

Freedom to Choose MPs: Electoral systems, Proportionality and Ballot Structure

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Abstract

The ballot structures associated with different electoral systems are important to determine the relative role of voters and political parties in selecting members of parliament. This may have an effect on the personality, intelligence and interests of those elected. However, when comparing electoral systems, most literature has neglected this issue and emphasized and measured other dimensions: disproportionality, effective number of parties, electoral thresholds and district magnitudes. This paper develops an index that measures another characteristic of an electoral system: voter's freedom to choose. It is a function of the cardinal of voters' preference domain and the number of revealed preferences. This index is calculated for ballot structures in twenty-nine electoral systems and compared with results from a proportionality index.

“It has been seen that the dangers incident to a representative democracy are of two kinds: danger of a low grade of intelligence in the representative body, and in the popular opinion which controls it; and danger of class legislation on the part of the numerical majority, these being all composed of the same class”

John Stuart Mill, 1861

1. Introduction

Electoral systems are perhaps the most powerful set of rules in representative democracies. There is widespread agreement that they influence, although not mechanically, the number of political parties in parliament, the internal structure of these parties, the political stability, the proportionality of vote shares and seat shares. However, one topic has not received recent attention in the literature – the effect of electoral systems on the type of members of parliament elected. John Stuart Mill (1861), Thomas Hare (1859) and other prominent nineteenth century social reformers were perfectly aware that electoral systems were crucial in determining the personality, intelligence and interests of those elected to serve as members of parliament. However, political scientists in the twentieth century have not paid much attention to this topic.

Representative democracy is always deliberation under regulated competition. In fact the particular rules selected by each electoral system, shape decisively the nature of the political competition that takes place (Pereira, P. T. 2000). The most important dimensions that distinguish electoral systems are the dimension of the representative assembly, the existence or not of a legal threshold, the average magnitude of electoral jurisdictions, the formulae to translate votes into mandates, and the ballot structure.¹ These dimensions have joint consequences on certain characteristics of the electoral systems.

One important and widely used empirical measure of electoral systems is the degree of disproportionality. It assumes the value zero if the proportion of votes that each and every party receives is equal to the proportion of seats. Several dimensions of the electoral system impinge on the degree of (dis)proportionality. In general, either the introduction of a legal threshold (or the increase of an existing one), the downsizing of the assembly, or the increasing number of electoral districts, have the effect of

¹ Arend Lijphart (1994) gives more importance to the former four dimensions, while Douglas Rae (1967,1971) emphasizes the latter three.

diminishing proportionality. In this sense it is possible to roughly maintain the degree of proportionality of an electoral system, with simultaneous changes in at least two dimensions. For example some countries, such as Holland and Israel, have only one district, and to avoid an excessive degree of proportionality introduce a legal threshold. On the other hand, other countries have multiple districts, which create effective thresholds so that they do not need to have a legal threshold to attain similar levels of proportionality.

Indexes, such as the proportionality ones, are very useful to analyze and predict the likely effect of changes in certain variables of the electoral systems. The emphasis on proportionality lies, in part, in that it is the main characteristic that separates the two big families of electoral systems: majoritarian and proportional. However, they are less useful when the aim of the analysis is to compare proportional systems.

Political scientists studying comparative politics have developed several indexes to measure the “fragmentation” of parliaments (effective number of parliamentary parties), the effective thresholds produced by district magnitude and the degrees of disproportionality of electoral systems. So far, it has been neglected the measurement of an important characteristic of an electoral system: the “ballot structure”.²

The “ballot structure” has to do mainly with the constraints on the revelation of preferences of the citizen voter. Does she have just one or two votes? Is he limited to vote in a closed party list or can he order the candidates? Can she vote in candidates of different parties or must she vote in a single party? In short, there are at least three important issues when considering the ballot structure. First, is the domain of choice: in whom can we vote? Second, is the accuracy of vote: to which candidate is our vote going to? Third, is the voter input information issue: does it count just the first, the first and the second, or all the ordinal preference vector of the voter?

There are several reasons why the analysis and measurement of different types of ballot structures is important. In a cross section analysis, it might explain, *ceteris paribus*, differences in electoral turnout of different countries. It would be expected that where political freedom to choose is higher the turnout would be higher. It could also be tested the hypothesis of a gender effect in politics. Insofar as party politics is male

² Some authors have analyzed ballot structures but without measuring it. Rae (1967) uses the term “ballot structure” referring to two possible situations: whether the voter can only vote for candidates in one party (“categorical vote”) or for candidates of several parties (“ordinal vote”). Our meaning of “ballot structure” is more encompassing than Rae’s concept (see below). Norris (2004) more recently also analyses ballot structures. Her work is very helpful for what follows. Nevertheless, our classification is somewhat different (see sections 3 and 4 below).

dominated, men tend to predominate in party lists, so it could be expected that when freedom to choose from the electorate is higher, the proportion of women as MPs would be also higher. In a time series perspective it could also be tested whether “freedom to choose” has a significant effect on decreasing turnout in major western democracies. Other hypothesis could also be tested.

Apart from the empirical usefulness of such index, there is a normative dimension, which is also very relevant. When appraising electoral systems, proportionality is considered a relevant normative criterion, for proponents or defenders of proportional systems. As stated above, and discussed in more detail in section 2 below, the disproportionality index should be complemented by a “freedom to choose” index to develop a better understanding of electoral systems and the existing tradeoffs between proportionality, government stability and “proximity” of voters and members of parliament.³

The structure of the paper is the following. In section 2, the indexes usually considered to appraise electoral systems are surveyed with a critical appraisal of the disproportionality index. In section 3, it is clarified the main different sets of ballot structures and how they translate into different approaches to the “freedom to choose”. Section 4 develops criteria that should be satisfied by any such index and develops a particular index. Section 5 applies it to ballot structures in twenty-nine electoral systems. Section 6 clarifies the importance of the dimension of “freedom to choose” to analyze electoral reform, from a normative point of view.

2. Measuring dimensions of electoral systems

Measuring the dimensions of electoral systems is important either to analyze the characteristics of the system or to predict the effects of a possible reform. Since parliamentary democracy, is based essentially in political parties it is natural that most indexes in the literature use the information of the vote shares or the seat shares in parliament of political parties. It will be argued in this section that, although important, this information is not sufficient for an appropriate appraisal of electoral systems.

³ William Riker (1982) see this tradeoff as a conflict between “liberalism” and “populism” while Mueller (1996) opposes “proportional representation” and “two-party government”. As clarified below more or less “voters’ freedom to choose” can not be accommodated in these dichotomies.

A measure of electoral systems is the index of disproportionality. Several indexes were suggested in the literature. Loosemary-Hanby (1971) suggested the following index:

$$I_{L-H} = \frac{1}{2} \sum_{i=1}^n |v_i - s_i|$$

where v_i stands for vote share and s_i for the seat share. Michael Gallagher (1991), more recently proposed

$$I_{MG} = \sqrt{\frac{1}{2} \sum_{i=1}^n (v_i - s_i)^2}$$

Bernie Grofman and others suggested that instead of scaling by one half, one should scale the vote-seats deviations by the effective number of parties given by:⁴

$$N^e = \left(\sum_{i=1}^n s_i^2 \right)^{-1}$$

Therefore, a more appropriate index for a cross-sectional analysis of countries with different electoral systems and different effective numbers of parties could be given by:

$$I = \sum_{i=1}^n s_i^2 \cdot \sum_{i=1}^n |v_i - s_i|$$

Another important measure of electoral systems is district magnitude. In proportional representation systems, with several districts, the district magnitude is usually different from one district to another, so that the measure usually used is the average district magnitude. This measure is simple and meaningful when having non-overlapping districts, but it becomes somewhat blurred when there are regional districts and a national district. In any case it is an essential measure discriminating electoral systems.

⁴ See Laakso and Taagepera (1979).

As the average district magnitude decreases, systems are moving towards the majoritarian system with only one member per district. The probability that a small party can elect a member of parliament is increasingly smaller, given the “mechanical” and “psychological” effects combined.

In order to measure the former effect, political scientists have developed indexes of effective thresholds that can be defined independently of the existence of legal thresholds. A legal threshold of representation means that if a political party does not have a minimum proportion of votes (e.g. 1% or 5%) it can not elect a member of parliament. Legal thresholds are usual when countries have only one electoral district or just a few in order to avoid an “excessive” fragmentation of parliaments. Most countries do not have legal thresholds but instead they have districts with a limited number of mandates so that it is appropriate to consider effective thresholds. As with disproportionality indexes, there are several measures of effective thresholds. The lower (or inclusion) threshold is the minimum percentage of votes a political party has to have so that, in the most favorable circumstances, can elect a member of parliament. The higher (or exclusion) threshold is the maximum percentage of votes a party can have without being able to elect a MP, under the most adverse conditions. The effective threshold can be considered as an average of these two values, and is a function of the district magnitude, the number of political parties and the formula to translate votes into mandates. Taagepera and Shugart (1989) and Lijphart (1994 p.26) assume some strong assumptions: “that the number of parties be assumed to be about the same as the district magnitude, that the average magnitude for the system as a whole be used, that the formulas also be roughly averaged, and most importantly, that the effective threshold be assumed half-way between the upper and lower thresholds”. With these assumptions the high threshold is the Droop quota ($100\%/(M+1)$) and the low threshold depends significantly on the formula considered. Lijphart considers as being (in percentage) one half of the Hare quota ($100\%/2M$, with M for mandates) so that the effective threshold is:

$$T_{eff} = \frac{1}{2(M+1)} + \frac{1}{4M}$$

This means that as the number of mandates increase the threshold of representation decreases.⁵

The average district magnitude, the dimension of the assembly, the effective number of parties, the disproportionality and threshold indexes, are the most common measures of electoral systems. They are important measures to compare different systems and to drive electoral reforms but they leave aside an important dimension of electoral systems: the ballot structure. Two systems may have exactly the same measures in all those indicators but be deeply different if one uses a closed party list ballot and the method d'Hondt and the other the single transferable vote. In the first case the choice is among political parties alone, while in the latter it is also in different personalities. In the first case only the first preference on the political party is relevant, while in the second all the vector of ordinal preferences may be used as an input in the election process.

What seems to be needed is an index that measures the “freedom to choose” of the elector. Before attempting to address this issue it is necessary to clarify the different types of ballot structures.

3. Main types of ballot structure.

Electoral systems differ widely in the “input information” associated with the ballot structure for electing members of parliament (MPs). Although there is a wide variety of ballots, it is possible to discriminate ballot structures according to the following dimensions: *i*) the ability to vote in parties or in candidates (or both), *ii*) the possibility or not of selecting and ordering candidates, *iii*) the maximum number of “revealed preferences”, *iv*) the number of ballots (1, 2 or more) and *v*) the preference domain. These dimensions enable the construction of a simple typology of ballot structure shown in table 1. In order to understand it let k be the effective number of parties and m the average district magnitude in multi-member districts.

⁵ This index is higher than the one suggested by Taagepera and Shugart. Note that in the particular case of majoritarian systems, Lijphart index assumes the value 0,5 (50%) which coincides with the higher threshold. He acknowledges that the effective threshold measure is not well adapted to majoritarian systems.

The term *candidate-ballot* (CB) will refer to the ballot used in single member districts when voters have only one ballot and can vote in just one candidate (usually from a political party). It is used in the U.S.A., U.K. and Canada.

In the *candidate-preference ballot* (CPB) voters can rank order the candidates in single member districts according to their preferences, although only one is elected. Known as “alternative vote” it is currently used in Australia.

Party ballots (PaB), are those used in multi-member districts, where voters have “closed” party lists, and can only choose among political parties. It is a prerogative of each political party to order the candidates. It is used in several countries such as Israel, Portugal, Romania, Netherlands and Norway.

The *candidate-party-ballot* (CPaB), is used in multi-member districts, when voters select just *one* candidate within an open list. This type of ballot has been associated with two different electoral systems. The open *party* list with preferential vote in *one* candidate and the single non transferable vote (SNTV) where voters vote in *one* candidate and those with more votes are elected. The SNTV has been used in Japan, China and Taiwan but it is seldom applied today.

Table 1. The main types of ballot structures

	Ballot type	Number of votes	Vote in Party, Candidate (or both)	Maximum number (<i>n</i>) of “Revealed preferences”	Ranking of candidates	Single Member districts (SMD) or/and Multi-member (MMD)	Who mainly selects the <i>order</i> of election?
1	Candidate-ballot	1	C	1	No	SMD	<i>na</i>
2	Candidate-party ballot	1	C, P	1	No	MMD	V
3	Party ballot	1	P	1	No	MMD	P
4	Preference -ballot	1	C,P	<i>m</i>	Yes	MMD	V
5	Rank-ballot	1	C, P	<i>m.k</i>	Yes	MMD	V
6	Cand-pref. ballot	1	C	<i>k</i>	Yes	SMD	<i>na</i>
7	Dual ballot	1	C	1	No	SMD	<i>na</i>
		1	P	1	No	MMD	P

m- average district magnitude, *k*- effective number of parties.

na- not applicable

The *preference-ballot* (PB) is used in multi-member districts and voters can rank order the candidates *within* an open party list. This means that they first select a party and within the party list they can order some part or all of the candidates for that district (m). Among other countries, Belgium, Poland and Sweden use it in their electoral systems.

The *rank order* ballot allows voter to rank order *all* the candidates from all political parties (or independents). For the sake of simplicity in this paper it will be assumed that the number of candidates is the average district size (m) times the effective number of parties (k). This ballot is used in the single transferable vote systems of Ireland and Malta.

Up until now ballot structures with only one ballot have been considered. However, in a significant number of electoral systems, voters have two ballots.⁶ This possibility covers two main situations where the voters go to the polls only *once* and receive two votes each. One is to elect a candidate in a single-member district, the other to elect the candidates in a party list multi-member district. This may lead either to a proportional electoral system (as in Germany) or to a mixed system of representation with some MPs being elected in multi-member PR districts and other MPs being elected in single-member districts (as in Italy). In both cases voters can discriminate between the party and the candidate and may vote for different parties/candidates in the local and regional/national district. Therefore, in the *dual-ballot* (DB) cases, parties typically decide over closed lists in multi-member districts, but voters decide across candidates in the single-member districts. Therefore, *dual-ballots* are associated with mixed electoral systems and share characteristics of the *candidate-ballot* and the *party-ballot*.

Therefore, three situations are relevant: only political parties select the ordering (*party-ballot*), parties and voters share the ordering selection (*dual ballot*), or only voters select the ordering given the choice menu offered by political parties and independents (the other cases). It is clear that freedom to choose candidates from voters and political parties differ across ballot structures. This will be made clear in the next section.

⁶ There are also electoral systems where voters have more than two votes, but they are not empirically relevant so that, for the sake of brevity, they will not be considered here.

4. An index of voter freedom to choose

The discussion above clarified that some systems give more freedom to choose to the voter, and a smaller role to political parties in deciding precisely the order and type of candidates to be elected. Clearly electoral systems with closed party lists, give a very small role to the voter, who just gives a ticket to the political party to appoint the selected candidates. On the other hand, a system such as the single transferable vote, gives a wide choice to the voter, both within and across political parties, indicating a much higher scope for voter choice. The issue is how to measure this different scope for choice.

The main idea of the index is to consider two dimensions of the voter's freedom of choice, more precisely the cardinal of the voters' preference domain (defined as t) and the number of parties/candidates selected (defined as n). The index should be an increasing and concave (marginally decreasing) function of both n and t , i.e. $\partial I / \partial t > 0$, $\partial I / \partial n > 0$ and $\partial^2 I / \partial t^2 < 0$, $\partial^2 I / \partial n^2 < 0$.

One could consider other dimensions of the voter's freedom of choice but, as a first attempt to capture the essential of this phenomenon, we decided to keep the index as simple as possible.

First, let us start to clarify the meaning of the voter's preference domain in each ballot structure. When we have *candidate (or party) ballots*, the preference domain are the k candidates (or parties), in the electoral district under consideration.

When considering other electoral systems the problem is not so obvious. In the *candidate-preference* ballot each district elects one candidate but the voter can rank all the candidates and, consequently, the preference domain is the possible rank orders of the candidates. The cardinal of such set will be given by $k!$.

Consider that there are three candidates/parties: A(lice), B(en) and C(arol). Under the candidate or party ballots, the preference domain is: $\{A, B, C\}$. However, under the candidate-preference ballot it is:

$$\{(A, B, C), (A, C, B), (B, A, C), (B, C, A), (C, A, B), (C, B, A)\}$$

This means that in the presence of three candidates (parties), the candidate (party) ballot restricts the preference domain of the voters. On the other hand the candidate-preference ballot has unrestricted domain for the given number of candidates.

In the *candidate-party* ballot, each district elects m candidates and the voter can choose *one* name amongst all the candidates and now the voter can express preferences on a candidate but amongst $k \times m$ names, m being the number of candidates in each party list.

In the *preference-ballot* voters can rank all the candidates of *one* political party and a preference revealed through the ballot is a ranked list of m names. Therefore, a voter may have $m!$ rank orders within the same political party and, since there are k effective political parties, the cardinal of the preference domain will be $k \times m!$. Finally, in the *rank-ballot*, a voter can rank all the candidates of all the different parties and a preference is a ranked enumeration of all the candidates so that the cardinal of the preference domain set is given by $(k.m)!$

To obtain the number of candidate/parties selected in each ballot it is sufficient to know how many marks can be made in the ballot. When the voter can only selects one option (this is the case for the *candidate ballot*, the *party ballot* and the *candidate-party ballot*) she only votes in one candidate (or party). However, in the *candidate-preference* ballot the voter may rank the k candidates, in the *preference ballot* she can indicate m names and in the *rank ballot* this number is $k \times m$. Table 2 summarizes the number of “revealed preferences” and the cardinal of voters’ preference domain.

Table 2 – Cardinal of the voters’ preference domain (t) and number of “revealed preferences” (n)

Ballot structure	t	n
Candidate ballot	k	1
Candidate preference ballot	$k!$	k
Party ballot	k	1
Candidate party ballot	$k m$	1
Preference ballot	$k m!$	m
Rank ballot	$(k m)!$	$k m$

The dual ballot system is a mixed system, so that each of its components will be added to obtain the index value.

Different functions could be used to obtain a concave function for the index. Two reasons lead us to use $f(x) = x/(x+1)$ as a smoothing function. Firstly, this function is a simple increasing function of x and, secondly, it leads to a bounded scale (as we always have $x \geq 1$, we will obtain $0.5 \leq f(x) \leq 1$).

To construct the index we multiply the two smoothed components and obtain

$$I^* = \frac{t}{t+1} \times \frac{n}{n+1}.$$

This index will belong to the interval (0.25; 1), and it could be more easier to interpret if we rescale it in the usual interval (0,1). Thus, we subtract to the index 0.25 and multiply the result by 4/3. The scaled freedom to choose index is then:

$$I = \frac{4}{3} \left(\frac{t}{t+1} \times \frac{n}{n+1} - \frac{1}{4} \right).$$

It is a simple index with a straightforward interpretation. It is bounded in the interval (0,1) and it has the desirable properties of being increasing and concave with respect to n and t .

Table 3 Index of Freedom to Choose and Ballot Structure

Ballot Structure	Index of Freedom to Choose I
Candidate ballot	$\frac{1}{3} \frac{k-1}{k+1} = \frac{1}{3} \left(1 - \frac{2}{k+1} \right)$
Candidate preference ballot	$1 - \frac{4}{3} \left(\frac{1}{k!+1} + \frac{1}{k+1} - \frac{1}{(k+1)(k!+1)} \right)$
Party ballot	$\frac{1}{3} \frac{k-1}{k+1} = \frac{1}{3} \left(1 - \frac{2}{k+1} \right)$
Candidate party ballot	$\frac{1}{3} \frac{km-1}{km+1} = \frac{1}{3} \left(1 - \frac{2}{km+1} \right)$
Preference ballot	$1 - \frac{4}{3} \left(\frac{1}{m+1} + \frac{1}{km!+1} - \frac{1}{(m+1)(km!+1)} \right)$
Rank ballot	$1 - \frac{4}{3} \left(\frac{1}{km+1} + \frac{1}{(km)!+1} - \frac{1}{(km+1)((km)!+1)} \right)$

Table 3 shows the expression of the index as a function of k and m for each type of ballot. The candidate ballot, the party ballot and the candidate party ballot lead to values of the index between 0 (when there is only one candidate) and $1/3$ (when $k \rightarrow \infty$). However, for the candidate party ballot the increase of the index is a function of k and m and not only of k , as it happens for the candidate ballot and the party ballot. The value of the index, for the same k , will be greater in the candidate party ballot than in the two other systems as it is theoretically expected. For the candidate-preference, the preference and the rank ballot the index can vary between 0 and 1.⁷ As it is expected the index value will be greater for the rank ballot. In any case, even for moderate values of k and m , the index will assume relatively high values. For instance, if $k = 3$ and $m = 4$ (when applicable) we obtain approximately 0.167 (candidate ballot and party ballot), 0.524 (candidate preference ballot), 0.282 (candidate party ballot), 0.719 (preference ballot) and 0.897 (rank ballot) respectively.

Figure 1- Behavior of the index

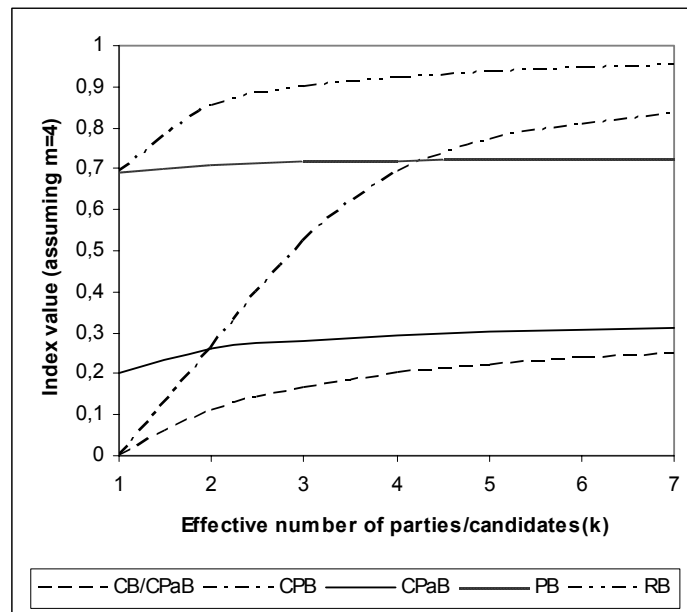


Figure 1 shows the behavior of the index as a function of k within each type of ballot (CB/PB for the candidate ballot and the party ballot, CPB for the candidate preference

⁷ In practice it never assumes the value 0, since $k = 1$ for the candidate preference ballot, or $k = 1$ and $m = 1$ for the other systems, never occurs.

ballot, CPaB for the candidate party ballot, PB for the preference ballot and RB for the rank ballot). When the index value also depends on m , we assumed $m = 4$.

5. Comparing “freedom to choose” in twenty-nine democracies

Table 4 shows the characteristics of electoral systems in 29 democracies. The mean district magnitudes, the effective number of parties and the Loosemary-Handy proportionality index enables some comparison between the electoral systems. A mere inspection of the table shows that there is no direct relationship between the type of ballot and the proportionality index.

An application of the index to several types of ballot structures and electoral systems is shown in table 5. Several conclusions can be drawn from the index of freedom to choose (I_e). First, it is no surprise that candidate ballot and party ballots are those where the freedom to choose is smaller since the preference domain is smaller. In candidate-ballots the effective number of candidates is on average smaller than the effective number of parties in party ballots. This explains why the index is slightly smaller in the former type of ballot structure. However, the index enables a ranking of the “party ticket” systems. In Netherlands and Israel there is only one large multi-member district, while the other countries have several districts and this helps to increase the effective number of parties having a slight increasing effect in the index. On the other hand, Portugal, Spain and Romania do have several districts and do not have any national district which imposes an effective electoral threshold and thus a smaller effective number of parties which, *ceteris paribus*, leads to a smaller index.

The Australian “alternative vote” gives a greater possibility to express voters’ preferences and this is reflected in a higher index even though Australia has an effective number of parties smaller than the countries having party ballot structures. Next in freedom to choose appears the dual ballot systems. They are a combination of candidate ballot and party ballot so that the index is more than twice as big as the ones that are obtained for those systems. In fact the national districts with single member districts produce parliaments with a comparatively large number of parties. This is the case of Russia, Ukraine and New Zealand where almost half of the members of parliament are elected in a national district.

Finally, countries adopting the rank order ballot (Ireland and Malta) and preference ballot have the highest score in this index as should be expected since the preference domain includes a large possibility of expressing their ordinal preferences concerning the candidates. Within the countries that use the preference ballot, those having the highest average district magnitude (Czech Republic, Sweden and Slovenia) are the ones having higher freedom to choose MPs.

It is interesting to note how the proportionality index, such as the Loosemary Handy, and the freedom to choose index give different types of information on electoral systems. Australia and Slovenia have the same degree of proportionality (0,84), but voters' freedom to choose in Slovenia is much higher. Norway (party ballot) and Taiwan (dual ballot) also have the same high degree of proportionality (0,95) but voters in Taiwan have larger possibilities to express their preferences.

The Spearman correlation between the L-H. proportionality and freedom to choose is just 0,206. This shows that the information given by the index is quite different than the one addressed by the proportionality index. The Spearman correlation between freedom to choose and the effective number of parties (k) is higher (0,451), which is normal, because the index is a positive function of k . However, it is still a quite different information that is provided by the former index.

Table 4 Countries ranked by increasing degree of proportionality of electoral systems

Ballot Structure	Country	Number of MPs	Number of SMD	Number of MMD	Number of Districts	Number of List MP	Prop. LMP/MPs	Number of MPs	Mean District Magnitude	Effective N. Parties	Index Prop. (Loosemary- Handy)
Candidate-ballot	UK	659	659	0	659	0	0%	659	1,00	2,11	0,8
Preference-ballot	Poland	460	0	52	52	460	100%	460	8,85	2,95	0,82
Candidate-ballot	Canada	301	301	0	301	0	0%	301	1,00	2,98	0,83
Party Ballot	Portugal	230	0	22	22	230	100%	230	10,45	3,14	0,83
Cand-Pref-Ballot	Australia	148	148	0	148	0	0%	148	1,00	2,61	0,84
Dual Ballot	Korea	299	253	1	254	46	15%	299	1,18	2,36	0,84
Preference-ballot	Slovenia	90	0	8	8	90	100%	90	11,25	5,52	0,84
Dual Ballot	Japan	500	300	11	311	200	40%	500	1,61	2,93	0,86
Dual Ballot	Hungary	386	176	20	196	210	54%	386	1,97	3,45	0,86
Dual Ballot	Ukraine	450	225	1	226	225	50%	450	1,99	5,98	0,86
Dual Ballot	Thailand	500	400	1	401	100	20%	500	1,25	2,92	0,88
Rank-order	Ireland	166	0	42	42	166	100%	166	3,95	3,39	0,88
Dual Ballot	Russia	450	225	1	226	225	50%	450	1,99	5,4	0,89
Preference-ballot	Czech Republic	200	0	8	8	200	100%	200	25,00	4,15	0,89
Party Ballot	Romania	343	0	42	42	343	100%	343	8,17	3,37	0,92
Dual Ballot	Mexico	500	300	5	305	200	40%	500	1,64	2,86	0,92
Party Ballot	Spain	350	0	52	52	350	100%	350	6,73	2,73	0,93
Preference-ballot	Switzerland	200	0	26	26	200	100%	200	7,69	5,08	0,93
Candidate-ballot	USA	435	435	0	435	0	0%	435	1,00	1,99	0,94
Dual Ballot	Germany	656	328	1	329	328	50%	656	1,99	3,3	0,94
Party Ballot	Norway	165	0	19	19	165	100%	165	8,68	4,36	0,95
Party Ballot	Netherlands	150	0	1	1	150	100%	150	150,00	4,81	0,95
Dual Ballot	Taiwan	334	234	2	236	100	30%	334	1,42	2,46	0,95
Party Ballot	Israel	120	0	1	1	120	100%	120	120,00	5,63	0,96
Dual Ballot	New Zealand	120	65	1	66	55	46%	120	1,82	3,78	0,96
Preference-ballot	Belgium	150	0	20	20	150	100%	150	7,50	9,05	0,96
Preference-ballot	Sweden	349	0	29	29	349	100%	349	12,03	4,29	0,97
Rank-order	Malta	65	0	13	13	65	100%	65	5,00	2	0,98
Preference-ballot	Denmark	179	0	17	17	179	100%	179	10,53	4,92	0,98

Source: data for Portugal, Ireland and Malta collected and computed by the authors. Other data from Pippa Norris (2003).

Table 5 Countries ranked by increasing voters' freedom to choose MPs.

Ballot Structure	Country	Single Member		Multi Member		Index Freedom to choose			Scaled Index
		District		District		SMD	MMD	Total	Total
		t	n	t	n				
Candidate-ballot	USA	1,99	1			0,33	0,00	0,33	0,11
Candidate-ballot	UK	2,11	1			0,34	0,00	0,34	0,12
Party Ballot	Spain			2,73	1	0,00	0,37	0,37	0,15
Candidate-ballot	Canada	2,98	1			0,37	0,00	0,37	0,17
Party Ballot	Portugal			3,14	1	0,00	0,38	0,38	0,17
Party Ballot	Romania			3,37	1	0,00	0,39	0,39	0,18
Party Ballot	Norway			4,36	1	0,00	0,41	0,41	0,21
Party Ballot	Netherlands			4,81	1	0,00	0,41	0,41	0,22
Party Ballot	Israel			5,63	1	0,00	0,42	0,42	0,23
Cand-Pref-Ballot	Australia	3,76	2,61			0,57	0,00	0,57	0,43
Dual Ballot	Korea	2,36	1	2,36	1	0,35	0,35	0,70	0,60
Dual Ballot	Taiwan	2,46	1	2,46	1	0,36	0,36	0,71	0,61
Dual Ballot	Mexico	2,86	1	2,86	1	0,37	0,37	0,74	0,65
Dual Ballot	Thailand	2,92	1	2,92	1	0,37	0,37	0,74	0,66
Dual Ballot	Japan	2,93	1	2,93	1	0,37	0,37	0,75	0,66
Dual Ballot	Germany	3,30	1	3,30	1	0,38	0,38	0,77	0,69
Dual Ballot	Hungary	3,45	1	3,45	1	0,39	0,39	0,78	0,70
Dual Ballot	New Zealand	3,78	1	3,78	1	0,40	0,40	0,79	0,72
Dual Ballot	Russia	5,40	1	5,40	1	0,42	0,42	0,84	0,79
Dual Ballot	Ukraine	5,98	1	5,98	1	0,43	0,43	0,86	0,81
Preference-ballot	Belgium			127011	7,50	0,00	0,88	0,88	0,84
Preference-ballot	Switzerland			106605	7,69	0,00	0,88	0,88	0,85
Preference-ballot	Poland			758017	8,85	0,00	0,90	0,90	0,86
Rank-order	Malta			3628800	10,00	0,00	0,91	0,91	0,88
Preference-ballot	Denmark			6,3E+07	10,53	0,00	0,91	0,91	0,88
Preference-ballot	Slovenia			4,1E+08	11,25	0,00	0,92	0,92	0,89
Preference-ballot	Sweden			2,2E+09	12,03	0,00	0,92	0,92	0,90
Rank-order	Ireland			1,8E+10	13,40	0,00	0,93	0,93	0,91
Preference-ballot	Czech Republic			6,4E+25	25,00	0,00	0,96	0,96	0,95

Source. Own calculations from data in Table 4 and formulae in Table 3.

6. Conclusion

This paper developed an index of freedom to choose MPs that takes into account both the voters' "revealed preferences" in relation to the set of candidates (parties) and the cardinal of the preference domain. Empirical evidence shows that the index can not be univocally associated with electoral systems, proportionality indexes, effective number of parties or other measures of electoral systems. In fact, one of the aims of developing such an index is to be able to discriminate between electoral systems having similar degrees of proportionality.

The debate around the reform of electoral systems, namely the possible shifts from majoritarian to mixed systems or to proportional representation, emphasizes the proportionality issue. The relevant normative criterion here is the degree of similarity between vote shares and seat shares.

On the other hand, some authors argue that the higher the degree of parliament "fragmentation", in part due to highly proportional electoral systems, the lower the government stability. For those who support political stability, above other normative criteria, the index of effective number of parties is a good indicator, since a low value for this index denotes a less "fragmented" parliament likely associated with more formal political stability⁸

Another dimension of electoral systems that can not be reduced either to proportionality or to political "fragmentation" is the type of ballot structure. Some ballot structures give more power to the voters and less to the party elites in selecting MP candidates. Others give exclusive selection power to political parties and finally others have a more balanced weight of voters and parties in the selection process. As the quotation of John Stuart Mill clarifies there is a "danger of a low grade of intelligence in the representative body" and this is related to three distinct factors. The ballot structure, "the popular opinion which controls it" (i.e. who controls the representative body), and the internal competition process within political parties. The first factor defines the relative importance of the other two. The importance of measuring voters' "freedom to choose" is precisely to weight the relative importance of voters and political parties in selecting candidates.

⁸ It is worth to distinguish *formal* political stability from *informal* political stability. The formal is basically the capacity of governments to fulfill their normal legislative term (usually four years). It makes an emphasis on the parliament-executive relationship. The *informal* political stability has to do with small political conflict outside parliament (interest groups).

The emphasis on measuring voters' freedom to choose MPs lies in the presumption that ballot structures giving more freedom to the voters are, in many circumstances, better than those where voters can only give a "party ticket". However, the normative appeal of freedom to choose, as to be weighted against other normative criteria. Empirical evidence shows that more "freedom to choose" MPs is neither necessarily associated with more political fragmentation (Malta has just two political parties) nor implies political unstable governments (as the case of Ireland clarifies). For sure, it is more democratic, according to the etymology of the word, and it is worth being measured.

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