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Love thy Neighbor, Love thy Kin: Voting Biases in the Eurovision Song Contest*

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Abstract

The Eurovision Song Contest provides a setting where Europeans can express their sentiments about other countries without regard to political sensitivities. Analyzing voting data from the 25 contests between 1981-2005, we find strong evidence for the existence of clusters of countries that systematically exchange votes regardless of the quality of their entries. Cultural, geographic, economic and political factors are important determinants of points awarded from one country to another. Other non-quality related factors such as order of appearance, the language of the song and the gender of the performing artist, are also important. There is also a substantial host country effect.

Keywords: Eurovision, social networks, games of trust.

JEL Classification: Z13.

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1 Introduction

One Saturday in May of every year millions of Europeans sit glued in front of their television to watch one of the entertainment highlights of the year: the Eurovision Song Contest (ESC). The contest has evolved from a humble, seven-country music festival that was first staged in 1956 to a glitzy extravaganza that is expected to include 40 participating countries in 2006 and reach a potential audience of one billion people worldwide. Each country is represented in the contest with one song and then votes for the best song among all other countries' entries. The country-centered format of the ESC has turned it into a national contest where people root for the country's entry in the same way that they root for their national football team.

For this reason, but also because musically the contest is mediocre at best, many people would argue that the most exciting part of the ESC is not the singing but the voting. After all the songs have been performed live on stage, the presenters get on the phone with a representative of each participating country and the country's votes are read out. The procedure is suspenseful and exciting. Eurovision buffs are well aware of the fact that votes are not always cast on the basis of a song's quality. Friendly countries always exchange votes, while no country expects to get points from a country that it is not on good terms with, no matter the quality of the song. This setup makes the ESC a fascinating experiment where each country can express its sentiments about another without having to give regard to the political sensitivities and considerations that usually accompany inter-governmental relations.

In our paper we use data from all contests between 1981-2005 to examine cultural, geographic, political and economic factors as possible explanations of voting behavior that results in the formation of voting blocks and social networks. Large and systematic differences in voting patterns may reflect, in addition to differences in tastes, some deeper sociological likes and dislikes among nations. These systematic biases that go well beyond the aesthetic quality of the song itself are captured by what we have identified as affinity factors, that is variables that measure how each country feels towards another country. We find that affinity variables are very important in the voting process. We also test for the presence and importance of other

attributes in the song delivery such as the order of appearance, the language of the song and the gender of the performing artist, as well as whether there is a benefit for the country hosting the competition. These variables also turn out to be quite important in explaining voting patterns. The econometric analysis is conducted in two ways. We first analyze the ordered ranked preferences of each participant and then we proceed to examine the scores that each participant gives to the other participating countries. Since the score data are censored we use estimation methods that account for that.

The paper is organized as follows. In the next section we present a brief history of the ESC. We then proceed to present an overview of the existing literature followed by a description of the voting patterns that govern the contest. The description of the data, the econometric methodology used and the results from our analysis for different specifications that we tried are presented in section five. Finally, in the next section we offer some concluding remarks.

2 The Eurovision Song Contest

The (ESC) originates from a contest that first took place in 1956 under the name Eurovision Grand Prix which, in turn, was modeled after the popular Italian San Remo Festival. The first contest took place in Lugano, Switzerland with only seven participants. The number of participants has grown now to 39 in the 2005 competition on the 50th anniversary of the ESC. The list of participants includes countries that do not belong geographically in Europe such as Israel and Morocco, while many other non-European countries are petitioning to enter.[1]

The contest is run by the European Broadcasting Union, an association that is mostly comprised of European national television broadcasters. Although the specific rules have changed over the years, the basic format of the competition remains unchanged. Each national broadcaster submits an entry that will represent the country in the contest. The selection process is up to the broadcaster; the only restriction is it has to be an original song.[2] On the night of the

[1] Armenia is scheduled to be the 40th participant in 2006.

[2] For many years there was also a restriction that the song had to be performed in one of the country's official languages. This was lifted because of complaints that it put some countries at a disadvantage, a view that is

event the competing songs are performed live and then each country awards points to songs by other countries. The country that earns the most points wins the contest and gets to host the following year's event.

Irrespective of whether ESC actually contributes to the creation of better music in the continent, the festival itself constitutes an example of a truly international forum where a country can express an opinion about another country, free of political or economic considerations. The awarding of points to songs goes beyond rewarding a "good" song, since in that case a good song should receive the same number of votes from all other countries barring any major taste differences. In addition to differences in tastes, some deeper sociological likes and dislikes among nations that manifest themselves in systematic biased voting. If it were that all participants were equally likely to produce good and bad songs then the distribution of votes from a certain contestant to her fellow competitors should be more or less equal over time. Systematic biases however, conceal the different considerations beyond the aesthetic quality of the song itself that enter the voting preferences of participant countries.

The basic structure of the voting system has been in place since 1975, whereby each voting country awards points to ten other countries, itself not included. There have been various changes over the years to the main format of the contest, the structure of the voting system, the number of contestants and the character of the songs. The main changes that are important for our analysis are as follows:

(i) In 1975 the current scoring system was introduced. Each country ranks the ten best songs. The top-rated song gets 12 points, the second gets 10 and the next eight get 8, 7, 6, ..., 1.

(ii) An important change was the introduction of televoting. Up until 1997 each country's votes were decided by a panel of experts. Televoting was allowed as an option in 1998 and was soon adopted by all participating countries.

(iii) In order to accommodate more contestants the competition was split into two rounds in 2004. Countries with poor records in the contest have to compete in a qualifying round

supported by the results in this paper.

which determines the songs that will compete in the main event. The countries involved in the qualifiers can vote in the final, but only those that reach the final can receive votes. This allowed the total number of participants to increase from 24 in 2003 to 36 in 2004 and 39 in 2005.

3 Related literature

A network is a mechanism of exchanges between participants, whereby these exchanges may represent information in the form of communication messages between workers (Gandal, King, and Van Alstyne 2005) or scientists collaborating on a joint project (Newman 2003). In a typical social network individuals are depicted as nodes and the links between the nodes represent communication exchanges between these individuals. Over time new nodes and new links will appear as new individuals enter the network and new collaborations are established. In the context of the ESC a network can be established as exchange takes place between different countries in the form of points. The countries are the individual nodes and the connecting links between these nodes represent the points exchanged between the countries. These edges or connecting links can be directed, undirected, weighted and unweighted, depending on whether these links are taking into account the direction of the vote from country A to country B or not, as well as whether the number of points exchanged is accounted for in the depicted link or not. The minimum degree of connectivity (number of connecting links) that a node (country) can have in a given year of competition is ten, as each country assigns points to ten other countries. The maximum degree is equal to the total number of the other contestants in that year because the country can receive points from all other countries.

Fenn, Suleman, Efstathiou, and Johnson (2005) use complex dynamic networks to analyze the voting patterns of the ESC in the period 1992 to 2003. The authors are able to uncover nonlinear patterns that emerge over time that contradict the hypothesis that the ESC is a random contest. In a random contest countries simply vote for the best song without any likes or dislikes for the other contestants. If a country is equally capable of producing a good or

bad song as any other country that would generate a pattern over time that would not differ from a random number generator simulating the results of the competition over time. Fenn et al (2005) find this is not the case and there are patterns that are not compatible with random behavior. In social networks two nodes that are connected to a third one are more likely to be linked together as well, as someone's acquaintances are more likely to know and communicate with each other. In the context of ESC, the same phenomenon may occur in the form of "voting blocks" within the contest where there are clustering effects that differ from the pattern that would arise in a "random contest" environment.

Doosje and Alexander (2005) examined the issue of reciprocity in voting behavior between countries in the ESC and concluded that countries give on average more points to countries from who they tend to receive higher scores. In other words reciprocity between participant countries over time acts as a catalyst for vote clustering. Bornhorst, Ichino, Karl, and Winter (2004) use experimental data to look at the impact of cultural diversity on agents' choices of partners as well as on the outcomes of economic interactions. In a dynamic trust game environment, where subjects were divided between cultural lines, northern and southern Europeans, they show the existence of cultural biases in the way agents conduct their economic activities. In the context of the game northerners seem to be culturally biased against southerners, as they perceive them as less trustworthy, where trust is measured by the tendency to reciprocate by making a generous payback for a transfer received. The results are not due to stereotyping, since they emerge and are reinforced by repeated interactions between different nationalities even when agents are not characterized by strong stereotyping at the outset of the interaction. Other examples of trust games in the economic literature are Fershtman and Gneezy (2001) who examined the issue of trust between Ashkenazi (Jews of European descent) and Sephardi (Jews of Middle Eastern origin) Israelis, in the context of an one shot game. In general similar conclusions are reached by Guiso, Sapienza, and Zingales (2003) who find that trust differences between people of different countries affect the level of trade.

In the context of the ESC voting biases are the equivalent of transfer biases in the above games. Cultural (trust) biases between countries (groups) would produce the same clustering

effects that are predicted by a non-random contest environment. In this paper, we use the work of Fenn et al (2005) on the formation of voting networks over time as a starting point. Our intention is to offer statistical evidence as to the factors that help create these networks, by identifying the variables that help explain the voting preferences of the participant countries. Ginsburgh and Noury (2004) and Haan, Dijkstra, and Dijkstra (2005) also examined different factors that affected voting behavior in the ESC. Ginsburgh and Noury (2004) looked at the possible effect of vote trading or logrolling as opposed to an index of quality of their song, whereas Haan, Dijkstra, and Dijkstra (2005) looked at the possible differences of the judging behavior of expert juries as compared to that of the general public using the effect of the order of appearance on the outcome of the vote in data sets from the finals of the ESC as well as those from national finals. In the ESC until 1998 voting was conducted by expert juries whereas in national competitions the public was typically more involved in the song selection. The findings of Ginsburgh and Noury (2004) find some evidence that language affects voting but other measures of culture are either statistically insignificant or very close to zero numerically. Haan, Dijkstra, and Dijkstra (2005) find evidence that order of appearance has an effect on voting although this effect is smaller for expert juries. In our paper using a data set that includes all voting records between participants in the ESC for the period 1981-2005 we examine the link between cultural, geographical and economic factors as possible explanations of the behavior that results in the formation of possible voting blocks and social networks.

4 Voting patterns

We have collected voting data from all Eurovision song contests from 1981 to 2005.[3] Each contest featured 18-26 countries; a total of 39 countries have participated in the ESC in the period under examination.[4] There are a total of 656 country pairs that are observed between 1 and 25 times; only Spain, Sweden and the UK participated in all 25 contests.

[3]The data are readily available at the official ESC website (`http://www.eurovision.tv`) as well as various websites maintained by ESC aficionados (e.g. `http://www.kolumbus.fi/jarpen/` and `http://www.esctoday.com`).

[4]For the years 2004 and 2005 we use the countries that participated in the final round only.

The first thing to do is to look at the mean number of points awarded between different countries and look for country pairs that exhibit "abnormal" voting behavior. In order to set a benchmark suppose that song quality is randomly determined every year. Each country gets a draw from the same distribution so that expected song quality is the same for all countries. Each country gives out a total of 58 $(= 12 + 10 + 8 + 7 + 6 + 5 + 4 + 3 + 2 + 1)$ points and also expects to receive, on average 58 points. In a contest with N participants, the expected number of points received *per participant* is $58/(N-1)$. Given that the median contest size is 23 and assuming random song quality, we expect that each country will receive from each other roughly $58/22 = 2.64$ points.

In order to compare this with our data we calculated the mean number of points awarded between the members of each pair in our sample. In Table 1 we present the pairs with the highest and lowest averages; we excluded pairs that appear fewer than three times. Column (4) reports the mean number of points awarded from country A to country B while column (5) reports the mean number of points awarded in the opposite direction. We see that many countries systematically give to specific other countries many more points than the 2.64 we expect on average. At the same time, those countries also receive a lot of points from the countries they give to. The correlation between columns (4) and (5) is .8757. Give and thou shalt receive? Perhaps.

In reality, of course, song quality is not random. Some countries have stronger musical traditions or more mature entertainment industries and are able to consistently produce above average songs. In columns (6) and (7) we present the mean number of points received by each country from all other countries. To ensure comparability we took this mean over contests that included both countries. Looking at the first entry in the table, in the 18 contests that both Cyprus and Greece competed, each country averaged 2.2 points. Yet Cyprus gave Greece an average of 10.9 points and received an average of 10.1. The difference between 10.9 and 2.2 is the "overgiving" from Cyprus to Greece after controlling (crudely) for song quality. Cyprus has given to Greece an average of 8.7 points more than the average Greece has received from all other countries. Greece and Cyprus are the most extreme example, but it is clear from the table

Table 1: Pairs with the highest and lowest point exchanges

			Mean points awarded				"Overgiving"	
Country A	Country B	Obs.	A to B	B to A	all to A	all to B	A to B	B to A
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I love you:								
Cyprus	Greece	18	10.9	10.1	2.2	2.2	7.9	8.7
Slovakia	Malta	3	11.3	6.7	0.3	4.4	6.4	6.9
Ukraine	Russia	3	8.7	7.3	2.9	2.6	4.4	6.1
Estonia	Latvia	4	9.3	8.5	4.5	3.4	4.0	5.9
Finland	Estonia	5	8.4	4.4	0.6	2.7	3.8	5.7
Croatia	FYRMacedonia	5	6.6	8.0	2.8	1.0	5.2	5.6
Turkey	Bosnia	10	6.5	4.6	2.8	1.4	1.8	5.1
Croatia	Bosnia	11	6.5	6.1	2.3	1.4	3.8	5.1
Denmark	Sweden	20	8.2	6.1	3.0	3.8	3.1	4.4
Slovenia	Croatia	9	7.1	5.0	1.5	2.8	3.5	4.3
Romania	FYRMacedonia	5	5.0	5.2	1.7	1.1	3.5	3.9
Germany	Poland	8	5.8	4.3	2.9	1.9	1.4	3.9
Estonia	Sweden	9	7.0	5.9	3.4	3.6	2.5	3.4
Norway	Sweden	24	7.1	4.7	2.5	3.7	2.2	3.4
Norway	Denmark	19	6.6	3.9	2.3	3.2	1.6	3.4
Cyprus	Serbia	12	6.6	4.7	2.6	3.4	2.1	3.2
Romania	Russia	6	5.3	5.0	1.9	3.3	3.1	2.0
Croatia	Malta	13	6.3	4.8	2.6	3.3	2.2	3.0
Sweden	Iceland	17	4.9	5.5	3.7	1.9	1.8	3.0
Romania	Greece	6	6.0	3.8	1.8	3.2	2.0	2.8
I love you not:								
Romania	Latvia	4	0.0	0.0	2.9	4.4	-2.9	-4.4
Croatia	Sweden	13	0.5	0.5	2.8	3.8	-2.3	-3.3
Turkey	Latvia	5	1.2	0.0	3.1	3.6	-3.1	-2.4
Denmark	Croatia	8	0.0	1.5	3.7	2.8	-2.2	-2.8
Malta	France	15	0.2	2.0	3.7	2.9	-1.7	-2.7
Correlations:			.8757		-.0328		.9527	

that overgiving occurs between other countries also. In the bottom part of the table we see pairs of countries that do not give many points to each other. There are sone notable differences here also although they are not as large because 2.64 is much closer to zero than it is to 12. Note that controlling for quality has actually increased the correlation to a striking .9527. Going beyond simply looking at country pairs, just reading out loud the names of the countries that appear in Table 1 gives some clues of more interesting behavior. Countries in Scandinavia, the Balkans and eastern Europe dominate the table. Croatia appears six times, Sweden five, Romania four, Estonia and Latvia three. Lots of points are exchanged within three clusters: nordic countries; balkan countries; and countries hailing from the former Soviet Union.

A helpful way of displaying voting alliances is through the use of network graphs. In Figure 1 we display such a graph.[5] Countries were arranged in approximate geographical position with such adjustments made to make the patterns clearer and keep the graph size small. A connecting link from country A to country B was drawn if country A gave to country B at least 6.1 points (the mean plus two standard deviations) on average over all contests they both participated in. From the figure we can discern certain network clusters that mimic the geographic positions of the countries involved. These separate clusters include the nordic group of countries (Sweden, Finland, Norway, Denmark, Iceland and Estonia); the former Soviet republics (Estonia, Latvia, Lithuania, Moldova, Russia, Ukraine); and the former Yugoslav republics (Bosnia-Herzegovina, Croatia, FYR Macedonia, Slovenia, Serbia & Montenegro).

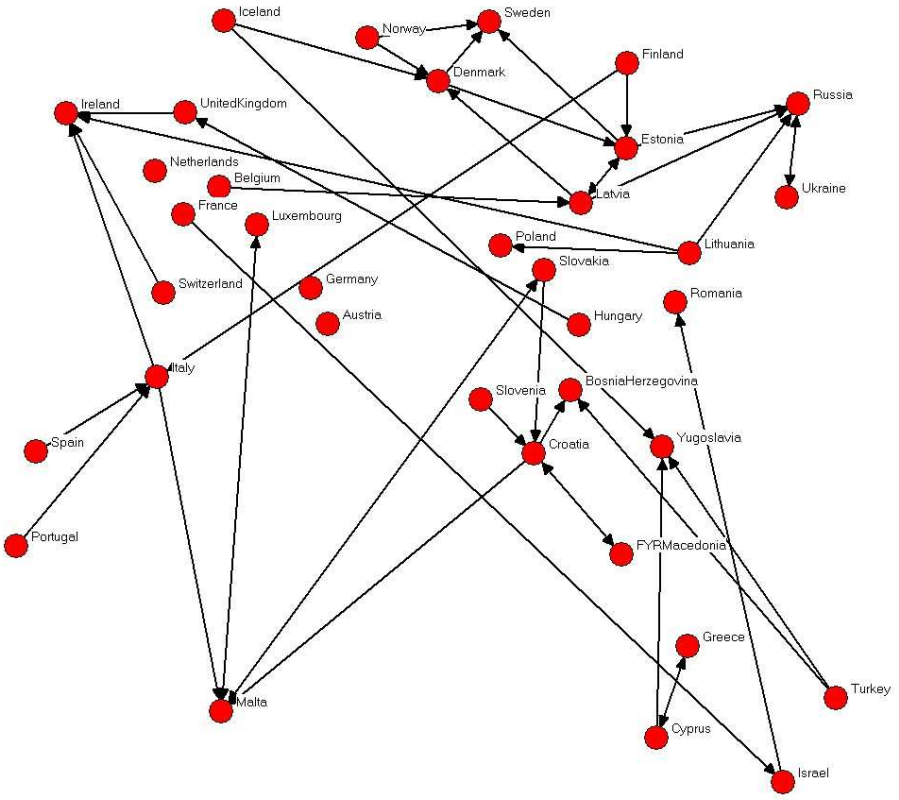
5 Econometric analysis

5.1 Conceptual framework

The basic problem faced by each country is to identify and rank the ten best songs in a contest. Our basic modeling assumption is that this decision will depend on two factors: *affinity* that each country feels towards each other country and the *perceived quality* of each song. The latter

[5]The graph was created using the NetDraw program which is part of the UCINET package. We are grateful to Neil Gandal for pointing us to this literature.

Figure 1: Network graph depicting overgiving



can be further decomposed into *objective quality* that relates to observable song attributes and *subjective quality* that relates to a country's idiosyncratic preferences for a certain type of song.

In order to be concrete, let a_{ij} denote the affinity between country i and country j. The quality of country j's entry as perceived by country i is denoted by $q_{ij} = \theta_j + \varepsilon_{ij}$, where θ_j denotes objective song attributes and ε_{ij} denotes country i's idiosyncratic preference for country j's song. The overall valuation of each song amounts to a mapping from these three factors to an one-dimensional index $v_{ij} = f(a_{ij}, \theta_j, \varepsilon_{ij})$. The songs are then ranked: the song j with the highest v_{ij} is ranked 1st ($RANK_{ij} = 1$), the next one 2nd ($RANK_{ij} = 2$), and so on up to the 10th song. The remaining songs are not ranked. $RANK_{ij}$ is then translated into points $POINTS_{ij}$ as described above. Thus variable $POINTS_{ij}$ takes values in $\{0, 1, 2, 3, 4, 5, 6, 7, 8, 10, 12\}$ and variable $RANK_{ij}$ takes values in $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, .\}$, where a dot "." signifies entries that

are not ranked. $RANK_{ij}$ is the natural dependent variable to use but is also cumbersome and difficult to interpret. For that reason we will rely mostly on specifications that use $POINTS_{ij}$ as the dependent variable.

We parameterize affinity and objective quality as $a_{ij} = \sum_l \beta_l \, x_{ijl}$ and $\theta_j = \sum_m \gamma_m \, w_{jm}$ respectively. Assuming a linear specification for $f()$ yields the following expression for a song's valuation:

$$v_{ij} = \sum_{l=1}^{L} \beta_l \, x_{ijl} + \sum_{m=1}^{M} \gamma_m \, w_{jm} + \varepsilon_{ij}. \tag{1}$$

5.2 Explanatory variables

Our goal is to determine the factors the determine affinity a_{ij} and perceived quality q_{ij} and the relative importance of each in determining the outcome of the voting process. A useful point of reference is the gravity model that has been used extensively in the international trade literature to model trade flows between countries.[6] In a typical specification the variable to be explained is the amount of exports from country A to country B. Explanatory variables include size, geographic proximity and variables that aim to capture cultural, religious and political links between the two countries; in short, variables that capture affinity. In our case the dependent variable will be the number of points given by country A to country B (or the rank assigned to it). Our choice of explanatory variables was guided by the gravity equation literature. One notable difference is that we use trade flows (the dependent variable in the gravity equation) as an independent variable to capture the closeness of economic relations between the two countries. We defined two trade variables; *EXPORTS* for the pair (A,B) is the percentage of country A's exports that went to country B in 1994; *TOTTRADE* is the sum of the values of the *EXPORTS* variables for the two countries in each pair; that is, $TOTTRADE_{ij} = TOTTRADE_{ji} = EXPORTS_{ij} + EXPORTS_{ji}$. *TOTTRADE* captures overall importance of trade between the two countries while *EXPORTS* captures asymmetric

[6] Anderson (1979) provides a theoretical justification for the gravity model; Leamer and Levinsohn (1995) review the empirical literature.

effects that may arise from exports as opposed to imports.[7]

In order to capture geographic closeness we created the variable *PROXIMITY*, defined as the negative of the distance between airports in capital cities unless the countries have a common border in which case *PROXIMITY* was set to zero. In that case we capture the pure neighborhood effect that is not contaminated by a case where the capitals are far apart in distance, yet the countries have common borders.[8] In order to capture the effect of a common language we created two dummy variables. *MAINLANG* takes the value of 1 if the main language of the two countries is the same (e.g. Germany and Austria, Greece and Cyprus). *ANYLANG* takes the value of 1 if the two countries have any one common language, even if it is not the main one (e.g. Italy and Switzerland get a 0 for *MAINLANG* and a 1 for *ANYLANG*). The variable *ANYRELIG* was defined in the same way as *ANYLANG* to capture similarities in religious beliefs.

We also collected data on several observable characteristics that may be thought to impact a song's perceived quality. One thing we can *not* measure is pure artistic quality.[9] What we can do is test various conjectures that have been circulating in Eurovision circles.[10] For example, it is widely thought that the language that the song is written in is important; specifically, songs in "strange" languages are at a disadvantage. We construct two dummy variables, *ENGLISH* and *FRENCH* to identify songs written in those two languages. Female performers are said to do better than males; the dummy variables *SOLOMALE* and *SOLOFEMALE* aim to capture that effect. We also include a variable named *DUET* to capture differential effects of dues versus larger groups. Order of appearance is also rumored to be important; the variables *FIRST3* and *LAST3* identify the first three and last three songs in order of appearance. Finally, the hosting country typically does better than average, so we include the dummy *HOST* which

[7] We selected an indicative year in order to reduce the data collection burden. It should be a sufficiently good proxy for our purposes. Trade data came from the IMF's *Direction of Trade Statistics* database.

[8] Distances were obtained from the distance calculator at `http://www.etn.nl`. Country pairs with common borders, language and religion were identified from information given in The CIA Factbook, `http://www.cia.gov/cia/publications/factbook`.

[9] A cynic would say that such a measure would take the value of zero for all entries and thus would not be identified.

[10] The webmaster of `http://www.kolumbus.fi/jarpen/` lists some of these conjectures and provides supporting evidence using data from winning entries only.

Table 2: Descriptive statistics

Variable	Mean	Std dev.	Min.	Max.
POINTS	2.677	3.675	0	12
EXPORTS	0.028	0.051	0	0.389
TOTTRADE	0.056	0.077	0	0.448
ANYRELIG	0.358	0.479	0	1
ANYLANG	0.222	0.415	0	1
PROXIMITY	-4.634	1.509	-6.268	0
HOST	0.042	0.2	0	1
ENGLISH	0.271	0.444	0	1
FRENCH	0.12	0.325	0	1
FIRST3	0.132	0.338	0	1
LAST3	0.132	0.338	0	1
SOLOMALE	0.267	0.442	0	1
SOLOFEMALE	0.441	0.496	0	1
DUET	0.126	0.332	0	1
NORDIC	0.033	0.18	0	1
SOVIET	0.005	0.073	0	1
YUGOSLAV	0.007	0.084	0	1
PASTGIVING	0.515	2.091	-7.33	11.9
PASTGIVSQ	4.639	11.55	0	142.1

takes the value one if the receiving country hosts the competition. These are variables that can be construed as *packaging effects* of the song delivery. The first three are variables where the performing country has a choice in affecting the delivery of its song by choosing the artist and the language of delivery, whereas the last three variables capture the exogenous characteristics of the song delivery which are beyond the performer's control. Table 2 provides descriptive statistics for all the variables used in the analysis.

5.3 Estimation and results

Our data are essentially an unbalanced panel of partial rankings by each participant of all other participants. Such data are not common in economics and we will draw on techniques developed in sociology in order to analyze them.[11] An observation in our data is uniquely defined by the triple giver-receiver-year. We note that every country pair appears twice in each year. For

[11] See Allison and Christakis (1994) and Marden (1995).

example, the pair (A,B) appears once when A gives to B and once when B gives to A. Thus in a contest with N_t participants we have $N_t \cdot (N_t - 1)$ observations. A total of 656 country pairs appear in all; the total number of observations we work with is 12,151.

The rank-ordered logit specification, also known in the literature as exploded logit and as the Plackett-Luce model (Marden 1995), is the appropriate method to use in the context of a contest with many participants, where some of these participants will be ranked. The method was proposed in the econometrics literature by Beggs, Cardell, and Hausman (1981) and further refined Hausman and Ruud (1987) who also coined the name rank-ordered logit. Note that there is more than one ranked participant as voting does not simply pick the best among the contestants but also ranks the rest in the group of alternatives. This is different than the standard ordered logit or probit specifications, where one chooses one among many alternatives. The rank-ordered logit has a sequential interpretation. One first chooses the best among all participants (assigns the maximum vote of 12). Next, the voting country selects the best alternative among the remaining alternatives and the process continues in that way. The decisions at each stage of the decision making process are described by a standard ordered probit or logit model.[12] Note that the model also accounts for censoring as only the top ten alternatives are ranked among more than twice as many contestants. The method of estimation is maximum likelihood (Beggs, Cardell, and Hausman 1981).[13]

A unique aspect of our data is that we have repeated rankings by the same contestants. The entries that each contestant has to rank differ from year to year but also have common elements (the affinity aspect). We are not aware of any previous work that uses the rank-ordered logit in a similar setting. In order to keep the likelihood function tractable we make the simplifying assumption that there is no link between rating countries in different years. In other words, France in 1985 is a different country than France in 1986. This means that we can not fully

[12]Ginsburgh and Noury (2004) used a ordered probit model as a way of checking the robustness of their results, whereas Haan, Dijkstra, and Dijkstra (2005) used linear OLS methods to analyze the rankings.

[13]The implementation of the maximum likelihood estimator is obtained as the partial likelihood estimator of an appropriate Cox regression model for waiting time (Allison and Christakis 1994). In this case, higher values of an alternative is equivalent to a higher hazard rate of failure. In other words a higher stated preference is represented by a shorter waiting time until failure.

exploit the panel aspect of our data. The basic model that we estimate is

$$RANK_{ijt} = f(\mathbf{x_{ij}}, \mathbf{w_{jt}}; \boldsymbol{\theta}) \tag{2}$$

where vector $\mathbf{x_{ij}}$ includes variables that capture affinity between countries i and j, $\mathbf{w_{jt}}$ includes characteristics of entry j and θ is the parameter vector to be estimated. Note that $\mathbf{x_{ij}}$ has no t subscript as all our affinity variables are time-invariant.

The rank-ordered logit has the disadvantage that the results do not have a natural interpretation. For this reason we also estimated an alternative specification using $POINTS_{it}$ as the dependent variable. We treat $POINTS_{it}$ as a continuous variable and apply the Tobit correction to account for censoring. The basic specification is:[14]

$$POINTS_{ijt} = \alpha + \mathbf{x'_{ij}}\boldsymbol{\beta} + \mathbf{w'_{jt}}\boldsymbol{\gamma} + \varepsilon_{ijt} \tag{3}$$

In Table 3 we present the results of our base specification using four methods: the rank-ordered logit, the simple tobit, the fixed-effects panel tobit and the random effects panel tobit. In all cases the set of affinity variables are very important in explaining voting behavior. *EXPORTS*, *TOTTRADE MAINLANG*, and *MAINRELIG* are statistically significant and positively affect the votes that one country gives to another. This is of course in line with the argument that cultural affinity plays a very strong role in affecting exchange behavior expressed in the formation of networks as argued by Fenn et al (2005). *PROXIMITY* also has a positive impact that is statistically significant but less so than in the case of the other variables. This suggests that geographic proximity is less important than cultural factors. The affinity variables do not appear important only in the case of the fixed effects specification (except for *EXPORTS*) as the latter are another way of capturing the time-invariant characteristics embodied in the affinity variables.

From Table 3 it is also evident that the factors that affect the presentation of the song

[14]Ginsburgh and Noury (2004) used the observation of the pair indexed by the giving country as that of the dependent variable, but included the observation where the same country is a receiver as a regressor to capture possible voting exchange or reciprocity among the members of the pair. That introduces endogeneity in the estimation that needs to be accounted for by the use of instrumental variables.

Table 3: Results from the base specification

Variables	Rank-ordered logit	Pooled tobit	Panel tobit	
			random effects	fixed effects
EXPORTS	-0.270	6.519**	5.159*	6.013**
	(-0.664)	(-1.975)	(-2.241)	(-1.843)
TOTTRADE	1.211*	2.389†	5.274**	11.3
	(-0.592)	(-1.45)	(-1.614)	(-21.2)
ANYRELIG	0.177**	0.840**	0.611**	-1.527
	(-0.038)	(-0.156)	(-0.169)	(-4.202)
ANYLANG	0.065	0.563**	0.570**	1.496†
	(-0.040)	(-0.175)	(-0.192)	(-0.768)
PROXIMITY	0.034*	0.139*	0.141*	1.745†
	(-0.014)	(-0.058)	(-0.063)	(-0.968)
HOST	0.534**	3.185**	2.615**	2.540**
	(-0.061)	(-0.319)	(-0.298)	(-0.302)
ENGLISH	0.542**	1.576**	1.054**	1.453**
	(-0.047)	(-0.157)	(-0.155)	(-0.172)
FRENCH	0.020	0.230	0.844**	0.633*
	(-0.046)	(-0.217)	(-0.231)	(-0.259)
FIRST3	-0.160**	-0.803**	-0.783**	-0.900**
	(-0.042)	(-0.205)	(-0.191)	(-0.193)
LAST3	0.192**	0.956**	0.890**	0.997**
	(-0.039)	(-0.199)	(-0.185)	(-0.189)
SOLOMALE	-0.147**	-0.622**	-0.584**	-0.521*
	(-0.045)	(-0.215)	(-0.201)	(-0.206)
SOLOFEMALE	0.206**	1.036**	1.124**	1.221**
	(-0.042)	(-0.198)	(-0.185)	(-0.189)
DUET	0.237**	1.504**	1.294**	1.374**
	(-0.051)	(-0.251)	(-0.235)	(-0.24)
INTERCEPT		-1.494**	0.382	7.26
		(-0.379)	(-0.402)	(-6.511)
Obs.	12,151	12,151	12,151	12,151
$\ln L$	-15,475	-22,844	-23,192	-21,971
χ^2	520.24	606.81	525.62	2352.57
ρ			0.145	
(s.e.)			(0.008)	

Standard errors in parentheses.
Significance levels: † : 10%, ∗ : 5%, ∗∗ : 1%.

(packaging effects) are also very important. If the language of performance is *ENGLISH*, the song has a definite advantage over a performance in another language. What we found striking is the fact that the order of appearance is very important in how a song is judged. Participants that perform last (the last three positions in the order of appearance) do significantly better on average than those who perform first, even though the order of appearance is determined randomly, confirming the findings of Haan, Dijkstra, and Dijkstra (2005). One possible argument for this result is that presence of a "fading memory effect", where jurors seem to better remember the performance of the later contestants and fail to recall as well those who have performed earlier. The HOST country receives about three extra points from each participant. We think that at least two factors contribute to this large impact. One is that the host is rewarded for going through the trouble of "putting up the show". The second is that the host country invests more heavily in the contest because it wants to make a strong showing on its home turf.[15] A similar host country effect was obtained by Bernard and Busse (2004) in their study of medals won in Olympic Games. Finally, the presence of female artists gives an advantage to the song of the country in question by more than one point on average, indicating a certain bias of jurors or of the voting public towards female performers. Duets also seem to be better appreciated by voters than larger groups.

The results are qualitatively very similar across specifications. In the remainder of the analysis we present results using the panel tobit model which is more flexible and affords a natural interpretation of estimated coefficients as points.

One possible criticism of our base specifications is that the variables measuring trade volumes are endogenous. Indeed, the whole point of the gravity model is to explain trade flows using our other independent variables. Including trade flows in the model may be soaking up some of the impact of other factors. To test for this we re-estimated the model without the trade variables. We report the results in column 2 of Table 4, alongside the results from the base specification which we reproduce in column 1 to facilitate comparisons. Removing the trade variables naturally leads to a lower maximal point on the likelihood function while it also in-

[15] Greece, the host of the 2006 ESC, has just announced that it has recruited Anna Vissi, the country's most successful performer over the last 20 years, to represent the country in this year's contest.

Table 4: Results from alternative specifications

Variables	(1)	(2)	(3)	(4)	(5)
EXPORTS	5.159*		5.055*	4.01†	3.957†
	(-2.241)		(2.207)	(2.29)	(2.259)
TOTTRADE	5.274**		6.393**	6.97**	7.818**
	(-1.614)		(1.599)	(1.673)	(1.66)
RELIGION	0.611**	0.795**	0.511**	0.433*	0.291
	(-0.169)	(0.167)	(0.173)	(0.178)	(0.182)
LANGUAGE	0.570**	0.599**	0.241	0.618**	0.302
	(-0.192)	(0.191)	(0.192)	(0.198)	(0.200)
PROXIMITY	0.141*	0.333**	-0.002	0.024	-0.09
	(-0.063)	(0.056)	(0.065)	(0.068)	(0.069)
HOST	2.615**	2.622**	2.618**	2.498**	2.492**
	(-0.298)	(0.298)	(0.298)	(0.310)	(0.310)
ENGLISH	1.054**	1.071**	1.067**	0.875**	0.896**
	(-0.155)	(0.155)	(0.155)	(0.162)	(0.162)
FRENCH	0.844**	0.924**	1.058**	0.686**	0.903**
	(-0.231)	(0.230)	(0.230)	(0.240)	(0.24)
FIRST3	-0.783**	-0.761**	-0.747**	-0.877**	-0.846**
	(-0.191)	(0.191)	(0.191)	(0.201)	(0.201)
LAST3	0.890**	0.885**	0.886**	0.675**	0.671**
	(-0.185)	(0.185)	(0.185)	(0.199)	(0.199)
SOLOMALE	-0.584**	-0.596**	-0.579**	-0.468*	-0.449*
	(-0.201)	(0.201)	(0.201)	(0.219)	(0.219)
SOLOFEMALE	1.124**	1.119**	1.128**	1.114**	1.122**
	(-0.185)	(0.185)	(0.185)	(0.201)	(0.201)
DUET	1.294**	1.293**	1.259**	1.297**	1.257**
	(-0.235)	(0.235)	(0.235)	(0.252)	(0.252)
PASTGIVING				0.091*	0.072
				(0.045)	(0.045)
PASTGIVSQ				0.027**	0.026**
				(0.007)	(0.007)
NORDIC			2.560**		2.846**
			(0.421)		(0.431)
SOVIET			3.821**		3.265**
			(0.898)		(1.111)
YUGOSLAV			4.354**		3.866**
			(0.824)		(0.929)
INTERCEPT	0.382	1.634**	-0.532	-0.524	-1.239**
	(-0.402)	(0.353)	(0.412)	(0.437)	(0.444)
Obs.	12,151	12,151	12,151	10,849	10,849
$\ln L$	-23,192	-23,211	-23,151	-20,733	-20,696
χ^2	525.62	475.67	596.75	458.35	522.76
ρ	0.145	0.149	0.129	0.118	0.106
(s.e.)	(0.008)	(0.008)	(0.007)	(0.007)	(0.007)

All specifications are estimated using a random-effects tobit model. Standard errors are in parentheses. Significance levels: † : 10%, ∗ : 5%, ∗∗ : 1%.

creases the magnitude and significance of the coefficients on the affinity variables. In particular, the coefficient on *PROXIMITY* more than doubles in size. Clearly the trade variables were picking up some of the impact of geographical factors in determining points awarded.

In the descriptive section of the paper we identified some groups of countries that seem to exchange a lot of points with each other. In order to formally test our conjectures we defined three clusters of countries: *NORDIC*, including Sweden, Finland, Norway, Denmark, Iceland and Estonia; *SOVIET*, including countries that used to be part of the Soviet union (Estonia, Latvia, Lithuania, Moldova, Russia, Ukraine); and *YUGOSLAV*, including countries that comprised former Yugoslavia (Bosnia-Herzegovina, Croatia, FYR Macedonia, Slovenia, Serbia & Montenegro). The three dummy variables (taking the value of 1 if both countries belong to the cluster) were added as explanatory variables in the random-effects tobit regressions. Column 3 of Table 4 presents the results with the addition of the geographical clusters. For example the variable *NORDIC* indicates that a country in the group is likely to receive on average an additional two and a half points from another country in the group relative to what it would receive from other countries, regardless of song quality, whereas the case for *SOVIET* and *YUGOSLAV* are even more dramatic. Adding the cluster indicators removes significance from the other variables, particularly *PROXIMITY* as can be seen from comparing columns 1 and 3 of Table 4.

Our affinity variables explain a lot of the variation in point-giving but fail to capture two aspects that may be important. Because they are all time-invariant, we do not capture any intertemporal changes in affinity. For example, Greece and Turkey exchanged a total of 20 points between them in 14 contests up to 1999. In that year relations between the two countries improved dramatically as they helped each other when they were successively hit by earthquakes. In the five contests that followed they exchanged a total of 54 points. Our affinity variables also do a poor job capturing asymmetries in affinity. This is because all but one of the variables in vector x take the same value regardless of the direction of giving. The only exception is the exports variable which takes different values in each direction: $EXPORTS_{ij} \neq EXPORTS_{ji}$.

One way to account for asymmetry in affinity is to use voting data from past contests.

We define the variable *PASTGIVING* to be the over-giving by the giver to the receiver in all previous contests; that is, the difference between the mean number of points that the receiver has obtained from the giver in the past and what it had received on average from all other countries. This variable also captures any other factors that determine affinity in a symmetric fashion but we did not account for. The last two columns of Table 4 present the results with *PASTGIVING* and its square with and without the cluster indicators. *PASTGIVING* and its square are very significant and indicate that historical asymmetries in one country's average voting behavior, when compared with the historical average of everyone else follow a nonlinear (convex) pattern whereby they get exacerbated the greater they are. Clearly, past asymmetric behavior strongly affecting present voting goes well beyond a voting rule that rewards "artistic quality" and strongly points to the presence of networks with strong cultural ties that withstand time. Note also that the last column dominates in terms of fit (value of the log-likelihood function) as well as statistical specification, since the tests of joint statistical significance for various subsets of variables such as the cluster indicators and the *PASTGIVING* and its square have zero probability values.

Juries of experts versus public opinion

Among the main important institutional changes in the ESC is the introduction of televoting in 1998. Table 5 presents the results of the model which is subjected to a structural break in 1998.[16] The model includes all the variables that we had earlier as well as their interactions with the break dummy that takes the value one for observations after and including 1998. We present two versions, one that includes *PASTGIVING* and one that does not. In both cases the interacting variables are jointly significant signifying the importance of the break with a zero probability value. All affinity variables are more important in the post-1998 period than before. This suggests that the public is more likely than juries of experts to take their biases into account when they cast their vote. The host country and order of appearance effects are also much larger

[16] We also considered 1992 as a possible date for a structural break as this was the year that many new countries from the *SOVIET* and *YUGOSLAV* clusters of countries entered the competition. However, the results suggest that it is 1998 that clearly presented a significant break.

Table 5: Test of structural break in 1998

Variables	pre-1998	post-1998	pre-1998	post-1998
EXPORTS	7.087**	-7.638†	5.687*	-6.067
	(2.599)	(3.926)	(2.710)	(4.079)
TOTTRADE	3.272†	4.761†	3.455†	6.741*
	(1.907)	(2.848)	(2.001)	(3.008)
ANYRELIG	0.217	0.447	0.145	0.257
	(0.207)	(0.308)	(0.223)	(0.328)
ANYLANG	-0.296	2.054**	-0.34	2.246**
	(0.224)	(0.350)	(0.235)	(0.366)
PROXIMITY	0.071	0.387**	0.05	0.191
	(0.079)	(0.116)	(0.084)	(0.126)
HOST	1.206**	2.467**	0.956*	2.778**
	(0.363)	(0.649)	(0.382)	(0.669)
ENGLISH	4.253**	-3.796**	3.938**	-3.574**
	(0.284)	(0.361)	(0.299)	(0.380)
FRENCH	1.521**	-2.241**	1.251**	-1.934**
	(0.256)	(0.494)	(0.268)	(0.513)
FIRST3	-0.819**	-0.143	-1.010**	0.201
	(0.233)	(0.406)	(0.249)	(0.423)
LAST3	0.476*	1.115**	-0.090	1.995**
	(0.227)	(0.394)	(0.247)	(0.417)
SOLOMALE	-0.062	-1.256**	0.230	-1.576**
	(0.257)	(0.412)	(0.288)	(0.445)
SOLOFEMALE	1.522**	-0.891*	1.509**	-0.829*
	(0.232)	(0.382)	(0.260)	(0.409)
DUET	1.663**	-0.932†	1.753**	-1.004†
	(0.287)	(0.509)	(0.314)	(0.537)
PASTGIVING			0.154**	-0.056
			(0.050)	(0.100)
PASTGIVSQ			0.009	0.016
			(0.009)	(0.016)
INTERCEPT	0.071	1.647*	-0.140	0.291
	(0.51)	(0.735)	(0.552)	(0.812)
Obs.	12,151		10,849	
$\ln L$	-23,023		-20,576	
χ^2	857.39		760.24	
ρ	0.132		0.108	
(s.e.)	(0.007)		(0.007)	

All specifications are estimated using a random-effects tobit model. Standard errors are in parentheses. Significance levels: † : 10%, ∗ : 5%, ∗∗ : 1%.

Table 6: Unbiased rankings

Actual contest ranking and points			Counterfactual controlling for: only affinity	Counterfactual controlling for: affinity and characteristics
1998 contest				
1	Israel	172	Israel	Israel
2	UK	166	Malta	Belgium
3	Malta	165	UK	Netherlands
4	Netherlands	150	Netherlands	Croatia
5	Croatia	131	Belgium	Malta
6	Belgium	122	Croatia	Sweden
7	Germany	86	Norway	Portugal
8	Norway	79	Germany	Norway
9	Ireland	64	Ireland	UK
10	Sweden	53	Sweden	Germany
2004 contest				
1	Ukraine	280	Serbia & Mont.	Ukraine
2	Serbia & Mont.	263	Ukraine	Serbia & Mont.
3	Greece	252	Greece	Cyprus
4	Turkey	195	Turkey	Sweden
5	Cyprus	170	Cyprus	Greece
6	Sweden	170	Sweden	Turkey
7	Albania	106	Spain	Spain
8	Germany	93	Germany	Croatia
9	Bosnia	91	Bosnia-Herz.	France
10	Spain	87	Poland	Germany

in the post-1998 period. On the other hand, the effect of language is reversed after 1998. We think that this is a spurious result reflecting the fact that some of the recent winners did not use english even though most other countries did. The effect of female performers seems to only be important in the pre-1998 era and is reversed after that. More importantly, the *PASTGIVING* variables are insignificant in the post-1998 era. This is a direct implication of the fact that all the other variables explain a lot more during this period.

Unbiased rankings

An interesting counterfactual experiment is to use the estimated model to construct alternative rankings after the various sources of bias have been controlled for. We performed this calculation for two contests, 1998 and 2004, which were selected because the voting was close.[17] Table 6 presents the top ten ranked countries according to our counterfactual which are contrasted with the actual rankings. The first three columns give the final rank, name of the country and points received. In the fourth column we present the predicted rankings when we control only for affinity (the $\mathbf{x}$ variables) while in the fifth column we also control for song characteristics (the $\mathbf{w}$ variables).[18] For 1998, counterfactual rankings from the model that controls only for affinity coincide with actual rankings in four out of the top ten countries. For the other six there is a simple interchange of positions. For example, the second and third positions are reversed in the predictions from the actual rankings (UK and Malta) and the same is true for the fourth and fifth and seventh and eighth. The reshuffling is even more dramatic when we also control for song characteristics. Only two out of ten entries (including the winner) remain in their original positions. The same is true for 2004, where controlling for affinity changes the position of four countries. Importantly, it places Yugoslavia instead of the Ukraine as the winner (by a very narrow margin, it must be noted). Adding song characteristics as control variables reverses the order of the two countries back to the their actual ranking in the contest. The remaining

[17] The 1998 contest in particular was a source of some minor controversy. The following quote from *Wikipedia* succinctly describes the last stages of the voting process:

> With just one country left to vote, it was anyone's guess who was going to prevail, with Israel and Malta locked in battle on the same points total (or so the scoreboard said - in fact, Spain's vote had been wrongly tallied and Malta was really one point ahead), and the United Kingdom apparently nine points behind (really nine behind Malta and eight behind Israel). When FYR Macedonia came to award the decisive points, Israel were the first of the three contenders to be mentioned, receiving eight points. That was enough to knock the UK out of contention for victory, but left plenty of room for Israel to be overtaken by their principal rival. Next, the ten points went to the UK, nudging them into what looked like being an extremely fleeting spell in second place, since most of the audience assumed the twelve points were destined for Malta. Instead, there were gasps as FYR Macedonia sent the final points of the evening to fellow Balkan nation Croatia, handing Israel their first win in the contest since "Hallelujah" in 1979.
>
> [`http://en.wikipedia.org/wiki/Eurovision_Song_Contest_1998`, accessed Feb 2, 2006.]

[18] We implement the counterfactual by estimating a model with song fixed effects and the variables we want to control for. The estimated fixed effect is our measure of song quality net of the effects captured by the control variables.

eight countries in the top ten all change positions. The most notable change is the big drop experienced by the host country, which is a result of the large coefficient on the HOST variable. This may be excessive punishment because, as we noted in the discussion above, the host country may receive more points because it makes it a greater effort to make a good showing.

6 Concluding remarks

In this paper we have examined the nature of voting that takes place in the Eurovision song contest, a festival that offers an example of a truly international forum where a country can express an opinion about another country, free of political or economic considerations. We find that the awarding of points to songs goes beyond rewarding a "good" song. As it happens large differences in voting patterns accounting for tastes reflect some deeper sociological likes and dislikes among nations that manifest themselves in systematically biased voting. These systematic biases conceal the different considerations beyond the aesthetic quality of the song itself that enter the voting preferences of participant countries and are captured by what we have identified as affinity factors, that is variables that measure how each country feels towards another country. An interesting observation is that the general public exhibits these biases in their voting pattern in stronger terms than juries of experts. Of course, one could offer a more benign interpretation for these apparent biases as reflecting similarities (differences) in tastes, not necessarily deeper sentiments of likes or dislikes. In any case, we find that affinity variables are quite important in the voting process in terms of both rankings and points awarded. Using different specifications we are able to test for the presence and importance of other attributes of the song delivery that go beyond the affinity variables or objective quality of the song, such as the order of appearance and the gender of the artist presenting the song and hosting the competition. These variables are also quite important in explaining voting patterns beyond pure quality considerations. Our counterfactual rankings that control for affinity and for song characteristics indicate that these biases add up to a substantial number of points and have an important effect in the contest's final outcome.

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