

Measuring the Eurovision Song Contest

A Living Dataset for Real-World MIR

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The Eurovision Song Contest

- Televised song contest with one entry per European Broadcasting Union member.
- Annual event since 1956 with its complete audiovisual record available online.
- 162 million viewers last year!
- New music released during a limited time window, often from lesser-known artists.
- Extensive commentary on social media.
- **Real-time betting markets and a golden opportunity to test predictions with MIR.**

The MIRoVision Dataset

Federates public sources into a one-stop-shop with:

- **contest meta-data** (titles, artist/composer/lyricist names, lyrics, etc.)
- **contest results**
- **voting data** (finals and semi-finals)
 - jury ballots
 - televoting results
 - full individual juror rankings since 2016
- **audio features** (from live TV performances)
- **daily betting-office data** (bookmakers' odds for the contest winner)

The Cantobel Model

ESC's 12–10–8–7–6–5–4–3–2–1 scoring exaggerates differences at the top. Machine-learn requires an interval scale:

$$\Pr[\text{ranking}] \propto \exp(s_1\beta_1 + s_2\beta_2 + \dots + s_N\beta_N)$$

This is intractable, but we approximate with a Rasch partial-credit model that is equivalent conditional on the domain of valid ballots.

We call the resulting scale the **cantobel** scale. For every 3 cantobels, the probability of receiving one more point from a jury doubles.

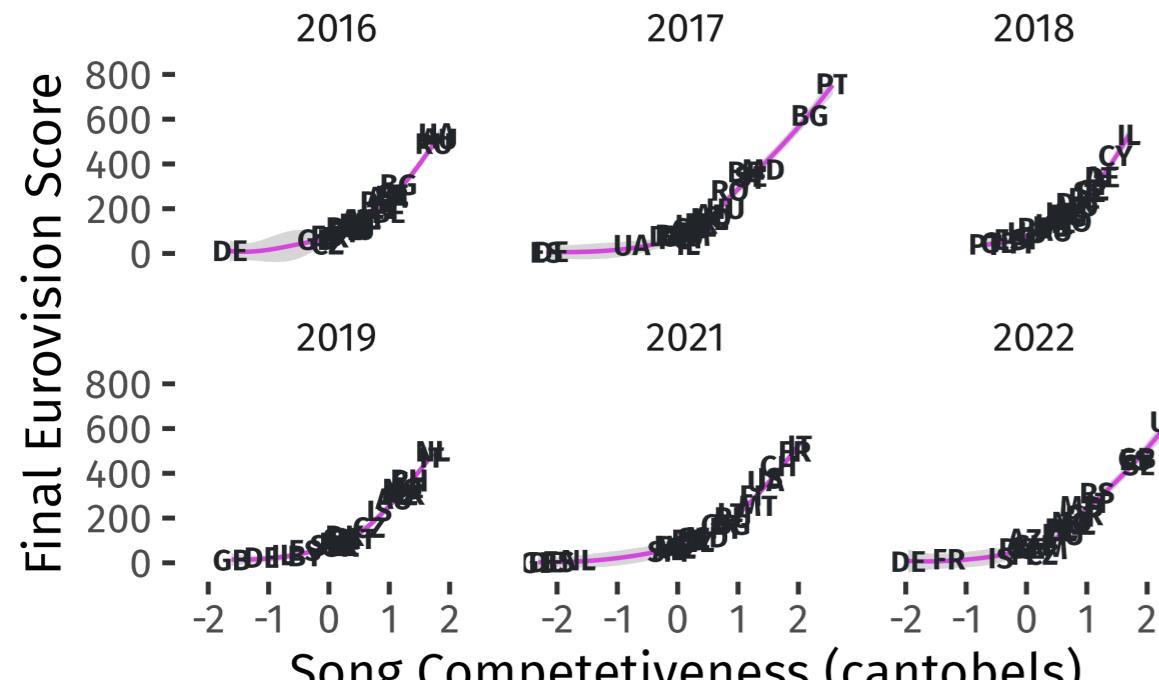


Figure 1: Some competitiveness (in cantobels) and Eurovision Song Contest scores for all finalists, 2016–2022.

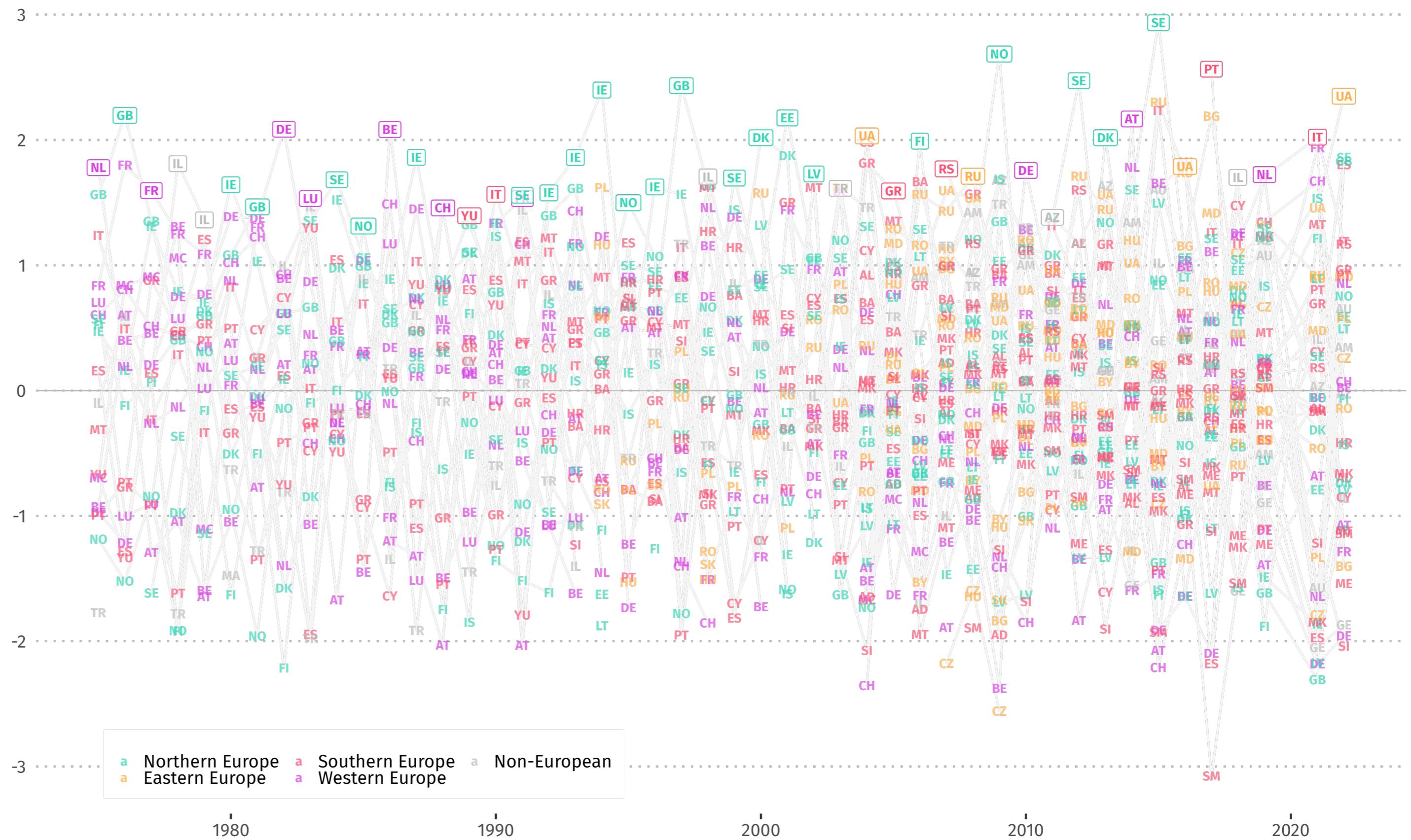
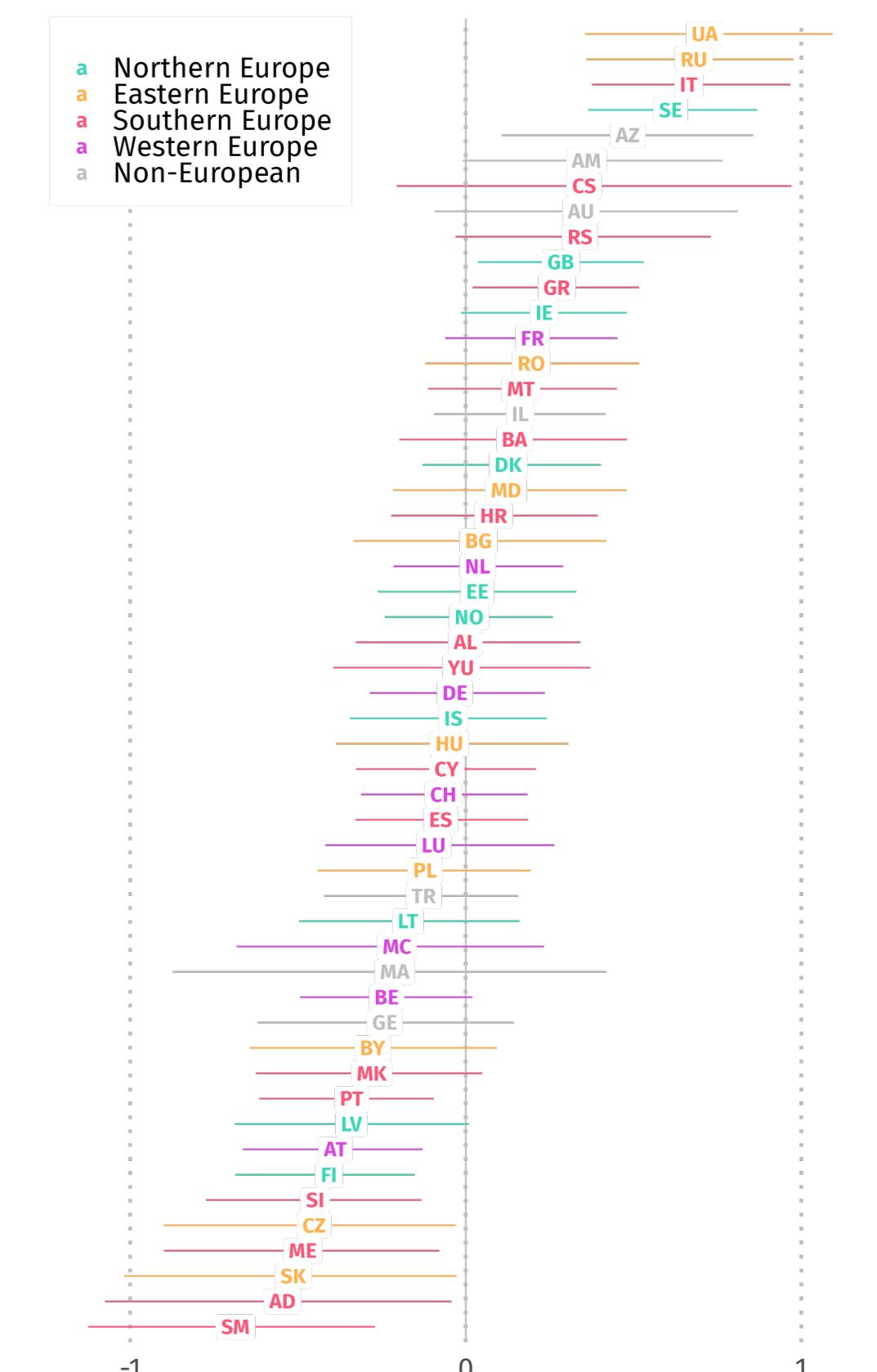


Figure 2: Historical competitiveness of Eurovision Song Contest entries (in cantobels).

Figure 3: Median competitiveness of countries' contest entries, 1975–2022, in cantobels with 90% credible intervals.

Country	Win Prob.	Bookmakers
2022		
Ukraine	98%	62%
Sweden	1%	14%
United Kingdom	1%	6%
Spain	1%	6%
2021		
Italy	63%	62%
France	35%	14%
Switzerland	2%	6%

Table 1: Win probabilities according to the cantonal model in 2022 and 2021, with pre-show bookmakers' predictions..



How Predictable is Eurovision?

- Simulating from the cantonal model reveals that **some contest years are much more predictable than others.**
- Bookmakers' predictions are good but not perfect..
- MIR features have long been insufficient to explain **any** meaningful amount of variance in Eurovision Song Contest, but **recent foundation models can predict some cantobel competitiveness from audio alone.**
- We believe Eurovision is a fun and challenging test case for new MIR models, with fresh data each year.

Model	RMSE	R ²
Null	1.064	—
TUNE+	1.063	.002
MERT	1.025	.072
You	???	???

Table 2: Cantobel prediction results based on foundation-model audio embeddings only..