

Disproportionality, turnout, and the Spanish case. Another piece for the puzzle

Research Article

Jorge Urdániz^{1*}, Ignacio Urquizu²

¹ UPNA, Department of Law, Public University of Navarre, 31006, Pamplona, Spain

² Department of Sociology, Complutense University of Madrid, Madrid, Spain

Received 06 September 2022; Accepted 09 April 2025

Abstract: The research on the factors that incentivise participation appears to form a puzzle within Political Science. This article addresses a more specific issue, the relationship between the disproportionality of electoral systems and voter turnout. The most established hypothesis assumes a positive relationship between proportionality and electoral participation. This hypothesis seems to have been confirmed for industrialised countries with advanced democracies. We test this hypothesis using the case of the Spanish Congress of Deputies, one of such democracies. The Spanish case offers methodological advantages that make it ideal for isolating the impact of the examined variable. However, the hypothesis is not confirmed, adding another piece to a puzzle that apparently is not resolved in the literature.

Keywords: Participation • Disproportionality • Turnout • Electoral systems • Representation

1. Introduction

This article investigates whether increasing the proportionality of an electoral system increases turnout. The issue is part of a broader topic, the factors affecting voter turnout. There appears to be no robust body of knowledge in academic literature with regard to this question. A major review concluded that the debate is “unresolved” and uses the expression “puzzles” in the plural, to refer to what would be the state-of-the-art at present (Smith 2018: 194–196). Several causes have been pointed out for this meagre outcome. They can be divided into three groups.

First, there are what we will refer to as the classificatory reasons, the ones that frame the terminological existence of the debate itself. There is just one crystal-clear variable to be explained, the number of voters,¹ but the

factors that can influence this variable are almost countless. Before 1982, when it came to endeavouring to explain voter turnout, studies honed in on two large groups: on the one hand, individual or psychological factors, and on the other, social or socio-economic factors. These were later joined by political and institutional factors following the study carried out by Powell (1982). This trio of factors affecting turnout is now considered in many circles to be a classic (Lavezzolo, Riera 2008: 14) and is cited and echoed in practically all studies published since (Geys 2006). However, beneath its apparent simplicity, there lies a myriad of almost boundless possibilities. Anduiza, for example, includes up to more than 30 independent variables (Anduiza 1999). Breux cites factors such as “the presence of a referendum” shortly, “voter fatigue,” “the number of positions to be filled,” “the participation of incumbents” or even “the number of terms served by incumbents” (Breux 2017: 702). With such a multitude of variables, isolating the real influence of each one on the number of votes is remarkably complicated.

pole (the number of voters who did not vote) or from the positive pole (the number of voters).

¹ As is customary (Anduiza 1999: 49; Boix, Riba 2000: 103), we are including in this number the invalid and blank votes, as well as the valid votes for candidates. Otherwise, we will use the expressions “abstention” and “turnout” as synonyms, assuming that both indicate the same reality, analysed either from the negative

* E-mail: Jorge.urdanoz@unavarra.es

The second group of causes consists of theoretical variables. There is no consensus regarding the assumptions or hypotheses that would logically and apodictically explain the relationship between the various variables included in the analysis and a higher or lower turnout. One of the oldest logical–psychological hypotheses (as old as Condorcet), vastly cited in the existing literature on the subject, culminates in what is known as the “Paradox of the vote.” According to the assumptions of the *Economic Theory of Democracy* vote (Downs 1957; Tullock 1967; Riker, Ordeshook 1968), the likelihood of a rational voter voting in an election depends on the “decisiveness” envisaged for his/her vote. In usual political elections, with millions of people involved, this probability is zero. However, millions of people vote every year in the world. This paradox triggered new approaches, focused not on voters’ personal calculations, but on the mobilisational incentives of elites, political parties, and interest groups (Rosenstone, Hansen 1993; Aldrich 1993; Shachar, Nalebuff 1999). Noticeably, this change in theoretical hypothesis (second group of reasons) also entails a change in the classificatory variable (first group of reasons), so both perspectives appear to intersect.

This on-going debate over the precise causation behind voter turnout explains the third group of reasons, the (very poor) empirical results obtained. If we take a look at the results, the only thing that we can state “confidently” is that “turnout is lower in poor countries and higher in small ones, that compulsory voting fosters turnout, and that turnout increases in closely contested elections” (Blais 2006: 122). These findings are extremely meagre, particularly when considering that they are the result of decades of research into the matter. According to this, the theory seems to be unable to explain why people take part in elections. Assuming that (a) it is almost impossible to get through all the factors, (b) the imprecision of certain hypothesis, and (c) the poor quality of the results, it is not surprising that Blais concludes that, with regard to voter turnout, what particularly dismay him are “the gaps in our knowledge” (Blais 2006: 122).

In this article, we do not address the general issue of the factors affecting electoral participation. Our goal is more specific. We explore the question concerning the relationship between electoral system disproportionality and electoral participation. Hence, our research question is: does proportional design of electoral systems enhance voting turnout? As we defend in the following pages, in order to answer this question, Spanish case may be a fruitful case study. One of the most cited hypotheses in the literature states that, with a higher proportionality of the electoral system, the expected participation should be

greater. We address this in Section 2. In Section 3, we introduce the Spanish case and explain why it exhibits theoretical and methodological properties that render it particularly pertinent for testing the hypothesis. In Section 4, we introduce the methodology, followed by the presentation of the results in Section 5, and subsequently, the conclusions.

2. Electoral system and turnout. Theory and literature review

We will now focus on the relationship between the electoral system and electoral participation, one of the issues within the broader question of the factors affecting turnout. As we have already seen, institutional factors were incorporated into studies on voter turnout from 1982 onwards, and the influence of the electoral system on abstention is included. This “institutional turn” included different variables. Jakman (1987) includes the following: Disproportionality of the Electoral System, Multipartyism, Unicameralism, Compulsory voting, and Competitiveness. According to Anduiza, there are two direct variables (compulsory voting and voting facilities), and one indirect variable, the electoral system (Anduiza 1999). For Boix and Riba, the main institutional factors affecting electoral turnout are: the electoral system (barriers, size of magnitude of the districts, and disproportionality); Mechanisms to facilitate voting (automatic census, postal voting, etc.); the Importance of the elections and Competitiveness (Boix, Riba 2000). Gex establishes elements such as Disproportionality of the Electoral System, Compulsory voting, Simultaneous elections, and Registration requirements (Geys 2006).

Regarding the variable of the number of parties, Blais points out that it “should be considered as the consequence of the institutional context” (Blais 2006: 112), rather than being one of the institutional factors itself. In other words, it should not be treated as a cause but as a consequence. Although this question is beyond the scope of this study, it seems evident that a similar criticism could be directed at some other elements (such as multipartyism, the importance of elections), and particularly at the competitiveness factor. The influence of this former variable does indeed appear to be decisive (Blais 2006: 119). Once again, we encounter classification problems in this regard.

The classical hypothesis, and the one we are going to test here, is that a higher proportionality of the electoral system will result in an increase in turnout (Lakeman 1974; Powell 1980; Geys 2006). It has been argued that this is “one of the most powerful hypotheses in the

empirical literature and is commonplace in arguments of political science” (Lavezzolo, Riera 2008: 16). The underlying causal argument relies on four mechanisms, which, to a large extent, are interconnected (Blais, Carty 1990; Smith 2018).

First, it is to be expected that a greater level of proportionality will allow a higher number of voters to see their voting expectations satisfied with the success of their first preference (Powell 1986; Karp et al. 2008). This is a utilitarian argument centred on the demand side – in other words, the voters – that is perfectly captured by the expression “useful vote,” which is now commonly used in Spain.

Second, it is assumed that greater proportionality implies that (a) there will be more political parties (Duverger 1950; Rae 1967), and (b) the different parties will make every effort to rally the voters, leading to a greater turnout. Therefore, on the one hand, voters will have less incentives to abstain as it will be easier for them to find a party that is in line with their political expectations, and on the other hand, the partisan elites will have obvious incentives to encourage participation (Lijphart 1997; Fisher et al. 2008).

Third, proportional electoral systems generate deeper and more stable links between the parties and the different social groups. This type of theoretical explanation rests above all on the category of *Mass Parties* (Lipset-Rokkan 1967; Katz, Mair 1995), characteristic of the second half of the twentieth century, firmly entrenched in long-standing trade union and religious organisations that fuel a continuous process of rallying by the party-follower elites.

Last but not least, the elections held in proportional electoral systems are more competitive at a national or state level than those held in single-member districts. The argument establishes that, inasmuch as some of the said single-member districts – the so-called “safe districts” in the USA are the best example – are a traditional bastion of a single party and, therefore, internal abstention is high, this does not happen, by definition, in national electoral systems or those made up of constituencies of great magnitude (Bromund 2001). In the latter, both the voters and the parties have identical incentives to participate and rally their followers, respectively, throughout the territory.

Again, there is no consensus regarding these theoretical arguments. On the one hand, many consider that the explanations put forward to support the hypothesis are inherently weak. In this way, Blais affirms that “most of the literature supports the view that PR fosters turnout, but there is no compelling explanation of how and why” (Blais 2006: 116). Moreover, there is room for hypotheses to

the contrary. Anduiza, for example, points out that, alongside this conjecture, it is also possible to argue that non-PR electoral systems, i.e. those based on single-member districts, could have their own way of fostering turnout, given the fact that: (a) they are simpler and more intuitive for voters; (b) they create a closer bond between the representative and the electorate; and (c) these are systems in which the “decisiveness” of the vote in influencing the formation of one executive or another is far greater, inasmuch as there are fewer parties than in PR systems, (Anduiza 1999: 145). Therefore, yet again, we have theoretical hypotheses that point in different directions.

What do the empirical findings say? A large group of studies confirm that proportionality does indeed increase turnout (Blais, Carty 1990; Cox 1999; Blais 2006; Geys 2006; Eggers 2015; Lijphart 1997; Jackman, Miller 1995; Jackman 1987; Powell 1986). According to Selb, “the evidence is overwhelming” (Selb 2009: 527). Riera asserts that “the positive relationship between the proportionality of the system and electoral turnout appears to be well established” (Riera 2012: 625).

Others, however, affirm that the evidence “is not conclusive” (Anduiza 1999: 146) and talk about “serious doubts” and “contradictory results” (Pardos-Prado et al. 2014, see also Cox et al. 2016; Boyle 2022). Along these lines, several studies affirm that the relationship is confirmed in all advanced industrialised democracies (Cox et al. 2016; Blais, Dobrzynska 1998; Franklin 1996; Blais, Carty 1990; Powell 1980) but not in new and developing democracies (Pérez-Liñán 2001; Kostadinova 2003; Fornos et al. 2004; Blais, Aarts 2006; Gallego et al. 2012). Others (Smith 2018: 196) find that the evidence is “ample and consistent” for industrialised countries, but this is not the case for new democracies, adding that neither is it true for Latin America. The most consistent empirical finding in the literature thus suggests that, in industrialised countries with advanced democracies, there exists a relationship between the proportionality of the electoral system and voter turnout.

3. Abstention and the Spanish electoral system

Here we will test the hypothesis for the case of the Spanish “Congress of Deputies.” The 350 seats are allocated among 52 constituencies. In each of them, the formula and voting structure have remained constant since 1977. The seat allocation formula is D’Hondt. The structure is a single vote for a closed list. Each constituency elects more or fewer seats according to its population. The two smallest

constituencies (Ceuta and Melilla) each elect 1 seat ($M = 1$). The largest ones (Madrid and Barcelona) always elect more than 30 ($M > 30$) seats. The rest of the constituencies elect an intermediate number of seats between these two figures. For the 2019 elections, there were 2 constituencies with $M = 1$, 1 with $M = 2$; 8 with $M = 3$; 10 with $M = 4$; 7 with $M = 5$; 7 with $M = 6$; 5 with $M = 7$; 4 with $M = 8$; 1 with $M = 9$; 1 with $M = 10$; 1 with $M = 11$; 2 with $M = 12$; 1 with $M = 15$; 1 with $M = 32$; and 1 with $M = 37$. Since there haven't been significant population changes, this allocation of seats has barely changed since 1977.

The Spanish case presents two advantages. One is theoretical. Spain is an advanced industrialised democracy and therefore fits the hypothesis regarding the relationship between proportionality and abstention that is most supported by research, as we have seen in the former section. In addition, the Spanish case offers two methodological advantages. First, as has been said (Cox et al. 2016: 1), the analysis of multinational or multisectoral aggregates is more likely to contain “confusions.” By focussing on a single country, most of the problems related to the above-mentioned abundance of factors disappear, thereby reducing one of the great dangers of turnout studies: the difficulty of isolating the importance of each variable (Eggers 2015: 137).

Second, the Spanish parliamentary electoral system also offers the obvious advantage that its 52 constituencies have a district magnitude (M) that ranges from the single-member constituencies of Ceuta and Melilla to the completely proportional ones (more than 30 seats) of Madrid and Barcelona. This change in magnitude, which is a change in the expected proportionality, offers us a test laboratory that is almost perfect for trying to establish the influence of proportionality on turnout. Proportionality measured by M is, moreover, the only system variable susceptible to variation, while the other two variables remain identical (the formula is always D'Hondt, and the lists are always closed²).

The research hypothesis is *a priori* simple and straightforward: the greater the proportionality of the electoral system of the constituency, the greater the turnout. This hypothesis has already been analysed in previous studies on the specific case of Spain and, rather surprisingly, the

² A recent study (Sanz 2017) investigated the influence of voting structure on electoral turnout, to conclude that it does have a slight influence on the same. As the study acknowledges (p. 689) due to the fact that little investigation has been carried out on the incidence of this variable on turnout, this is an extremely worthwhile area of investigation (p. 706).

findings do not tally. At least two studies (Boix, Riba 2000; Riera 2012)³ confirm this hypothesis. In particular, the first study affirms that “the size of the district has an extremely substantial effect on the voting decision (which is similar every year)” and that the “decrease in the degree of proportionality leads to alienation and abstention (instead of the purely strategic vote) of those voters of parties with little likelihood of being elected” (Riera 2012: 121). A third study (Casarramona 2009) even purported, based on the relationship between M and greater or lesser turnout, the existence of a “turnout bias” in the design of the Spanish electoral system, which would be added to the traditional bias of variance and proportional bias (Montero, Lago 2005).⁴ However, two studies (Grofman, Selb 2011; Singer 2015) found no relationship between both variables. This is something that is extremely unusual, even within the complex conceptual framework of the “puzzles” described with regard to turnout, given the fact that the relationship studied between the size of the districts and abstention is direct and bivariate, so that the very existence of discrepancies does not seem possible: either the relationship exists or it does not. Therefore, our investigation aims to shed some light on this unique empirical discrepancy.

4. Methodology and data

To check and contrast the hypotheses put forward here, we're going to use the aggregate electoral data on the Congreso de Diputados (Spanish Parliament) published by the Ministry of the Interior and data sourced from the Instituto Nacional de Estadística (INE – National Institute of Statistics).⁵ The dependent variable is voter turnout and the independent variables are different measurements of the disproportionality of the electoral system and a socio-economic variable that allows us to approximately assess the level of wealth and level of education

³ Riera does so indirectly. He studies differential abstention and, therefore, he verifies the hypothesis by comparing the Autonomous Communities instead of the provinces. Taking this into account, it confirms the hypotheses: “The variable that is statistically significant at 1% again has the expected sign: the greater the permissiveness of the autonomous community's electoral system in relation to the general one, the lower the differential abstention. This effect is robust on all specifications implemented” (Riera 2012: 635).

⁴ A hypothesis that Boix and Riba themselves already pointed to (Boix, Riba 2000: 121).

⁵ <http://elecciones.mir.es>.

of each province. The unit of analysis shall be the constituency.

Of all the variables considered, the disproportionality indicators are the most complex and therefore the most difficult to explain. To make the statistical analysis more robust, we use the three most widely used indicators: Rae's index, Loosemore and Hanby's index, and Gallagher's least square index. All have been calculated with the data provided by the Ministry of the Interior on its website.

The Rae index is calculated as follows:

$$R = \frac{\sum_{i=1}^n |V_i - E_i|}{N},$$

where V is the percentage of votes obtained by party i , E is the percentage of seats of party i , and N is the total number of parties taken into account in this constituency because they have obtained representation in parliament. Rae's disproportionality index measures the average deviation of each party contrasted with what would be perfect proportionality in the representation of each political party.

Loosemore and Hanby's index is calculated with the following formula:

$$LH = \frac{\sum_{i=1}^n |V_i - E_i|}{2},$$

where, again, V is the percentage of votes obtained by party i , and E is the percentage of seats of party i . Now, the ratio is by two, given the fact that this indicator measures the total deviation.

Finally, the formula for Gallagher's least square root index is as follows:

$$G_{MC} = \sqrt{\frac{\sum_{i=1}^n |V_i - E_i|}{2}}.$$

This indicator is halfway between the Rae model and the Loosemore and Hanby one. It uses a scale of 0–100, where 0 is the maximum proportionality and 100 the maximum disproportionality.

We will also make use of a fourth independent variable: the size of the constituency. The different degrees of disproportionality in the Spanish electoral system are directly related to the number of members of parliament in each constituency. Given that the largest districts are the most proportional while the smallest districts are the most disproportional, magnitude also constitutes an obvious measure of the disproportionality of the electoral system of each constituency.

Finally, we include a control variable. Given the fact that it was not possible to obtain an extensive data set for the per capita income for the provinces, we will use the unemployment proxy. Knowing full well that the territories in Spain with the highest level of unemployment are those that have always had a lower per capita income, and vice versa, it is an alternative way of measuring income in the district. Nevertheless, we need to be careful with this control. In the existing literature on the subject, the widespread argument is that there is a greater turnout among high-income voters than those with a lower income. These are individual behaviours, however. In this study we are using an aggregate variable, something that could lead us to commit an ecological fallacy: on many occasions, it is a mistake to deduce individual behaviours from aggregate data. However, insofar as it is simply a control variable, we are not going to go deeper than present a few conclusions on the data that we find.

A second control variable is the level of education in each province. Using microdata from the National Institute of Statistics, we have calculated the percentage of individuals with university education. It is presupposed that there is a direct relationship between the level of education and political participation. Individuals with higher levels of education tend to have a greater tendency towards political participation. However, once again, we encounter the limitation of the previous control variable: we are using aggregated data to explain individual behaviours. Therefore, the explanatory capacity of this variable is limited.

Table 1 summarises the main statistics of the variables used, showing that we had 676 observations, corresponding to the 13 elections held in Spain between 1977 and 2016, and the 52 constituencies in the system. We note that each disproportionality indicator varies in its average, maximum, and minimum values. In principle, the Rae index has the lowest statistics given the fact that it measures the average deviation of the proportionality of each party, while the Loosemore and Hanby index has the highest, given that it measures absolute disproportionality. Nevertheless, the three indicators are very close in their measurements, given that the correlation between the three is never below 0.9. Therefore, they are approaching disproportionality in a very similar way. The constituency sizes range from one, that of Ceuta and Melilla and the 36 achieved by Madrid. As regards the unemployment rate in the provinces, the average for this period was 15.8%. We took the unemployment figure for the first quarter of each year in which an election was held. And, as previously noted, the education variable captures the percentage of individuals with university education in each province during the election year.

Variables	<i>N</i>	Mean	Standard deviation	Minimum	Maximum
Turnout	676	71.9	8.1	33	98.5
Rae's index	676	7.2	4.9	0.7	44.8
Loosemore and Hanby's index	676	15.4	9.2	1.4	59.8
Gallagher's index	676	12.6	7.9	1.2	51.9
Constituency size	676	6.7	5.9	1	36
Unemployment	650	15.8	8.3	0.1	42.1
Education	600	11.8	6.6	2.3	36.7

Table 1. Variables.

Source: Ministry of the Interior and INE.

In terms of the methodology used, we made linear regressions with variables from different models in order to compare how disproportionality affects voter turnout in each province. These are addition models. In other words, once seen the initial relationship, we add the control variables. Furthermore, we will also consider a fixed effect model, assuming that there is something in each electoral period that is not controlled in our independent variables but which must be taken into account. It is this set of factors that is characteristic of each election and which could have some effect on turnout at that time.

5. Results

Table 2 shows the results of the different statistical models used. Of these six models, the first three use independent and control variables, while the last three (models 4, 5, and 6) add the fixed effects for the elections to these variables. As indicated above, this allows us to control the possible specific questions of each election. All six models are linear regressions, calculated with robust errors.⁶ The interpretation of the coefficients allows us to determine the variation in turnout and whether it is positive or negative in relation to the change in each of the independent variables used.

It can be seen that all the models are statistically significant, although they have a somewhat limited explanatory capacity. In fact, the control variables, while significant in many of the models, lead to opposite conclusions when using fixed effects following the panel structure of the data or when we reduce the analysis to a linear regression.

⁶ This estimation model makes it possible to increase the efficiency insofar as the error distribution does not follow the normal distribution.

With these data, it is difficult to affirm that there is a causal relationship between the disproportionality of the electoral system and turnout in the Spanish provinces. The Rae index is significant statistically in the two statistical models that it figures, but it goes in the opposite direction as we expected. In contrast, the Loosemore and Hanby, and Gallagher indices are not barely significant. Even removing the independent variable of the size of the constituency, given that it has a correlation of close to 0.5 with the disproportionality indices, the expected relationship between the proportionality of the electoral system and voter turnout does not come about. Therefore, the Spanish case does not serve to confirm that there is some type of relationship in this latter sense and everything indicates that voter turnout is not related to the degree of proportionality of the electoral system.

6. Conclusions

The principal conclusion from the research carried out in this article is that the question of the relationship between turnout and electoral system continues to be completely refractory to any type of strong affirmation. Our calculations for the results of the elections for the Spanish parliament refute the hypothesis – *a priori* considerably intuitive – that a lower proportionality of the electoral system in each constituency results in a lower turnout at elections. Nevertheless, the existence of previous studies that have not reached the same conclusion on the subject, together with the evident complexity of the studies on electoral turnout, means that we need to be cautious. Everything indicates that our study neither confirms nor refutes the hypothesis. Instead, more modestly, it is yet another part of a fascinating and complex puzzle that political science investigation has yet to solve. The task is thus not yet completed and the debate is still open.

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	71.27*** (1.61)	76.29*** (1.56)	75.6*** (1.68)	74.2*** (1.73)	76.9*** (1.95)	77.1*** (1.91)
Rae	0.32** (0.12)			0.35*** (0.13)		
Loosemore and Hanby		-0.1* (0.05)			0.03 (0.06)	
Gallagher			-0.08 (0.08)			0.03 (0.09)
Size	0.15*** (0.06)	0.03 (0.05)	0.04 (0.06)	0.1** (0.06)	0.03 (0.05)	0.03 (0.06)
Unemployment	-0.08** (0.04)	-0.09** (0.04)	-0.09** (0.04)	0.11** (0.05)	0.1* (0.06)	0.1* (0.05)
Education	-0.03 (0.05)	-0.7 (0.05)	-0.06 (0.05)	0.16* (0.1)	0.16* (0.1)	0.16* (0.1)
F	3.9***	2.8***	2.3***	17.8***	17.2***	17.3***
R ²	0.02	0.02	0.02	0.23	0.22	0.22
N	600	600	600	600	600	600

Table 2. Results.
*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Source: Author's contribution.

Funding information

The contribution of Jorge Urdániz in this article was supported by the Spanish Ministry of Science and Innovation, under Investigation Program PID2019-106904RB-I00, entitled "Construcción de derechos emergentes (Construction of emergent rights)," directed by Jose María Sauca Cano y Manuel Escudero Alday.

Author contributions

Jorge Urdániz: Conceptualization, Literature review, and writing – original draft. Ignacio Urquizu: Data curation and formal analysis. All authors have read and approved the final manuscript.

Conflict of interest statement

Authors state no conflict of interest.

References

- Aldrich, John H. (1993). Rational Choice and Turnout. *American Journal of Political Science*. Vol. 37, pp. 246–278.
- Anduiza, Eva. (1999). *¿Individuos o sistemas?: las razones de la abstención en Europa Occidental*. Madrid: Centro de Investigaciones Sociológicas, Siglo Veintiuno de España Editores.
- Blais, André; Dobrzynska, Agnieszka. (1998). Turnout in Electoral Democracies. *European Journal of Political Research*. Vol. 33, no. 2, pp. 239–261.
- Blais, André. (2006). What Affects Voter Turnout? *Annual Review of Political Science*. Vol. 9, pp. 111–125.
- Blais, André; Aarts, Kees. (2006). Electoral Systems and Turnout. *Acta Politica*. Vol. 41, pp. 180–196.
- Blais, André; Carty, R. Kenneth. (1990). Does Proportional Representation Foster Voter Turnout?. *European Journal of Political Research*. Vol. 18, no. 2, pp. 167–181.
- Boix, Carles; Riba, Clara. (2000). Las bases sociales y políticas de la abstención en las elecciones generales españolas: recursos individuales, movilización estratégica e instituciones electorales. *Revista Española de Investigaciones Sociológicas (Reis)*. Vol. 90, pp. 95–128.
- Boyle, Brian Paul. (2022). Engineering Democracy: Electoral Rules and Turnout Inequality. *Political Studies*. Vol. 72, pp. 177–199.
- Breux, Sandra; Couture, Jérôme; Koop, Royce. (2017). Turnout in Local Elections: Evidence from Canadian Cities, 2004–2014. *Canadian Journal of Political*

- Science-Revue Canadienne De Science Politique*. Vol. 50, no. 3, pp. 699–722. 10.1017/s000842391700018x.
- Bromund, Ted R. (2001). Uniting the Whole People: Proportional Representation in Great Britain, 1884–1885, Reconsidered (Victorian Liberalism and the Building of “Voluntary” communities During the Reform Crisis). *Historical Research*. Vol. 74, pp. 77–94.
- Casarramona, Toni. (2009). El sesgo de participación en el sistema electoral español. *Revista Española de Investigaciones Sociológicas (Reis)*. Vol. 126, pp. 107–125.
- Cox, Gary W. (1999). Electoral Rules and the Calculus of Mobilization. *Legislative Studies Quarterly*, Vol. 24, no. 3, pp. 387–419.
- Cox, Gary W., Fiva, Jon H., Smith, Daniel M. (2016). The Contraction Effect: How Proportional Representation Affects Mobilization and Turnout. *Journal of Politics*, Vol. 78, pp. 1249–1263.
- Downs, Anthony. (1957). *An Economic theory of Democracy*. New York: Harper and Row.
- Duverger, Maurice. (1950). *L'influence des systèmes électoraux sur la vie politique*. Paris: Armand Colin.
- Eggers, Andrew C. (2015). Proportionality and Turnout: Evidence From French Municipalities. *Comparative Political Studies*. Vol. 48, no. 2, pp. 135–167. 10.1177/0010414014534199.
- Fisher, Stephen D., et al. (2008). Disengaging Voters: Do Plurality Systems Discourage the Less Knowledgeable from Voting? *Electoral Studies*. Vol. 27, no. 1, pp. 89–104.
- Fornos, Carolina A.; Power, Timothy J.; Garand, James C. (2004). Explaining Voter Turnout in Latin America, 1980 to 2000. *Comparative Political Studies*. Vol. 37, no. 8, pp. 909–940.
- Franklin, Mark N. (1996). Electoral Participation. In Le Duc, L.; Niemi, R. G.; Morris, P. (eds.). *Comparing Democracies: Elections and Voting in Global Perspective*. Thousand Oaks, CA: Sage, pp. 216–235.
- Gallego, Aina; Rico, Guillem; Anduiza, Eva. (2012). Disproportionality and Voter Turnout in New and Old Democracies. *Electoral Studies*. Vol. 31, pp. 159–169.
- Geys, Benny. (2006). Explaining Voter Turnout: A Review of Aggregate-Level Research. *Electoral Studies*. Vol. 25, no. 4, pp. 637–663.
- Grofman, Bernard; Selb, Peter. (2011). Turnout and the (Effective) Number of Parties at the National and District Levels: A Puzzle-Solving Approach. *Party Politics*. Vol. 17, pp. 93–117.
- Jackman, Robert W. (1987). Political Institutions and Voter Turnout in the Industrial Democracies. *American Political Science Review*. Vol. 81, no. 2, pp. 405–423.
- Jackman, Robert W. (1987). Political Institutions and Voter Turnout in the Industrial Democracies. *American Political Science Review*. Vol. 81, pp. 405–423.
- Jackman, Robert W.; Miller, Ross A. (1995). Voter Turnout in Industrial Democracies During the 1980s. *Comparative Political Studies*. Vol. 27, pp. 467–492.
- Karp, Jeffrey A.; Banducci, Susan A.; Bowler, Shaun. (2008). Getting Out the Vote: Party Mobilization in a Comparative Perspective. *British Journal of Political Science*. Vol. 38, no. 1, pp. 91–112.
- Katz, Richard S.; Mair, Peter. (1995). Changing Models of Party Organization and Party Democracy: the Emergence of the Cartel Party. *Party Politics*. Vol. 1, pp. 5–28.
- Kostadinova, Tatiana. (2003). Voter Turnout Dynamics in Post-Communist Europe. *European Journal of Political Research*. Vol. 42, no. 6, pp. 741–759.
- Lakeman, Enid. (1974). *How Democracies Vote: A Study of Electoral Systems*. London: Faber and Faber.
- Lavezolo, Sebastián; Riera, Pedro. (2008). *Las causas de la participación y sus consecuencias en el voto de centro y de izquierda en España*. Madrid: Fundación Alternativas.
- Lijphart, Arend. (1997). Unequal Participation: Democracy’s Unresolved Dilemma. *American Political Science Review*. Vol. 91, pp. 1–14.
- Lipset, Seymour Martin; Rokkan, Stein. (1967). *Cleavage Structures, Party Systems, and Voter Alignments: Cross-National Perspectives*. New York: Free Press.
- Montero, José Ramón; Lago, Ignacio. (2005). Todavía no sé quienes, pero ganaremos: manipulación política del sistema electoral español. *Zona abierta*, no. 110–111, pp. 279–348.
- Pardos-Prado, Sergi, Galais, Carolina; Muñoz, Jordi. (2014). The Dark Side of Proportionality: Conditional Effects of Proportional Features on Turnout. *Electoral Studies*. Vol. 35, pp. 253–264. 10.1016/j.electstud.2014.01.005.
- Pérez-Liñán, Aníbal. (2001). Neoinstitutional Accounts of Voter Turnout: Moving Beyond Industrial Democracies. *Electoral Studies*. Vol. 20, no. 2, pp. 281–297.
- Powell, G. Bingham. (1980). Voter Turnout in Thirty Democracies: Partisan, Legal, and Socio-Economic Influences. In Rose, R. (ed.). *Electoral Participation. A Comparative Analysis*. Beverly Hills: Sage.
- Powell, G. Bingham. (1982). *Contemporary Democracies: Participation, Stability, and Violence*. Cambridge, Harvard: Harvard University Press.
- Powell, G. Bingham. (1986). American Voter Turnout in Comparative Perspective. *American Journal of Political Science*. Vol. 80, pp. 17–44.
- Rae, Douglas W. (1967). *The Political Consequences of Electoral Laws*. New Haven, London: Yale University Press.
- Riera, Pedro. (2012). La abstención diferencial en la España de las autonomías. Pautas significativas y mecanismos explicativos. *Revista Internacional de Sociología*. Vol. 70, pp. 615–642.

- Riker, William H.; Ordeshook, Peter C. (1968). A Theory of the Calculus of Voting. *American Political Science Review*. Vol. 62, pp. 25–42.
- Rosenstone, Steven J., Hansen, John Mark. (1993). *Mobilization, Participation, and Democracy in America*. New York: McMillan.
- Sanz, Carlos. (2017). The Effect of Electoral Systems on Voter Turnout: Evidence from a Natural Experiment. *Political Science Research and Methods*. Vol. 5, pp. 689–710.
- Selb, Peter. (2009). A Deeper Look at the Proportionality-Turnout Nexus. *Comparative Political Studies*. Vol. 42, pp. 527–548.
- Shachar, Ron; Nalebuff, Barry. (1999). Follow the Leader: Theory and Evidence on Political Participation. *American Economic Review*. Vol. 89, pp. 525–547.
- Singer, Matthew M. (2015). Does Increasing District Magnitude Increase the Number of Parties? Evidence from Spain, 1982–2011. *Electoral Studies*. Vol. 38, pp. 118–126.
- Smith, Daniel M. (2018). Electoral Systems and Voter Turnout. In Herron, Erik S., Pekkanen, Robert J.; Shugart, Matthew S. (ed.). *The Oxford Handbook of Electoral Systems*. New York: Oxford University Press.
- Tullock, Gordon. (1967). *Toward a Mathematics of Politics*. Ann Arbor: University of Michigan Press.