On the Prevalence of Condorcet's Paradox

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The Condorcet paradox has been a significant focus of investigation since Kenneth Arrow rediscovered its importance for economic theory. Recent research on this phenomenon has oscillated between simulation studies, probability calculations based on hypothetical voter preferences, and empirical analyses often limited by unsatisfactory data. This paper presents the first comprehensive evaluation of 253 electoral polls conducted across 59 countries. Our findings demonstrate that the Condorcet paradox has virtually no empirical relevance: with only one exception, we find no evidence of cyclical majorities in any of the 253 elections. This result remains robust after statistical inference testing. Furthermore, this study provides insights into which parties are particularly likely to emerge as Condorcet winners and explores how these Condorcet winners assert themselves after elections.

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1. Introduction

The ideal of democracy demands that collective decisions reflect majority judgments. An alternative x should be chosen over y if more voters prefer x to y. A *Condorcet winner*—an alternative that defeats all other contestants in pairwise majority comparisons—has intuitive appeal as it aligns with the principle of majority decision (Sen, 2017, Ch. 5). However, such a winner may not exist. Even when voters have transitive preferences, majority amalgamation can produce intransitive outcomes, a phenomenon known as the *Condorcet paradox* (Condorcet, 1785, p. lxj (76)). A simple example involves three voters and three candidates: Voter 1 ranks $A \succ B \succ C$, Voter 2 ranks $B \succ C \succ A$, and Voter 3 ranks $C \succ A \succ B$. Here, A beats B by majority, B beats C, and C beats A, violating transitivity.

The Condorcet paradox, intensely discussed during the French Revolution, faded into obscurity for nearly 150 years (Rothschild, 2005; McLean, 2019, p. 99) until Arrow's groundbreaking impossibility theorem revived its importance. Arrow (1950) demonstrated that adherence to majority principles risks indeterminate outcomes, while ensuring decisiveness requires abandoning the majority principle and possibly accepting a majority-defeated winner. In economic theory, the Condorcet paradox challenges the core stability (Moulin, 2014).

Despite its theoretical significance, the empirical relevance of the paradox in democratic elections remains insufficiently substantiated. The most recent survey concluded that its empirical relevance is far from settled (Van Deemen, 2013), largely due to a persistent lack of reliable data. Most results on the occurrence of Condorcet paradoxes are based on simulated data (Lepelley and Martin, 2001; Gehrlein, 2006; Sauermann, 2022), or on non-political elections, like electing the head of an academic association (Chamberlin *et al.*, 1984; Feld and Grofman, 1992; Regenwetter *et al.*, 2007; Tideman, 2009; Popov *et al.*, 2014).

Empirical studies of real-world (democratic) elections are scarce. Many contributions investigate primary elections (Kurrild-Klitgaard, 2018), referenda (Bochsler, 2010; Justesen, 2007), or sub-national elections (Munkøe, 2014; Darmann and Klamler, 2023). Studies of national parliamentary elections are only available for three countries: Iran 2017 (Feizi *et al.*, 2020), the UK in 2010 (Abramson *et al.*, 2013), and Denmark 1973-2005 (Van Deemen and Vergunst, 1998; Kurrild-Klitgaard, 2001, 2008). Empirical studies on presidential elections are limited to the US (Riker, 1988; Abramson *et al.*, 1995; Potthoff and Munger, 2021), and France in 2007 (Abramson, 2007). Only one empirical study

investigates the (non-)occurrence of the Condorcet Paradox comparatively for 12 West European countries in 2004, but there data was not collected in the context of national elections (McDonald *et al.*, 2012). Based on the literature, two elections likely revealed the existence of a Condordet Paradox: the 2016 US election (Potthoff and Munger, 2021), and the Danish election in 1994 (Kurrild-Klitgaard, 2008). This evidence is far too limited to evaluate the empirical relevance of the Condorcet Paradox in real-world national elections, especially considering elections in non-Western democracies.

Adding to the challenge is the observation that most studies refrain from making claims about statistical inference. Notable exceptions include Potthoff and Munger (2021); Desai and Kalandrakis (2025); Regenwetter *et al.* (2007); Darmann *et al.* (2019), with the latter two explicitly assessing the robustness of their findings through bootstrap methods.

Eminent economists have recently advocated for electoral reforms in favour of the Condorcet method, even beyond the academic realm (Maskin and Sen, 2016, 2017b,a). In this public discourse, the Condorcet paradox is the unresolved core issue, as it is—alongside the debate over whether cardinal information should be considered—the main argument against the practical implementation of the Condorcet method.

Sen (2017, Ch. 10.2) highlighted the necessity of determining the relevance of the Condorcet paradox through a comprehensive empirical analysis as a basis for advancing discussions on electoral reforms. Such a study should ideally cover various points in time and different societies. Motivated by this research desideratum, our work presents a comprehensive study that examines the occurrence of the Condorcet paradox across numerous elections, spanning multiple countries and time periods.

We analyse data from 253 elections across 59 countries provided by the Comparative Study of Electoral Systems (CSES, 2024). Our findings indicate that the Condorcet paradox has virtually no empirical relevance, a conclusion that remains robust even after accounting for statistical inference.

Beyond this, we provide insights into who the Condorcet winners are and evaluate the extent to which different electoral systems succeed in bringing these winners to office (in candidate elections) or into government (in parliamentary elections). We also examine which parties, identified as Condorcet winners, fail to win elections. Thus, for the first time, we offer insight into the identification and success of Condorcet winners.

2. Data and Methods

We use survey data from the Comparative Study of Electoral Systems (CSES) (CSES, 2024). This is a cumulated data set consisting of nationally representative post-election studies fielded in 59 countries from 1996 onwards.[1] We use all currently available survey waves (1-5), covering elections up to 2021.

The dataset includes party and candidate ratings on a non-ipsative 11-point like-dislike scale (*integer sympathy scales*) for up to nine political parties and candidates, widely utilized in related research (e.g., Kalandrakis, 2022; Desai and Kalandrakis, 2025). Such like/dislike data are frequently used to analyse strategic voting. These data serve as strategy-proof reference values that are compared with actual vote casts or voting intentions (Abramson *et al.*, 2009; Eggers and Nowacki, 2024; Núñez, 2024). In this sense, we assume that our data are not significantly biased by strategic considerations. Following an established procedure (most recently: Lachat and Laslier (2024)), we convert the ratings into individual preference orderings.[2] For example, if voter i rates party A with $+2$, party B with $+4$, and party C with $+1$, this information is transformed into binary preference relations $B \succ_i A$, $A \succ_i C$. If two parties are rated equally, we consider this as indifference. We use respondents' party ratings to infer their preference orderings in parliamentary elections and their candidate ratings to infer preference rankings in presidential elections.

In total, we analyse data on 212 parliamentary elections and 41 presidential elections. Restricting the CSES data to respondents who rated at least one party or candidate leaves us with 424,413 individual-level observations.[3] On average, each election includes data from around 1,730 individuals. We only include elections in which more than two parties or candidates were evaluated in the dataset. As a result, we had to exclude a few elections from the analysis. This primarily affects presidential elections in the United States. While multiple candidates ran in these elections, 'like-dislike' ratings were only

[1] The CSES is a global research programme where election study teams from participating countries include a common set of survey questions in their post-election studies. The research agenda, questionnaires, and study design are developed by an international committee of experts and implemented by leading social scientists in each country. For more information see their documentation on cses.org.

[2] Based on a comprehensive dataset for Germany, where respondents provided both their ranking and their thermometer rating, Barbaro and Specht (2024) showed that the orders generated by the thermometer variables have a very high correlation (measured in Kendall's τ) with the directly reported orderings.

[3] 37,504 respondents reported no ratings, which is less than ten percent of our dataset. Respondents with incomplete ratings are included in our analysis.

collected for two candidates in each case.[4]

We treat the election survey as a representative sample of voter preferences within a single national district to determine whether a Condorcet paradox existed at a specific election. This simplification of the national electoral system is valid for our purposes because our primary interest is not in analysing how paradoxes occur while processing preferences into electoral outcomes. Instead, we focus on whether the pattern of voter preferences would lead to a Condorcet paradox if amalgamated most simply and directly, irrespective of geographic boundaries and electoral stages.

We identify the Condorcet winner and loser party for each parliamentary election. For presidential elections, we identify the Condorcet winner and loser candidate inferred from candidate ratings when possible.[5] We first construct party and candidate preference profiles from the rating data, as explained earlier. We then apply the Condorcet method to these preference profiles for each election separately.[6] Specifically, we calculated how many voters strictly prefer candidate A over B and vice versa. If a respondent rated B but not A, we assume they prefer B, and the same logic applies in reverse.

With κ candidates, the procedure is repeated for all $\binom{\kappa}{2}$ pairwise contests, such as A vs. C and B vs. C, and so on. A party or candidate that wins each pairwise contest is identified as the Condorcet winner. An election is classified as exhibiting a Condorcet paradox if no such winner exists due to cyclical majorities, as described in the Introduction. Conversely, a party or candidate that loses all pairwise contests is referred to as the Condorcet loser.

To account for the uncertainty surrounding our survey-based results, we generate 10,000 bootstrap replications from the preference profiles of each election. Specifically, for each election we draw with replacement 10,000 samples of size n from the original sample of n individuals and apply the Condorcet method to each replication. For every single replication, we determine whether a Condorcet winner exists. This process results in 10,000 outcomes per election, where a Condorcet winner either exists or does not. In this way, we generate 2.53 million profiles. With this approach, we adopt a method very similar to that employed by Darmann *et al.* (2019).

If no paradox is observed in the original sample, we reject the null hypothesis ('no Condorcet paradox occurs') if a paradox emerges in more than 5% of the bootstrap

[4] We also had to remove the presidential elections in Kyrgyzstan 2005, as well as the Russian presidential elections in 2000 and 2004, due to a lack of like-dislike ratings of the presidential candidates Kurmanbek Bakiyev and Vladimir Putin, who ran as independents.

[5] If candidate ratings are not available, we rely on party ratings instead.

[6] We used the `condorcet` function in `R`'s `vote` package (Raftery *et al.*, 2021).

replications for the respective election. Conversely, if cyclical majorities are observed in an election, we reject the null hypothesis (which assumes a paradox exists) if more than 5% of the bootstrap replications exhibit transitive preferences.

The bootstrap method was employed to address the randomness inherent in the sample. Complementing this, we implemented a random-noise approach to account for uncertainties in the rating data. In this method, a random number drawn uniformly from the interval $[-1.1, 1.1]$ (representing $\pm$ ten percent of the total scale range) was added to each party or candidate rating. Using this adjusted data, we generated 10,000 new rating matrices for each election. These matrices were then converted into preference orders following the procedure outlined earlier and subsequently analyzed for the presence of cyclical majorities. In total, this process resulted in approximately 2.53 million random-noise replications.

This approach effectively resolves any indifference between two parties or candidates. For instance, if a respondent rated two parties equally, the random-noise adjustment ensures that, in half of the replications, one party is rated as the superior alternative. This method was chosen because indifferences inherently reduce the likelihood of observing Condorcet Paradoxes (Lepelley and Martin, 2001). By eliminating such ties, this approach enables us to assess whether our central findings remain robust when we assume anti-symmetric (strict) preferences instead of reflexive (weak) ones.

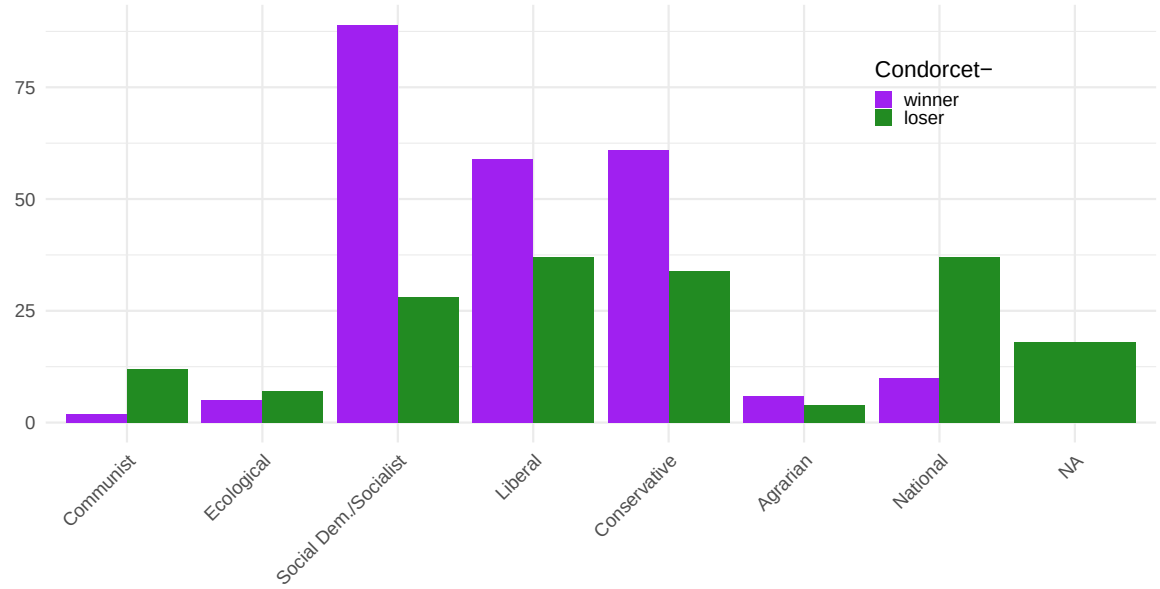
3. Results

We do not find a single instance of a Condorcet paradox among the 212 parliamentary elections. Among the 41 presidential elections, for which the dataset provides ratings on more than two viable candidates, we identify one case of cyclical majorities, namely the Peruvian presidential election in 2011.

The overall picture remains robust across all bootstrap replications. With the exception of two parliamentary elections, none of the 10,000 replications conducted for each election reveal a Condorcet paradox. In one case, the phenomenon occurs in 1.1% of the replications, while in another election, it is observed in only two out of 10,000 replications.

A similar pattern emerges for the presidential elections. In 39 out of 41 elections, none of the respective bootstrap replications reveal a case of cyclical majorities. Even in the instance where we identified a Condorcet paradox in the sample (Peru 2011), the vast majority of replications (69.53%) do not exhibit cyclical majorities. Consequently, we

Figure 1: *Frequency of Condorcet winner and loser parties by party family*



must reject the hypothesis of a Condorcet paradox occurring in this election. On the other hand, in a subsequent election in Peru in 2021, we detected Condorcet paradoxa in approximately eleven percent of the bootstrap replications. To the extent that we must reject the hypothesis of an existence of a paradox in 2011, we must equally reject the hypothesis of non-existence in 2021. In both cases, there is a strong likelihood $(69 - 31, 89 - 11)$ that no paradox is present.

The results from the random-noise replications align closely with those of the bootstrap analysis. In most cases, no Condorcet Paradox is observed across the 10,000 replications for each election. However, in four elections, cyclical majorities appear in more than five percent of the total replications, including the 2011 Peruvian election, where they occur in 10.7% of cases.

The literature distinguishes between a *strong* and a *weak* Condorcet winner (Barberà and Bossert, 2023). While the former wins every pairwise comparison, the latter does not lose any pairwise comparison (due to ties). Except for two cases, we find strict Condorcet winners in every election.

It should be noted that the presence of a Condorcet winner in an election does not necessarily imply a transitive order. Cyclical majorities can still occur even when a Condorcet winner exists. This happens when cyclical majorities appear in the middle or lower ranks. In our analysis, we observe such cases four times, including the election in

Finland in 2005, which is the only instance where no Condorcet loser is present. Overall, our findings indicate that collective preferences are almost universally transitive. Note that accounting for cyclical majorities in cases with a Condorcet winner does not dilute the overall result. On the contrary, in each election, we have $\binom{\kappa}{3}$ triplets. Summed across all elections, we analyse 8,099 triplets. Among these, we find cyclical majorities in five cases (0.06%).

Thus, we arrive—also through this approach—at the rather surprising finding that cyclical majorities are practically irrelevant from an empirical perspective. The drawback of this sharp result is that an analysis of why the Condorcet Paradox occurs so rarely is hardly possible. As is well known, empirical analyses require variance, which we do not observe. Our assumption is that the absence of Condorcet Paradoxes is due to the fact that preferences over political parties and candidates are strongly shaped by ideology, which leads to a large proportion of single-peaked preference profiles. This may differentiate our data from other research using either artificial data or data on non-political elections, that more frequently detect majority cycles. For preference profiles that are value restricted in that way, Condorcet winners exist (Black, 1958; Sen, 1966). To evaluate the degree of ideological value restriction in our data we regress the individual party ratings on the distance between respondents' and parties' ideal points on an 11-point left-right scale, considering the nested data structure by fitting a mixed regression model. The results confirm that ideological distance exerts a statistically significant effect on party ratings. Furthermore, this effect (slope) does not vary significantly across elections. The results are shown in Appendix (Online-Appendix) D. However, given the lack of variation in the occurrence of Condorcet Paradoxes in our empirical data, we cannot explore the question of why cyclical majorities are virtually non-existent any further, but instead encourage future research to explore this question.

Given that Condorcet winners exist in virtually all of the elections under study, we subsequently focus on descriptive results on these winner parties and candidates. Figure 1 plots the frequency of Condorcet winners and losers by party family.[7] It shows that Condorcet winners are most often social-democratic parties. National parties are the most common among the Condorcet losers. A full list of Condorcet winner and loser parties is presented in the (Online-)Appendix `(for the review process, the appendix is attached to this file)`. Table 1 provides an extract from the full list, covering the G7 countries only.

[7] We use the classification of party families as provided by the CSES. It is based on expert judgments of the CSES national collaborators as to which ideological family each party belongs to.

Table 1: *List of Condorcet winner and loser parties/candidates in G7 countries*

Country	Year	Condorcet Winner Party	Condorcet Loser Party
Canada	1997	Liberal Party (LIB)	Bloc Quebecois (BQ)
Canada	2004	Liberal Party (LIB)	Bloc Quebecois (BQ)
Canada	2008	Conservative Party (CP)	Bloc Quebecois (BQ)
Canada	2011	Conservative Party (CP)	Bloc Quebecois (BQ)
Canada	2015	Liberal Party (LIB)	Bloc Quebecois (BQ)
Canada	2019	Liberal Party (LIB)	Bloc Quebecois (BQ)
France	2002	Jacques Chirac (PS)	Jean-Marie LePen (FN)
France	2012	Francois Hollande (PS)	Francois Bayrou (MoDem)
France	2017	Emmanuel Macron (LaREM)	Marine Le Pen (FN)
Germany	1998	Soc. Dem. Party (SPD)	Left Party (DIE LINKE)
Germany	2002	Soc. Dem. Party (SPD)	The Republicans (REP)
Germany	2005	Soc. Dem. Party (SPD)	Nat. Dem. Party of Germ. (NPD)
Germany	2009	Christ. Dem. Party (CDU)	Left Party (DIE LINKE)
Germany	2013	Christ. Dem. Party (CDU)	Alt. for Germany (AfD)
Germany	2017	Christ. Dem. Party (CDU)	Alt. for Germany (AfD)
Germany	2021	Soc. Dem. Party (SPD)	Alt. for Germany (AfD)
Great Britain	1997	Labor (Lab)	Conservatives (Con)
Great Britain	2005	Labor (Lab)	Conservatives (Con)
Great Britain	2015	Conservatives (Con)	UK Independence Party (UKIP)
Great Britain	2017	Labor (Lab)	Plaid Cymru (PC)
Great Britain	2019	Conservatives (Con)	Plaid Cymru (PC)
Italy	2006	National Alliance (AN)	Communist Refoundation (PRC)
Italy	2018	Five Star Movement (M5S)	Free and Equal (LeU)
Japan	1996	Liberal Democratic Party (LDP)	New Party Harbinger (NPH)
Japan	2004	Democratic Party of Japan (DPJ)	Jap. Communist Party (JCP)
Japan	2007	Democratic Party of Japan (DPJ)	Jap. Communist Party (JCP)
Japan	2013	Lib. Dem. Party (LDP)	Green Wind
Japan	2017	Lib. Dem. Party (LDP)	Japanese Communist Party (JCP)
USA	1996	Democratic Party	Reform Party
USA	2004	Democratic Party	Reform Party

This list yields some interesting insights. For example, although Condorcet-winner parties are often centrally located within the party system, they are not necessarily large parties. In the Netherlands, for instance, the liberal party 'Democrats 66' (D66) was the Condorcet-winner party in 2010, 2017, and 2021, despite its low vote share of only 7%, 12%, and 15%, respectively. In the 2010 election, it was only the sixth-largest party in terms of votes and parliamentary seats. In 2017, it ranked fourth, and in 2021, it ranked second. In an earlier study for the election year 1994—which our dataset does not extend back to—Van Deemen and Vergunst (1998) had already found that D66 emerged as the Condorcet-winner party. Even then, the vote share of 15.5% did not reflect the broad support for the D66 party among the electorate. We also find a correspondence with the results from two Danish elections in 1998 and 2001, as identified by Kurrild-Klitgaard (2008) (using a different dataset than the one we employed).

For Great Britain, our data show that the Condorcet winners can indeed vary but generally align with the winners under the First-Past-The-Post system. An exception is 2017, when the Tories narrowly won the general election, but the Labour Party emerged as the Condorcet winner. The 2005 election is not included in our dataset; however, Abramson *et al.* (2013) identified the Liberal-Democrats as the Condorcet winner for that election.

Our (Online-)Appendix presents the values for all other countries.

Noteworthy, there are instances where Condorcet-loser parties gain a significant number of votes and seats. Polarising right-wing parties, in particular, benefit from this imbalance. For example the far-right 'Sweden Democrats' were the Condorcet-loser party in 2006, 2014, and 2018. Yet, they increased their vote share to 12.9% in the 2018 election, becoming the third-largest party out of eight in the 2014 and 2018 parliaments. In Germany, the far-right Condorcet loser AfD became the third-largest faction in the Bundestag in 2017 with 12.5% of the vote, surpassing three parties that had each won their pairwise comparison against the AfD. An even more extreme case is the Swiss 2011 election, where the national-conservative Swiss People's Party gained the largest vote share while emerging as the Condorcet loser, according to the data.

Table 2 provides a systematic overview of the empirical *Condorcet efficiency*[8] of electoral systems. We calculate how frequently Condorcet winners emerge as electoral victors (i.e., as the largest parliamentary faction) and examine how often they are included in the subsequent government following the election. The results are presented by election

[8]The term Condorcet efficiency refers to the conditional probability that a voting rule selects the Condorcet winner, given that one exists (Gehrlein and Lepelley, 1998).

type and electoral formula. At the end of this section, we also report the Condorcet efficiencies of two additional voting rules. The first row of Table 2 highlights the frequency[9] at which Condorcet winners become the largest electoral party, revealing significant variation across election types and systems. Condorcet winners are most successful in presidential elections (82%) and parliamentary elections with mixed electoral systems (81%), but their success rate is lowest in parliamentary elections using proportional representation (62%).

The second row in Table 2 reports how often Condorcet winners win the prime minister's office or the presidency. It shows that in parliamentary systems with plurality or proportional rules, Condorcet winners obtain government leadership even if they are not the largest electoral party, increasing their success rate to 89% resp. 66%. This is not the case in any of the mixed systems in our data. Since the most-vote getter in presidential elections typically also win the presidency, the rate is identical to the first row. Our findings concerning parliamentary elections align with those of Desai and Kalandrakis (2025), who used OLS regressions to show that weak Condorcet winners (core parties) are about 24 percentage points more likely to appoint the prime minister, with even higher probabilities for strong Condorcet winners.

Condorcet winners may still hold government offices, e.g., as a junior coalition partner. The results reported in the third row indicate that this is often the case: the government participation rates are significantly larger than the election winner rates and the prime minister/presidency rates. Again, there is variation by election type and system, with plurality and mixed electoral systems in parliamentary elections showing the largest Condorcet efficiency in government participation (97% and 98%). Proportional rules in parliamentary elections are less efficient in selecting Condorcet winners into government than plurality and mixed systems (88%). Overall, the government formation period that follows upon parliamentary elections enhances the Condorcet efficiency of parliamentary systems, superseding presidential elections in terms of government posts for Condorcet winners.

Another aspect by which to evaluate the Condorcet efficiency of electoral systems is to ask for how often the government participation of the Condorcet loser is prevented. The bottom row in Table 2 indicates that proportional electoral systems are most prone to the 'Condorcet-loser-turns-winner' (Van Deemen, 1993) or Borda paradox (named after the Chevalier de Borda, who identified the paradoxical situation that a Condorcet loser

[9]The values in square brackets indicate the confidence interval of Agresti-Coull binomial tests (Agresti and Coull, 1998) (values in percentages and at a 90% significance level).

Table 2: *Condorcet efficiency by type of election (parliamentary vs. presidential and by electoral systems.*

Condorcet Winner	**Parliamentary** Plurality N=30	Proportional N=135	Mixed N=51	**Presidential** N=46
largest elect. party / candidate	71% *[56-83]*	62% *[54-68]*	81% *[70-88]*	82% *[71-89]*
prime minister/ president	89% *[75-96]*	66% *[58-73]*	73% *[61-82]*	82% *[71-90]*
part of government	97% *[85-100]*	88% *[82-92]*	98% *[91-100]*	
Condorcet Loser part of government / president	0%	16% *[11-22]*	8% *[2-19]*	4% *[0-12]*

can emerge as plurality winner). From a normative standpoint, this may be justified, as one of the premisses of proportional systems is to enable ethnic, religious or other minorities to have their legitimate share of power, so as to prevent the 'tyranny of the majority'. However, our results indicate that in only three out of 20 instances in which Condorcet losers obtain cabinet posts, it is ethnic parties. Most often (4 out of 20 cases), the Condorcet loser party that enters government is categorized by the local CSES collaborators as a national party.[10]

The other Borda-paradox case is the 2000 Mexican presidential election, at which Vicente Fox won the plurality vote, but was a Condorcet loser. The Condorcet winner was Cuauhtémoc Cárdenas Solórzano, who ranked third at the election.

Finally, we applied our data to the Borda rule, a positional voting system that assigns weights to alternatives based on their rank-order positions. We then compared the winners under the Borda rule with the Condorcet winner to evaluate how often they align. The results reveal that 93.4% of Borda winners are also Condorcet winners, indicating that the Borda rule achieves a higher Condorcet efficiency compared to the plurality rule (see Table 2).

If a party is the Borda winner but not the Condorcet winner, this discrepancy stems

[10]The four cases are the national-conservative Swiss People's Party in 2003 and 2011, the right-wing populist party Cabildo Abierto in Uruguay 2019, and the Croatian Civic Initiative in Montenegro in 2012 (although this one could also be categorized as an ethnic party representing the interests of the Croatian minority in Montenegro).

from differences in the intensity of preferences. The Condorcet method adheres to Arrow's Independence of Irrelevant Alternatives (IIA), which disregards any consideration of preference intensities (Sen, 2017, Ch. 7). In contrast, the Borda rule incorporates preference intensities through ordinal information (Maskin, 2025). For example, suppose 60% of the electorate prefers $A \succ B \succ C$, while 40% prefers $B \succ C \succ A$. In this scenario, A emerges as the Condorcet winner, while B becomes the Borda winner. This outcome is influenced by candidate C: their middle ranking within the minority group may indicate that the preference intensity for B over A in the smaller group outweighs the preference intensity for A over B in the majority group.

When the Condorcet winner belongs to the socialist/social democratic or liberal party families, they also tend to be the Borda winner in 98% of cases. In contrast, this coincidence is lower for the conservative/Christian democratic party family, at 85%.

4. Conclusion

Two hundred and forty years ago, the Marquis de Condorcet introduced the paradox that now bears his name to the French Academy of Sciences. Ever since, it has been recognized as a profound challenge within the social sciences. In recent decades, researchers have sought in various ways to assess the prevalence of the Condorcet paradox. However, it has always been clear that only a comprehensive empirical analysis across different countries and dates could provide a substantive answer to the question of its empirical relevance. This study leverages the availability of comparative data and advanced computational capabilities to conduct the first empirical investigation in this vein. Our findings reveal that the Condorcet paradox holds virtually no empirical relevance.

We find a Condorcet winner in almost every country and at almost every point in time. Moreover, we are able to identify who these Condorcet winners are and the party families to which they belong. Our results are encouraging in that Condorcet winners frequently succeed in becoming part of the governing coalitions. However, the degree of Condorcet efficiency varies significantly between electoral systems.

Our analysis also demonstrates that Condorcet losers nearly always exist. A concern raised by the Chevalier de Borda regarding the plurality rule was that Condorcet losers could emerge as plurality winners—a phenomenon known as the Borda paradox. We observe this paradox twice at presidential elections, but not once at parliamentary elections that use plurality rule. Our findings reveal that proportional electoral rules are the least effective in ensuring electoral victory and government participation for Con-

dorcet winners, while simultaneously being the least effective at preventing Condorcet losers from participating in government. These insights should be carefully considered in ongoing debates about electoral reform.

Moreover, our work can be understood as academic endorsement for advocates of electoral reforms favouring the Condorcet method (Maskin and Sen, 2016, 2017b,a). While these advocates emphasise its axiomatic advantages, they are, of course, mindful of the paradox's challenges. Our findings suggest that, in weighing the strengths and weaknesses of the Condorcet method, its principal shortcoming should not be overemphasized. In this sense, this study aims not only to make an academic contribution but also to inform and inspire current and future debates on electoral reform.

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Appendices

Note: The appendix is proposed to be published online. We add the appendices to the main text in line with the submission guidelines.

A. Countries and Election Years Included in Analysis

	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21
Albania										x												x				
Argentina																				x						
Australia	x								x			x						x						x		
Austria													x					x				x				
Belarus						x							x													
Belgium				x				x																x		
Brazil							x				x				x				x				x			
Bulgaria						x													x							
Canada		x							x				x			x				x				x		
Chile				x						x				x								x				
Costa Rica																							x			
Croatia												x														
Czech Republic	x						x				x				x			x								
Czechia																						x				x
Denmark			x			x						x												x		
El Salvador																								x		
Estonia																x										
Finland								x				x				x				x				x		
France							x					x					x					x				
Germany			x				x			x				x				x				x				x
Great Britain		x								x										x		x		x		
Greece														x			x			2				x		
Hong Kong			x		x				x				x				x				x					
Hungary			x				x																x			
Iceland				x				x				x		x				x			x	x				
India																								x		
Ireland							x					x				x					x					
Israel	x							x			x							x						x		
Italy											x												x			

	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21
Japan	x								x			x						x				x				
Kenya																		x								
Latvia															x	x			x				x			
Lithuania		x																			x				x	
Mexico		x			x			x			x			x			x			x			x			
Montenegro																	x				x					
Netherlands			x				x				x				x							x				x
New Zealand	x						x						x			x			x			x		x		
Norway		x				x				x				x				x				x				
Peru					x	x					x					x					x					x
Philippines									x						x						x					
Poland		x				x				x		x				x								x		
Portugal							x			x				x						x				x		
Rep. of Korea					x				x				x				x				x					
Romania	x								x					x			x		x		x					
Russian Fed.					x																					
Serbia																	x									
Slovakia															x						x				x	
Slovenia	x								x				x			x										
South Africa														x					x							
Spain	x				x				x				x													
Sweden			x				x				x								x				x			
Switzerland				x				x				x				x										
Taiwan	x					x			x				x				x				x				x	
Thailand						x						x				x								x		
Tunisia																								x		
Turkey																x				x			x			
Ukraine			x																							
USA	x								x				x				x				x				x	
Uruguay														x										x		

B. Full List of Condorcet Winner and Condorcet Loser Parties in Parliamentary Elections

Country	Year	Condorcet winner candidate/party	Condorcet loser candidate/party
Albania	2005	Democratic Party of Albania (PD)	Agrarian Party (PAA)
Albania	2017	Socialist Party of Albania (PS)	Libra Party (LIBRA)
Argentina	2015	Front for the Victory (FPV)	Progressives (Pro)
Australia	1996	Liberal Party (LP)	Australian Greens (AG)
Australia	2004	Liberal Party (LP)	One Nation Party (ONP)
Australia	2007	Australian Labor Party (ALP)	National Party of Australia (NPA)
Australia	2013	Liberal Party (LP)	Australian Greens (AG)
Australia	2019	Liberal Party (LP)	One Nation Party (ONP)
Austria	2008	Soc. Dem. Party of Austria (SPÖ)	Dinkhauser List
Austria	2013	Soc. Dem. Party of Austria (SPÖ)	Alliance for the Future of Austria (BZÖ)
Austria	2017	Austrian People's Party (OVP)	Peter Pilz List (PILZ)
Belarus	2001	Communist Party of Belarus	United Civil Party
Belarus	2008	The BNF Party	United Civil Party
Belgium-Flanders	1999	Live Differently (AGALEV) / Green	Flemish Block/ Importance (VB)
Belgium-Wallonia	1999	Confederated Ecologists (ECOLO)	National Front (FN)
Belgium	2003	Socialist Party Differently (SP)	Confederated Ecologists (ECOLO)
Belgium-Flanders	2019	Christian Democratic - Flemish (CD-V)	Flemish Block (VB)
Belgium-Wallonia	2019	Confederated Ecologists (ECOLO)	People's Party (PP)
Brazil	2002	Workers Party (PT)	Brazilian Labor Party (PTB)
Brazil	2006	Workers Party (PT)	Brazilian Labor Party (PTB)
Brazil	2010	Workers Party (PT)	Democrats (DEM)
Brazil	2014	Workers Party (PT)	Republic Party (PR)
Brazil	2018	Workers Party (PT)	Brazilian Republican Party (PRB)
Bulgaria	2001	National Movement for Stability and Progress (NDS)	Euroleft (BE)
Bulgaria	2014	Citizens for European Development of Bulgaria (GERB)	Movement for Rights and and Freedoms (DPS)
Canada	1997	Liberal Party (LIB)	Bloc Quebecois (BQ)
Canada	2004	Liberal Party (LIB)	Bloc Quebecois (BQ)
Canada	2008	Conservative Party (CP)	Bloc Quebecois (BQ)
Canada	2011	Conservative Party (CP)	Bloc Quebecois (BQ)
Canada	2015	Liberal Party (LIB)	Bloc Quebecois (BQ)
Canada	2019	Liberal Party (LIB)	Bloc Quebecois (BQ)
Chile	2005	Party for Democracy (PPD)	Independent Democratic Union (UDI)
Chile	2009	Christian Democratic Party (PDC)	Communist Party of Chile (PCCh)
Chile	2017	National Renewal (RN)	Political Evolution (Evopoli)
Costa Rica	2018	Citizens' Action Party (PAC)	Social Christian Republican Party (PRSC)
Croatia	2007	Croatian Democratic Union (HDZ)	Croatian Democratic Alliance of Slavonia and Baranja (HDSSB)
Czech Republic	1996	Civic Democratic Party (ODS)	Communist Party of Bohemia and Moravia (KSCM)
Czech Republic	2002	Czech Social Democratic Party (CSSD)	Communist Party of Bohemia and Moravia (KSCM)
Czech Republic	2006	Green Party (SZ)	Communist Party of Bohemia and Moravia (KSCM)
Czech Republic	2010	Public Affairs (VV)	Communist Party of Bohemia and Moravia (KSCM)
Czech Republic	2013	Action of Dissatisfied Citizens (ANO)	Civic Democratic Party (ODS)
Czech Republic	2017	Action of Dissatisfied Citizens (ANO)	TOP 09 (TOP 09)
Czech Republic	2021	Action of Dissatisfied Citizens (ANO)	Czech Pirate Party (Pirati)
Denmark	1998	Social Democrats (Sd)	Danish People's Party (DF)
Denmark	2001	Venstre, Denmark's Liberal Party (V)	Unity List - Red-Green Alliance (EL)

Country	Year	Condorcet winner party	Condorcet loser party
Denmark	2007	Social Democrats (Sd)	Unity List - Red-Green Alliance (EL)
Denmark	2019	Social Democrats (Sd)	The New Right (NB)
Estonia	2011	Social Democratic Party (SDE)	Estonian People's Union (ER a)
Finland	2003	Social Democratic Party of Finland (SDP)	Swedish People's Party in Finland (RKP - SFP)
Finland	2007	Center Party of Finland (KESK)	Left Alliance (VAS)
Finland	2011	Social Democratic Party of Finland (SDP)	Christian Democrats (KD)
Finland	2015	Center Party of Finland (KESK)	—
Finland	2019	Social Democratic Party of Finland (SDP)	Blue Reform (SIN)
France	2007	Union for a Popular Movement (UMP)	National Front (FN)
Germany	1998	Social Democratic Party (SPD)	Left Party (DIE LINKE)
Germany	2002	Social Democratic Party (SPD)	The Republicans (REP)
Germany	2005	Social Democratic Party (SPD)	National Democratic Party (NPD)
Germany	2009	Christian Democratic Party (CDU)	Left Party (DIE LINKE)
Germany	2013	Christian Democratic Party (CDU)	Alternative for Germany (AfD)
Germany	2017	Christian Democratic Party (CDU)	Alternative for Germany (AfD)
Germany	2021	Social Democratic Party (SPD)	Alternative for Germany (AfD)
Great Britain	1997	Labor (Lab)	Conservatives (Con)
Great Britain	2005	Labor (Lab)	Conservatives (Con)
Great Britain	2015	Conservatives (Con)	United Kingdom Independence Party (UKIP)
Great Britain	2017	Labor (Lab)	Plaid Cymru (PC)
Great Britain	2019	Conservatives (Con)	Plaid Cymru (PC)
Greece	2009	Pan-Hellenic Socialist Movement (PASOK)	Popular Orthodox Rally (La.O.S)
Greece	2012	Democratic Left (DIMAR)	Golden Dawn (LS - XA)
Greece	2015	Coalition of the Radical Left (SYRIZA)	Golden Dawn (LS - XA)
Greece	2019	New Democracy (ND)	Greek Solution
Hong Kong	1998	Democratic Party (DP)	Citizen's Party
Hong Kong	2000	Democratic Party (DP)	Citizen's Party
Hong Kong	2004	Democratic Party (DP)	Democratic Alliance for Betterment of Hong Kong (DAB)
Hong Kong	2008	Civic Party (CPP)	League of Social Democrats (LSD)
Hong Kong	2012	{ Democratic Party (DP) AND Hong Kong Federation of Trade nions (HKFTU) }	People Power (PP)
Hong Kong	2016	Democratic Party (DP)	ALLinHKG
Hungary	1998	Fidesz-Hungarian Civic Party Alliance Party (Fidesz - MPP)	Hungarian Justice and Life Party (MIEP)
Hungary	2002	Hungarian Socialist Party (MSZP)	Hungarian Justice and Life Party (MIEP)
Hungary	2018	Fidesz - KDNP	Democratic Coalition (DK)
Iceland	1999	Independence Party (Sj)	Liberal Party (FF)
Iceland	2003	Independence Party (Sj)	Liberal Party (FF)
Iceland	2007	Independence Party (Sj)	Icelandic Movement (IL)
Iceland	2009	Social Democratic Alliance (Sam)	Liberal Party (FF)
Iceland	2013	Progressive Party (F)	Pirate Party (Pi)
Iceland	2016	Left-Green Movement (VG)	Progressive Party (F)
Iceland	2017	Left-Green Movement (VG)	Center Party (M)
India	2019	Indian People's Party (BJP)	All India Trinamool Congress (AITC)
Ireland	2002	Fianna Fail (FF)	Sinn Fein (SF)
Ireland	2007	Fianna Fail (FF)	Sinn Fein (SF)
Ireland	2011	Fine Gael (FG)	United Left Alliance (ULA)
Ireland	2016	Fine Gael (FG)	Sinn Fein (SF)
Israel	1996	Israeli Labor Party (MHH)	Sfarad's Keepers of the Torah (Shas)
Israel	2003	Likud - The Consolidation (L)	Sfarad's Keepers of the Torah (Shas)
Israel	2006	Forward (Kadima)	Sfarad's Keepers of the Torah (Shas)
Israel	2013	There is a Future (YA)	Sfarad's Keepers of the Torah (Shas)
Israel	2020	Likud - The Consolidation (L)	Joint List

Country	Year	Condorcet winner party	Condorcet loser party
Italy	2006	National Alliance (AN)	Communist Refoundation Party (PRC)
Italy	2018	Five Star Movement (M5S)	Free and Equal (LeU)
Japan	1996	Liberal Democratic Party (LDP)	New Party Harbinger (NPH)
Japan	2004	Democratic Party of Japan (DPJ)	Japanese Communist Party (JCP)
Japan	2007	Democratic Party of Japan (DPJ)	Japanese Communist Party (JCP)
Japan	2013	Liberal Democratic Party (LDP)	Green Wind
Japan	2017	Liberal Democratic Party (LDP)	Japanese Communist Party (JCP)
Kenya	2013	The National Alliance (TNA)	United Democratic Front (Forum) (UDFP)
Latvia	2010	Union of Greens and Farmers (ZZS)	For Human Rights in United Latvia (PCTVL)
Latvia	2011	Unity (V)	Latvia's First Party/
		Unity (V)	/Latvian Way (LPP/LC)
Latvia	2014	Union of Greens and Farmers (ZZS)	Latvian Association of the Regions (LRa)
Latvia	2018	Union of Greens and Farmers (ZZS)	Latvian Russian Union (LKS)
Lithuania	2016	Lithuanian Farmers and Greens Union (LVZS)	(Lithuanian) Poles Election Action Christian Families Alliance
Lithuania	2020	Homeland Union-Conservatives / Lithuanian Christian Democrats	(Lithuanian) Poles Election Action - Christian Families Alliance
Mexico	1997	Democratic Revolution Party (PRD)	Cardenista Party (PFCRN)
Mexico	2000	Alliance for Change	Authentic Party of the Mexican Revolution (PARM)
Mexico	2003	National Action Party (PAN)	Citizen's Movement (MC)
Mexico	2006	National Action Party (PAN)	Soc. Dem.Party (PSD)
Mexico	2009	Institutional Revolutionary Party (PRI)	Soc. Dem.Party (PSD)
Mexico	2012	Institutional Revolutionary Party (PRI)	New Alliance Party (PANAL)
Mexico	2015	Institutional Revolutionary Party (PRI)	Citizen's Movement (MC)
Mexico	2018	National Regeneration Movement (MORENA)	Institutional Revolutionary Party (PRI)
Montenegro	2012	Coalition "For a European Montenegro"	Croatian Civic Initiative (HGI)
Montenegro	2016	Democratic Party of Socialists (DPS)	Bosniak Party (BS)
Netherlands	1998	Labor Party (PvdA)	Reformed Political Alliance (GPV)
Netherlands	2002	Christian Democratic Appeal (CDA)	Reformed Political Party (SGP)
Netherlands	2006	Christian Democratic Appeal (CDA)	Party for Freedom (PVV)
Netherlands	2010	Democrats 66 (D66)	Party for Freedom (PVV)
Netherlands	2017	Democrats 66 (D66)	Party for Freedom (PVV)
Netherlands	2021	Democrats 66 (D66)	Forum for Democracy (FvD)
New Zealand	1996	Labor Party (Lab)	Christian Coalition
New Zealand	2002	Labor Party (Lab)	Jim Anderton's Progressive Party (PP)
New Zealand	2008	National Party (NP)	Jim Anderton's Progressive Party (PP)
New Zealand	2011	National Party (NP)	MANA Movement (MANA)
New Zealand	2014	National Party (NP)	Internet MANA (IP - MANA)
New Zealand	2017	National Party (NP)	MANA Movement (MANA)
New Zealand	2020	Labor Party (Lab)	Conservative Party (CP)/ New Conservative (NC)
Norway	1997	Labor Party (Ap)	Progress Party (FrP)
Norway	2001	Conservative Party (H)	Progress Party (FrP)
Norway	2005	Labor Party (Ap)	Red Electoral Alliance (RV)
Norway	2009	Labor Party (Ap)	Red Party (R)
Norway	2013	Conservative Party (H)	Red Party (R)
Norway	2017	Conservative Party (H)	Red Party (R)
Peru	2000	Possible Peru	Peruvian Aprista Party (PAP)
Peru	2001	Possible Peru	Andean Renaissance / National United Renaissance
Peru	2006	Peruvian Aprista Party (PAP)	National Restoration (RN)
Peru	2011	Peru Wins (UPP)	Peruvian Aprista Party (PAP)

Country	Year	Condorcet winner party	Condorcet loser party
Peru	2016	Popular Force (FP)	Direct Democracy
Peru	2021	Popular Action (AP)	Popular Renewal (RP)
Philippines	2004	Lakas - Christian-Muslim Democrats (LAKAS-CMD)	Democratic Action (AD)
Philippines	2010	Liberal Party (LP)	New Nation- Volunteers for a New Philippines (VNP)
Philippines	2016	Philippine Democratic Party (PDP-LABAN)	People's Reform Party (PRP)
Poland	1997	Solidarity Electoral Action (AWSP)	Movement for Reconstruction of Poland (ROP)
Poland	2001	Coalition Of The Alliance Of The Democratic Left - The Union of Labor	Solidarity Electoral Action (AWSP)
Poland	2005	Law and Justice (PiS)	Democratic Party (PD)
Poland	2007	Civic Platform (PO)	Left and Democrats (LiD)
Poland	2011	Civic Platform (PO)	Palikots Movement
Poland	2019	Law and Justice (PiS)	Confederation Liberty and Independence
Portugal	2002	Socialist Party (PS)	Portuguese Communist Worker's Party (PCTP/MRPP)
Portugal	2005	Socialist Party (PS)	Democratic and Social Centre - People's Party (CDS-PP)
Portugal	2009	Socialist Party (PS)	Unitarian Democratic Coalition (CDU)
Portugal	2015	Socialist Party (PS)	Democratic Republican Party (DRP)
Portugal	2019	Socialist Party (PS)	Democratic and Social Centre - People's Party (CDS-PP)
Republic of Korea	2000	Millennium Democratic Party (MDP)	New Korean Party of the Hope (NKPH)
Republic of Korea	2004	Our Party	National Integration 21
Republic of Korea	2008	New Frontier Party (NFP)	New Progressive Party (NPP)
Republic of Korea	2012	Democratic United Party (DUP)	
Republic of Korea	2016	Democratic Party of Korea (DP)	Justice Party (JP)
Romania	1996	Romanian Democratic Convention (CDR)	Democratic Union of Hungarians in Romania (UDMR)
Romania	2004	Democratic Party (PD)	Democratic Union of Hungarians in Romania (UDMR)
Romania	2012	Social Liberal Union (USL)	Democratic Union of Hungarians in Romania (UDMR)
Romania	2016	Romanian Party of Social Democracy (PSD)	Our Romania Alliance (ANR)
Russian Federation	1999	Unity Inter-Regional Movement	Zhirinovsky Bloc
Serbia	2012	Serbian Progressive Party (SNS)	Liberal Democratic Party (LDP)
Slovakia	2010	Direction - Social Democracy (Smer)	Party Of The Hungarian Coalition (SMK)
Slovakia	2016	Slovak National Party (SNS)	Network (S) / Slovak Conservative Party (SKS)
Slovakia	2020	We are family (SR)	Kotleba - People's Party Our Slovakia (LsNS)
Slovenia	1996	{Liberal Democracy of Slov. (LDS) AND Slov. People's Party (SLS)}	Christian Democrats (SKD)
Slovenia	2004	Social Democratic Party (SDS)	New Slovenia - Christian People's Party (NSi)
Slovenia	2008	Social Democrats (SD)	New Slovenia - Christian People's Party (NSi)
Slovenia	2008	United List of Social Democrats (ZLSD)	New Slovenia - Christian People's Party (NSi)
Slovenia	2011	Social Democrats (SD)	Slovenian National Party (SNS)
Slovenia	2011	United List of Social Democrats (ZLSD)	Slovenian National Party (SNS)
South Africa	2009	African National Congress (ANC)	Freedom Front Plus (VF Plus)
South Africa	2014	African National Congress (ANC)	Freedom Front Plus (VF Plus)
Spain	1996	Spanish Socialist Workers' Party (PSOE)	Basque Nationalist Party (PNV)
Spain	2000	People's Party (PP)	Basque Nationalist Party (PNV)
Spain	2004	Spanish Socialist Workers'	People's Party (PP)

Country	Year	Condorcet winner party	Condorcet loser party
		Party (PSOE)	
Spain	2008	Spanish Socialist Workers' Party (PSOE)	Republican Left of Catalonia (ERC)
Sweden	1998	Sweden's Social Democratic Worker's Party (SAP)	Liberal People's Party (FP) / Liberals (L)
Sweden	2002	Sweden's Social Democratic Worker's Party (SAP)	Moderate Party (M)
Sweden	2006	Sweden's Social Democratic Worker's Party (SAP)	Sweden Democrats (SD)
Sweden	2014	Sweden's Social Democratic Worker's Party (SAP)	Sweden Democrats (SD)
Sweden	2018	Sweden's Social Democratic Worker's Party (SAP)	Sweden Democrats (SD)
Switzerland	1999	Radical Democratic Party (FDP/PLR)	Green Party (GPS/PES)
Switzerland	2003	Social Democratic Party (SP/PS)	Swiss People's Party (SVP/UDC)
Switzerland	2007	Christian Democratic People's Party (CVP / PDC)	Evangelical People's Party (EVP / PEP)
Switzerland	2011	Christian Democratic People's Party (CVP / PDC)	Swiss People's Party (SVP / UDC)
Taiwan	1996	Kuomintang of China (KMT)	New Party (NP)
Taiwan	2001	Democratic Progressive Party (DPP)	New Party (NP)
Taiwan	2012	Kuomintang of China (KMT)	People First Party (PFP)
Taiwan	2016	Democratic Progressive Party (DPP)	Taiwan Solidarity Union (TSU)
Taiwan	2020	Democratic Progressive Party (DPP)	People First Party (PFP)
Thailand	2001	Thai Rak Thai Party (TRT)	Justice and Freedom Party
Thailand	2007	People's Power Party (PPP)	Referendum Party
Thailand	2011	For Thais Party (PPT)	Power of Choburi Party
Thailand	2019	For Thais Party (PPT)	People's Nation Party
Tunisia	2019	Heart of Tunisia	Dignity Coalition
Turkey	2011	Justice and Development Party (AKP)	Peace and Democratic Party (BDP)
Turkey	2015	Justice and Development Party (AKP)	Patriotic Party (VP)
Turkey	2018	Justice and Development Party (AKP)	Peoples' Democratic Party (HDP)
Ukraine	1998	Communist Party of Ukraine	Social-Democratic Party
USA	1996	Democratic Party (DEM)	Reform Party (REF)
USA	2004	Democratic Party (DEM)	Reform Party (REF)
Uruguay	2009	Broad Front (FA)	Popular Assembly
Uruguay	2019	Broad Front (FA)	Open Cabildo

C. Full List of Condorcet Winner and Condorcet Loser Candidates/Parties in Presidential Elections

Country	Year	Condorcet winner candidate/party	Condorcet loser candidate/party
Argentina	2015	Daniel Scioli (FPV)	Nicolas del Cano (FIT)
Belarus	2001	Aljaksandr Lukaschenka (BNF)	Vladimir Goncharik (UDO)
Brazil	2002	Luiz I. Lula da Silva (PT)	Jader Barbalho (PMDB)
Brazil	2006	Luiz I. Lula da Silva (PT)	Christovam Buarque (PDT)
Brazil	2010	Dilma Roussef (PT)	Ciro Gomes (PSB)
Brazil	2014	Dilma Roussef (PT)	Ronaldo Caiado (DEM)
Brazil	2018	Jair Bolsonaro (PSL)	Henrique Meirelles (MDB)
Chile	1999	Ricardo Lagos (PPD)	Gladys Marín Millie (PCCh)
Chile	2009	Marco Enríquez-Ominami (MEO)	Jorge Arrate (PCCh)
Chile	2017	Sebastian Pinera (RN)	Eduardo Artes (UPA)
Costa Rica	2018	Carlos A. Quesada (PAC)	Rodolfo H. Gómez (PRSC)
El Salvador	2019	Nayib Bukele (GANA)	Josuè Alvarado (Vamos)
France	2002	Jacques Chirac (PS)	Jean-Marie Le Pen (FN)
France	2012	François Hollande (PS)	François Bayrou (MoDem)
France	2017	Emmanuel Macron (LaREM)	Marine Le Pen (FN)
Kenya	2013	Uhuru Kenyatta (TNA)	Musalia Mudavadi (UDFP)
Lithuania	1997	Valdas Adamkus (Independent)	Rimantas Smetona (JL)
Mexico	2000	Cuauhtémoc C. Solórzano (PRD)	Vicente Fox (PAN)
Mexico	2006	Felipe Calderón Hinojosa (PAN)	Roberto Campa Cifrián (PANAL, PNA)
Mexico	2012	Enrique Peña Nieto (PRI)	Gabriel Ricardo Quadri de la Torre (PANAL, PNA)
Mexico	2018	Andrés M. López Obrador (PRD / MORENA)	Jaime H. Rodríguez Calderón (Independent)
Peru	2000	Alberto Fujimori (Peru 2000)	Abel Salinas (PAP)
Peru	2001	Lourdes Flores Nano (UN)	Ciro Galvez (Andean Renaissance)
Peru	2011	—	Verónika Mendoza (Frente Amplio / JP)
Peru	2016	Pedro Castillo (PL)	Cesar Acuna Peralta (APP)
Peru	2021	Hernando de Soto (AvP)	Daniel Urresti (PP)
Philippines	2010	Benigno Cojuangco Aquino III (LP)	Jesus N.P. Perlas (Independent)
Philippines	2016	Rodrigo Roa Duterte (PDP-LABAN)	Jejomar Binay (UNA)
Romania	1996	Emil Constantinescu (CDR)	Mircea Ionescu-Quintus (PNL)
Romania	2009	Mircea Geoana (PSD)	Hunor Kelemen (UDMR)
Romania	2014	Klaus Werner Iohannis (PNL)	Hunor Kelemen (UDMR)
Serbia	2012	Tomislav Nikolić (SNS)	Čedomir Jovanović (LDP)
Taiwan	1996	Lee Tung-Hui (KMT)	Peng Ming Min (DPP)
Taiwan	2004	Lai Ching-te (DPP)	New Party (NP)
Taiwan	2008	Ma Ying-Jeou (KMT)	Frank Hsieh (DPP)
Taiwan	2012	Ma Ying-Jeou (KMT)	James Soong (PFP)
Taiwan	2016	Tsai Ing-Wen (DPP)	Eric Chu (KMT)
Taiwan	2020	Tsai Ing-Wen (DPP)	Han Kuo-Yu (KMT)
Tunisia	2019	Nabil Karoui (Heart of Tunisia)	Zouheir Maghzaoui (People's Movement)
Turkey	2018	Recep Tayyip Erdoğan (AKP)	Pervin Buldan (HDP)
Uruguay	2009	José Mujica (FA)	Raúl Rodriguez L. da Silva (Popular Assembly)
Uruguay	2019	Luis Lacalle Pou (PN)	Ernesto Talvi (Colorado Party)

D. Impact of ideological distance on party ratings

Table D: *Mixed Regression model of party ratings on ideological distance between respondent and party, including random slope for ideological distance*

Fixed Effects	*Coeff.*	*Std. Err.*
Intercept	5.425^{***}	0.063
Ideological distance	-0.457^{***}	0.017
Random Effects	*Variance*	*Std. Err. (Var)*
Individual: Intercept	1.092	1.0448
Election: Intercept	0.978	0.9892
Election: Ideological distance	0.071	0.2672
Residual	6.945	2.6353
# Individuals	289,297	
# Elections	249	
# Observations (Individual × party)	1,869,633	
Log-likelihood	-4,564,707.977	
AIC	9,129,000	
R^2	0.269	

Significance: $*** \equiv p < 0.001$; $** \equiv p < 0.01$; $* \equiv p < 0.05$