

Electoral systems and economic incentives to corruption: the case of Brazil

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Abstract: The article sustains that Brazilian electoral system of elections to the Chamber of Deputies is an inefficient institutional arrangement, since its high costs embody strong incentives to corruption without any guarantee of promoting better representation. Firstly, the characteristics of Brazilian electoral systems are described in comparison to alternative electoral systems emphasizing the extreme personalization of political campaigns combined with the large size of districts. Subsequently, a mathematical model is developed to compare the costs of different electoral systems. Finally, a discussion about the links between high campaign costs and incentives to corruption is presented.

Resumo: O artigo sustenta que o sistema eleitoral brasileiro para a Câmara de Deputados é um arranjo institucional ineficiente, uma vez que os altos custos implícitos no sistema incorporam fortes incentivos à corrupção, não havendo nenhuma garantia de que promova uma melhor representação. Primeiramente, são descritas as características do sistema brasileiro em comparação aos sistemas alternativos enfatizando a extrema personalização das campanhas eleitorais, associada ao tamanho grande dos distritos. Subseqüentemente, desenvolve-se um modelo matemático como um dispositivo para comparar os custos dos diferentes sistemas eleitorais. Finalmente, apresenta-se uma discussão sobre as ligações entre altos custos eleitorais e incentivos à corrupção.

Key Words: social choice; elections; electoral systems; corruption; Brazilian politics; comparative politics; costs of electoral systems.

Palavras chave: escolha coletiva; eleições; sistemas eleitorais; corrupção; política brasileira; política comparada; custos de sistemas eleitorais.

1. Introduction

During 2005 Brazil suffered with a huge political crisis that started-up after a scandal concerning illegal campaign financing and bribery. This article main goal is to deal theoretically with two features of the Brazilian political system that arise from this political crisis as important matters. The first feature regards the campaign costs. We believe that very huge campaign costs create economic incentives for corruption related to campaign financing; our hypothesis is that the Brazilian electoral system to parliamentary elections (except in the case of the Senate), based on proportional representation and open lists (PROL), presents very high campaign costs, and therefore create strong incentives to corruption. Empirical comparative studies support our hypothesis for the Brazilian case (Chang & Golden, forthcoming). The second feature concerns the possible advantages that such a system – despite its undesirable consequences in what regards corruption – could provide in what respects a possible enhancement of political representation, accountability and governability. Our hypothesis is that the Brazilian electoral system constitutes an inefficient institutional arrangement, since its huge electoral costs are not compensated by more effective governments, better political representation or enhanced accountability.

In the second section of this article we analyze the Brazilian electoral system (PROL) and describe its main characteristics opposing it to the other pure systems: simple majority uninominal districts system (SMUD), or the “closed list” proportional representation (PRCL). In the third section we discuss a theoretical model in order to formalize the comparison of costs between the three systems and show that the PROL system is more expensive than alternative ones. In the fourth section we will show why the huge costs associated to this system represent strong incentives to corruption.

2. The Brazilian electoral system: all against all

The Brazilian proportional open-list electoral system promotes a considerable rising of campaign costs and low barriers to corruption. It is due to four causes: (i) the extreme campaign individualization; (ii) the existence of a rule authorizing parties to

present 1,5 times more candidates than seats in dispute and to coalitions to present 2 times more candidates (iii) a geographically very large and widespread district and (iv) the high costs of official supervision of campaign expenditures and the reduced probability of being punished.

(i) Extreme individualization. As extreme individualization we mean the fact that a candidate for a legislature who runs in a proportional open-list system (in Brazil it applies for candidates running for the House of Representatives, State Assemblies and Municipal Councils) has to struggle not only against his or her party's adversaries, but also against all his or her co-partisans. Of course, since the Brazilian system is a variety of Proportional Representation (PR), the candidate depends upon his or her party aggregate performance, but his or her own performance is even more important – since it is fundamental for the candidate to be among those who occupy the top of the rank in the party list, if he or she intends to win a seat. However, differently from the more common PR “closed-list” systems, the Brazilian open-list system promotes the ranking not before, but *as a result* of the election, because voters can choose the candidate they prefer among list members. Such a rule compels candidates not only to have well-framed electoral strategy in what respects their territorial and/or corporative features, but also a lot of money. Since the problem of high campaign costs derives from the extreme individualization of campaigns, campaign costs are tremendous, primarily, for the candidates. There are two overlapped disputes: one, between different party lists; another, between candidates inside party lists.¹ As Samuels (forthcoming) states:

“Candidates must compete for votes against their list-mates – as well as opposing parties’ candidates – and cannot appeal to voters solely on a partisan (i.e. programmatic) basis. Instead, to win votes they must build up a “personal vote” base. This requires raising and spending money on favors, gifts, or other particularistic goods. Because of this need, electoral systems like Brazil’s promote relatively high individual campaign spending, and as the degree of competition in such systems increases, so does the level of spending”

¹ Considering the very different scales of intra-party and general elections disputes, the costs of intra-party campaigns tend to be considerably lower than the general races. However, even in the intra-party races money matters – and frequently for illicit practices. The Lula’s government corruption crisis coincided with PT’s internal elections. These were direct elections for important offices in the party organization – included the party’s presidency. There were lots of accusations of illicit practices, such as “electoral shuttles”, gathering electors to vote in a specific candidate or faction.

Candidates fight fiercely to reach a good individual score. Parties, at least, can benefit from that, because candidates seek for money in order to obtain a good score and their aggregate individual scores provide the whole party score². Parties' collective job is to minimally organize the running for office for all their candidates – except when the party has favorite candidates for any reason. Minor parties, for example, can concentrate their efforts in a specific candidate in order to elect at least its favorite candidate; it is particularly important for small parties in coalition with larger parties; in this case the small party acts like a remora under a shark³, earning the benefits of being part of a coalition that is, itself, moved forward by the larger party's votes. Either larger or small parties can concentrate their campaign efforts in very known or popular candidates, who help to increase party's votes and to elect other candidates (the so-called vote-pullers, or *puxadores de votos*)⁴.

(ii) More candidates than seats per party's list. The system not only allows the voters to rank the party's list of candidates, but increase the intra-party competitiveness authorizing parties to present more candidates than seats in dispute. For the party (and for the candidates) it is rational to present a complete list because the number of seats of a party or a coalition depends on the total votes of all his or her candidates plus the "label-votes", or *votos de legenda*. More candidates, in a high individualized campaign mean, to the party or coalition, the possibility of being well-voted in more towns, professional categories or social sectors. Of course, this is not an intrinsic characteristic of a PROL system. It is possible to imagine a PROL system without this rule. But, otherwise, the existence of a PROL system is a condition to this rule. A list with more candidates than seats in a PRCL systems would be a non-sense rule and in a SMUD a irrational strategy.

(iii) Large electoral districts. Candidates run for office in very large territorial spaces. If they run for the House or for State Assemblies, their district is the whole

² In addition to the aggregate of individual scores, the parties also receive the so-called "label-votes" (*votos de legenda*), that is, votes given only to the party label. The sum of both the aggregate of individual votes and the label-votes compound the total party amount.

³ The remora (also know as shark sucker, or suckfish) is a fish that attach itself to the bottom of large fishes in order to avoid swimming by its own forces and, mainly, to eat remainders of food felt from the larger fish's mouth.

⁴ Such a strategy was followed by so diverse parties as PT and PRONA in the Brazilian elections of 2002 in the State of São Paulo. PT concentrated its efforts in José Dirceu, then the party's president; PRONA, a very small party, concentrated its efforts in Enéas Carneiro, a former jester and histrionic presidential candidate. Enéas received more than 1,500,000 votes as a candidate for the House, the Brazilian historical record. Due to such a cyclopean score, PRONA elected other five representatives (and could elect other six, but they presented only six candidates at all – including Enéas).

state; if they run for Municipal Councils, their district is the entire municipality. Such a large space increases significantly the campaign logistical costs, despite the fact that many candidates try to concentrate their campaign efforts in more restrict areas – e.g., in the case of candidates for the House or State Assemblies, it is normal to concentrate efforts in one particular municipality, a set of them, or even parts of very big cities; other candidates prefer (or have to) concentrate their efforts in certain economic or religious sectors (cf. AMES, 1995; SAMUELS, 2001). A necessary caution is to avoid competing in areas already occupied; firstly, because it reduces the chances of being elected (AMES, 1995); secondly, because if the opponent is a co-partisan, such a behavior might cause acute intra-party conflicts.

Here we refer to large districts regarding their territorial size. However, a more commonly raised issue is the district's size concerning the number of candidates. Of course, it also increases the costs of running for office, since it increases the competition. Chang and Golden (forthcoming) show that the levels of corruption increase as the district magnitude (measured in number of competitors) increases in open-list systems. We believe that such a feature is related to our first point above, **extreme individualization** and can be explained in those terms.

(iv) High supervision costs and low probability of being punished. The open list also considerably increases the supervision costs of campaign expenditures for electoral authorities. Candidates multiply and each of them set up a discrete electoral committee, what involves the whole structure of such organization: administrative staff, electoral workers, campaign financing etc. To supervise such a bushel of electoral committees is a Herculean task for the electoral justice, what makes its job much less efficient and effective – and enlarges the opportunities for illegal but electorally rewarding practices. Additionally to several candidates' committees there are parties' committees; eventually, in several cases it becomes difficult to determine whether the party or the candidate is responsible for the expenses. According to Jairo Nicolau (2005a: 22; translation and brackets are ours):

“We combine large electoral districts, a large number of candidates and parties. In the last election for federal deputies, 702 candidates ran in São Paulo [70 seats] and 560 in Rio de Janeiro [46 seats]. Even in a small state like Alagoas, 75 candidates ran [9 seats]. It is almost impossible to examine cautiously accounts of so many candidates.

“To summarize: there is not empirical or logical association between open list and corruption, but the control of campaign spending is more difficult in proportional systems with preferable vote. Such a trend would be aggravated in Brazil, due to the large number of candidates who run in elections”.

Of course, we do not agree that “there is not empirical or logical association between open list and corruption”, since we make an attempt here to show that open list structurally favors corruption, and Chang and Golden (forthcoming) empirically demonstrated that countries with open-list systems present higher levels of corruption. However, we agree with Nicolau in what respects the other issues that he stresses above.

PR Closed List. In the PR closed list system we can devise important differences in comparison to the Brazilian one:

(i) No individualism. Instead of an extreme individualism, we face no individualism at all. The campaign is conducted mainly on partisan lines, since it is necessary to campaign for the party label, not for particular candidates. Even if we concede that personalistic campaigns are possible – e.g., promoting the name of the first candidate who appears on the list – what remains is that the whole campaign appeals for a single vote, given to a single list of candidates; we do not face several discrete campaigns for individual candidates anymore⁵.

However, Chang and Golden (forthcoming) observe that in the countries which adopt the closed-list proportional representation system, corruption increases as the magnitude of the electoral districts decreases, and below the size of 15 it is higher in closed-list systems than it is in open-list systems. They suggest that it occurs because in small districts, the reputation of individual candidates is more significant as an electoral resource for the party.

⁵ Note that “individualism” is different from “personalism”. A campaign can be personalistic without being individualistic in the sense discussed here. As individualism we mean a campaign structure in which there is a particular campaign for each candidate of the party list. Of course, each of these individual campaigns probably is personalistic, but the opposite is not true. In the aforementioned case of Enéas Carneiro, the campaign was very personalistic, but since he was a cyclopean vote-puller, it would be possible to make the very same campaign, based on his personality, if he was the first name to appear in an ordered and closed party list. Either the electoral outcomes would be the same – i.e. “his” votes would elect other people.

“Where district magnitude is small, however, the party has an incentive to select candidates who already have distinct individual political profiles, because doing so will advantage these candidates against those associated with other parties. Hence, Shugart and Carey hypothesize that individual reputation becomes more important as district magnitude falls in closed-list settings.”

But we can also suggest that the individual candidates have incentives to help financing the party’s campaign, since their individual effort can make a difference to reach the collective goal. It is the olsonian problem of individually providing the public good in small groups (Olson, 1971). That is, the incentives for individual corruption are higher in small districts with closed-list systems because its also higher the likelihood for an individual candidate in the list of being benefited for providing a larger share of the partisan financial resources needed for campaign.

(ii) Large electoral districts, scale gains. District’s size does not change if closed list system is adopted; however, whereas in the Brazilian system large districts are a challenge for individual candidates, in the PRCL system they are a challenge for parties. Since parties make their campaigns for the entire list of candidates, there are scale gains that reduce the aggregate campaign costs. For this reason, we can establish that in PRCL, *ceteris paribus*, campaigns are costless than they are in open list systems.

(iii) Lower supervision costs. The third difference regards supervision costs. They are high in PROL because electoral authorities must supervise a bushel of individual campaign expenses, in addition to supervising parties’ expenses. In the case of PRCL it is necessary to supervise only party campaigns. Again, PR closed lists systems are costless than the Brazilian system. In this case such a difference affects not the candidates want for money, but the probability of illicit practices being discovered and, consequently, punished; i.e., if the two other features affected the necessity for money, this feature affects the risks of seeking for illegal money.

Simple Majority Uninominal District (SMUD).

(i) Constrained individualism. In the SMUD, individual candidates of each party run for office in single-member electoral districts. Since each party runs in each district with only one candidate, competition among individuals equals competition

among political parties. Hence, the extreme individualism characteristic of the Brazilian system does not occur. Instead of a system in which everybody competes against everybody, in the SMUD each candidate only runs against its party's adversaries. It reduces the systems' general competitiveness level, but also – as a consequence – reduces the potential campaign costs.

However, whereas in the PRCL competition among parties occurs in the general level, gathering all candidates in only one competition, in the SMUD the competition replicates in every district. Hence, the “wholesale” scale gains provided by PRCL are not available in the SMUD system. Therefore, *ceteris paribus*, in what refers the level of individual competitiveness, although costs of SMUD are lower than costs of PROL, they are higher than costs of PRCL.

(ii) Small districts. A clear gain of SMUD compared to the Brazilian system is regarded to the size of districts. Small districts, fractions of states or municipalities, substitute for the large ones – that is, the whole states or municipalities. Consequently, each candidate must campaign only inside the well-defined boundaries of his or her own district, what represents a considerable reduction of all logistical costs. The aggregate party expenditures corresponds to the sum of each district committee spending, plus some overall – but marginal – expenditures in which the party incurs to coordinate the entire state campaign.

(iii) Medium supervision costs. The last comparison refers to the difference of supervision costs between the three systems. The more complex scenario of elections, in which many individual candidates run, makes the SMUD supervision costs higher than they are in PRCL. However, since each individual candidate runs inside the boundaries of well-defined districts, the supervision job is easier than it would be in a system in which many candidates can campaign everywhere in a large territory – like in the PROL. Whereas in SMUD supervision can concentrate attention to discrete districts, and abnormal happenings are more easily identifiable; in PROL supervision has to seek candidates throughout the whole territory of a much larger district in an attempt to identify somewhere if there are evidences that their campaign expenditures do not correspond to their official accounts; this is an almost unbearable task. Summarizing, we can say that, *ceteris paribus*, supervision costs in SMUD are much lower than they are in PROL, although they are a little higher than they are in PRCL.

3. A simple model to compare electoral systems costs

The objective of this section is to compare costs in alternative electoral systems both to the government (that organizes the elections) and to the parties and individual candidates. Of course, this comparison only makes sense upon an analytical and non-distortional basis. Any systems could be worse in terms of costs or quality of representation in the presence of distortional rules. For instance, a SMUD system could be designed to favor some party, establishing many small districts in the regions of the country where this party is well-voted and few big districts where the competitors parties traditionally obtain good performance or, as another example, a PR system could present barrier clauses or cottas pre-assigned to some region or ethnical or religious groups and this barrier or cottas could underestimate or super-estimate the proportion of this groups in the total population.

We could suppose that some country will decide which system is better and so the costs of the systems to the government and to the candidates are considered relevant characteristics in themselves, firstly because it is better to provide public goods at lower prices and secondly because there are links between high costs of campaign financing and incentives to corruption. In the parliament of this hypothetical country there will be N seats. In a SMUD system we assume that the country would design N equal districts. If we normalize the size of this equal districts to one, we can considerer that in a PR system, the size of the unique district is N .

The total costs of a political campaign to legislative houses can be divided in two parts: the costs to be supported by the lists and candidates and costs to be supported by the government in order to provide the electoral process and its supervision as a public good. Equation 1 expresses this fact:

$$T = C + G \quad (1)$$

Where:

T = total costs of a electoral process

C = aggregated cost of an election supported by lists or candidates and their contributors (including an eventual public campaign finance fund)

G = total costs supported by the government

Obviously the aggregate cost supported by lists and candidates should be the summation of all costs incurred by any lists or candidates competing in the election. The first problem to model a device to compare the systems is that the relevant agent is different in each system. In a PRCL, the relevant agent is the party. More specifically, the national direction of the party or some special designed committee is who organizes the finance activity and prepares legal demonstrations to the national electoral authority. We can say that, in a PRCL systems, if there are L parties:

$$C = \sum_{l=1}^L C_l \quad (2)$$

Where:

C_l = cost of the national campaign of party l in a PRCL system

In the case of the PROL systems, the relevant unit is the candidate. He needs his own financial committee and has to present his own balance of campaign funds. If there are K candidates, the aggregate cost is:

$$C = \sum_{k=1}^K c_k \quad (3)$$

Where:

c_k = cost of the national campaign to the candidate k in PROL

Finally, in the case of SMUD systems (supposing that each party indicates only one candidate to the unique seat in dispute), candidates and local parties committee are co-responsible at least at some level both in practical and in legal terms. The aggregate cost is:

$$C = \sum_{n=1}^N \sum_{l=1}^L c_{nl} \quad (4)$$

Where:

c_{nl} = cost of a campaign in the district n by the party l in a SMUD system

According to the literature, we suppose that two factors affect these costs: (i) the size of district, (ii) the competitiveness or, in formal terms:

$$\begin{aligned} C &= f(s, p) & \frac{\partial C}{\partial s} &> 0 \\ & & \frac{\partial C}{\partial p} &> 0 \end{aligned} \quad (5)$$

Where

s = size of district

p = level of competitiveness.

Costs in the simple majority uninominal district (SMUD) system

In a SMUD system let us assume for simplicity that all parties present candidates in all districts. In consequence, the total number of candidates is N times L . The cost of an individual campaign is a function of the competition level between parties p . Formally:

$$\begin{aligned} C_{SMUD} &= \sum_{n=1}^N \sum_{l=1}^L c_{nl}(1, p) \\ s &= 1 \end{aligned} \quad (6)$$

The total cost for the party l across the whole country is $\sum_{n=1}^N c_{nl}$ and the cost of all parties in the district 1 is expressed by $\sum_{l=1}^L c_{1l}$. If, we assume additionally, for simplicity, that all relevant candidates are equal and have the same cost \bar{c} and all non relevant parties can be ignored, then, the total cost of the campaign will be:

$$C_{SMUD} = NL\bar{c}(1, p) \quad (7)$$

The total cost for each party is $N\bar{c}(1, p)$ and the cost in each district is $L\bar{c}(1, p)$.

Costs in the proportional representation with closed list (PRLC) system

In this case, the total cost is the sum of the expenses of all lists (parties or coalitions) in the unique big district that is the country. The size of this district is N . Formally:

$$C_{PRCL} = \sum_{l=1}^L C_l(N, p) \quad (8)$$

Let's also suppose that all relevant lists are equal and have the same cost \bar{C} and ignore the non relevant ones. Consequently, we can express the total cost as:

$$C_{PRCL} = L\bar{C}(N, p) \quad (9)$$

It is expected that the cost for a list in the whole country in this system, $\bar{C}(N, p)$, is many times higher than the cost of a list's district committee in SMUD system, $\bar{c}(1, p)$. Suppose that this proportion could be represented for λ , than:

$$\bar{C}(N, p) = \lambda\bar{c}(1, p) \quad (10)$$

Inserting equation (10) in (9), we have:

$$C_{PRCL} = L\lambda\bar{c}(1, p) \quad (11)$$

Costs in the proportional representation with open list (PROL) system

Because in PROL system the relevant unit of the campaign is the candidate, let's assume, again for simplicity, that the lists do not expend any money in legislative campaigns and that all expenses are made by candidates. The total cost is the sum of the costs to each candidate that is a function of the size of the nation (the big and unique district) and the level of competitiveness:

$$C_{PROL} = \sum_{k=1}^K c_k(N, p) \quad (12)$$

Supposing that all candidates are equal and expend the same amount we have the system's total cost:

$$C_{PROL} = K\bar{c}(N, p) \quad (13)$$

Cost to the government

The costs to the government are composed by (i) costs to organize the elections (ii) costs to supervise the process. We assume that the costs to organize the elections are only marginally impacted by different electoral systems, or, in other terms, they do not change significantly. But the costs of supervision could be affected by the system adopted and by the level of competitiveness. The competitiveness affects the costs of supervision because, for example, it would be necessary a second pool or judicial processes etc. So formally:

$$G = F + g(\omega, p) \quad \frac{\partial g(\omega, p)}{\partial p} > 0 \quad (14)$$

Where:

F = fixed costs of electoral process

$g(\omega, p)$ = costs of supervision, as a function of ω =electoral system and of p = level of competitiveness

Comparing the electoral systems

If we consider total costs in each system, which means costs to the candidates and to the government, we have:

$$\begin{aligned} T_{SMUD} &= NL\bar{c}(1, p) + F + g(\omega_1, p) \\ T_{PRCL} &= \lambda L\bar{c}(1, p) + F + g(\omega_2, p) \\ T_{PROL} &= K\bar{c}(N, p) + F + g(\omega_3, p) \end{aligned} \tag{15}$$

Where:

$\omega_1, \omega_2, \omega_3$ = the three systems, respectively SMUD, PRCL, PROL.

Given (15), we have the elements to compare the systems and discuss the conditions under which PROL would be less costly than SMUD or PRCL. Looking to (15) it is clear that the logical condition to $T_{PROL} \leq T_{SMUD}$ and $T_{PROL} \leq T_{PRCL}$ is that, at least one of three following conditions must be true:

- (i) $K \leq NL$ and $K \leq \lambda L$
- (ii) $\bar{c}(N, p) \leq \bar{c}(1, p)$
- (iii) $g(\omega_3, p) \leq g(\omega_1, p)$ and $g(\omega_3, p) \leq g(\omega_2, p)$

Or, in words, condition (i) establishes that the number of candidates in PROL systems should be equal or lower than in SMUD or that there are diseconomies of scale in political campaigns; condition (ii) states that the mean cost of the campaign per candidates should be less costly in PROL system than it is in SMUD or PRCL systems, and according to condition (iii) the costs of supervision must be lower in PROL system than in the other two systems. As we pointed earlier, none of these conditions are supported by theoretical or empirical literature. Let's examine in more details these conditions:

(i) **Number of candidates.** The condition $K < NL$ contradicts what is established by classical literature (Duverger's Law) (Duverger, 1980) and evidence. Majority systems tend to reduce the number of lists, whereas proportional representation tends to multiply them. To compare PROL and SMUD let's first compare PRCL and SMUD, or, in terms of our equations NL and λL . If we consider that all parties present complete lists, the number of individual candidates in PRCL system is NL , although the multiplier of unit cost is λL , because in this system the unit of cost is the party and not the candidate. So, λ is a measure of economies of scale when the costs are centrally managed by the party rather than dispersed across N districts. Considering the number of the lists constant in both systems then, if $\lambda < N$, the PRCL system is less expensive than SMUD. In other words, the campaign the lists made in the whole country (or state) in PRCL system shows scale economies compared to the small campaigns they made in several districts in SMUD. If $\lambda > N$, then, there are diseconomies of scale in political campaigns in the PRCL system and if $\lambda = N$, then, there is no economies or diseconomies in political campaigns⁶. Otherwise, we should consider that the increased number of lists in PRCL balances any eventual economy of scale. But comparing PROL and PRCL there is no reason to suppose that the number of lists will be higher in PROL than in PRCL. So, comparing SMUD and PRCL we can see that economies of scale balances the tendency to the multiplication of lists and it's difficult to say which of the systems is less costly. But if we compare PROL with SMUD, we see that the multiplication of lists expected in PROL is not compensated by any economy of scale, because of the size of district and the extreme individualization of the campaign. If we compare PROL and PRCL we expect almost the same number of lists and none compensation for diseconomies of scale⁷. We study the systems in the absence of particularities, but it is useful to remember that in the Brazilian system, K can be higher by law. The Brazilian electoral law permits the parties present 1.5 candidates per seat and to coalitions 2 times more. Since the number of seats obtained by the lists is proportional to the total number of votes of any of the candidates in the list, it is rational

⁶ An issue that must be considered is that in a PR system, the number of lists is likely to be higher than in a single-member district system, because PR favors multipartyism. Consequently, it is possible that the competitiveness among parties is greater and, hence, the gains of scale are lost.

⁷ We can also consider that in PROL the transaction costs are higher than they are either in PRCL or in SMUD. It is due to the fact that the candidates face a much more complex scenario, because they have to strategically interact with many more other candidates – both party-mates and adversaries. Such a higher complexity would increase the costs in PROL additionally to the other reasons pointed here.

to the list to present as many candidates as possible, in order to maximize the total of valid votes for the list.

(ii) **Lower unit costs.** The other possibility to consider is that unit costs are lower in PROL. But, as SAMUELS (forthcoming) pointed out, the cost is a function of the size of district and the competitiveness. Since the size of district is higher in PROL than in SMUD and equal between PROL and PRCL, the level of competitiveness must be low. There is no reason for that. In PROL systems, to one candidate all other candidates are competitors. Not only the cost to market his or her name is higher, but the costs to obtain and transmit information.

(iii) **Lower supervision costs.** As we have discussed in section 2, the costs of supervision are higher in PROL than in any other system.

The conclusion we can obtain from formalizing the costs of each system is that PROL should present higher costs. To contradict such a conclusion it would be necessary to accept, at least, one of these assumptions:

(i) There are diseconomies of scale in political campaigns.

(ii) PROL system produces less candidates or lists than its alternatives.

(iii) PROL system is less competitive than SMUD or PRCL

(iv) PROL presents lower supervision costs.

(v) The mean cost of a campaign in PROL system is lower than in SMUD or PRCL.

Only (v) could be considered as possible, since PROL systems encourage the emergence of irrelevant candidates in relevant lists, phenomenon that does not occur in SMUD or PRCL and, consequently, the mean cost can be lower. But if the only way we have to argue that one system is less costly than other is that it generates irrelevant production at low price through this curious mechanism – the mean cost –, then we have to really consider whether this system is a reasonable alternative in what regards campaign financing and its consequences for poliarchival competition (Dahl, 1997).

4. Why higher costs mean more corruption?

Of course, open list system is not the only cause of very expensive electoral campaigns. The huge use of sophisticated propaganda techniques, the massive distribution of electoral material, the purchase of advertising space etc. – everything makes electoral campaigns very expensive and, consequently, the desperate need for money a natural fact of modern politics. Otherwise, high costs of electoral campaign are not the only source of political corruption. But what we want to indicate is that, if an electoral system makes electoral campaigns even more expensive than they normally should be and multiply barriers to entry, the incentives to corruption increases and, consequently, also the probability of corruption.

The candidates can adopt many different strategies to be elected in a PROL system. We can summarize these strategies in three pure types. Of course, real candidates are not restrict to pure strategies, but can use a combination of them. The pure strategies are:

(i) **spatial concentration**: instead of the fact that the district is very large, the candidate can opt to concentrate his campaign in a small region, a *de facto* small district. But the victory in a small region could be insufficient to elect a candidate if he is not one of the most voted in the list. Consequently, it is important to obtain a high percentage of votes in the region. The least populated the region compared to the big district, the more intensive the percentage of votes need to be. Such a factor raises the uncertainty to the candidate, because the victory in the “small district” is not an assurance of being elected. Typically the candidate who opts for this strategy must have political connections to the politicians in executive branch in at least one level (federal, provincial or municipal). If the candidate can manipulate the offer of public goods and develop a reputation of being capable of doing it in the future, this strategy should work. In fact, there are some cases in which it is not necessary to provide any public good if some transferal of funds has the power to obtain support of relevant agents whose influence is determinant to obtain a large amount of votes in a region.

(ii) **group-based concentration**: some candidates develop a strategy based on representation of the interest of certain groups such as professional categories, ethnic or

religious groups. A seat in a board of a trade-union or other professional association is considered a very useful platform to start a political career.

(iii) **scattered vote**: there are candidates whose main strategy is not to appeal to any special interest (spatial or group-based) but to obtain the support of scattered voters based on political or ideological orientation or personal admiration. That is the case of leaders of parties whose career is closely identified to the party, famous professionals of sports, arts or communications.

In conclusion, the system has a bias toward candidates who are close to executive power or has a previous personal reputation very well developed. For instance, the competition between a TV anchor without any previous political experience or reputation and a very locally reputed professional (say, a doctor, a lawyer or a professor) who is additionally a militant of a party but without political connections to executive power tends to favor the first. The size of the district (and the impossibility to buy additional time on TV or radio according to Brazilian laws) represents a barrier to candidates that are not public figures in the whole district. Only with a huge amount of campaign resources this candidate could expect to compensate such difference in previous political capital. This is very different in SMUD or PRCL systems. In both systems, reputation obtained inside the party is strategic and in SMUD system a local reputation is sufficient to dispute a seat.

Independently of the main strategy of the candidate or the mix of strategies he decided to put in practice, the barriers of entry are higher in PROL system than in others. The question is that the development of a political reputation costs much more in PROL system. Both in SMUD and PRCL systems the candidate does not need to differentiate his reputation (his “trademark”) to the party’s one. If the candidate has a positive reputation of being the defender of some group it sums up to the party image in SMUD or PRCL systems. The big question to the politician is to obtain the party indication, so this is the unique significant barrier to compete. After that, both the party and the candidate have incentives to strengthen their mutual identification.

Instead, in PROL systems, the candidate needs to differentiate his or her trademark, especially against his or her closest competitor: his or her colleagues of party or list. Additionally, he or she has to do it in a large district and in a system that promotes the proliferation of parties and lists. Large districts imply bigger logistic costs

and the necessity of develop a differentiated mark imply more advertising costs. As we have both problems in PROL systems, the costs growth in an interacted way.

At least, in what concerns costs we have to consider that the development of a differentiated reputation have to be done in an ambient plenty of informational pollution. There are K options to the elector and K candidates advertising all against all. This pollution is another factor to increase costs, since advertising in a polluted ambient present strong diseconomy of scale.

Instead of the fact that some candidates could run only to sum votes for his party, in general the main goal is to be elected. So, with a bit of simplification, we can say that there are only two forms of pay-offs: a positive one, when the candidate is elected and a negative one, when he is not. The probability of being elect is a crescent function of the money spent. Consequently, except for extreme risk-lovers, it is not rational to spend significant amount of money without a reasonable chance of being elected. To be in the game, a candidate with no previous political capital has to obtain lots of money to his campaign funds.

Supply of campaign funds depends upon the capacity that politicians have to favor their financiers. Doubtless, beyond competitiveness, another factor is the risk to be discovered and punished. Political campaigns that are, at the same time, expensive and very competitive, provide competitors with strong incentives to seek for “easy money” provided by corruption. The alternative is to stay out of the real game. The incentives to corruption are directly proportional to their capacity to generate competitive advantages. The temptation is more “irresistible” if the probability of being punished is very low. The costs of supervision in PROL systems are higher than in other, because of number of independent candidates. Consequently, the probability of being punished is lower.

As a conclusion, we can say that, as we showed above, the Brazilian electoral system presents high costs – that is, its costs are at least higher than those of the other electoral systems considered. Such costs are higher for two main causes: higher logistic costs caused by large districts and a high degree of competition, both between parties and among members of the same party. Additionally, the risk of being punished is low because supervision costs are high. Consequently, we can say that the Brazilian electoral system offer institutional incentives to corruption and tend to promotes adverse selection in ethical terms. It is incomprehensible to the ordinary man that the difference

between a honest politician and a dishonest one is that the first uses illegal funds only to his political campaigns instead the seconds seeks personal enrichment. The perception that “all politicians are corrupts” and use illegal means to achieve their objectives is another source of adverse selection. Whether the invitations to corruption will be accepted or not is a discussion that we will not carry out here, but the fact is: the incentives are structurally embedded in the electoral system itself.

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