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From people's preferences to political representation. The case of the Spanish regional elections

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Abstract

In this paper, we conduct an empirical analysis of the transition from voters' preferences to electoral outcomes, a process significantly influenced by the electoral system. We introduce a measure called 'support' that summarizes voters' preferences. Then, we examine how these preferences are compressed under the plurality voting mechanism, which forces to select just one option. This choice is captured by the 'affinity', which singles out the preferred party for each voter. The final decision, though, is affected by strategic considerations and several other factors. Using survey data from three Spanish regions (Andalusia, Madrid, and the Valencian Community) prior to their respective Regional Elections, our findings indicate that political representation in all three Regional Parliaments would be more diverse if based on voters' complete preferences (i.e., support). In all instances, smaller parties lose ground, a trend that emerges even before strategic considerations. These results suggest that the electoral system may exacerbate political polarization, diverging from social preferences.

Keywords: Voting; regional elections; surveys; voters' preferences; political support; political representation.

1. Introduction

This paper provides empirical research on how social preferences over political parties translate into electoral outcomes. We understand that there are two key mechanisms that operate on that transition. The first one is the way in which individual preferences over political parties are compressed when having to choose just one party as the most preferred one. The second refers to the voters' strategic behavior and trust. That is, how people decide to cast their votes in the elections, considering the effectiveness of their choices and the past performance of governing parties.

Most parliamentary elections follow the so-called *plurality voting* mechanism, in which each voter selects a single political party among those competing in the election. This is a standard procedure that admits several variants regarding the degree of proportionality between votes and parliamentary seats. Plurality voting has been criticized because it does not allow voters to express their degree of proximity for different parties. As a consequence, as known at least since the XVIII Century (see Borda 1784 and Condorcet 1785), it might be the case that the party that gets the highest number of votes, hence the winner, is the party that a majority regards as the worst option. This is due to the effect of the indivisibility of the vote: plurality voting does not compute the whole ranking of the alternatives of each voter, but just the alternative that occupies the top position in that ranking. Accordingly, electoral surveys that try to anticipate the electoral outcomes usually focus on the voters' preferred alternative, which implies that the question of whether the outcomes reflect properly people's preferences is difficult to formulate empirically.

We address here this question by exploiting datasets that contain rich enough information on people's individual preferences over all political parties. They refer to the regional elections in three of the Spanish largest autonomous regions: Andalusia, Madrid (Comunidad de Madrid),¹ and the Valencian Community. We utilize data from electoral opinion polls jointly published by the Spanish media outlets *El País* and *Cadena SER*, one of the country's main newspapers and the leading radio station, respectively. Those datasets have two crucial advantages for our purposes. On the one hand, these media outlets recently decided to follow an open-data policy and made available the full micro datasets from their surveys. On the other hand, their questionnaire provides information that describes each voter's preferences over *all* political parties, and not simply on the most preferred one. Based on that information, we obtain three measures that describe the conversion of preferences into outcomes, conditional on the design of the electoral system. We refer to those measures as *support*, *affinity*, and *direct intention of vote* (or simply, *intention*).

Support is a measure based on how everyone ranks the competing political parties, in terms of the likelihood to vote for each of them declared by the voters in the survey. This information helps obtaining a measure of the relative support that political parties obtain. This

¹ Madrid is a name that corresponds to three different entities: a city, a province, and a region. Here we shall always refer to Madrid as a region, formally called Comunidad de Madrid.

variable is built by computing how many voters prefer one party to another in all possible pairwise comparisons.

Affinity is a variable directly provided by the surveys. It tells us which party is closest to everyone's political beliefs. When considering the society, the observed differences between support and affinity derives from the fact that support computes how each individual feels with respect to *all* parties, whereas affinity simply pinpoints the preferred one. That difference shows, therefore, the effect of the plurality voting mechanism, as it discards the information that does not correspond to the top-tiers.

The direct intention of vote involves an additional elaboration of the voters in the realm of plurality voting mechanisms. It introduces strategic considerations, conditional to the electoral system, which may involve aspects such as the probability of achieving parliamentary representation, the effectiveness of the vote against the adversaries, or the past performance of the competing parties.

The real outcomes may still differ from the direct intention of vote in the electoral surveys, due to several factors. First, the decisions of those who did not declare their intention of vote, usually a non-negligible share of the electorate (between one fifth and one tenth of the voters). Second, because opinions may change during the last seven days of the political campaign, on which no survey can be done according to the Spanish law. And third, because people may hide their true intentions of vote. Besides, being the province the electoral circumscription, small changes in numbers may alter the seats attached to each party, especially when combined with the minimum threshold required to enter. Those factors become more relevant the weaker the preference intensity for a top option (a relevant feature of the voters' opinions, as we shall see).

We compare in this paper people's support, affinity, and direct intention of vote with the real outcomes in the latest three Spanish regional elections: Andalusia (2022), Madrid (2023), and Valencian Community (2023). Given the features of the electoral systems, we estimate the distribution of seats for each of those variables and compare them with the actual outcome. That comparison serves to illustrate how the voting mechanism transforms preferences into a distribution of seats in the regional parliaments. We also provide an interpretation of the differences between those variables.

We focus on the case of Madrid because it is a region made of a single province, so that the description of the procedures and the interpretation of the outcomes is more straightforward. Detailed results on Andalusia and the Valencian Community at provincial level are presented in the Appendix.

2. Background, methods and data

2.1 The Spanish electoral system and the reference surveys

The electoral system

Spain is divided into 17 autonomous regions, each one with its own government and Parliament. Twelve of those regions are divided into several *provinces* that act as electoral circumscriptions, whereas there are five single-province ones, including Madrid. The allocation of seats in a multiprovince region obtains from a two-step mechanism. First, a minimum number of seats is allocated to each province, irrespective of its population size; second, the rest is distributed proportionally to the population. Citizens vote for a single party and parties must obtain a minimum percentage of votes to get a seat. Seats are allocated to parties proportionally to the votes obtained at provincial level, using the D'Hondt rule to distribute the rests in most of the cases.

Each region has its own peculiarities within this general framework. In Andalusia, whose Parliament is made of 109 seats, a minimum of 8 seats is attached initially to each of its eight provinces, and only the remaining 45 seats are allocated according to their population (following Hamilton's procedure). In the Valencian Community, 60 out of 89 seats are equally distributed among its three provinces, so that only 29 seats are allocated according to the population (following the D'Hondt rule, in this case). Madrid is a region made of a single province; hence this two-step procedure does not apply. Both in Madrid and in the Valencian Community parties need a minimum 5% of the effective votes to get a seat, while in Andalusia it is only 3%.

The Spanish political system is parliamentary, both at the national and the regional level. That is, the government does not go to the party with the majority of the seats, but to the party that presents a coalition supported by a majority in Parliament.

There are two traditional parties in Spain: *Partido Popular* (PP), a center-right wing party, and *Partido Socialista* (PSOE), a center-left wing party. For many years both parties alternated in the Spanish government, as well as in most of the regions. Recently, though, new parties emerged. On the one hand a centrist-liberal party, *Ciudadanos* (CS), that played a relevant institutional role for a while, but has practically disappeared nowadays. On the other hand, two parties at the opposite extremes of the political spectrum: *Podemos*, on the left-hand side, and *Vox* on the right-hand side. There are also some idiosyncratic regional parties. In Andalusia we find two leftists parties, *Adelante Andalucía* (AA) and *Por Andalucía* (xAnd), splinters of Podemos. In Madrid there is *Más Madrid* (MM), a moderate left-wing party, another splinter of Podemos. Finally, in the Valencian Community there is *Compromís*, a regionalist and leftist party. Alliances between PSOE and some of the left-wing parties, on the one hand, and PP and Vox, on the other hand, are nowadays required for most governments' formation.

The surveys

Many media across the world regularly publish electoral opinion polls, but only final predicted results are publicly available. In Spain, the newspaper El País and the radio station Cadena SER, have been publishing for years a monthly electoral poll about general elections and

two additional polls prior to each regional or general election. Those polls were derived from a survey conducted by the agency “40dB”, which also carried out the original analysis of the data published in the media. In 2022, these two media outlets decided to follow an open-data policy and made publicly and freely available all the raw micro data of their telephone surveys.

We consider here three regional elections that recently took place in Spain: Andalusia, June 2022, and Madrid and Valencian Community, May 2023. Two polls’ surveys were conducted for each of them by these media outlets. For simplicity, we will use the second of those two surveys in each case (that closest to the elections). The questionnaire, methodological details and raw micro data are publicly available and can be downloaded from the web; see EL PAÍS (2022, 2023).²

The questionnaire includes both demographic and political opinion questions. Further details, including URLs to access all the information, are available in Appendix 1. We use the data of Madrid elections, that took place in 2023, to illustrate the main ideas, which facilitates the analysis because it is a region with a single electoral circumscription. The results regarding the other two regions are presented later.

2.2 Support, affinity, and intention of vote

To analyze how individual preferences over political parties transform into parliamentary seats, we consider three key questions contained in the questionnaires of those electoral surveys, that allow us obtaining measures of the overall *support*, *affinity*, and *intention of vote* for the different parties.

Support

We obtain an overall measure of the *support* for the different parties, from the voters’ preferences, by considering their answers to the following question: “What is the likelihood that you would vote for the following parties? Mark the corresponding box on this scale from 0 to 10, where ‘0’ represents ‘definitely would never vote for them’ and ‘10’ ‘definitely would vote for them’”. Each voter, therefore, provides a score that tells us how much each party is liked, in terms of the “probabilities” of receiving his/her vote. A higher score, thus, indicates a preferred party. Even though the comparability of those cardinal evaluations is not clear, those numbers provide robust information on how the individuals compare each party vis-à-vis the others. We obtain a social evaluation of the political parties from those scores by computing how many individuals prefer one party to the other, in each pairwise comparison. To formalize this idea, let n_{ij} stand by the number of voters who prefer party i to party j , and e_{ij} the number of those who are indifferent between both options. Define now $p_{ij} = n_{ij} + \frac{1}{2}e_{ij}$. That is, p_{ij} is the number of individuals who prefer i to j , plus one half of those who are indifferent (we split equally indifference between the two parties, so that, if preferences are complete, $p_{ij} + p_{ji} = 1$).

² The links to EL PAÍS’s online content referenced in this document are freely accessible, although free registration might be required for full access.

Those pairwise comparisons can be embodied in a square matrix P , of dimension G , the number of competing parties. The (i, j) entry of this matrix is p_{ij} , $i \neq j$, with $p_{ii} = 0, \forall i$. The i th row of this matrix tells us, therefore, how party i fares relative to all other parties in terms of the number of voters who rank party i above any other. Consequently, we can define the overall support obtained by party i as the sum of the terms in the corresponding row of matrix P , $s_i = \sum_j p_{ij}$. That value may be regarded as the i th component of the vector, $s = P\mathbf{1}$, where $\mathbf{1}$ is the unit vector. By letting:

$$s_i = 100 \times \frac{1}{\sum_{h=1}^G \sum_j p_{hj}} \sum_j p_{ij}$$

we obtain a measure of the relative support that society concedes to each party, considering the voters' preferences over all alternatives. This is what we call **shares** in the tables below.³

From a conceptual viewpoint, the main advantage of this way of measuring the social support of a party is that it uses the information on the voters' preferences over all parties, contrary to plurality or approval voting (see Kemeny 1959; Maskin & Sen 2016; Maskin 2018; Dasgupta & Maskin 2020; Potthoff & Munger, 2021). From an operational perspective, note that: (i) It provides a complete and cardinal evaluation. (ii) It can be applied allowing for indifferences and when preferences may fail to satisfy both transitivity and completeness. (iii) It is *additively decomposable* by population subgroups.

Affinity and intention of vote

Affinity corresponds to the answer to the following question: "*Which is the party that is closest to your political ideas?*" This variable, therefore, compresses the information regarding the ranking of parties of each individual into a single option. This question is key while tracing the path from the voters' preferences to their votes, which might also be affected by strategic considerations. Changes between support and affinity may be attributed to the application of the plurality voting system, since agents must choose a single party, instead of modulating their closeness.

Direct intention of vote is probably the key element when predicting the results of a political election. It corresponds to the answer to the question: "*Which party you have the intention to vote?*". The change from affinity to intention of vote may derive from the introduction of strategic considerations when deciding how political closeness transforms into vote (here the probability of success is incorporated, considering the specificities of the electoral systems, the past behavior of political parties, and probably the likelihood of avoiding the most feared outcome).

2.3 On the sample selection.

³ This way of transforming individual rankings into cardinal social evaluations corresponds to the *precedence function*, characterized in Villar (2023), which can be regarded as an extension of the Borda count.

A common challenge, when using survey data, is how to deal with the non-responses to key questions. To address this issue, we have made some decisions that shape the composition of our final sample. Let us now explain how we have proceeded to obtain the sample used for the results presented in this paper.

The main difficulty refers to the answer on the intention of vote, as there is a relevant share of the voters who do not to specify the party they are planning to vote. As detailed in Appendix 1, this is represented by the scale value '99', indicating 'I don't know'. In our method for computing support for a party, this option is incorporated as the lowest possible degree of support for a party. This is not the possible way of treating those data, but this is a reasonable choice that does not significantly affect our results.

As shown in Appendix 1, our two other main survey questions allow respondents to express their affinity or vote intention among the six main parties in these elections. But they can also opt for a different party, abstain from voting, or choose "don't know" / "no answer" (DK/NA). In our sample selection, we exclude individuals who choose a party other than the main six or who choose not to vote or express affinity for no party; notably, most non-voters also demonstrate no party affinity and no support for any party. These exclusions do not impact our results, given that these groups can never influence the seat allocation process. On the one hand, non-voters cannot alter the seat allocation. On the other hand, marginal parties did not achieve significant electoral impact; specifically, none reached the threshold for seat allocation in either the survey or the final election results, with shares below 1%.

Regarding individuals who select "don't know" / "no answer" (DK/NA), we are presented with two possibilities. One approach is to exclude them from the final sample. However, many respondents in electoral surveys select DK/NA to conceal their actual voting preferences. Consequently, it is customary to impute voting intentions for these individuals to enhance the accuracy of electoral predictions. For our primary results, we have adopted this approach. Therefore, we employed the k-Nearest Neighbours (k-NN) algorithm to impute responses for these individuals in our main questions 1 and 2. The algorithm uses various socio-demographic characteristics (such as gender, age, family size, province of residence, education, labor market status, and social status) along with additional political information (including self-declared position on the left-right spectrum, voting history in previous elections, and opinions on the country's territorial organization).⁴ The k-NN algorithm imputes an answer for each respondent, which either aligns with one of the six main parties or falls into other categories (another party or not voting). If the imputation aligns with a main party, the observation is included in the final sample. Conversely, if it corresponds to any of the other options, the observation is excluded, following the rationale previously explained.

⁴ The k-Nearest Neighbours (k-NN) is a flexible, non-parametric algorithm frequently employed for imputation due to its effectiveness in handling diverse datasets; see Van Buuren, Brand, Groothuis-Oudshoorn, and Rubin (2006). It adaptively identifies the most similar cases (or 'neighbours') to estimate missing values. For our analysis, the optimal number of neighbours has been chosen for each question and tailored to each region.

We have also explored alternative approaches for handling the DK/NA responses in all three of our main questions. Yet, we do not include those results in the paper, for the sake of clarity in exposition. Suffices to say that they do not change the nature of our findings (the alternative analysis is available from the authors upon request).

3. Results

We now consider the results that obtain from calculating the support, affinity, and intention of vote, and compare them with the actual electoral outcomes. Starting from the information provided by the answers to the questionnaires, we simulate the allocation of seats in the different regions, considering the specificity of their electoral systems. Both Madrid and the Valencian Community have a minimum threshold of 5% to get a seat and use the D’Hondt rule to adjust the reminders. Andalusia, on the contrary, has a 3% threshold and uses Hamilton procedure, instead of the D’Hondt rule.

Besides the simulation regarding the seats that each party would obtain according to the different variables considered, we also provide the information concerning the raw shares of the votes that each party obtains for each variable, dispensing with the modifications derived from the seat allocation process in each electoral system. The tables presented below are all our own elaboration on the data from the surveys by El País and Cadena SER.

Note that there is a significant difference between Madrid, on the one hand, and Andalusia and the Valencian Community, on the other. In Madrid there is a single province, while Andalusia and the Valencian Community are made of several provinces, eight and three, respectively. This means that the allocation of seats in their Parliaments is the sum of the seats obtained in each of their provinces and that the electoral system is much less proportional to the population, given the assignment of seats to the provinces described in Section 2.

Elections in Andalusia took place in June 2022, whereas both in the Valencian Community and in Madrid took place in May 2023. The questionnaires administered prior to the elections by the company that run the electoral poll include the same relevant questions in all three regions.

3.1 Madrid

Table 1 presents the distribution of shares and the allocation of seats in Madrid, using the sample previously described.

Table 1: Madrid

Party	Support		Affinity		Intention		Results	
	Seats	Share	Seats	Share	Seats	Share	Seats	Share
PP	30	22.12	50	36.52	63	43.20	70	48.52
MM	22	16.65	21	15.18	25	17.17	27	18.82
PSOE	25	18.70	30	22.30	30	20.92	27	18.64
Vox	20	14.59	18	13.49	17	11.86	11	7.54

Podemos	16	11,89	8	6.36	0	4.30	0	4.88
Cs	22	16.05	8	6.16	0	2.56	0	1.60

The data on the support received by the parties describe a rather uniform distribution of preferences, with a range of shares between 12% and 22% (which translates into a range of seats between 16 and 30). Affinity provides a very different picture of political opinions. PSOE and even more PP improve clearly, MM and Vox slightly decrease, and Podemos and Cs go down significantly (specially Cs, that losses almost two thirds of its share and seats). Those data show that having to choose a single party induces a clear increase in the spread of shares and seats. Therefore, votes will be more polarized than opinions. As for the direct intention of vote, the data suggest that people consider other factors than the mere ideological proximity. The increase in the number of shares and seats for PP comes from a clear transfer of voters from Cs and Vox. The transfer from Cs to PP is most likely derived from the perception that Cs will hardly play any role in Parliament, due the ideological confusion of their leaders and the erratic nature of their policies. In the case of Vox, its extreme ideology may also explain the transfer. One may expect a shift from Podemos to PSOE, also due to the idea of avoiding extreme positions. The fall in PSOE may derive from the aim at punishing the national Government, led by this party in alliance with Podemos. Thus, some votes from both parties are transferred to MM that can be perceived as having an intermediate position and it has been more focused on regional issues.

The trend shown in Table 1, regarding the transition from preferences to votes in Madrid, is quite clear. On the one hand, Cs and Podemos lose both shares and seats when going from support to affinity, from affinity to intention, and they disappear from the parliament after the elections, as their electoral shares did not reach the minimum 5% threshold. Vox loses seats from affinity to intention, and then even more in the election. MM shows a quite stable situation, with slightly higher shares for intention and for the real outcome. PSOE gains a bit from support to affinity and loses from affinity to intention and in the actual share. Finally, PP goes up at every step of the transition, more than duplicating the seats in the actual election as compared with the allocation under support.

3.2 The Valencian Community

Here we replicate the exercise performed before for Madrid. Details on the results at provincial level are given in the Appendix.

Table 2 presents the distributions of shares and seats according to the support, affinity, intention of vote, and the electoral outcomes, under two different scenarios. First, we obtain shares and seats, assuming a single demarcation, namely, assuming that all the votes in the Region are computed together. Then, we present seats when the provinces act as different demarcations (without stars *). The comparison between the two scenarios provides a measure of the impact of dividing the votes in provinces.

Table 2: Valencian Community, different distributions of seats

Party	Support			Affinity			Intention			Results		
	Seats	Seats*	Share*	Seats	Seats*	Share*	Seats	Seats*	Share*	Seats	Seats*	Share*
PSOE	23	21	21.14	28	27	26.84	29	27	26.47	31	31	29.71
PP	20	19	18.99	27	25	24.76	32	30	28.68	40	39	37.01
Cs	16	15	15.47	8	8	7.91	1	0	4.36	0	0	1.55
Compr omis	17	17	17.58	15	17	17.34	17	19	18.61	15	14	13.01
Vox	11	14	13.76	16	16	15.66	18	17	16.28	13	15	15.02
Podem os	12	13	13.06	5	7	7.48	2	6	5.59	0	0	3.70

Note: Remember that seats without asterisk are those allocated according to the actual electoral system in which provinces are the electoral demarcations (see Appendix 2 for details).

We see here a similar trend to that in Madrid. Both Cs and Podemos lose progressively seats when going from support to affinity, from affinity to intention, and they disappear from Parliament after the elections, as they fail to reach the minimum 5% threshold. PP goes up in that comparison, duplicating the seats in the actual election as compared with the allocation under support. This mainly comes from the transfer of voters from Cs, whose effect already appears between support to affinity and between affinity and intention.

The socialist party, PSOE, goes up from support to affinity, that is, when individuals must choose their top preference, and has additional minor gains in the seats obtained after the elections. Vox exhibits quite stable a trend, although it loses two seats in relation to intention, which could be attributed to last minute strategic vote against the “left block”. Finally, Compromis shows an increasing trend that is partially reversed in the outcome of the elections, most likely in favour of the Socialist Party.

The effect of the distribution of votes by province can be seen in the comparison of seats in the two scenarios. PSOE and PP got better results (seats) with the division in provinces at all stages, Vox and Podemos get better results without the provinces.

3.3 Andalusia

As in the case of the Valencian Community, we estimate the allocation of seats per province under the different scenarios. The details about these results on shares and seats for each province are given in the Appendix. Table 3 describes the allocations of seats for the different measures.

Table 3: Andalusia, different distributions of seats

Party	Support			Affinity			Intention			Results		
	Seats	Seats*	Share*	Seats	Seats*	Share*	Seats	Seats*	Share*	Seats	Seats*	Share*
PSOE	19	20	18.06	30	29	26.27	25	24	22.37	30	27	25.04
PP	23	23	20.76	33	30	27.41	49	43	39.73	58	49	44.78

Cs	19	18	16.95	9	11	10.1	1	5	4.58	0	4	3.43
xAnd	17	17	15.29	13	14	13.05	9	11	10.15	5	9	8
Vox	15	15	13.68	17	16	14.8	18	17	15.27	14	15	13.99
AA	16	17	15.27	7	9	8.36	7	9	7.9	2	5	4.76

Note: Remember that seats without asterisk are those allocated according to the actual electoral system in which provinces are the electoral demarcations (see Appendix 2 for details).

The final result of the elections in Andalusia was similar to that in Madrid, with PP obtaining the absolute majority of the seats. PP's trend is also similar to that in the other regions, going up from support to affinity, from affinity to intention, and from intention to outcomes. Cs repeats its fate, coming from a significant support, going down in affinity and intention, and finally disappearing from Parliament. Vox exhibits a similar pattern to PP but went down in the actual election. PSOE ended up with many more seats than those granted by its support, and closest to affinity. Finally, the leftist regionalist parties, xAnd and AA lose many seats from support to outcomes.

As for the impact of the existence of provinces in the elections, both PSOE and PP benefit from the division, especially PP, gaining 9 seats due to the demarcation effect. Cs, xAnd and AA lose due to the division of the vote in provinces.

4. Discussion

4.1 Support

The main conceptual contribution of this paper consists of introducing the notion of support, as a way of summarizing individual preferences over political parties. Its computation sheds light on the role of plurality voting when substituting whole rankings by top options. As this is a key element of our analysis, it is worth considering whether the results we present here depend on the way of defining this notion, or they are robust to alternative definitions. We discuss this aspect by considering two different definitions of support and showing that they convey the same message as the one described above.

The way proposed here to measure the support uses the individual rankings obtained from the question: *"In a 0 – 10 scale, what is the probability that you vote for each of the parties?"* One may argue that by using individual rankings, rather than individual scores, we lose some relevant information. We have chosen the rankings because they provide a more robust information on the agents' preferences. Note that, despite the wording of the question, those scores between 0 and 10 are not really probabilities (even if scaled properly). On the one hand, because they are not complete, that is, some voters do not assign any score to some parties, so that we have a case of incomplete distributions. On the other hand, the total scores of an individual need not add-up to 10, as nothing prevents that an individual assigns a score 6 to one party and a score 8 to another. This implies that by adding up those scores we would give to some individuals more weight than to others in the overall evaluation.

This can be partly solved by making each individual score relative to the sum of the scores allotted by that individual, and assuming that declaring no score declared is the same as zero probability (quite strong an assumption). In this way may interpret that everyone distributes a unit of probability among the different parties. That is, let $q_{hj} \in [0,10]$ denote the score that individual h gives to party j , and denote by $\pi_{hj} = \frac{q_{hj}}{\sum_j q_{hj}}$ the associated “probability”. The *support* of party j , S_j , would thus correspond to the sum of those “probabilities”. That is,

$$S_j = \sum_{i=1}^n \pi_{ij}$$

We present below the values of the support according to this formula, which do not differ much from the ones already presented.⁵

There is another interesting way of defining the support, based on the information derived from individual rankings also comparing political parties pairwise: the Borda-Condorcet rule (BC rule, for short), introduced in Herrero & Villar (2021). In this context we can interpret the BC rule as defining the objective probabilities of voting for a party, extracted from the voters’ rankings.

The BC rule is an evaluation protocol that transforms a collection of rankings, defined over a set of alternatives into a complete and cardinal assessment, by computing how each alternative fares on average with respect to the others. The BC rule values political parties considering both how much backing the parties obtain (as in Borda), and how many individuals back them (as in Condorcet). The rule associates to each political party the probability of beating any other in a random matching. This is obtained as the stable distribution of a Markov chain that describes a competitive process based on pairwise comparisons that are performed forever.⁶

Table 4 presents the comparative values of the support according to the three different definitions discussed for Madrid, focusing on the whole population. We observe that the changes are very small and that they do not affect the transition patterns analyzed in Section 3.

Table 4: Madrid, support according to different definitions

	Support		“Probabilities”		BC rule	
	Seats	Share	Seats	Share	Seats	Share
PP	30	22.12	34	24.93	33	24.64
MM	22	16.65	21	15.69	23	16.84
PSOE	25	18.7	26	18.9	26	19.26

⁵ Note that interpreting those π_{hj} values as *subjective probabilities* induce a conceptual difficulty. Are those subjective probabilities interpersonally comparable? That is, a score 0.7 of an individual means de same than a score 0.7 of another? If they are not, we cannot meaningfully add them up. Closely related: does a probability 0.8 means twice the probability 0.4 for each individual (i.e., are the individual probability scales linear)?

⁶ That is, it corresponds to the solution of the equation system: $v = P'v$, where P' is a matrix that coincides with matrix \mathbf{P} in section 3 in all off-diagonal elements and substitutes the elements in the diagonal to ensure that all rows add up to the same number.

Vox	20	14.59	21	15.77	17	12.43
Podemos	16	11.89	14	10.67	14	10.69
Cs	22	16.05	19	14.05	22	16.14

4.2 Support and affinity

The requirement to concentrate each voter's political judgment on a single party helps to explain the observed differences between support and affinity. An interesting feature of this transition that the surveys unveil is the presence of many ties at the top of the voters' preferences. Such a multiplicity of "winners" may be a source of unexpected changes because having to choose just one party makes the change from support to affinity (and then to intention) rather sensitive to marginal information or even to chance.

To see the extent of this problem let us look at the data of Madrid (the cases of the other regions are similar). Those data show that only 66% of the voters had a single party at the top of their preferences, whereas more than 21% have two parties as their top-options, almost 8% have three parties, and 5% four or more parties.

This blurry nature of the voters' preferred alternatives differs across the political profiles, which is also revealing. Looking at the voters who chose a given party in the affinity section, we observe that those selecting MM and Podemos exhibit the fuzziest top-options (with more than 40% of those who chose those parties in terms of affinity, having more than one top option in their preferences). PP and PSOE are those with stronger identification between preference and affinity, with some 76% of those affine to PP choosing this party as the single top option, and almost 70% in the case of those affine to PSOE.

Table 5: Distribution of the voters with affinity to a given party, by number of top-options in probability of voting (Madrid, %)

	1	2	3	4 or more
PP	75.88	15.93	2.81	5.33
MM	59.7	28.86	8.96	2.49
PSOE	69.63	21.48	8.89	0
VOX	66.04	30.19	3.77	0
PODEMOS	54.35	23.91	9.78	11.95
CIUDADANOS	62.5	30	7.5	0

One way to understand better this transition from support to affinity is by performing the following exercise. First, divide the population of voters into G different population subgroups, $g = 1, 2, \dots, G$, according to affinity. That is, subgroup g consists of the set voters who declare that party g is the one they feel closer to. Let n_{ij}^g stand for the number of voters in population subgroup g who prefer party i to party j and e_{ij}^g the number of those who are indifferent between both parties, and let $p_{ij}^g = n_{ij}^g + \frac{1}{2}e_{ij}^g$. If group g is the socialist party, p_{ij}^g

tells us the number of those who prefer (or are indifferent between) party i to party j among those affine to PSOE. Then, we can describe the support of party i within population subgroup g as $s_i^g = \sum_j p_{ij}^g$, and the corresponding relative value (its *share*) as:

$$s_i^g = 100 \times \frac{1}{\sum_{h=1}^G \sum_j p_{hj}^g} \sum_j p_{ij}^g$$

This is the normalized support of party i within population subgroup g .

Table 6 provides the distribution of the support by affinity groups for Madrid (the results for Andalusia and the Valencia Community, which show the same pattern, are given in the Appendix). Each column in the table describes how those who choose the corresponding party in terms of affinity, distribute their probability of voting among the parties in the rows (i.e., each column adds up to 100).

Table 6: Madrid. Distribution of support to the different parties according to groups defined by affinity.

	Affinity					
	PP	MM	PSOE	Vox	Podemos	Cs
PP	37.1	5.55	8.96	27.96	5.22	27,09
MM	8.06	34.31	23.72	6.39	27.3	11,37
PSOE	10.2	26.04	35.54	6.63	20.3	14,32
Vox	20.85	2.28	2.96	39.7 6	4.02	10,38
Podemos	4.42	21.53	16.91	3.69	36.47	5,52
Cs	19.37	10.29	11.91	15.56	6.69	31,32

The data show that the party that is closest to the group receives the largest support, as one would expect. Nonetheless, this support is far from being majoritarian, moving in a range between 31% and 40%. This means that the voters' identification with the parties is rather weak. We also observe that the identification of the voters with the parties is higher on the right-hand side of the political spectrum. The message that emanates from Table 6 is that there is much less polarization in society than it seems to be according to the electoral outcomes, since even those individuals that feel closer to extreme positions hold a non-negligible probability of voting for parties in the other side of the spectrum.

4.3 The left-right axis

It is interesting to observe that the transfer of sympathies, from support to affinity, from affinity to intention, and from intention to results, occurs not only within political blocks but

also between them. To do so we simply compare the ratio of the aggregate shares of the leftist and rightist parties for each of those variables.⁷

Table 7: Shift of shares between political blocs, from support to results (Madrid)

	Support	Affinity	Intention	Results
Left	47.24	43.84	42.39	42.34
Right	52.76	56.17	57.61	57.66
Ratio L/R	0.895	0.780	0.736	0.734
Variation w.r.t. support		-12.83%	-17.82%	-17.99%

Those data show that there is some transfer of sympathy when people must compress their preferences by choosing a single party, and an additional transfer when they have to choose which party to vote. There is no shift between left and right in Madrid between intention and results.

Table 8: Shift of shares between political blocs, from support to results (Andalusia)

	Support	Affinity	Intention	Results
Left	48.62	47.68	40.42	37.79
Right	51.39	52.31	59.58	62.21
Ratio L/R	0.9461	0.9115	0.6784	0.6075
Variation w.r.t. support		-3.66%	-28.29%	-35.78%

In the case of Andalusia the main shift within blocs occurs between affinity and intention, and it grows again between intention and vote. Those results suggest that a relevant share of former voters of PSOE wanted to give a new chance to the PP, that has been governing without an absolute majority during the last four years, after forty years of socialist dominion. The discontent with the central government policies and the experience that the rightist government did not introduce radical changes in the administration may explain those shifts.

The Valencian Community shows in this respect a behavior closer to Madrid, as shown in Table 9. The shift between support and intention and between intention and results are of similar size. Here again, most analysts suggest that those changes are related to the desire to punish the policies of the central government, especially regarding concessions with respect to Catalonia and the Basque Country, without altering the long-run insufficient funding of this region, even with a government of the same sign.

Table 9: Shift of shares between political blocs, from support to results (Valencian Community)

	Support	Affinity	Intention	Results
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⁷ We compare the shares rather than the seats to avoid the asymmetric impact of the provinces and the minimal thresholds on the allocation of seats in Parliament.

Left	52.48	51.66	50.67	48.43
Right	47.52	48.33	49.32	51.57
Ratio L/R	1.1044	1.0689	1.0274	0.9390
Variation w.r.t. support		-3.21%	-6.97%	-14.98%

5 Final comments

We have analyzed in this paper what the data tell us about how people's preferences over political parties transform into seats in Parliament, using electoral surveys and electoral outcomes in three regional elections in Spain. Our study permits quantifying the impact of the different steps involved in that process. One of the novelties of this study is that we compute the information on the individual voters' preferences over all political parties, which can be obtained from the datasets used. This information is nicely recorded on a specific question which is easy to understand and to answer. From that information we estimate the support that each political party obtains.

Comparing the support of the different parties with the affinity (the identification of the party which is closest to each voter's political ideas) gives us a measure of the impact of plurality voting. That is, the effect of suppressing the evaluation of all the options that are not the top one (the impact of the indivisibility of votes, so to speak). There are three elements we would like to underline on this respect. First, the complexity of people's preferences, with an unexpected number of voters with more than one party as their best option. That implies that marginal changes in people's perceptions may have a large impact on electoral outcomes and may partly explain the size of the observed prediction errors. Second, the weak identification of the voters with the political options, which is expressed in terms of the asymmetry between people's political preferences and the parties polarized menus. And third, the demand for a centrist party and the fragility of its success.

The change from affinity to intention suggests, not surprisingly, that people vote looking backwards (what have the parties done in the past), looking forward (what they would like to obtain and what they would like to avoid), and looking sideways (what the parties in the central government have been doing). The trend observed in this step is carried out and enhanced in the electoral outcomes. That ambivalence in the voters' judgements (multiple top options) may also explain the differences regarding the electoral outcomes and the sensitivity of those outcomes to electoral campaigns and last-minute political messages.

One aspect that this analysis reveals is that the political polarization we observe in Spain seems at odds with the distribution of the voters' support of the parties and the observed acceptance of others' proposals. To understand this asymmetry, we must look not only to the demand side of the problem (the voters' preferences and choices) but also to the supply side (the menus offered by the political parties). The traditional parties that had been governing Spain and most of its regions for many years, PSOE, and PP, faced a sudden competition on both

sides of their political spectrum. Three newcomers agitated the scenario. On the one hand, Ciudadanos, a central-liberal party, that catch votes in the moderate waters of both parties. On the other hand, Podemos and Vox that did so on the left side of the Socialist party and on the right side of the Popular party, respectively. One of the implications of this new situation was that the national government and many regional governments required coalitions, in some cases for the first time in the Spanish recent democratic history. Political strategies became more complex, with a larger number of players and the associated political fragmentation. In some cases, forming a government required the support, with different levels of commitment, of more than two or three parties. The new equilibrium changed towards political polarization when Ciudadanos followed an erratic policy moving to the right and, in some respects, to the extreme right. Consequently, Ciudadanos quickly lost the favor of its voters and the center of the political spectrum suddenly remained void.

The larger political parties had then to adjust their menus by moving towards the center, to capture the votes that formerly went to Ciudadanos, or move to the extremes, to minimize the share in the hands of Podemos and Vox. As game theory would predict, the new equilibrium was one in which the more centered parties moved towards the extremes. Hence, PSOE became more leftist and PP more rightist, forcing moderate voters to face quite a radical choice (with the parties trying to get them for free, so to speak). Indeed, each new election in Spain has become progressively a matter of choice between two options consisting of “left plus extreme left” and “right plus extreme right”.⁸

There are some differences at regional level, though, mostly due to the dynamics of past governments within each region, an element that helps to explain the diversity of successful strategies for the Popular Party in the three elections analyzed here. Andalusia is a region that had been governed by the Socialist Party for some 40 years in a row, a party that had lost its *charme* (partly due to some political scandals -corruption- and partly due to the voters’ exhaustion with a party that controlled most regional mechanisms of power). Before the past elections the region had experienced a coalition of Government between PP and Cs, with the parliamentary support of Vox. In its electoral program, PP-Andalucía adopted a more centered political position that attracted former socialists’ voters and also those willing to avoid the pivotal role of Vox in Parliament. That, together with the nationwide downfall of Cs, may explain the final outcome. Madrid, on the contrary, went to the elections after many consecutive years of conservative governments. In this case PP-Madrid followed a much rightist path and obtained an absolute majority. The Valencian Community also adopted a more rightist approach, perhaps less extreme than in the Madrid case. The previous government was a coalition between three leftist parties (PSOE, Podemos and Compromís), but it happened after decades of PP’s absolute majorities. The results in that case were more ambiguous. Be as it may, in all three cases most analysts interpreted that the left regional parties were punished for some of the policies of the

⁸ We are ignoring here the role of regional parties on the national policy or on those regions outside the scope of this study, to keep the focus, even though they play a significant role at national level.

national government, a coalition of PSOE and Podemos, supported in Parliament for some regional parties that sold dearly their support. Many citizens found excessive the concessions made by the national government to those minorities (particularly those in Catalonia and the Basque Country), whose votes were needed to ensure a majority in the national Parliament.

The reduction of the political spectrum to this unidimensional left – right axis is most likely behind the relevant changes between affinity and intention, or even between affinity and outcomes. The inability of PP and PSOE to agree on any common policy, including issues that were not of a partisan nature, reinforced that polarization. As a result, the political space that was occupied by Cs has disappeared, rather than being incorporated as part of the menu offered by the center-right and center-left parties. Both parties seem to have followed the strategy of forcing centrist voters to choose sides, menacing with the victory of the opposite political block.

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APPENDIX 1: The surveys

This appendix offers a detailed overview of the surveys discussed in the paper. On 13th June, 2022 and 21st May, 2023, EL PAÍS and Cadena SER published the following online articles analyzing their electoral polls for Andalusia, and for Madrid and Valencia, respectively:

- <https://elpais.com/espana/2022-06-13/consulte-todos-los-datos-internos-de-la-encuesta-de-el-pais-de-junio-cuestionarios-cruces-y-respuestas.html>
- <https://elpais.com/espana/elecciones-autonomicas/2023-05-21/consulte-todos-los-datos-internos-de-la-encuesta-de-el-pais-de-la-comunidad-de-madrid-y-comunidad-valenciana.html>

Each article provides links to a downloadable .zip file that comprises the questionnaire used, detailed methodological insights, and the complete datasets (offered in three distinct formats). These links are the following:

- https://ep00.epimg.net/infografias/encuestas40db/andalucia2_junio2022/descargables_andalucia2.zip
- https://ep00.epimg.net/infografias/encuestas40db/2023CMad_CVal/preelectoral_CAM2.zip
- https://ep00.epimg.net/infografias/encuestas40db/2023CMad_CVal/preelectoral_CAV2.zip

The survey provides detailed information on voter demographics, sentiments, and political leanings. It begins by assessing perceptions of national and regional government performances and identifying the electorate's main concerns. The focus then shifts to the public's view of candidates for the regional presidency. The core of our study centers on questions related to party preferences and voter intentions, specifically focusing on questions 8, 9, and 10 in the Madrid and Valencia questionnaire, and 6, 7, and 8 in the Andalucía questionnaire. The survey concludes with a look at past voting behavior and voters' self-placement on the political spectrum.

The specific wording for questions 8, 9, and 10 in the Madrid questionnaire is shown below. Note that in the other two regions, the questions remain the same, with only the name of the region and the first six options modified to reflect the parties contesting in each region:

P8. On election day, which party or coalition will you vote for?

1. PP (Partido Popular)
2. Más Madrid – Verdes Equo
3. PSOE (Partido Socialista Obrero Español)
4. Vox

5. Podemos – IU – AV (Podemos – Izquierda Unida – Alianza Verde)
6. Ciudadanos (Ciudadanos – Partido de la Ciudadanía)
7. Other, which? [OPEN]
8. I will cast a blank vote
9. I will cast a null vote
10. I will not vote
11. I don't know
12. Prefer not to answer

P9. In any case, which of the following parties or coalitions of the Community of Madrid do you feel most affinity with or consider closest to your ideas?

1. PP (Partido Popular)
2. Más Madrid – Verdes Equo
3. PSOE (Partido Socialista Obrero Español)
4. Vox
5. Podemos – IU – AV (Podemos – Izquierda Unida – Alianza Verde)
6. Ciudadanos (Ciudadanos – Partido de la Ciudadanía)
7. Other, which? [OPEN]
8. None
9. I don't know
10. Prefer not to answer

P10. What is the likelihood that you would vote for the following parties? Mark the corresponding box on this scale from 0 to 10, where '0' represents 'definitely would never vote for them' and '10' 'definitely would always vote for them'

	0	1	2	3	4	5	6	7	8	9	10	99 I don't know
PP												
Más Madrid – Verdes Equo												
PSOE												
Vox												
Podemos – IU- AV												
Ciudadanos												

APPENDIX 2: Details for Andalusia and the Valencian Community

A. Tables for Andalusia

Table A.1. Support (Andalusia)

Party	total	Almería		Cádiz		Córdoba		Granada		Huelva		Jaén		Málaga		Sevilla	
		Seats	Seats	Share	Seats	Share	Seats	Share	Seats	Share	Seats	Share	Seats	Share	Seats	Share	Seats
PSOE	21	2	16.45	3	18.07	2	17.84	2	16.89	3	25.16	2	19.21	3	20.36	4	20.47
PP	27	4	25.47	4	22.51	3	24.86	3	22.77	2	19.59	3	23.6	4	23.29	4	21.87
Cs	19	2	17.94	3	19.46	2	16.73	2	16.01	2	15.6	2	14.31	3	16.1	3	15.08
xAnd	14	1	11.6	2	14.69	2	14.63	2	14.84	1	13.75	1	13.44	2	14.23	3	17.28
Vox	12	2	16.14	1	11.14	1	12.27	2	15.57	1	8.35	2	15.96	2	10.73	1	9.75
AA	16	1	12.4	2	14.13	2	13.66	2	13.92	2	17.55	1	13.48	3	15.28	3	15.55

Table A.2. Affinity (Andalusia)

Party	total	Almería		Cádiz		Córdoba		Granada		Huelva		Jaén		Málaga		Sevilla	
		Seats	Seats	Share	Seats	Share	Seats	Share	Seats	Share	Seats	Share	Seats	Share	Seats	Share	Seats
PSOE	30	3	21.72	4	25.96	3	26.31	3	23.74	4	29.07	3	24.81	4	25.43	6	29.47
PP	33	2	17.91	5	29.16	4	28.97	4	25.3	3	23.51	4	30.97	6	30.61	5	26.97
Cs	9	1	12.31	2	11.55	1	7.31	1	9.21	1	14.22	0	6.37	2	11.99	1	8.82
xAnd	13	1	7.57	1	10.45	2	13.53	1	12.47	1	11.06	2	14.02	2	14.16	3	15.93
Vox	17	4	32.18	2	12.7	2	17.44	3	20.12	0	5.94	2	20.11	2	10.71	2	10.6
AA	7	1	8.32	1	10.18	0	6.43	1	9.15	2	16.19	0	3.71	1	7.1	1	8.21

Table A.3. Vote Intention (Andalusia)

Party	total	Almería		Cádiz		Córdoba		Granada		Huelva		Jaén		Málaga		Sevilla	
		Seats	Seats	Share	Seats	Share	Seats	Share	Seats	Share	Seats	Share	Seats	Share	Seats	Share	Seats
PSOE	25	3	22.26	3	20.44	3	21.67	3	23.68	3	24.62	2	18.96	3	18.27	5	25.84
PP	49	5	33.08	6	38.01	5	36.73	5	37.34	4	33.88	6	47.75	10	50.06	8	38.28
Cs	1	0	3.73	1	8.62	0	4.38	0	0.81	0	5.77	0	3.79	0	3.51	0	3.91
xAnd	9	0	6.42	1	8.61	1	12.05	1	8.19	1	6.83	1	12.74	2	10.77	2	13.47
Vox	18	4	28.29	2	13.07	3	20.43	3	23.05	1	11.62	2	14.32	1	9.59	2	10.65
AA	7	0	6.21	2	11.25	0	4.74	1	6.92	2	17.29	0	2.44	1	7.8	1	7.85

Table A.4. Election Results (Andalusia)

Party	total	Almería		Cádiz		Córdoba		Granada		Huelva		Jaén		Málaga		Sevilla	
		Seats	Seats	Share	Seats	Share	Seats	Share	Seats	Share	Seats	Share	Seats	Share	Seats	Share	Seats
PSOE	30	3	22.1	3	21.03	3	23.52	4	25.41	4	27.4	4	27.11	4	20.74	5	26.61
PP	58	6	45.56	8	42.47	7	44.66	6	42.16	6	42.7	6	42.45	10	47.02	9	40.1
Cs	0	0	2.56	0	3.83	0	3.15	0	2.95	0	2.7	0	2.22	0	3.47	0	3.82
xAnd	5	0	5	1	7.5	1	9.98	1	7.74	0	6.54	0	5.59	1	8.08	1	8.36
Vox	14	3	20.73	2	13.24	1	12.45	2	15.41	1	12.77	1	12.84	2	13.52	2	11.43
AA	2	0	1.74	1	8.01	0	3.48	0	3.18	0	3.95	0	1.78	0	3.78	1	6.23

Table A.5: Andalusia, by province. Distribution of support to the different parties according to groups defined by affinity.

		Affinity					
		PSOE	PP	Cs	xAnd	Vox	AA
Almería							
	PSOE	33.7 3	9.74	9.89	24.4 2	1.62	24.2 9
	PP	10.4 8	40.2 6	29.5 1	4.69	33.49	1.98
	Cs	13.8 3	23.2	32.6 7	10.5 8	17.54	14.2 1
	PorAnd	18.8 6	1.25	11.0 5	36.1 8	2.77	27.6 6
	Vox	2.09	23.1 7	9.18	0	40.65	1.61
	AA	21	2.38	7.69	24.1 3	3.93	30.2 5
Cádiz							
	PSOE	33.2 4	8.7	12.7 5	23.2 8	6.12	19.2 3
	PP	8.88	36.5 1	28.4 9	5.68	23.99	10.0 4
	Cs	15.0 4	23.8 2	32.5 6	9.12	17.8	11.3 8
	PorAnd	21.4 2	6.16	5.73	34.2 4	7.89	19.6 5
	Vox	2.14	17.8	10.5 7	3.9	36.93	6.61
	AA	19.2 8	7.01	9.89	23.7 7	7.27	33.0 9
Córdoba							
	PSOE	34.7 7	5.82	11.8 6	15.6 7	4.12	26.0 5
	PP	13.9 3	41.1	30.7 5	14.6 5	29.55	2.8
	Cs	14.6 1	19.9 9	31.0 8	11.2 8	13.88	5.93
	PorAnd	18.8 5	5.72	4.28	25.6 9	4.5	32.3 4
	Vox	1.58	22.6 4	15.1	9.51	41.55	1.14
	AA	16.2 6	4.74	6.92	23.2 1	6.4	31.7 5
Granada							
	PSOE	34.3	4.95	11.5 2	25.9	6.36	21.9 1
	PP	12.6 9	41.8 6	24.8 8	8.25	29.05	5.04
	Cs	9.71	23.7 9	31.3 7	6.1	15.06	10.6 6
	PorAnd	18.7 5	4.71	7.52	33.0 8	4.89	27.9 1

Vox	9.51	19.9	14.0	0	39.05	2.36
		8	3			
AA	15.0	4.72	10.6	26.6	5.59	32.1
	4		9	7		2
Huelva						
PSOE	34.9	9.7	16.8	18.3	0	25.7
	6		3	8		4
PP	13.1	39.1	30.7	6.24	39.01	3.77
		7	3			
Cs	15.5	23.5	33.4	11.2	10.66	13.7
	1	4	7	3		6
PorAnd	15.0	3.88	2.89	35.2	0	21.9
	8			8		
Vox	5.14	15.7	10.8	1.76	50.33	0
		9	3			
AA	16.2	7.91	5.24	27.1	0	34.8
	1			1		3
Jáen						
PSOE	38.9	5.15	24.2	25.7	7.86	16.5
	7		8	4		5
PP	7.58	40.1	23.1	3.62	31.5	4.12
		4	9			
Cs	7.38	19.4	33.5	6.02	13.57	6.03
		6	7			
PorAnd	21.7	3.41	3.49	37.6	3.77	34.8
	9			2		2
Vox	2.57	27.3	12.6	0	39.4	4.76
		8	2			
AA	21.7	4.46	2.85	27	3.89	33.7
	1					2
Málaga						
PSOE	35.2	9.81	13.9	23.4	8.32	20.3
	9		4			7
PP	15.1	39.4	24.6	4.63	20.66	9.95
	1	1	4			
Cs	14.2	18.7	33.4	7.29	16.8	10.5
		8	4			
PorAnd	14.7	6.94	4.26	35.9	5.89	22.7
	6			8		
Vox	3.28	18.6	13.3	1.51	41.98	1.88
		4	6			
AA	17.3	6.42	10.3	27.1	6.35	34.6
	6		6	8		
Sevilla						
PSOE	35.5	8.56	10.7	21.3	3.92	22.2
	5			3		5
PP	8.74	35.9	27.3	5.71	33.12	6.56
		8	3			
Cs	12.6	20.4	35.1	6.32	14.34	8.01
	8	4	5			
PorAnd	21.1	8.9	5.69	37.5	4.28	27.6
	1			7		1
Vox	2.27	16.9	11.7	1.17	39.05	1.9
		7	8			

AA	19.6 6	9.15	9.35	27.9	5.28	33.6 7
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B. Tables for the Valencian Community

Table B.1: Support (the Valencian Community)

Party	Total	Alicante		Castellón		Valencia	
	Seats	Seats	Share	Seats	Share	Seats	Share
PSOE	23	8	21.27	5	22.5	10	24.73
PP	20	8	23.43	5	21.21	7	17.41
Cs	16	6	16.45	4	15.72	6	14.26
Vox	17	5	15.38	4	15.04	8	19.73
Compromis	11	4	12.97	3	13.16	4	11.05
Podemos	12	4	10.5	3	12.37	5	12.82

Table B.2: Affinity (the Valencian Community)

Party	total	Alicante		Castellón		Valencia	
	Seats	Seats	Share	Seats	Share	Seats	Share
PSOE	28	9	25.1	8	28.69	11	27.64
PP	27	10	26.81	8	31.7	9	21.96
Cs	8	3	8.61	3	11.67	2	6.68
Vox	15	6	18.39	3	13.1	6	14.34
Compromis	16	5	13.28	2	10.56	9	21.47
Podemos	5	2	7.82	0	4.27	3	7.91

Table B.3. Vote Intention (the Valencian Community)

Party	total	Alicante		Castellón		Valencia	
	Seats	Seats	Share	Seats	Share	Seats	Share
PSOE	29	9	24.64	7	25.05	13	29.45
PP	32	12	31.53	9	35.12	11	24.73
Cs	1	0	3.82	1	6.69	0	3.96
Vox	17	7	18.41	4	17.43	6	13.65
Compromis	18	5	15.27	3	12.5	10	23.27
Podemos	2	2	6.32	0	3.2	0	4.94

Table B.4. Election Results (the Valencian Community)

Party	total	Alicante		Castellón		Valencia	
	Seats	Seats	Share	Seats	Share	Seats	Share
PSOE	31	11	29.52	8	30.22	12	27.9
PP	40	15	39.28	10	35.99	15	33.59
Cs	0	0	1.54	0	1.39	0	1.51
Vox	15	4	10.17	3	13.09	8	17.4

Compromis	13	5	12.32	3	13.07	5	12.62
Podemos	0	0	3.5	0	3.23	0	3.69

Table B.5: Valencian Community, by province. Distribution of support to the different parties according to groups defined by affinity.

		Affinity					
		PSOE	PP	Cs	Compromi s	Vox	Podemo s
Alicante							
	PSOE	36.4 5	11.2 3	15.3 4	25.18	7.84	24.82
	PP	13.1 7	38.4 8	24.7 5	7.05	23.1 1	7.28
	Cs	12.4	19.7 7	31.5 7	8.98	15.3 9	8.52
	Compromi s	18.2 9	8.06	8.53	33.84	11.0 8	23.53
	Vox	4.25	18.4 5	12.9 1	4.46	37.3 9	4.35
		15.4 3	4.02	6.89	20.49	5.18	31.51
Castellon							
	PSOE	35.3 6	12.1 4	13.5 9	25.26	9.87	23.85
	PP	8.59	39.5 1	16.0 4	5.67	26.4 7	8.09
	Cs	13.2 1	18.4 3	30.5 5	6.05	15.3 1	7.65
	Compromi s	21.4 1	6.89	10.7	36.19	6.81	26.22
	Vox	3.21		17.2 8	1.02	38.4 1	0
	Podemos	18.2 3	4.34	11.8 4	25.81	3.13	34.2
Valencia							
	PSOE	36.6 3	12.3 2	16.3 4	24.6	8.87	24.59
	PP	10.1 8	37.9 1	20.7 5	5.36	22.9 4	5.64
	Cs	12.4	19.5	32.3 6	7.97	15.7 9	5.5
	Compromi s	20.9 3	7.09	13.3	35.97	9.26	26.14
	Vox	3.22	19.2 4	11.4 1	2.45	38.2 9	3.06
	Podemos	16.6 5	3.95	5.84	23.65	4.85	35.06