

DOI: https://doi.org/10.61225/rjrs.2025.01

# ECONOMIC AND POLITICAL DEPENDENCIES IN CULTURAL VOTING: A GRAVITY MODEL ANALYSIS OF EUROVISION Alina M. Schoenberg<sup>a,\*</sup>, Dimitrios G. Ierapetritis<sup>a,b</sup>, Chiara Foramitti<sup>a,c</sup>, Christopher Schwand<sup>a</sup>

<sup>a</sup>IMC Krems University of Applied Sciences <sup>b</sup> Panteion University of Social and Political Sciences <sup>c</sup>Austrian Integration Fund

\* Corresponding author:Address: Piaristengasse 1, 3500 Krems an der Donau, AustriaE-mail: alina.schoenberg@imc.ac.at

# **Biographical Notes**

**Alina Schoenberg** is a professor and programme director at the IMC Krems University of Applied Sciences. Her research interest focuses on regional and urban development, discontent and voting behaviour, Euroscepticism. ORCID ID: <u>https://orcid.org/0000-0003-2521-645X</u>

**Dimitrios G. Ierapetritis** is a visiting researcher at the IMC Krems University of Applied Sciences and a member of Laboratory Teaching Staff at the Panteion University of Social and Political Sciences, Department of Economic and Regional Development. His research interest focuses on regional and local development, geographical networks, local communities and local entrepreneurship. ORCHID ID: <u>https://orcid.org/0000-0003-2646-4658</u>

**Chiara Foramitti** holds two Master's degrees in European Studies from the University of Gothenburg and in International Business from IMC Krems. After working for two years at the Austrian Foreign Ministry, she has been working for over three years at the Austrian Integration Fund. Her research interests lie in trade and international politics. ORCHID ID: <u>https://orcid.org/0009-0006-7275-9560</u>

rjrs.ase.ro • ISSN: 1843-8520 • CC BY

**Christopher Schwand** is a professor at the IMC Krems University of Applied Sciences. His research interest focuses on the transformative impact of technological change and global challenges, in particular the Digitalisation and the New World of Work with its shifting demands on skills and organizational structures, the impact of AI and robots, and the geopolitical and social consequences of melting ice bodies. ORCHID ID: <u>https://orcid.org/0009-0002-5576-3198</u>

#### Abstract

This paper examines the factors shaping voting behaviour in the Eurovision Song Contest (ESC) by applying a gravity model to bilateral voting data from Grand Finals between 1995 and 2019. Using Poisson Pseudo-Maximum Likelihood (PPML) estimation this work analyses how non-ESC related factors such as economic ties, population size, migration, and geographic proximity, diplomatic and political ties affect voting behaviour in the participating countries. The findings highlight geopolitical, economic, and diasporic dynamics underlying Eurovision voting patterns and contribute to broader discussions on cultural affinity and soft power in international relations.

**Keywords:** Eurovision Song Contest (ESC), European Broadcasting Union, voting behaviour, cultural diplomacy, gravity models **JEL Classification**: C51, O18

## 1. Introduction

The Eurovision Song Contest (ESC) has been observed to reach its 70th anniversary this year. The ESC is widely regarded as the most popular global television song contest, with more than 160 million viewers tuning in this year (Revill, 2025). It has been described as the longest-running television cultural event in the world (Charron, 2013). The year 1956 marked the establishment of the 'Concours Eurovision de la chanson', subsequently recognized as the Eurovision Song Contest (ESC) (Kiel, 2020). The competition aimed at fostering European values. Therefore, it is widely regarded as a symbol of European unity (Yair, 1995). Since then, it has been held annually, with the sole exception of 2020, when it was cancelled due to the implementation of measures related to COVID-19 (Ginsburgh and Moreno-Ternero, 2022).

The ESC has emerged as a valuable opportunity to explore and study European identity, bilateral relations between states, and cultural diplomacy in general. Scholars from different disciplines are increasingly paying attention to various characteristics and aspects of the contest, such as international relations and national politics, trade, economic conditions, alongside cultural ties, language and other social and economic dimensions as potentially influencing the outcome of the competition. The ESC has the potential to promote music from different countries and is also a unique example of an annual exchange of "goods" and opinions between countries. Furthermore, it is one of

the few international events where the public of one country can express their opinion about another country without economic or governmental bias (Fenn, 2006).

However, according to Bolin (2010), the competition exposes a curious dualism that is expressed at different levels, forming a phenomenon that is both unifying and conflicting: on one hand the nation-state is being promoted, while on the other hand European identity is intended to take central stage. The concept of dualism becomes also clear when despite the unifying character of the event, regional/national stereotypes reflecting prejudices and interregional rivalries are being enhanced.

The ESC is an emotional mega-event celebrating music which, following the accession of the former Eastern Block countries, also serves as a means of communicating the idea of a united Europe (Jordan, 2009). However, it should be noted that contestants also come from other countries, including Israel, Morocco and Australia. The event has now evolved into a music festival with fans in distant regions and countries, such as South America and China (Yair, 2019). The sole "European" stipulation is that the television channel broadcasting the ESC must be a member of the European Broadcasting Union (EBU) (Ginsburgh and Noury, 2008). However, an exception to this is the Australian broadcaster SBS, which, due to the popularity of the contest in Australia, is not a member but an associated broadcaster of the EBU (Yair, 2018). The number of countries participating in the contest commenced with seven and reached 43 a few years ago (Yair, 2019). In the current year, in a repeat of the previous two, 37 countries participated in the contest, of which 26 qualified for the final (Eurovision World, 2025).

To date, all European countries except Liechtenstein and the Vatican have participated in the ESC. Within the Arabic cultural area, Morocco, Algeria, Tunisia, Libya, Egypt, Jordan and Lebanon are members of the European Broadcasting Union (EBU). However, only Morocco has participated once in the ESC, in 1980. (European Broadcasting Union, 2023). As illustrated in Figure 1, the data set includes the number of competitions wins per country during the period 1956-2023.

The ESC represents a unique opportunity to enhance the international visibility of the host nation and city (Fleischer and Felsenstein, 2002). Muller and Steyaert (2013) even compare it to global events such as the FIFA World Cup, the Olympic Games or the World Expo, describing it as *"the ultimate trophy in the intensified competition for public attention and investment"* (Muller and Steyaert, 2013:139). Indeed, new countries participating in the competition intermittently have endeavored to promote their 'ethnic' or traditional identity to encourage tourism and promote their economic interests, despite the repeated failed attempts of those who have sought to do likewise (see Spain with flamenco songs, Croatia with traditional Klapa music, etc.) (Yair, 2019).

Despite the evolution of the competition's regulations over time, it maintains a consistent structure wherein participating countries are represented by a single contestant and a bespoke song. All songs are performed in succession, in a televised programme organized by the country that won the previous year's competition. Following the performance of all songs, the audience across Europe is invited to vote for their preferred songs (Highfield, Harrington and Bruns, 2013).



Figure 1. Total Number of ESC Wins 1956-2023

The scoring system was inaugurated in 1975, whereby each country awards 12 points to its preferred song, 10 points to its second favorite, 8 points to its third favorite and then 7 points to seven songs in descending order from 7 to 1. It was not until the mid-1990s that the allocation of points became a function performed by panels of judges. After this, the introduction of televoting has resulted in the transformation of the participating audience into a judging panel for their respective countries (Gatherer, 2006). In 2004, the contest underwent a significant structural change, adopting a new format that comprised two semi-final rounds and a final. In the semi-final round, all participating countries cast votes and are also subject to voting. In the final round, all countries vote again, but only those that have reached the final competition stage are eligible to be voted for (Fenn, 2006).

A thorough examination of the ESC reveals that its function extends beyond the scope of an international platform for promoting musical talent. Furthermore, it plays a crucial role in shaping the cultural identity, international relations and political discourse of the participating countries. In this context, this article is employing a structural gravity model estimated via Poisson Pseudo Maximum

Source: Eurovision Song Contest Database

Likelihood (PPML) to analyze voting behaviour in the Eurovision Song Contest. Using an unbalanced panel of dyadic voting data from the Grand Finals between 1995 and 2019, we aim at identifying the political, economic, and social determinants of point allocations between countries.

## 2. Literature review

As opposed to clearly defined guidelines and evaluation criteria observed in most international sporting events (e.g., the Olympic Games), the allocation of points in the ESC is based on subjective perceptions and preferences of juries and audience. Winning songs are very different and don't share many characteristics throughout the years. In essence, the evaluation of harmony or orchestration is not based on objective criteria, but rather on national preferences or personal affinities with a specific musical genre (Yair, 2018). It has been observed that the song perceived to be of the highest quality is not necessarily the one that is awarded first place in the Eurovision Song Contest (Fenn et al., 2006). Considering points allocated by country pairs in Grand Finals between 1995 and 2019, Figure 2 reveals clear regional voting blocks. For example, consistent high mutual voting is evident among Nordic countries, Balkan states, and post-Soviet countries. These clusters suggest cultural proximity, historical ties, or diaspora dynamics affecting voting behaviour. Conversely, Western European countries like Germany appear more peripheral, suggesting more diffuse or less predictable voting behaviour. Overall, the graph highlights that geopolitical dynamics are apparently shaping musical preferences in the contest. Consequently, several studies have been conducted to identify what different factors influence voting behaviour. The literature broadly distinguishes between factors internal to the contest's design and voting rules, and factors external to the competition stemming from socio-economic and political national characteristics and bilateral relationships between countries.

Contest-related (internal) factors refer to how voting rules and the order of performance affect voting behaviour. It is suggested that both the jury and the viewers are required to vote for the most meritorious songs within a time frame that is all too brief. This has the potential to exert pressure on members of the jury and voters, increasing the likelihood that they will make incorrect assessments and thereby influence the result. However, the ESC is broadcast live, which inevitably imposes time constraints (Ginsburgh and Moreno-Ternero, 2022). The introduction of televoting in 2004 represented a significant departure from the traditional "aristocratic" judging panel voting system, thereby endowing the contest with a more democratic character. A body of research has been conducted on the effects of this change, with scholars finding that the transition from jury voting to generalized televoting (Hann et al., 2005) has reinforced the importance of cultural proximity in influencing voting behaviour. The sequence of performances is determined by EBU producers with

the objective of establishing an engaging dramatic structure. However, the sequence of appearance of performers in the first or second half of the show is determined by a drawing of lots (EBU, 2023). In the field of competition analysis, a number of scholars have adopted a more technical approach, focusing on the role and significance of the competition format itself. These scholars have assessed the effects of the order in which songs are performed in the competition, highlighting the advantages enjoyed by the country that performs at the end of the contest (De Bruin, 2005). In a similar line of arguments, Milner et al. (2015) suggest that the performance order of a song within the contest is a significant predictor of its overall evaluation. This phenomenon can be attributed to the fact that songs performed at the outset (Milner et al., 2015). Furthermore, Glejser and Heyndels (2001) report that a contest before or after a relatively poor performance improves voters' perception of the next performance. Consequently, the song is regarded as being of a higher quality than it is.





Source: Own representation. Data Source: Eurovision Song Contest Database

<sup>&</sup>lt;sup>1</sup>Each node in the network represents a participating country. A directed edge is drawn from country i to country j if i awarded j an average of at least 6 points per year across all years in which j participated in the final and i voted. Edge thickness is proportional to the average points awarded, allowing for visual identification of particularly strong dyadic relationships. The network was restricted to country pairs meeting this threshold and participating in at least five shared years, ensuring a focus on sustained rather than incidental voting patterns.

Factors external to the competition are rather complex and include several national and bilateral characteristics, as explained below.

#### 2.1. Economic Size and Ties

Dekker's (2007) findings show that economic factors, such as disparities in gross domestic product (GDP) or other economic indicators do not consistently exert an evident influence on voting behaviour. The same applies to demographic factors such as population differences; these have been shown not to prove explanatory factors for voting behaviour in the ESC (Dekker, 2007). As noted by Yair (2018), trade relations between countries can offer valuable insights into the voting patterns observed in the ESC. Traditional trade theory emphasizes factors such as geographic distance, production scale, technological capabilities, and capital endowments. Countries that are geographically close and share borders often engage in more intensive bilateral trade. These nations very often have similar consumption preferences and cultural characteristics, which not only foster trade but also influence the distribution of points in the ESC. However, the relationship between trade and culture is mutual. Cultural affinity, shared language, religion, political systems, or historical ties do improve trade relations by facilitating communication and reducing transaction costs (Kokko and Tingvall, 2014; Felbermayr and Toubal, 2010). Kokko and Tingvall (2014) argue that if a country displays a cultural preference for music from another nation, it is also more likely to favor imports from that country. In the context of the ESC, this supports the idea that cultural proximity, influenced by both geographic and non-geographic factors, plays a significant role in determining voting behaviour.

# 2.2. Geographic distance, cultural proximity and language

Ginsburgh and Noury (2008) argue that geographical factors significantly influence voter behaviour in the contest, demonstrating a preference or antipathy towards entries from neighboring countries that is more similar to a political vote. This tactic affects the outcome of the ESC, reducing the likelihood of countries outside of a voting block to receive high scores (Charron, 2013). Contrary to the common perception that the best song wins the Eurovision contest, studies since the 1990s have identified and presented that political alliances are formed, presenting a 'group vote' in the contest and appearing as blocks of countries (Yair, 1995). Specifically, they expressed the view that participants vote as members of one of three blocks: the Scandinavian, Western or Mediterranean. They highlighted that the key criteria are not the quality of the song and performance, but political and cultural divisions, presenting a divided rather than united Europe. They also mentioned that smaller countries, due to the contest's rules and the small number of countries in some blocks (the

Scandinavian and Mediterranean blocks), tend to give their surplus votes to entries from Western countries (Ireland, France, the United Kingdom, Luxembourg and Switzerland). This led to high success rates for Western countries during the period 1975–1992 (Gatherer, 2006). A more detailed version of this argument was presented by Jacques and Biernacki (2014), who identified five geographical voting alliances following political changes: the Western blokc, the Mediterranean block, the Scandinavian block, and the new Baltic and Eastern European blocks (Jacques and Biernacki, 2014). A notable example is Ukraine's victory in 2004. Despite receiving an average score of 8.1, Ukraine benefited from the 12 points it received from neighboring countries Estonia, Latvia, Lithuania, Poland, and Russia, as well as the 10 points it received from Belarus and Serbia (Ginsburgh and Noury, 2008). In 2003, Gatherer built on this claim by studying data from 1974 to 2002, identifying five blocks which he named the Viking Empire, the Warsaw Pact, the Maltese Cross, the Cyprus Triad, and the British Axis (Gatherer, 2003; Yair, 2019). Fenn et al. (2006) came to the same conclusion about the existence of voting blocks when they examined competition data from 1992 to 2003 using networking methods. In another study, Dekker (2007) argues that the number of borders between countries influences the voting pattern, regardless of the quality of the song, which he calls the 'friendship block'.

Ginsburgh and Noury (2008) argue that reciprocity and vote trading are not done with the aim of gaining more points. While it may appear otherwise, their research shows that this is due to cultural and linguistic similarities. They note that "cultural similarities may well exist in international political bodies such as the European Parliament, and what appears to be vote trading is more likely to be the result of cultural factors" (Ginsburgh and Noury, 2008, p.45). One might expect agreement to be more common in the voting of the judging committees. However, block voting did not disappear with the introduction of televoting in 1997. Therefore, unfair voting is, in fact, a "mass psychological phenomenon" (Gatherer, 2006, p.11). Observed block voting is not static and changes over the years. From 1975 to 1980, for example, there was only one notable friendship group: The United Kingdom and France. After almost fifteen years, more influential alliances were formed in the early 2000s (Gatherer, 2006). Similar changes can be observed in the 'Vikings' block, which now includes Lithuania, Finland and Latvia. Greece and Cyprus have joined the Balkan block. However, some scholars disagree with the now widespread belief that the audience and the committee vote with a bias as members of specific blocks. They argue that, where this is observed, it is not always linked to geographical proximity (Fenn et al., 2006).

Regarding language, literature shows that songs in English have the greatest probability of being selected in the competition (Clerides and Stengos 2012). Haan et al. (2018) argue that female solo singers who perform in English receive higher points than their counterparts. In contrast, Millner

et al. (2015) argue that the effect of the English language remains unproven on statistical grounds. Certain nations have a strong preference for the performance in their respective native languages. Illustrative examples of this phenomenon include France, Spain and Italy. There have been certain cases where participants have performed bi/multilingual songs, combining English with their national language (see Slovenia, Israel, Poland, etc.) as a strategy to appeal to both domestic and international audiences (Yair 2019).

#### 2.3. Migration and diaspora effects

As a relevant factor migration and the role of diasporas has been the focus of past studies, which have explored its role in influencing voting behaviour in the ESC. A notable example is Turkey, which won the ESC in 1996 after receiving the highest scores from countries with the largest Turkish immigrant populations, such as Austria, Germany, France and the Netherlands. The notion that immigrants remain connected to their country of origin has been demonstrated to be a contributing factor to the formation of biased opinions (Ginsburgh and Noury, 2008; Boric and Kapor, 2017; Dekker, 2007). Similar findings have been made for Romania, which received high scores from Spain in several ESC contests (Dekker, 2007), and for Armenia, which received high scores from countries with large Armenian diasporas, including Turkey, Russia, Belgium and the Netherlands. Furthermore, for Russia, which received the most points from Israel, Estonia, Ukraine, Latvia, Belarus and Lithuania (Jordan, 2014).

# 2.4. Historical and political ties

In certain instances, the Eurovision Song Contest also reflects deep cultural rifts and national hostilities (e.g. between Armenia and Azerbaijan, Russia and Ukraine, Russia and former Soviet states, Greece and Turkey) that challenge the Contest's stated mission of European unity. The public in these countries has encouraged resentments for decades, allowing the ESC to become a 'seismograph' for detecting them (Yair, 2019). Gatherer (2006) acknowledges his own tendency to underestimate the competition, yet asserts that a broader, enlarged European context reveals evidence of fierce transnational conflicts. In addition, studies examine democracy as an explanatory factor for how citizens allocate points in the ESC. Charron (2013) argues that more democratic and impartial countries tend to vote based on the quality of the songs, while countries with lower democratic tradition tend to vote according to blocks or geographical alliances (Charron, 2013). This phenomenon has been intensified with the inclusion of additional contestants with newer or less democratic regimes. The ESC maintains that the event is not politically motivated. Nevertheless, it is

evident that politics does indeed play a role (Ginsburgh and Moreno-Ternero, 2022). This is also underlined by the perceived influence of the LGBT+ community on voting behaviour. Following the victory of Austria's Conchita Wurst in 2014, the popularity of the ESC among the LGBTQ+ community was confirmed, providing a platform for the showcasing of its culture and the effective influencing of voting behaviour in favor of openly gay members of this community (Baker, 2016).

#### 3. Data and methodology

We combine three data sources: Eurovision Song Contest voting records, CEPII's gravity dataset, and OECD bilateral migration data. The dataset includes years from 1995 to 2019, a timeframe determined by the availability of trade and migration data. The panel is unbalanced since countries enter or exit the contest. Thus, not every country-pair is present in every year.

The ESC voting results data includes the points allocated by each participating country (origin country) to every other participating country (destination country) in a given year. For a complete bilateral matrix for each year, dyads in which the origin country did not award any points to the destination country were explicitly coded as zero-point observations.<sup>2</sup> For years with multiple voting components, such as separate jury and televoting scores from 2016 onwards<sup>3</sup>, the points awarded by country i to country j were aggregated by summing the two scores. This ensures a single, total point value for each origin-destination-year dyad. Furthermore, to maintain consistency in the voting data, if a country participated in both a semi-final and the final round within the same year, only the votes from the final round were included. However, if a country did not qualify for the final, the semi-final voting points were used instead.

To the Eurovision voting data we added indicators such as geographic distance between country capitals, a binary indicator for shared land borders (contiguity), common official language, and historical colonial relationships. Additionally, country-specific indicators such as GDP, population size, and bilateral trade flows were retrieved from the CEPII gravity database. This database provides standard variables typically employed in gravity models of international trade.

To account for the influence of diaspora populations, bilateral migrant stock data from the OECD International Migration Database were integrated. Specifically, annual data on migration inflows by origin and destination country (i.e., nationals of country j migrating to country i) were

<sup>&</sup>lt;sup>2</sup>The dataset only includes country pairs where points were awarded, meaning that destination countries not explicitly listed in a given year did not receive any points from the respective origin country. Thus, the absence of a dyad implies a zero-point observation for that voting relationship.

<sup>&</sup>lt;sup>3</sup>Regardless of the voting rules, separate voting results have been recorded only from 2016 onwards

utilized as a proxy for the stock of immigrants from country j residing in country i. In matching this migration data to the Eurovision voting pairs, the country casting the vote (origin) was considered the destination of migration (country i, where migrants reside), and the country receiving the vote (destination) was treated as the origin of migrants (country j, from which individuals emigrated).<sup>4</sup> The migration indictor therefore represents the total inflow of persons for each origin-destination-year. In cases where the migration database lacked a value for a specific country-pair-year, the migrant stock was assumed to be zero. This assumption, while acknowledging potential underestimation of true diaspora sizes, allows for the retention of observations such as votes between Russia and Ukraine, where OECD data may be incomplete.

Finally, to conform to standard practices in gravity model estimation and to mitigate issues related to skewness, all continuous variables, including GDP, population, trade volume, and migration inflows, were log-transformed.

Variable	Description	Source
Points	Eurovision voting points awarded from origin country to destination country in a given year. A value from 0 up to 12 under traditional voting (and up to 24 in recent years with split jury/televote).	Burgoyne, J.A., Spijkervet, J. & Baker, D.J. (2023)
gdp_o	GDP of the origin (voting) country (annual GDP in constant international USD). Higher origin GDP could indicate greater economic "mass" or capacity.	CEPII Gravity dataset
gdp_d	GDP of the destination (recipient) country. This serves as a proxy for the size or attractiveness of the country receiving points (larger economies might produce higher-quality entries or garner more attention).	CEPII Gravity dataset.
pop_o	Population of origin country. Controls for size of the voting country's population. (Larger populations might have more diverse tastes or diaspora abroad, affecting voting behaviour.)	CEPII Gravity dataset.
pop_d	Population of destination country. Captures size of the audience/diaspora base of the performer's country (larger populations often imply more emigrants in other countries and potentially more support).	CEPII Gravity dataset.

	4	<b>T</b> 7 7 1 1	•
Table	I.	Variables	overview

<sup>&</sup>lt;sup>4</sup>For instance, if France awarded points to Armenia, the migration data refers to the number of Armenian migrants residing in France.

dist	Distance between origin and destination countries (usually great-circle distance between capitals or population-weighted centers, in kilometers). This is a standard proxy for geographic/cultural distance – larger distances typically mean less interaction and affinity.	CEPII Gravity dataset.
contig	Dummy variable equal to 1 if the two countries share a land border (are contiguous), 0 otherwise. Contiguity is an indicator of very close geographic proximity.	CEPII Gravity dataset.
comlang_off	Dummy variable equal to 1 if the two countries have a common official or primary language. This captures linguistic ties (e.g. UK and Ireland share English).	CEPII Gravity dataset.
colony	Dummy variable equal to 1 if the countries ever had a colonial relationship or one colonized the other (historical colonial ties). For example, this would be 1 for UK–Malta or France–Belgium.	CEPII Gravity dataset.
migrant_stock	Log of the bilateral migrant stock from destination to origin – specifically, the number of people born in the destination country who are residing in the origin country. A larger migrant stock is expected to increase votes ("diaspora voting").	OECD International
diplo_disagreement	Diplomatic disagreement index between origin and destination. Proxy for political distance, measured by voting differently in international forums or foreign policy divergence. Higher values indicate the countries are less aligned politically.	CEPII Gravity dataset
trade	Log bilateral trade volume (exports + imports) between the origin and destination country (in constant USD). Captures economic ties and interdependence. Stronger trade links might correlate with increased positive bias or familiarity.	CEPII Gravity dataset

Source: Authors

We model Eurovision voting behaviour using a gravity equation framework similar to those used in international trade or migration analysis. In trade gravity models, bilateral trade flows are proportional to the economic sizes of the two countries and inversely proportional to the distance between them. In our case, the "flow" is the number of points that country i gives to country j in a given year. We suggest that this points flow is influenced by factors representing the "mass" of the two countries (economic or population size) and their cultural, political or geographic proximity. This approach treats Eurovision votes as a form of transnational interaction that can be explained by the same frictions and attractions that govern flows of goods or people. We estimated the model using Poisson Pseudo-Maximum Likelihood (PPML). This approach has two advantages: (1) it accommodates zero observations without dropping them, and (2) it deals with heteroskedasticity when modeling a log-linear relationship (Silva and Tenreyro, 2006). The PPML estimator finds parameter values that best predict the actual points (including zeros) by maximum likelihood assuming a Poisson-type conditional distribution. This approach has been widely applied in trade and migration gravity analyses (Bertoli and Moraga, 2015). We estimated following standard gravity equation:

$$\begin{aligned} Points_{ijt} &= \exp(\beta_0 + \beta_1 log GDP_i + \beta_2 log GDP_j + \beta_3 log POP_i + \beta_4 log POP_j + \beta_5 log Dist_{ij} \\ &+ \beta_6 log Migr_{ij} + \beta_7 log Trade_{ij} \dots + \alpha_i + \delta_j + \gamma_t, \end{aligned}$$

considering GDP, population size, distance, migration and trade. Additional covariates include shared attributes like language, borders, or historical ties that serve as proxies for cultural proximity and can facilitate voting alliances. The diplomatic disagreement dummy introduces a political friction that may affect points exchanged between countries experiencing conflict.

We include three sets of fixed effects in the regression (Feenstra, 2004): origin-country fixed effects, destination-country fixed effects, and year fixed effects. The origin fixed effects  $\alpha_i$  control for any systemic differences in how generous each country is assigning points (for example, due to cultural openness). The destination fixed effects  $\delta_j$  control for overall differences in each country's ability to attract points (for example due to broad cultural appeal). Year fixed effects  $\gamma_t$  capture contest-wide changes each year (for example voting rules). By including these fixed effects, we account for unobserved heterogeneity on the single-country level and temporal shocks, isolating the influence of the bilateral variables of interest (distance, common language, migrant stocks, etc.) and ensuring that our coefficient estimates are not biased by omitted country-specific or year-specific factors.

#### 4. Results and discussion

Our estimation results (Table 2) show that bilateral geographic, cultural, and political factors have an influence on Eurovision point flows, consistent with gravity theory and prior studies of voting biases.

#### 4.1. Economic size and ties

Both origin and destination GDPs are statistically significant. A higher GDP of the voting country (origin) is associated with a significantly lower number of points given. This implies that richer countries are less likely to consistently favor a single country because the distribution of their points is more dispersed. The negative effect for GDP of the sender may reflect a tendency of wealthier

countries to diversify preferences or be more critical due to stronger media and cultural sectors. In addition, richer countries have heterogeneous diaspora communities. This makes consistently receiving high points from a richer country less likely. In other words, the negative coefficient for origin GDP captures the dispersion of preferences in wealthier and culturally heterogeneous societies, rather than lower cultural distance per se. Conversely, a higher GDP of the receiving country (destination) increases the expected points received. The positive coefficient for GDP of the recipient suggests that wealthier countries are attracting more points by producing more competitive entries due to greater investment in production quality and higher international visibility.

Variables	Coefficient	
log(GDP Origin)	-0.221***	
	(0.066)	
log(GDP Destination)	0.182***	
-	(0.053)	
log(Population Origin)	-0.012	
	(0.215)	
log(Population Destination)	0.125	
	(0.176)	
log(Distance)	-0.181**	
	(0.063)	
Common Language	0.137	
	(0.100)	
Contiguity	0.044	
	(0.082)	
Colonial Relationship	0.355***	
	(0.053)	
log(Migrant Stock)	0.015	
	(0.010)	
DiplomaticDisagreement	-0.039	
	(0.057)	
log(Trade)	0.169***	
	(0.020)	
Observations	17,295	
Signif. codes: 0 *** 0.001 ** 0.01 *		

Table 2. PPML Gravity Model Estimation Results

Source: Authors

This aligns with gravity model logic, where bilateral flows depend on the "mass" of both entities, here measured through GDP (Anderson and van Wincoop, 2003; Head and Mayer, 2014).

Bilateral trade has a significant and positive effect on voting, indicating that economic interdependence correlates with more assigned points. This reflects trade gravity findings and supports the idea that economic ties go hand-in-hand with broader forms of cross-national understanding, including in cultural preferences.

Population size (both origin and destination) has no statistically significant effect. This suggests that while economic output is relevant, the number of people in a country does not systematically drive voting behaviour, once fixed effects and bilateral ties are accounted for.

# 4.2. Geographic distance, cultural proximity and language

The distance between countries has a statistically significant and negative coefficient, which is consistent with standard gravity expectations. This suggests that physical proximity facilitates cultural familiarity and shared preferences. However, contiguity as well as a common official language are not statistically significant, despite showing the expected signs. This implies that proximity matters more in a general, cultural sense than through formal borders or shared official languagesuggesting also that proximity matters, but the effect is more gradual (via distance) than discrete (via borders).

#### 4.3. Migration and diaspora effects

Larger migrant communities are positively associated with point allocation, but the effect is surprisingly not significant, despite its theoretical relevance for diaspora voting. This suggests that diaspora effects are already captured by other variables like GDP, colonial ties, or trade. Another reason for the low significance lies in the systematic downward bias in the estimated coefficient, as zero-imputation (due to measurement error) likely understates the true migrant presence in several country-pairs (Wooldridge, 2010).

# 4.4 Historical and political ties

The diplomatic disagreement variable is not statistically significant but has a negative coefficient. However, this result suggests that temporary political tensions may not systematically influence voting behaviour in the contest, at least not across the sample as a whole. Evidence of politically motivated "zero-points" (e.g., Armenia–Azerbaijan) may reflect outliers rather than a consistent pattern. Colonial ties significantly increase the number of points exchanged, supporting the hypothesis that post-colonial connections lead to long-term cultural affinities due to language overlap, media flows, or diaspora connections rooted in historical relationships.

## **5.** Conclusion

This study has employed a structural gravity model estimated via Poisson Pseudo Maximum Likelihood (PPML) to analyze the political, economic, and social determinants of point allocations between countries in the Eurovision Song Contest.

Our results confirm that beyond musical quality or performance, voting patterns are significantly influenced by structural factors. In particular, we find that geographic proximity, shared colonial history, trade intensity, and destination country economic mass (GDP) positively influence the number of points received. Conversely, the GDP of the voting country (origin) is negatively associated with point allocations, which we interpret as evidence that wealthier and more culturally diverse countries distribute their votes more evenly. Although variables such as population size, common official language, contiguity, migrant stocks, and political disagreement are theoretically reasonable predictors of vote exchange, their effects are statistically insignificant or less robust in our estimation.

Overall, our findings support the assessment that Eurovision voting is not purely a cultural or musical exercise but is embedded in broader geopolitical, historical, and economic networks. The contest therefore provides an alternative approach to examine informal patterns of alignment and affinity within Europe. This contributes to a growing literature that uses cultural events as data-rich contexts to study international relations and socio-political proximity.

# References

Anderson, J.E. & van Wincoop, E. (2003) Gravity with gravitas: A solution to the borderpuzzle.AmericanEconomicReview,93(1),pp.170–192.https://doi.org/10.1257/000282803321455214.

Arnegger, J. & Herz, M. (2016) Economic and destination image impacts of mega-events in emerging tourist destinations. *Journal of Destination Marketing & Management*, 5(2), pp. 76–85. https://doi.org/10.1016/j.jdmm.2015.11.007.

Baker, C. (2016) The 'gay Olympics'? The Eurovision Song Contest and the politics of LGBT/European belonging. *European Journal of International Relations*, 23(1), pp. 97–121. https://doi.org/10.1177/1354066116633278. Bertoli, S. & Fernández-Huertas Moraga, J. (2015) The size of the cliff at the border. *Regional Science and Urban Economics*, 51(C), pp. 1–6. https://doi.org/10.1016/j.regsciurbeco.2014.12.002

Bolin, G. (2010) Media events, Eurovision and societal centers. In: Couldry, N., Hepp, A. & Krotz, F. (eds) *Media Events in a Global Age*. London; New York: Routledge, pp. 124–138. eBook ISBN9780203872604

Boric, Z. & Kapor, A.R. (2017) The European Song Contest as a tool of cultural diplomacy. *Zborniksveučilišta Libertas*, 1–2, pp. 225–240.

Burgoyne, J.A., Spijkervet, J. & Baker, D.J. (2023) Measuring the Eurovision Song Contest: A Living Dataset for Real-World MIR. In: *Proceedings of the 24th ISMIR Conference*, Milan, Italy, pp. 817–823. <u>https://doi.org/10.5281/zenodo.10265415</u>.

Charron, N. (2013) Impartiality, friendship-networks and voting behavior: Evidence from voting patterns in the Eurovision Song Contest. *Social Networks*, 35, pp. 484–497. https://doi.org/10.1016/j.socnet.2013.05.005.

Clerides, S. & Stengos, T. (2012) Love thy neighbor, love thy kin: Strategy and bias in the Eurovision Song Contest. *Ekonomia*, 15, pp. 22–44. <u>http://dx.doi.org/10.2139/ssrn.882383</u>.

De Bruin, W.B. (2005) Save the last dance for me: Unwanted serial position effects in jury evaluations. *Acta Psychologica*, 118(3), pp. 245–260. <u>https://doi.org/10.1016/j.actpsy.2004.08.005</u>.

Dekker, A. (2007) The Eurovision Song Contest as a 'Friendship' Network. *Connections*, 27(3), pp. 53–58. <u>http://www.insna.org/Connections-Web/Volume27-3/Dekker.pdf</u>.

European Broadcasting Union (2023) *ebu.ch*. [Online] <u>https://www.ebu.ch/about/members</u> [Accessed 1 April 2023].

Eurovision World (2025) 37 countries will take part in Eurovision 2025. [Online] <u>https://eurovisionworld.com/esc/38-countries-will-take-part-in-eurovision-2025</u> [Accessed 18 May 2025].

Feenstra, R.C. (2004) *Advanced International Trade: Theory and Evidence*. Princeton: Princeton University Press.

Felbermayr, G.J. & Toubal, F. (2010) Cultural proximity and trade. *European Economic Review*, 54(2), pp. 279–293. <u>https://doi.org/10.1016/j.euroecorev.2009.06.009</u>.

Fenn, D., Suleman, O., Efstathiou, J. & Johnson, N.F. (2006) How does Europe make its mind up? Connections, cliques, and compatibility between countries in the Eurovision Song Contest. *Physica A*, 360(2), pp. 576–598. <u>https://doi.org/10.1016/j.physa.2005.06.051</u>.

Fleischer, A. & Felsenstein, D. (2002) Cost-benefit analysis using economic surpluses: A case study of a televised event. *Journal of Cultural Economics*, 26, pp. 139–156. http://dx.doi.org/10.1023/A:1014447018099. Gatherer, D. (2006) Comparison of Eurovision Song Contest simulation with actual results reveals shifting patterns of collusive voting alliances. *Journal of Artificial Societies and Social Simulation*, 9(2). <u>http://jasss.soc.surrey.ac.uk/9/2/1.html</u>.

Ginsburgh, V. & Noury, A.G. (2008) The Eurovision Song Contest: Is voting political or cultural? *European Journal of Political Economy*, 24(1), pp. 41–52. https://doi.org/10.1016/j.ejpoleco.2007.05.004.

Glejser, H. &Heyndels, B. (2001) The ranking of finalists in the Queen Elisabeth music competition. *Journal of Cultural Economics*, 25, pp. 109–129. https://doi.org/10.1023/A:1007659804416.

Haan, M., Dijkstra, G. & Dijkstra, P. (2018) Expert judgment versus public opinion: Evidence from the Eurovision Song Contest. *Journal of Cultural Economics*, 29, pp. 59–78. https://doi.org/10.1007/s10824-005-6830-0.

Head, K. & Mayer, T. (2014) Gravity equations: Workhorse, toolkit, and cookbook. In: Gopinath, G., Helpman, E. & Rogoff, K. (eds) *Handbook of International Economics*. Elsevier, pp. 131–195. <u>https://doi.org/10.1016/B978-0-444-54314-1.00003-3</u>.

Highfield, T., Harrington, S. & Bruns, A. (2013) Twitter as a technology for audiencing and fandom: The Eurovision phenomenon. *Information, Communication & Society*, 16(3), pp. 315–339. https://doi.org/10.1080/1369118X.2012.756053.

Jacques, J. & Biernacki, C. (2014) Model-based clustering for multivariate partial ranking data. *Journal of Statistical Planning and Inference*, 149, pp. 201–217. https://doi.org/10.1016/j.jspi.2014.02.011.

Jordan, P. (2009) Eurovision in Moscow: Re-imagining Russia on the global stage. *eSharp*, 14, pp. 39–61. <u>https://www.gla.ac.uk/media/Media\_138647\_smxx.pdf</u> [Accessed 19 May 2025].

Jordan, P. (2014) The Modern Fairy Tale: Nation Branding, National Identity and the Eurovision Song Contest in Estonia. Tartu: University of Tartu Press.

Kiel, C. (2020) Chicken dance (off): Competing cultural diplomacy in the 2019 Eurovision Song Contest. *International Journal of Cultural Policy*, pp. 1–17. https://doi.org/10.1080/10286632.2020.1776269.

Kokkoa, A. &Tingvall, P.G. (2014) Distance, transaction costs, and preferences in European trade. *The International Trade Journal*, 28(2), pp. 87–120. https://doi.org/10.1080/08853908.2013.830941.

Millner, R., Stoetzer, M.W., Fritze, C. & Günther, S. (2015) Fair oder Foul? Punktevergabe und Platzierung beim Eurovision Song Contest. *Jenaer Beiträge zur Wirtschaftsforschung*, 2, pp. 1–39. <u>https://hdl.handle.net/10419/118638</u>.

Müller, M. & Steyaert, C. (2013) The geopolitics of organizing mega-events. In: Munoz, J.M.S. (ed.) *Handbook on the Geopolitics of Business*. Cheltenham: Edward Elgar, pp. 139–150.

Revill, J. (2025) Austria wins third Eurovision crown with JJ's song Wasted Love. [Online] <a href="https://www.reuters.com/lifestyle/swedens-sauna-song-is-hot-favourite-swiss-eurovision-2025-05-17/">https://www.reuters.com/lifestyle/swedens-sauna-song-is-hot-favourite-swiss-eurovision-2025-05-17/</a> [Accessed 18 May 2025].

Santos Silva, J.M.C. & Tenreyro, S. (2006) The log of gravity. *The Review of Economics and Statistics*, 88(4), pp. 641–658.

Wooldridge, J.M. (2010) *Econometric Analysis of Cross Section and Panel Data*. Cambridge, MA: MIT Press.

Yair, G. (1995) 'Unite Unite Europe': The political and cultural structures of Europe as reflected in the Eurovision Song Contest. *Social Networks*, 17(2), pp. 147–161. https://doi.org/10.1016/0378-8733(95)00253-K.

Yair, G. (2019) Douze points: Eurovisions and Euro-Divisions in the Eurovision Song Contest – Review of two decades of research. *European Journal of Cultural Studies*, 22(5–6), pp. 1013–1029. https://doi.org/10.1177/1367549418776562.