Country Music:
Strategic Incentives of Competing Voters

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Research Idea

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Can different voting systems mitigate societal polarization?

- ▶ **Plurality voting systems** often lead to a **two-party system** and increased **polarization.** (Alós-Ferrer and Buckenmaier, 2021)
- ▶ Polarized societies are prone to **extreme outcomes** and **disruptive events.** (Martini and Torcal, 2019)
- ▶ Example: The polarization during the U.S. presidential campaign has been linked to significant events such as the Capitol Hill incident and Trump murder attempt.

Answer to Research Question in Previous Literature

- ▶ **Positional Voting Systems** such as **Borda Count (BC)** can, potentially, **reduce polarization** in elections. (Saari, 2000)
- ▶ **BUT** they are **subject to strategic voting** (Dasgupta and Maskin, 2020)
- ▶ Recent analysis by Maskin (2024) deems this issue now to be of **secondary importance.**

Novelty of Contribution to Research Question

Research Question:

Are Positional Voting Systems (BC) viable in large-scale elections, or are they subject to strategic voting?

What's new?

- ▶ We empirically address this question using a real-world dataset, without using lab experiments.
- ▶ We conduct this analysis by leveraging an integrated dataset, which combines information from the Eurovision Song Contest (ESC) and Spotify charts databases.

Preliminary Results:

- ▶ Strategic effect is present
- ▶ Different extent of the effect for Jury and Televote

Eurovision Song Contest: current voting system

- ▶ **Participants:** 44 countries/songs participate, with 26 advancing to the final.
- ▶ **Direct Finalists:** The Host Country and the Big Five
- ▶ **Semi-Finals:** Two Semi-Finals select 10 songs each to advance to the final.

Voting Process:

1. National audiences participate through televoting.
2. National juries, consisting of 5 members each, also cast votes.

Voting Rules:

- ▶ Voting for national songs is prohibited.
- ▶ Juries must not abstain.

Scoring System: resembling *Dowdall system*

- ▶ 12 points awarded to the top-ranked song.
- ▶ 10 and 8 points for the second and third place respectively.
- ▶ Points decrease from 7 to 1 for the fourth to tenth places.

Eurovision Song Contest: past voting systems

Voting systems during the years:

- ▶ before 2004: final only, jury and televote
- ▶ 2004- 2007: single semifinal with televote only.
- ▶ 2008: two semifinals with also jury voting; final, televote.
- ▶ 2009 - 2015: final, voting 50/50 split televote and jury
- ▶ 2016 - 2022: semifinals and final, 50/50 televote and jury
- ▶ 2023- present: semifinals with televote only.

We consider only years after 2008 in our analyis and year after 2017 for the analysis with Spotify data (due to availability) where:

- ▶ **Two semi-finals precede the contest's final**

Eurovision Song Contest

- ▶ **In the semi-finals, voters** know little about the preferences of other voters and **are less likely to vote strategically**.
- ▶ In the final, voters **can rely on the information disclosed in the semifinals to elaborate a voting strategy.**
- ▶ This information concerns comments and news disclosed by media on the songs in the ESC because the **outcomes of the semi-finals are not made public**

Empirical Strategy

▶ The dependent variable **vote**$_{i,j,y}$ is the *relative* number of points that country i awards to the song of country j in year y.

▶ We estimate the following regression:

$$\begin{aligned} vote_{i,j,y} &= \alpha + \beta\, \textbf{distance}_{i,j,y} + \gamma\, above_{i,j,y} \\ &\quad + \delta\, distance_{i,j,y} \cdot above_{i,j,y} + \phi\, past_{i,j,y} \end{aligned} \quad (1)$$

▶ Variable **distance**$_{i,j,y}$ is defined as:

$$\textbf{distance}_{i,j,y} = \left| points_{i,j,y} - \overline{points}_{j,y} \right| \quad (2)$$

▶ To control for a different effect of $distance_{i,j,y}$ on songs ranked higher than the "domestic" song, we include the dummy variable **above**$_{i,j,y}$, and its interaction term.

▶ We control for permanent biases using average points assigned by country i to country j in the **3 years before Y (past**$_{i,j,y}$).

Empirical strategy

▶ Variable **distance**$_{i,j,y}$ is our **main regressor** of interest.

▶ **A positive sign for β is evidence of strategic voting.**
   ▶ It captures the extent to which voters of country i **perceive** the **song from country j as a competitor** of the domestic song.

▶ For this variable, we adopt two different approaches:
   ▶ *Internal metrics*: Standing of a song in either the ESC semifinal or final.
   ▶ *External metrics*: Standing of a song in Spotify's charts.

Internal metrics

- $distance_{i,j,y}$ can be calculated based on the scores given:
  1. in the final
  2. in the semi-finals.

- Option 1 has two disadvantages:
  - Requires that voters are able to **forecast the final rankings**
  - The dependent variable **vote** itself contributes to determining the rankings, which **introduces endogeneity issues**.

- **Option 2** has the disadvantage that it **reduces the sample size** (available data only include votes between country pairs competing in the same semifinals and reaching the final)

- ...but it solves the endogeneity problem and is surely salient to voters in the final.

Table: Eurovision final–based *distance* - Option 1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Intercept	-0.028	0.021	-0.004	-0.360***	-0.443***	-0.381***	-0.505***
	(0.027)	(0.033)	(0.038)	(0.038)	(0.066)	(0.099)	(0.086)
above		-0.099***	-0.049	-0.052	-0.064	0.003	-0.132
		(0.038)	(0.054)	(0.051)	(0.087)	(0.132)	(0.114)
distance	0.446***	0.448***	0.658***	0.357*	0.852***	**0.994****	**0.711***
	(0.160)	(0.160)	(0.225)	(0.215)	(0.287)	(0.435)	(0.374)
distance:above			-0.422	-0.900***	-0.760*	-1.031*	-0.490
			(0.319)	(0.305)	(0.407)	(0.617)	(0.531)
past				0.146***	0.117***	0.090***	0.143***
				(0.005)	(0.007)	(0.010)	(0.009)
voters	Mean	Mean	Mean	Mean	All	Jury	Telev.
years					≥ 2016	≥ 2016	≥ 2016
Observations	9552	9552	9552	9552	9000	4500	4500
R^2	0.001	0.002	0.002	0.090	0.036	0.020	0.060
Adjusted R^2	0.001	0.001	0.001	0.089	0.035	0.019	0.059

Note: Estimation of Equation (1) for different specifications of *vote*. For better readability, *distance* is expressed in thousands of points (while *vote* is expressed in points). Years 2008–2023 except 2020. *p<0.1; **p<0.05; ***p<0.01

Internal metrics - Option 1

▶ Columns 1-3: 2008-2023, aggregate votes, dependent variable is the simple mean between jury votes and televote.

▶ β is always positive and significant: **strategic voting is present**.

▶ The strategic effect is **stronger in the jury** than in televote (Columns 6-7).

Table: Eurovision semifinal–based *distance* - Option 2

	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	0.238***	0.239***	-0.344***	-0.332**	0.031	-0.695***
	(0.061)	(0.085)	(0.083)	(0.143)	(0.219)	(0.182)
above		-0.002	0.043	-0.082	-0.380	0.216
		(0.121)	(0.112)	(0.190)	(0.291)	(0.242)
distance	2.595***	2.519**	2.557**	3.254**	2.496	4.013**
	(0.819)	(1.155)	(1.065)	(1.465)	(2.248)	(1.868)
distance:above		0.152	-1.873	-0.953	2.485	-4.390*
		(1.639)	(1.515)	(2.078)	(3.189)	(2.650)
past			0.216***	0.194***	0.167***	0.221***
			(0.010)	(0.014)	(0.022)	(0.018)
voters	Mean	Mean	Mean	All	Jury	Telev.
years				≥ 2016	≥ 2016	≥ 2016
Observations	2700	2700	2700	2520	1260	1260
R^2	0.004	0.004	0.153	0.072	0.051	0.109
Adjusted R^2	0.003	0.003	0.152	0.071	0.048	0.106

Note: Equivalent of Table 2, except that *distance* is computed on the Eurovision semi-final rather than on the final. Years 2008–2023 except 2020.

$^*p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

Internal metrics - Option 2

- β remains positive and significant, in almost all estimates: **strategic voting is again an issue**.
- The magnitude of β substantially increases: for instance in Column 3 where the results for the longest time series are displayed, β is 2.557.
- Voters in country i assign additional 2.5 points to the song of country j above the average score received by other countries for every 1,000 points of difference between them.
- In ESC final 2023 thus, 15.9% of the scores awarded to songs is due to strategic behaviour.
- **The information generated within the contest in the semifinal stage is specially salient for strategic behaviour**

Internal metrics - Option 2

- ▶ In this context **the jury behaves less strategically than voters of televoting.**
- ▶ For the popular vote the coefficient β is larger than for the jury and statistically significant
- ▶ The specific behaviour captured by the interaction term is only relevant for the popular vote
- ▶ **The semifinal is an effective coordination device for the popular vote**
- ▶ A possible explanation for these results which are at odd with the theory, is that jurors have access to more relevant information than that revealed in the semifinal

External metrics

- $distance_{i,j,y}$ measures the distance between songs in Spotify by assigning to each song as many points as the number of songs *below* it in the national top 200 chart, and taking the difference between these scores.

$$distance_{i,j,y} = |rank(s_i) - rank(s_j)|$$

Table: Spotify–based *distance*

	(1)	(2)	(3)	(4)	(5)
Intercept	-0.458***	-0.237**	-0.235***	-0.236***	-0.256***
	(0.111)	(0.108)	(0.075)	(0.038)	(0.089)
above	0.138	0.083	0.054	0.058	0.283**
	(0.139)	(0.140)	(0.093)	(0.049)	(0.124)
distance	-0.017	-0.068	-0.012	0.001	0.111**
	(0.055)	(0.091)	(0.037)	(0.018)	(0.049)
distance:above	-0.084	-0.004	-0.055*	-0.042*	-0.193**
	(0.077)	(0.128)	(0.052)	(0.025)	(0.081)
past	0.156***	0.068***	0.098***	0.061***	0.027**
	(0.012)	(0.010)	(0.008)	(0.004)	(0.012)
years	$\geq$ 2018	$\geq$ 2018	$\geq$ 2018	$\geq$ 2018	$\geq$ 2018
distance	Charts	Charts	Charts	Charts	Charts
delta	Semif.	Semif.	Semif.	Final	Final
voters	Mean	Jury	Telev.	Mean	Mean
Observations	1592	1268	1578	5540	832
R^2	0.099	0.038	0.089	0.037	0.015
Adjusted R^2	0.097	0.035	0.087	0.037	0.010

Note: Main results, with "distance" based on rankings in national Spotify charts. Years 2018-2023, except 2020. *p<0.1; **p<0.05; ***p<0.01

External metrics

- $distance_{i,j,y}$ is non significant in almost all estimates
- This result comes **unexpected** if semifinals are considered, because **no internal information has been generated yet**.
- **Voters are less strategic in the semifinals** where gaining access to the final matters but not the final rank
- The coefficient of *past* remains strongly significant
- **Only information generated within the contest is relevant even if it concerns the past**
- **Information from Spotify is not salient for voting strategies** $\longrightarrow$ except for the big 5

The Big 5 Exception

▶ An exception are the results reported in Column 5 which concern **Big 5** *(France, Germany, Italy, Spain, and the UK)*.

▶ All the coefficients of variables capturing the effects of strategic behaviour are **statistically significant.**

In this case external information is salient for two main reasons:

1. Big 5 countries do not participate in the semifinal, thus no internal information about them is generated before the final

2. Big 5 songs are more likely to appear in Spotify national top 200 chart, resulting in more information being generated

Conclusions

- ▶ Our empirical analysis of ESC confirms that **strategic voting is in fact an issue** for Borda-like elections
- ▶ Strategic voting is in fact a concern **both for the popular vote and for the vote of jurors**
- ▶ The existence of different election stages reveals information and provides a **coordination device which make strategic voting more likely in the popular vote**
- ▶ The presence of salient **Spotify complementary information** has an **analogous effect**, but **only for televote**.
- ▶ **Strategic voting in the jury is mostly driven by information generated during the final of the contest**

Thank you !!

Appendix

Table: Example of votes breakdown in the final of 2022

Voter Country	Receiving Country	Televote Rank	Jury Rank	Jury Points	Televote Points	j1	j2	j3	j4	j5
Albania	Armenia	17	7	4	0	8	5	9	9	10
Albania	Australia	21	13	0	0	12	13	23	16	7
Albania	Azerbaijan	18	8	3	0	6	17	17	12	6
Albania	Belgium	14	9	2	0	13	7	8	11	16
Albania	Czech Republic	24	21	0	0	19	14	21	20	18
Albania	Estonia	6	12	0	5	10	8	24	17	12
Albania	Finland	9	16	0	2	21	19	5	19	20
Albania	France	22	24	0	0	23	23	18	23	21
Albania	Germany	20	17	0	0	9	16	16	10	19
Albania	Greece	1	11	0	12	15	10	19	8	8
Albania	Iceland	25	14	0	0	14	21	7	13	14
Albania	Italy	3	1	12	8	1	2	2	1	2
Albania	Lithuania	19	15	0	0	16	18	6	14	23
Albania	Moldova	10	23	0	0	25	22	14	22	24
Albania	Netherlands	5	5	6	6	5	6	11	3	3
Albania	Norway	16	20	0	0	17	20	15	18	15
Albania	Poland	13	19	0	0	11	15	25	21	17
Albania	Portugal	15	10	0	0	20	12	13	5	11
Albania	Romania	12	25	0	0	18	25	22	25	22
Albania	Serbia	8	22	0	3	24	24	12	24	25
Albania	Spain	4	6	5	7	3	9	10	7	9
Albania	Sweden	11	3	8	0	7	1	4	4	5
Albania	Switzerland	23	18	0	0	22	11	20	15	13
Albania	Ukraine	2	4	7	10	4	3	3	6	4
Albania	United Kingdom	7	2	10	4	2	4	1	2	1

Table: Charts sample for Austria on 1st May 2023

rank	Artist	Track Name	Procucer	Peak Rank	Previous Rank	Days on Chart	Streams
1	David Kushner	Daylight	Miserable Music Group, LLC	1	1	18	36366
2	Bonez MC, Gzuz	Cinnamon Roll	187 Strassenbande	1	2	11	28243
3	Udo Lindenberg, Apache 207	Komet	Warner Music Central Europe	2	3	102	25086
4	RAF Camora, Luciano	All Night	Indipendenza	1	4	33	24939
5	Eminem	Mockingbird	Aftermath	2	6	205	23492
...	...	...	...	...	...	...	...
196	Stephen Sanchez, Em Beihold	Until I Found You	Republic Records	26	-1	117	5298
197	Rihanna, Calvin Harris	We Found Love	Def Jam Recordings	67	179	65	5295
198	Linkin Park	In the End	Warner Records	6	-1	894	5281
199	t-low, Miksu / Macloud	We Made It	t-low	1	-1	354	5276
200	Pitbull, Kesha	Timber (feat. Ke$ha)	Mr.305/Polo Grounds Music/RCA Records	69	180	374	5274