2.54)
Fiscal Surplus Election Year Change*Schooling Years BELOW Median			−3.27	−2.43
			(−1.29)	(−1.00)
Fiscal Surplus Term Change*Schooling Years ABOVE Median				2.59
				(0.69)
Fiscal Surplus Term Change*Schooling Years BELOW Median				0.22*
				(1.63)
Governor's Electoral Support	0.50	0.47	0.50	0.27
	(1.15)	(1.10)	(1.15)	(0.59)
Population Under 15	−0.72	−0.70	−1.65	−2.23*
	(−0.74)	(−0.72)	(−1.54)	(−1.88)
Fractionalization in State Legislature	−1.45**	−1.49**	−1.56**	−1.34**
	(−2.06)	(−2.15)	(−2.19)	(−1.94)
Governor and President in Same Party	0.51***	0.51***	0.56***	0.59***
	(3.67)	(3.62)	(3.75)	(3.77)
Average Constitutional Federal Grants	−0.02	−0.04	−0.04	0.01
	(−0.11)	(−0.21)	(−0.19)	(0.07)
Observations	101	101	101	101
Log *L*	−55.10	−54.99	−52.28	−50.96
Pseudo R^2	0.13	0.13	0.18	0.20
Observed *P*	0.32	0.32	0.32	0.32
Predicted *P*	0.31	0.31	0.30	0.29

Note: For each independent variable we report (dF/dx), i.e., the marginal change in the probability of success for the average values of the independent variables. In parentheses we report the *t*-statistics based on robust, heteroskedastic-consistent standard errors (Huber/White/Sandwich). * means significant at the 10% level and ** at the 5% level. The variables noted ABOVE MEDIAN and BELOW MEDIAN are indicator variables taking the value 1 whenever the value for the state and year observation is, respectively, above or below the median value in the sample. The median state's years of study is 5 years.

3. Conclusion

This paper tests whether voters in new democracies, in particular less "sophisticated" voters, reward deficits at the polls. We analyze an important case study, Brazil, by examining all elections for state governor since Brazil became a democracy in the late 1980s. We find no evidence whatsoever that voters, "sophisticated" or "naïve" reward deficits at the polls. Instead, re-elected parties ran lower deficits on average than parties that did not secure re-election. Following a severe process of debt restructuring after 1998, states quickly moved from deficit to surpluses and the result was that the overall probability of re-election increased significantly relative to the previous years, when deficits were the rule.

When we divide the sample of state-years into "high sophistication" and "low sophistication" state sub-samples, using average schooling years by state as a proxy for voter sophistication, we find

[4] Results for a multivariate probit estimation can be provided upon request.

[5] As reported below, we use also the percentage of population with 4 and 8 years of completed education as alternative proxies for voters sophistication. The elementary school (8 years) is the first stage education in Brazil like US and UK.

[6] State averages are defined for each state and year, while the median is computed across states and time.

[7] Our results using the state percentage of population with 4 or 8 completed years of education suggests the latter. These results are available upon request.

that states that ranked high in schooling years actually seem to reward fiscal surpluses, and significantly so. Our findings do not change the qualitative emphasis in Brender and Drazen (2005a), but suggest the promise of using proxies for voter sophistication, which should be refined, and of analyzing how a changing institutional environment affects perceptions of fiscal policy and voter behavior. Both avenues are worth exploring in the near future.

Appendix A. Data description

Fiscal Surplus is the difference between the primary revenue and the primary expenditure — excluding both finance revenue and finance expenditure — services. This variable is presented as a percentage of state GDP which is also taken from IPEA (Instituto de Pesquisas Economicas Aplicadas — www.ipeadata.gov.br). *Fiscal Surplus Election Year Change* is the change in the Fiscal Surplus in the election year compared to the previous year — 1990, 1994, 1998 and 2002. *Fiscal Surplus Term Change* is the Fiscal Surplus on third year compared to the Fiscal Surplus on the first year in the office.

Schooling Years is the number of years studied of people over 25 years old (Instituto de Pesquisas Economicas Aplicadas — www.ipeadata.gov.br). *Schooling Years Above the Median* takes the value 1 if the state has an average number of schooling years that is above the states median in the sample, and zero otherwise, a proxy for "sophisticated" voters. *Schooling Years Below the Median* is the alternate indicator, proxying for low voter "sophistication", and taking the value 1 when the state has an average number of schooling years is below the states median in the sample, zero otherwise.

Governor's Electoral Support is the percentage of total obtained by the present governor in the first round of the last election. Source: IUPERJ (www.iuperj.br).

Population Under 15 is the percentage of state population below fifteen years of age. Source: IPEADATA (Instituto de Pesquisas Economicas Aplicadas — www.ipeadata.gov.br).

Fractionalization in State Legislature is an index of fractionalization of the elected legislative coalition in the last election. One of the characteristics of government in Brazil is "governance by alliances", as explained Samuels, 2000, so that alliances are quite frequent and important for governability. Although the governor may have substantial power, she or he needs to secure state legislative support to govern. The fractionalization index is the Herfindhal index: $1-\sum_{k=1}^{K} p_k^2$ where p_k indicate the set of chairs occupied by each party elected to the legislative in the state. Source: IUPERJ (www.iuperj.br).

Governor and President in Same Party is a dummy variable with value 1 if the national president and the state governor belong to the same party, a situation which may facilitate reelection at state level considerably. Source: IUPERJ (www.iuperj.br).

Average Constitutional Federal Grants Constitutional is the arithmetic average of transfers from federal to state level defined by law according to the national Constitution. This variable is divided by the level of current state revenues. Data are taken from STN (Secretaria do Tesouro Nacional — www.fazenda.tesouro.gov.br).

Governing Party — a binary variable receiving the value 1 if the governing party is reelected and zero otherwise. We used party because it was not permitted personal reelection until 1997. The data are retrieved from Tribunal Superior Eleitoral (TSE — www.tse.gov.br).

Appendix B. Descriptive statistics

Full sample — 1990, 1994, 1998 and 2002 Elections

Variable	Observations	Mean	Std. Dev.	Minimum	Maximum
Fiscal Surplus Election Year Change	107	−0.017141	0.0320595	−0.1228791	0.1201396
Fiscal Surplus Term Change	107	0.0078902	0.0236852	−0.0476305	0.0930096
Schooling Years	107	5.132727	1.219835	2.55963	8.543317
Governor Electoral Support	105	0.5083619	0.1176803	0.222	0.81
Population Under 15	107	0.3448244	0.05484	0.2011052	0.4712528
Fractionalization	103	0.8713884	0.0711934	0.587	0.951
Governor and President in Same Party	108	0.1308411	0.3374615	0	1
Average Constitutional Federal Grants	108	0.4106996	0.2258696	0.07668096	0.906343
Governing Party	104	0.3269231	0.4713605	0	1

References

Alesina, Alberto, Perotti, Roberto, Tavares, José, 1998. The political economy of fiscal adjustments. Brookings Papers on Economic Activity 1, 1998.

Brender, Adi, 2003. The effect of fiscal performance in local government election results in Israel: 1989–1998. Journal of Public Economics 87, 2187–2205.

Brender, Adi, Drazen, A., 2005a. Political budget cycles in new versus established democracies. Journal of Monetary Economics 52, 1271–1295.

Brender, Adi, Drazen, A., 2005b. How do budget deficits and economic growth affect reelection prospects? Evidence from a large cross-section of countries. NBER Working Paper 11862. National Bureau of Economic Research, Cambridge, Massachusetts.

Nordhaus, William, 1975. The political business cycle. Review of Economic Studies 42 (2), 169–190.

Peltzman, Sam, 1992. Voters as fiscal conservatives. The Quarterly Journal of Economics CVII, 327–361.

Samuels, D., 2000. Concurrent elections, discordant results: presidentialism, federalism, and governance in Brazil. Comparative Politics 33 (1), 1–20.

Santos, Fabiano, ed. (2001), O Poder Legislativo nos Estados: Diversidade e Convergência. Rio de Janeiro, Ed. FGV.

Veiga, Linda, Veiga, F.J., 2007. Does opportunism pay off? Economics Letters 96, 177–182.