

Invalid Votes, Political Efficacy and Lack of Preferences in Brazilian Elections

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Abstract

This paper explores the causes of invalid voting in Brazilian elections. Given that invalid ballot rates tend to be higher where voting is compulsory, the correlates of invalid votes in those countries deserve attention. In this regard, Brazil provides an ideal case for analysing the issue. Brazil not only has the largest electorate of all democracies with compulsory voting laws, but it has also introduced electronic ballots, what has been responsible for a considerable decline in the invalid vote rates. Using data from ESEB, a public opinion survey on elections, we perform a series of logistic regressions to analyse the 2010 presidential, gubernatorial and parliamentary elections, and evaluate the impact of political disaffection and educational level on invalid voting behaviour. We also test a third explanation that so far has not received much attention of scholars: the sheer lack of preference over the running candidates, regardless of distrust levels. Our analyses find that both lack of preference and political efficacy have a significant impact on invalid voting at all government levels. Education is negatively correlated with invalid voting, but it is significant only for the presidential elections, a result that confirms the role of the complexity of Brazilian parliamentary elections on invalid voting. Low evaluation of institutions has an impact only over certain types of elections.

KEYWORDS: Elections, Invalid Votes, Opinion Survey, Political Behaviour, Brazil

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1 Introduction

Brazil is experiencing the longest democratic period in its history (Lamounier 2005, Luna & Klein 2014). Since 1989, Brazilian citizens have directly chosen their representatives in elections that have been widely recognised as free and fair by international standards (Hagopian 2005, Moisés 2005). At present, the country is the third largest democratic regime in the world and the largest with compulsory voting laws (Power 2009, Reid 2014).

Compulsory voting dramatically changes the utility function of the vote. Citizens who are indifferent to the outcomes of the elections still go to the polls in order to maintain a regular situation before the electoral laws. However, it is also common that such individual who decides to vote just to fulfil his legal duty does not intent to comply with his *civilian* duty, which is to elect the representatives that better reflect her preferences (Jackman 2001, McAllister & Makkai 1993).

Brazilian elections have seen a high rate of spoiled ballots, even when compared only with other compulsory voting countries. Nevertheless, there are important differences in the rates of invalid votes across election types in Brazil¹. Elections that are marked by a high degree of complexity, such as those for the lower chamber (with a very high number of candidates and a system of proportional, open-list representation (Figueiredo & Limongi 1999)), always yield more invalid votes than other sorts of selection methods² (Power & Roberts 1995). Complex elections might drive citizens into apathy, since the immediate benefits of voting cannot be intuitively understood, nor the final result fully comprehensible (Everson 1981). Thus, frustration may lead to invalid ballots.

One can also observe that the rate of invalid votes has changed considerably over time: in 1998, when the country introduced electronic ballots in the national elections, there was a substantial decrease in the invalid voting³. This variation is also of interest for researchers, and it adds to the importance of Brazil as a case study.

Thus far, the very few studies on invalid votes are mainly conducted at the aggregated level. Borba (2008), on the other hand, addresses this question at the individual level, but the author does not evaluate the role of the lack of preferences (which could be related to the electoral competition, a variable that can be seen in some macro-level studies) on invalid voting⁴.

The present article aims to investigate the following questions: 1) what are the reasons for casting invalid votes?; and 2) are there differences in the invalid vote behaviour among different types of elections? More specifically, we intend to test three hypotheses: H_1 :

¹In this article we employ the terms “invalid” and “spoiled” votes interchangeably. In Brazil, we have two types of invalid votes: *votos nulos* (“spoiled votes”) and *votos brancos* (“blank votes”). The consequences of both types of votes for the elections outcomes are the same, although the blank votes might be an expression of abstention or lack of preferences, while *votos nulos* suggest disaffection with the regime. However, here we follow previous studies (as well as the lack of disaggregated data to study the two types separately) while considering *votos brancos* and *votos nulos* as the same thing.

²For references on the complexity of elections and invalid votes in other countries, see, *inter alia*, McAllister & Makkai (1993).

³The electronic balloting system was first tested in some locations at the 1996 municipal elections, while in 1998 it became the norm for the entire country, with only some rare exceptions where logistic issues have made it unfeasible (Tribunal Superior Eleitoral 2013).

⁴This study also does not employ any sort of statistical analyses to simultaneously assess the impact of many different variables on invalid voting. For that reason, Da Silva (2013) clearly affirms that more sophisticated analyses, such as logistic regressions, are needed to confirm his findings.

political disaffection leads to invalid voting, since the voters do not want to support any of the candidates; H_2 : low educational level raises the probability of invalid voting, either because of mistakes in the ballot casting or because of the difficulty of choosing candidates due to lack of information and knowledge; and H_3 : the sheer lack of preferences about candidates, regardless of individual political distrust and low political information, raises the probability of invalid voting.

Before proceeding to the empirical analysis, we must expose the main theoretical debates regarding invalid votes around the world and in Brazil.

2 Theoretical Background

The majority of scholar explanations for invalid ballots revolve around two dimensions. There is the “protest vote”, fostered by political disaffection, and the “accidental spoiled votes”, which is caused by an individual’s lack of ability to cast the vote correctly (Damore et al. 2012, Driscoll & Nelson 2014, Hill & Young 2007, McAllister & Makkai 1993).

Other authors suggested a third explanation for invalid voting due to institutional features, namely the complexity of electoral systems. Hill & Young (2007) state that an interaction of the complexity of legislative elections with a lack of information and educational background is the main source for invalid votes in Australia. Similarly, Power & Roberts (1995) posit that the “[. . .] the unusual system of open-list proportional representation” is a major reason for spoiled votes in Brazil.

A different institutional factor is suggested by Ugglå (2008), which provides an empirical analysis of about 200 elections in Europe, the Americas, Australia and New Zealand. He finds out that invalid votes are negatively correlated to electoral competition, similarly to Aldashev & Mastrobuoni (2010) in their study of Italian elections. In the view of these experts, spoiled votes are a consequence of the voters’ lack of choices.

That explanation is related to the third individual-level hypothesis that we propose in the present article: the sheer lack of preferences over the available parties and candidates could explain some of the invalid votes. In other words, it means that some voters spoil their ballots not necessarily because they despise or distrust the political institutions, not even because they lack the information to decide between the candidates and vote correctly. Invalid voting might occur because citizens do not see their worldviews and interests represented by the running candidates. The nonexistence of clear preferences could be related to low levels of political knowledge, trust on institutions, interest, or knowledge, but the relationship cannot be taken for granted. In fact, the lack of preferences is not necessarily related even to the macro-level explanation based on low levels of political competition. Scholars as the above mentioned Ugglå (2008) and Aldashev & Mastrobuoni (2010) usually measure political competition through two indicators: effective number of parties and the distance between winner and other candidates. Having little competition in that sense is not the same thing as saying that there are no relevant differences between the candidates.

In contrast, McAllister & Makkai (1993) suggest an inverse correlation between number of parties/candidates and invalid votes: a high number of choices increases the cost of decision-making, and some voters prefer to spoil their ballots instead of performing such cost-benefit calculations. Although their findings fail to support that hypothesis in their own study, it seems an interesting hypothesis to explain the Brazilian case, since the

higher rates of invalid votes in this country happen mainly in elections with a strikingly high number of candidates.

We could think of other explanations for invalid votes if we come back to the political participation literature. In fact, casting an invalid ballot in a country with compulsory voting laws (CVL) might be due to similar reasons to non-voting in countries without CVL⁵.

In that sense, we could apply Downs (1957) famous theory to invalid votes: low levels of political knowledge could also cause voters to deliberately spoil their ballots cause for the same reasons that, according to Downs, less-informed voters abstain: they prefer to leave the decision to more informed citizens. If someone needs to attend the elections to maintain herself lawful under the electoral rules but do not feel informed about the political conjuncture in order to make a voting decision, she would cast an invalid vote.

We could also suggest a role for political efficacy on invalid votes. In effect, Borba (2008) finds a negative correlation between the subjective feeling of the efficacy of vote and invalid ballots in Brazil. If one believes that her vote does not change anything, but one is forced to vote under the laws, the citizen will just spoil the ballot. Following the same logic, political interest could also be related to invalid voting: if one does not care at all about politics and the elections, she will just cast a blank or null vote.

In Latin America, despite the high levels of spoiled ballots in some countries due to CVL, few scholars have addressed invalid votes. Epstein (2001) points to the waning on party identification as an important explanation for invalid ballots in Chilean elections, giving support for the "disaffection" hypothesis.

Power & Garand (2007) expands Power & Roberts's (1995) study in Brazil to 80 legislative elections in Latin America. The authors find that institutional, political and socioeconomic variables, all play a role in shaping the rates of invalid voting.

2.1 Invalid Votes in Brazil

In spite of the country's absence of a long democratic history, elections has been virtually uninterrupted in Brazil since the country proclaimed its independence from Portugal in 1822 (Nicolau 2002). The coexistence of elections with non-democratic regimes turns Brazil into a paradoxical case: on the one hand, there is indeed a voting tradition in the country, even with an expansion of suffrage that happened before some advanced democracies. On the other hand, electoral competition has often been limited throughout the country's history, whereas voting fraud and coercion of voters still happen in some regions in Brazil. That kind of behaviour dramatically influences the relationship of citizens with elections and political institutions.

One of the features that has accompanied Brazilian elections for the last decades is the relatively high rate of invalid votes. It has achieved a strikingly high figures in some elections, especially in complex contests such as the ones for the lower house of the National Congress (*Câmara dos Deputados*). Power & Roberts (1995) introduced the

⁵dos Santos (1987) even proposes that invalid votes and abstentions should be studied together, under the umbrella concept of "electoral alienation." However, we follow Nicolau (2002), who affirms that those two forms of electoral behaviour are inherently different and should be analysed as such. Spoiled ballots and abstentions may have the same *consequences* for the elections results, but they surely have different *causes*.

complexity of institutions as a main factor for spoiling ballots in the country, in their macro-level empirical analysis. In a similar vein, according [Moisés \(2011\)](#) the high levels of invalid votes in the country are due to the compulsoriness and low levels of education across the country.

Nevertheless, “protest voting” was very common during the authoritarian regime that ruled the country from 1964 to 1985 ([Skidmore 1988](#)). The bipartisanship imposed by this regime created a political culture of “plebiscitary voting”: those who supported the regime voted for ARENA (the party that represented the military), those who were opposed to it voted either for the MDB (the opposition party) or spoiled their votes [Moisés \(1990\)](#). Protest voting in Brazil was also seen as an expression of dissatisfaction with the institution of compulsory voting itself ([Moisés 2010](#)).

Elections for the *Câmara dos Deputados* (Chamber of Deputies, the lower house of the National Congress) have reached 30% of invalid ballots during this period. What is more, the trend remained and has even sharpened in the wake of the democratic regime: in 1990 and 1994 it reached 40% and 44%, respectively. As already mentioned, the complexity of the electoral system interacts with low levels of cognitive capacity and information to understand the system, resulting in a high number of spoiled ballots, many of them by accident ([Moisés 2010](#)).

However, as mentioned before, invalid votes have significantly decreased after the electronic ballots were introduced. The impact was stronger exactly in the elections with higher complexity and higher historical levels of invalid ballots: the legislative elections in the national ([Nicolau 2004](#)) and municipal levels ([Fleischer 2002](#)).

In that way, it is highly conceivable that after 1998 the invalid votes could be better explained by other factors, mainly the political culture: if the spoiled ballots by accident have diminished (the only plausible explanation for the impact of the *urna eletrônica* (electronic ballot box), since many ballots were spoiled before because the voter had not filled them correctly), the bulk of the remaining invalid votes are most probably a vote of protest; lack of political interest and/or lack of preferences over the candidates.

Additionally, it is worth to note that the growing disaffection of citizens with political institutions like Congress and political parties, a common trend in democratic regimes since the second half of the 20th century, is particularly acute in Brazil. The wave of protests that swept the country in 2013 had, in itself, a clear message of anger with politics in general but, most particularly, with political parties.

3 Research Design

3.1 Methods and Data

We employ data from ESEB (Brazilian Electoral Studies), a public opinion poll taken with 2000 people right after the major elections held in 2010, to perform a series of Bayesian logistic regressions in order to assess, at the individual level, the impact of education, political efficacy, political knowledge and lack of preferences on invalid voting behaviour.

Bayesian inference has several advantages over its more famous counterpart, frequentist inference. Not only Bayesian inference has an uncontested axiomatic foundation ([Cox 1946](#), [Savage 1954](#)), but also produces models “we can believe in” ([Kruschke 2010](#)). The Bayesian approach starts with *a priori* beliefs of the world – which can

either reflect previous knowledge or ignorance about the parameters (Koop et al. 2007, 79–91) – then updates those beliefs with information contained in the data and generates *a posteriori* densities for parameters of interest. The posterior density thus presents both the data and our uncertainty over the parameters, and as noted by Jackman (2009, 134) “anything we want to know about a random variable θ can be learned by sampling many times from $f(\theta)$, the density of θ ”. Since we will be sampling from a probability distribution, the parameters’ intervals have an intuitive interpretation: given the prior and the model, there is indeed a 95% chance of the true value being within that area of the posterior distribution (Chen & Shao 1999). This is much more useful for scholars than the frequentist confidence interval, which is the 0 or 1 probability that the true value θ is included in the interval, given that the *sample is repeated many times*. Frequentists know, on the one hand, that 95 out of 100 confidence intervals have the true value within them, but they *cannot* know, on the other hand, if the *specific sample* they have at hand contains the true value or not (Greenberg 2012, 31). As noted by Bolstad (2007, xxi) “Bayesian methods often outperform frequentist methods, even when judged by frequentist criteria” such as the interpretation of confidence intervals.

We decided to take a more sceptic stance in this paper and our choice of priors reflect our lack of certainty about the true values of the dependent variables employed in the models below. We have opted for normal distribution priors with an infinite number of degrees of freedom. The means of both the intercept and the coefficients were centred at zero, also reflecting our ignorance of the parameters’ true values. In order to test the robustness of our findings, we also estimated the models using the prior recommended by Gelman et al. (2008), a Cauchy distribution with with center 0, scale 2.5 and $df = 1$, which according to the authors “has the advantage of always giving answers, even when there is complete separation in logistic regression”. The results are virtually the same, so we decided the report only the first set of models.

All models were calculated with the R statistical language version 3.1.0 (R Core Team 2014), using the `arm` package version 1.7-03 (Gelman & Su 2014). The package was developed by Andrew Gelman and his colleagues and accompanies the *Data Analysis Using Regression and Multilevel/Hierarchical Models*, a widely-used statistics manual (Gelman & Hill 2006). The package makes it easy to incorporate different priors in regular models, and estimates several types of regression with an easy, convenient syntax. The data set and scripts used in this paper are available at <http://rpubs.com/danilofreire/invalidvotes>.

3.2 Variables

Our dependent variables are dichotomous, coded as $y = 0$ if the interviewee says she voted for a candidate or party and $y = 1$ if the person says it cast an invalid ballot in the following 2010 elections: President (1st round), President (2nd round), State Governor (1st round)⁶, Federal and State Deputies⁷. Abstentions were coded as missing. “Age-facultative” individuals, i.e., people for whom voting is voluntary because they are under 18 or above 70 years old, were also dropped out from the analysis. The

⁶Governor’s second round happens only in some states, since there are two-rounds only if the most voted candidate does not achieve more than 50%.

⁷The elections for Senator were not included since ESEB data set, for some reason, did not differentiate invalid votes from abstention.

relationship between CVL and invalid voting that underlies the present article would not be appropriately. Besides that, invalid votes among this population are very rare (in the ESEB sample only 1 person within these age ranges cast an invalid ballot on the Presidential elections first round, for example).

The independent variables are:

1. *Socio-economic resources:*

- `houseincome` (House income)
- `education` (Education level in 10 categories)

2. *Political culture:*

- `pref_cand` (*dummy* for the question: "Did any of the candidates/parties represented your view in the elections?")
- `pref_part` (*dummy* for the question: "Is there any political party that represents your views?")
- `govevaluation` (Evaluation of Federal Government – 6 levels)⁸
- `congressev` (Evaluation of National Congress – 6 levels)
- `partyeval` (Evaluation of political parties – 6 levels)
- `knowledge` (Index of political knowledge based on X questions)
- `efficacyvote` ("To what degree do you think voting influences what happens in Brazil?" – 5 levels)

Descriptive statistics can be seen in [Table 1](#) below.

⁸ESEB features *evaluation* of political institutions instead of *trust* in those institutions, like other public opinions usually do. Although these two concepts are different, they seem close enough to each other to make feasible the hypotheses tests that we propose here.

Table 1: Descriptive Statistics

Statistic	N	Mean	St. Dev.	Min	Max
inv_pres1	1,807	0.04	0.19	0	1
inv_pres2	1,775	0.05	0.22	0	1
inv_federal	1,184	0.22	0.42	0	1
inv_estadual	1,267	0.22	0.42	0	1
inv_gov	1,726	0.08	0.27	0	1
pref_cand	1,884	1.30	0.46	1	2
pref_part	1,908	1.52	0.50	1	2
inv_gov2	235	0.06	0.24	0	1
houseincome	1,770	713.35	751.27	24.00	10,201.00
male	1,922	0.48	0.50	0	1
efficacygov	1,898	4.34	1.16	1	5
efficacyvote	1,910	4.39	1.15	1	5
congressev	1,741	3.19	1.50	1	6
wouldvote	1,813	1.48	0.50	1	2
right	1,063	6.31	3.19	0	10
partyeval	1,787	3.21	1.42	1	6
knowledge	1,904	5.59	3.14	0	17
interest	1,908	2.43	0.85	1	4
education	1,922	5.13	2.25	1	10
age	1,922	39.73	14.36	18	70
govevaluation	1,860	4.17	1.28	1	6

3.3 Main Hypotheses

In this paper we test the following hypotheses:

H₁: political disaffection leads to invalid voting, since the voters do not want to support any of the candidates;

As previously mentioned, Brazilian levels of political trust are relatively low even though they have decreased for most countries lately. Therefore, one can suppose that dissatisfaction with political institutions would be a major reason for spoiling ballots.

H₂: socioeconomic variables are unrelated to invalid voting after the electronic system was introduced;

H_{2a}: low educational level raises the probability of either because of mistakes in the ballot casting or because of the difficulty of choosing candidates due to lack of information and knowledge.

Although we sustain that socioeconomic resources should have low explanatory power over invalid ballots after the introduction of the *urna eletrônica*, it is still possible that socioeconomic resources are correlated with invalid votes. Voters can still make mistakes

at the poll that lead them to spoil their ballots by accident even after the electronic system, and those accidental votes are more usual among people with low education levels. Moreover, as we already mentioned, low education might explain not only unintentional spoiling, but also the "abstention behaviour" of voters that just do not know for whom to vote and prefer to leave the decision for the more informed. Thus, we expect either a *negative correlation* or *no correlation* of education and income with invalid votes.

H₃: the sheer lack of preferences over the candidates, despite of political distrust and low political information levels raises the probability of invalid voting.

People can be interested, informed, and even hopeful about politics, but they might not have a clear preference over the candidates. This trend might have macro-level causes: for instance, as [McAllister & Makkai \(1993\)](#) suggest, a high number of candidates could result in indecision of voters and, consequently, spoiled ballots. On the other hand, low levels of political competition also might increase invalid voting, as [Uggla \(2008\)](#) and [Aldashev & Mastrobuoni \(2010\)](#) have shown.

We try to adress that issue at the individual level. More precisely, we seek a correlation between invalid votes and the citizens' own statements about their preference over the candidates and parties.

4 Analysis

We first ran the core models with all the dependent variables and party evaluation as the independent variable to assess the impact of political disaffection on invalid voting ([Table 2](#)). In [Table 3](#) we ran another set of models with *preference* as an independent variable, using *candidate preference* for the contests where it was available (Presidential elections) and *party preference* in the other cases. [Table 4](#) features independent variables for institutional evaluation that are more directly related to each contest: federal government evaluation (for presidential elections), and National Congress (for federal deputies). We present the means and standard deviations of the posterior distributions below. They are equivalent to the expected values of the coefficients and the standard error in the frequentist framework. Thus, the mean \pm 1.96 standard deviation corresponds to the 95% confidence interval in frequentist statistics.

Table 2: Logistic Estimations for Invalid Voting

	<i>Dependent variable:</i>				
	inv_pres1	inv_pres2	inv_gov	inv_federal	inv_estadual
	(1)	(2)	(3)	(4)	(5)
houseincome	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
education	0.22 (0.07)	0.24 (0.06)	0.05 (0.05)	-0.01 (0.04)	0.00 (0.04)
efficacyvote	-0.25 (0.10)	-0.21 (0.08)	-0.05 (0.08)	-0.06 (0.07)	-0.07 (0.06)
partyeval	-0.26 (0.10)	-0.19 (0.08)	-0.30 (0.07)	-0.36 (0.06)	-0.25 (0.05)
knowledge	-0.32 (0.07)	-0.11 (0.04)	-0.22 (0.04)	-0.16 (0.03)	-0.15 (0.03)
constant	-1.42 (0.64)	-2.19 (0.56)	-0.48 (0.49)	0.88 (0.41)	0.45 (0.38)
Observations	1,520	1,496	1,461	1,079	1,085
Residual Deviance	414.9	585.1	745.9	998.1	1,083.6
Null Deviance	104.6	149.5	226.2	441.4	470.4

Table 2 shows that *education* has a positive effect for presidential vote, being more than two standard deviations from zero. However, for other dependent variables the effect of education is not so clear and the parameter fails to achieve standard levels of significance. As for *efficacyvote*, the variable has a negative impact on invalid voting for president, but its effects are not distinguishable from zero in the last three models. Conversely, *partyeval* and *knowledge* have a consistent, negative effect on all dependent variables. The effect of these last two variables are also considerably larger than the first ones, thus suggesting that they are relevant factors to understand the incidence of invalid votes.

Table 3: Logistic Estimations for Invalid Voting

	<i>Dependent variable:</i>				
	inv_pres1	inv_pres2	inv_gov	inv_federal	inv_estadual
	(1)	(2)	(3)	(4)	(5)
houseincome	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
education	0.20 (0.08)	0.22 (0.06)	0.05 (0.05)	0.01 (0.04)	0.003 (0.04)
efficacyvote	-0.27 (0.10)	-0.20 (0.09)	-0.04 (0.08)	-0.05 (0.07)	-0.06 (0.06)
partyeval	-0.21 (0.11)	-0.18 (0.09)	-0.26 (0.07)	-0.33 (0.06)	-0.23 (0.05)
knowledge	-0.26 (0.07)	-0.07 (0.04)	-0.20 (0.04)	-0.15 (0.03)	-0.14 (0.03)
pref_cand	1.50 (0.32)	0.70 (0.25)			
pref_part			0.75 (0.22)	0.57 (0.16)	0.45 (0.16)
constant	-3.94 (0.90)	-3.32 (0.71)	-1.92 (0.66)	-0.24 (0.52)	-0.39 (0.49)
Observations	1,489	1,465	1,454	1,018	1,082
Residual Deviance	364.5	553.2	732.6	982.3	1,070.2
Null Deviance	102.3	143.2	229.3	437.8	467.3

In [Table 3](#) we present a series of regression models with a variable measuring political preferences (*pref_part*). As in [Table 2](#), *education* correlates positively to the dependent variables, but the effect is statistically different from zero only for the invalid votes for president, what is also the case for *efficacyvote*. *Partyeval* is statistically different from zero in all estimations above, and once again is one of the most robust predictors of our models. Our two variables for political preferences have a positive impact on invalid voting: whereas *pref_cand* affects the likelihood of invalid voting for president, *pref_part* has a similar behaviour on the other elections. Their posterior means are also more than two standard deviations from zero.

Table 4: Logistic Estimations for Invalid Voting

	<i>Dependent variable:</i>		
	inv_pres1	inv_pres2	inv_federal
	(1)	(2)	(3)
houseincome	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
education	0.24 (0.07)	0.23 (0.06)	-0.02 (0.04)
efficacyvote	-0.30 (0.10)	-0.24 (0.09)	-0.08 (0.07)
govevaluation	-0.36 (0.10)	-0.29 (0.08)	
congressev			-0.33 (0.06)
knowledge	-0.27 (0.06)	-0.07 (0.04)	-0.16 (0.03)
pref_part	1.18 (0.36)		0.56 (0.17)
pref_cand		0.67 (0.24)	
constant	-2.91 (0.98)	-2.61 (0.75)	0.05 (0.53)
Observations	1,575	1,526	991
Residual Deviance	395.6	559.9	955.3
Null Deviance	110.4	150.0	427.4

Table 4 presents our last series of models. Once again, *education* is positively associated with the invalid voting for president, as is *govevaluation*. When taking a looser confidence interval (close to .1), *knowledge* appears to be different from zero in all models, as are the other two variables for political preferences.

What can we say about the models taken together? Evaluation of institutions (be it political parties, Executive or Legislative Branches) have a negative correlation different from zero with invalid votes in all models, what lends support to H_1 . Political disaffection

has become a common feeling among Brazilians, and it seems that this anger is being expressed mainly through spoiled ballots.

Political knowledge also presents a negative correlation in all models. Since we lack a proper measure of political interest, that might reflect a negative correlation between interest and invalid voting. Moreover, in these models the coefficient for knowledge was still statistically different than zero, suggesting that the importance of information for casting a valid ballot goes beyond the interest in politics.

What would be the role of *education* then? Surely, that is the most surprising result of our regression models. Education showed a *positive correlation* with means that are statistically different than zero in some models, mainly the ones for presidential elections. There seem to be only two possible explanations for that: either those results were achieved at random, or the act of spoiling the ballot is becoming more and more a behaviour of “critical citizens” than anything else. However, we would expect a critical citizen to know a little bit more about politics. Maybe there are two different types of invalid voters, one with this critical, politically disaffected profile; the other more alienated and misinformed about politics. Our research design does not allow us to draw conclusions about that, but the correlation between political knowledge and disaffection amongst voters who have spoiled their ballots is, indeed, close to zero (-0.05 and 0.06 for party evaluation and government evaluation amongst people who spoiled the vote in the first round of presidential elections).

Whatever is the actual relationship between education and invalid voting, the fact is that we cannot reject either H_2 or H_{2a} based upon our results. Nevertheless, it seems that political alienation is more the case than accidental votes here (since the latter is known to be highly related to low levels of formal education). Future investigations on that issue could confirm that ⁹.

Political efficacy also showed a correlation in the expected direction (statistically different from zero only for presidential elections), giving strenght to the idea that some voters spoil their ballots because they do not care about the results of elections.

Both *party preference* and *candidate preference* (where such data were available) presented a relevant correlation with invalid voting, lending support to H_3 . Lack of specific data on preference over candidates for other than presidential elections disallow us to make stronger statements about that issue, but the results were robust along many different specifications. Nevertheless, party preference is known to be highly correlated with the formation of a preference over the candidates, according to many previous studies, suggesting that, even if it is not the main variable to test here, it is a good proxy.

Further studies are also needed in order to explore the relationships of this micro-level tendency with macro-level propositions. Nevertheless, our findings suggest that hesitation and indifference over the candidates play a role in spoiled ballots regardless of political disaffection, alienation or anything else.

⁹The authors thank Jairo Nicolau for having suggested experiments with ballot boxes as a way to confirm that accidental spoiling in Brazil is not a common phenomena in the electronic ballot system

5 Discussion

The results of our analyses show that political knowledge and evaluation of political institutions are powerful predictors of invalid voting. Since we failed to find a negative correlation between education and invalid votes, the profile of the “spoiler voter” that we drafted here is that of someone who holds a negative view of political institutions and/or does not care about politics and elections.

If we reflect upon the combined role of political efficacy and low evaluation of institutions, the models suggest that invalid votes may be an effect of voters’ perceived distance to the public sphere and their disenchantment with political institutions. This widespread feeling surely has structural, macro-level roots, which go beyond the sheer number of candidates or distance between winner and losers (the two main indicators that scholars often use in order to account for electoral competition). In effect, [Moisés \(2011\)](#) goes against the positive view on the high concentration of powers on the Executive branch that has stabilised in the 1990’s among Brazilian political science, especially after [Limongi & Figueiredo’s 1998](#) seminal text. To [Moisés](#), the Brazilian coalition presidentialism’s reliance on presidential powers to govern weakens legislative opposition and it is one of the reasons for the growing unpopularity of the Congress.

Without the intention of getting into that complex discussion, it is worth to note here that in the Brazilian case the effective number of parties is far from adequate to measure electoral competition. It can be well that, as our third hypothesis suggests, some voters spoil their ballots because they can barely identify the differences between candidates/parties, not necessarily because they have low information, but because such differences are not clear. It is not easy for voters to identify the positions of so many candidates and parties in a country marked by electoral volatility¹⁰. However, disaffection towards institutions, elections and even CVL themselves seem to play an important role here.

To sum up, if at the one hand spoiled ballots in contemporary Brazil are an act of *critical citizens*, on the other, they might be a consequence of alienation and political “cynicism”. Political efficacy is related to both types of invalid votes, as a consequence of disaffection and a cause of alienation. Positive coefficients for education suggest that the negative correlation between knowledge and invalid votes is a matter of absence of interest more than socioeconomic limitations.

Future research could address some questions raised here, like the the vanishing of accidental ballot spoiling or other issues that go beyond invalid votes, like the relationship of macro-level factors (electoral competition, electoral system complexity, etc.) with party and candidate preference, political alienation, and disaffection. Nevertheless, the present article attempted to draw some conclusions about invalid votes and, more broadly, the behaviour of citizens under compulsory voting and persisting dissatisfaction with political institutions.

¹⁰Although many authors believe that volatility is vanishing, [Kinzo \(2006\)](#) affirms that Brazilian party-system is unstable and parties fail to provide a “brand” for voters

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