The Turning Point of Tolerance:
Ethnic Attitudes in a Global Perspective

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Abstract
Is diversity associated with ethnic aversion? To address this issue we employ a theoretical perspective to explain global patterns in individual ethnic attitudes. We suggest that there is a turning point of tolerance, and this could be why earlier studies differ in their conclusions. In short, we argue that up until a certain point more intergroup contact will lead to increased tolerance. However, when this threshold is reached, any further diversity will lead to less tolerance. This study applies data from all five waves of the World Values Survey, combined with the updated ethnolinguistical fractionalisation index and relevant controls. Our models reveal a threshold effect in non-Western societies, and that ethnically polarised societies are most tolerant. This finding supports the argument that conflicts taking place along ethnic lines are not caused primarily by ethnic hatred, indicating that ethnicity might be used as an instrument to create violent conflict.
**Introduction**

“Brazil is one of the most ethnically-diverse countries in the world and many Brazilians regard their nation as a ‘racial democracy’ where there is little overt racism.”

–BBC News, November 17, 2011

This description of twenty-first century Brazil stands in stark contrast with findings in the literature on conflict and peace. Countries with an ethnic structure similar to that of this South-American “beacon of tolerance” are those associated with the highest risk of experiencing civil conflict, many of which are fought along ethnic lines. However, this does not necessarily imply that ethnic hatred is the underlying or triggering factor of violence. In this paper we seek to address the link between ethnic composition of a country and its degree of ethnic tolerance. Brazil can be categorised as an ethnically polarized country, implying that it comprises of few groups that are similar in size. Of approximately 191 million Brazilians, 91 million are identified as white, 82 million as mixed race and 15 million view themselves as black. Doubtless, the country is ridden by economic inequality, high crime rates, and some would argue that there exists covert racism. But public or obvious racism is not something usually associated with Brazil.

There are two major approaches to explaining ethnic attitudes, specifically intergroup contact theory and group threat theory. The former states that increased diversity brings more ethnic harmony, while the latter presents a more pessimistic view herby fractionalised societies experience more intergroup competition and thus more ethnic intolerance. In addition, one finding in the literature on conflict and peace is that it is the middle category of countries which experience most conflicts, implying a curvilinear effect of ethnic fractionalisation on prejudice. The literature on ethnic relations differs in its findings; some find support for the intergroup contact argument, while the results of others are more in line with the group threat perspective. A few studies at the micro-level suggest that there might be another way of approaching this, for example that at first intergroup contact mechanisms will carry most weight, but if a certain tipping point is reached, group threat mechanisms will outweigh those of increased intergroup contact.

In this paper we use the models of Schelling\(^1\) as our point of departure, and synthesize his research with the neighborhood-level studies of Perrineu,\(^2\) Sigelman et al.\(^3\) and Zubrinsky

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and Bobo. First, our study is novel in that it brings together these models and micro-level findings, and empirically tests the turning point argument at a macro-level. We argue that a country can be viewed as a neighborhood writ large, with the major difference being that it is more difficult to emigrate than it is to change neighborhood. Second, the use of data spanning almost three decades and including 81 countries allows us to test this concept and to make a valid claim about its generalisability. Previous studies have suffered from a low country-level $N$. By collapsing all five waves of the World Values Survey we are able to test sundry country level variables without running out of degrees of freedom. Third, our study is relevant not only for the study of ethnic attitudes, but also contributes to the literature on conflict and peace. There is a debate on whether civil wars are fuelled by ancient hatred or determined by political actors who use ethnicity as an instrument to actively incite civil war. This paper aims to examine the underlying mechanisms that explain both ethnic aversion, and in its extension also conflicts that take place along ethnic lines. We also test whether the mechanisms are different in Western societies compared to others. It is argued that the West has a characteristic set of values that makes it distinct from other broad cultural categories and that modernization follows a cultural trajectory. This, together with Inglehart’s postulate that the West is influenced by post-materialist values which involves, among other things, a relatively high tolerance toward out-groups, implies that Western societies are not as exposed to group threat mechanisms as other countries. The hypotheses presented are tested by way of multilevel logistic regression, and our models render support for the proposed threshold argument in non-Western societies. No significant relationship between diversity and ethnic aversion is found for Western countries.

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1 Theoretical Framework

Abundant research has been carried out on ethnic attitudes, and a large share of it falls under the headings of the two grand approaches of this field: intergroup contact theory and group threat theory. We seek to disclose the link between the ethnic composition of a society and the degree of ethnic diversion. In addition to the two main schools of thought, three other connections are presented: the deprived actor argument, our novel bounded-state model, and the effect of post-materialism. In brief, the intergroup contact theory is based on Allport who states that a lack of interaction between individuals belonging to different groups creates a hostile environment, while an increase in intergroup contact leads to more ethnic tolerance. Intergroup contact has two dominant measures: individual behavior, which refers to personal contact between members of different groups, and context, that is, the size of a minority group within a specified geographic area (e.g., neighborhood, municipality, region, country). This argument has received support in several studies. The opposing group threat argument was first proposed by Blalock which for the purpose of our study implies that an increase in diversity will lead to more people being in direct or potential competition over resources across group boundaries. This competition again, will lead to more hostile attitudes toward members of other groups. Prejudice and hostility towards subordinate groups are expected to rise, especially among vulnerable parts of the majority group. Thus the basis of group threat theory is economic and/or political threat, which can lead to ethnic conflict or intolerance. Many studies have shown this effect to be present with regard to the positive association between out-group size and in-group prejudice. More specifically, Pettigrew states that

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contact does not always produce a positive shift, and certain types of contact result in larger positive shifts than others.

In summary, the arguments proposed by different mechanisms, and findings supporting the two main theories of ethnic relations, seem to be at play in different settings. In other words, the findings might be dependent on the type of ethnic composition being studied. Here, we investigate 81 countries, enabling us to go deeper into the mechanisms that lie behind the divergent results shown in the literature. We assume that some mechanisms prove stronger when there is one type of ethnic composition, while others exert greater explanatory power when the ethnic structure is of another kind.

Ethnic intolerance or friction taken to the very extreme implies conflict and violence. A vast literature on ethnic conflicts exist, much of it based on the theory of relative deprivation. In brief, relative deprivation can be defined as the experience of being deprived of something to which one feels entitled. A so-called deprived actor approach to ethnic conflict has its background in psychological theories which perceive the forming of ethnic groups as a method of fulfilling individuals’ need to belong to a group and to maintain or enhance self-esteem. Coser argues that before a social conflict takes place a deprived actor or group has to develop an awareness to deprivation. Following this, intolerance and conflict will occur when these psychological satisfactions are threatened by other groups. In addition, there is the primordialist perspective – which considers ethnicity as a deeply-rooted cultural and psychological attachment to ancestral ties – stating that ethnic differences will often exclude the possibility of compromise and co-existence when disputes surface.

Employing various measures of ethnicity Ellingsen, and Elbadawi and Sambanis, find ethnic heterogeneity to have a non-monotonic association with civil conflict – few

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18 Ellingsen, supra note 14.
conflicts when a population is ethnically homogeneous or fractionalised and high when a population is divided into two or three relatively equal (in size) ethnic groups. This finding is supported by Reynal-Querol\(^{20}\) and Montalvo and Reynal-Querol\(^{21}\) who also state that it is polarization more so than fragmentation that matters for conflict. Polarization, they argue, makes people conscious of their differences, and can thus increase tension.

Applying the argument of polarized societies being most conflict-prone to our study, a majority group will be expected to dominate with regard to holding government positions and economic power. If this group is very large, the majority of the population will be satisfied and not feel threatened by other groups. The result would be a society with a large degree of tolerance. Further, if there are many small groups and no dominant group, the likelihood that people feel oppressed will be limited, and thus, tolerance levels should be high. However, if there are only a few groups in a country, one of them is likely to dominate the others. Thus, the relative large out-groups will be deprived, and the in-group will also have reason to fear and be suspicious of the other groups. Figure 1 illustrates the different types of ethnic structure in a given country.

**Figure 1. Labels of a country’s ethnic composition**

![Diagram showing ethnic composition](image)

Homogenous | Polarized | Fractionalized

Different studies have reached different conclusions when investigating the link between ethnic heterogeneity and ethnic intolerance. Some have explained their findings using the logic of Allport\(^{22}\) while others support their correlations on the reasoning of

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Blalock. Dixon tries to bridge these two traditions, arguing that historically and culturally rooted racial or ethnic hierarchies shape the different groups’ tolerance towards each other. This can explain why some researchers find support for one perspective, while others reach different conclusions. Following this, we are led to the proposed argument of a tipping point of tolerance which can be linked to the degree of ethnic aversion in a country.

1.1 Turning Point of Tolerance

In this paper we argue that there is a different context that contributes to which of the two grand theories of ethnic relations holds the most explanatory power, that is a society’s ethnic composition. The theoretical starting point of our claim is Thomas S. Schelling’s Dynamic Models of Segregation where, by employing mathematics, he explains the underlying logic of ethnic segregation. The core of his argument is that different ethnic groups may not so much dislike each other’s presence, and can even prefer integration. Nevertheless, the groups may wish to avoid a minority or a “too small minority” status. He holds that two stable equilibriums of ethnic compositions exist. In his examples he operates with two groups, black and white. First, each group has a limit of how many neighbors of the opposite group can be accepted before moving. This mean tipping point may vary for each group, and on an individual level varies from person to person. In the first equilibrium there is an acceptable ethnic mix for both groups. If an individual’s limit is surpassed in the neighborhood in question, he (assuming this is the least tolerant person in the group) will choose to move to a place where his group is in acceptable numbers. This alters the composition of the original neighborhood, pushing the second and then the third least tolerant individuals to move, and further spurring a chain reaction removing the whole group from the area. The new acceptable neighborhood will not acquire any members from the other group because no group members want to move in if their ratio is not above their limit of toleration. Schelling illustrates this in what he names the Bounded-Neighborhood Model.

Our claim is that a country can be viewed as a neighborhood writ large, and we thus present our Bounded-State Model. As Schelling and Granovetter points out, individual intentions can be quite different from group outcomes. We argue that this can be transferred

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23 Blalock, supra note 11.
25 Schelling, supra note 1.
26 Ibid.
from the individual- to the country-level. Countries are natural units; people can move and live freely within its boundaries, and people are attached by the same media outlets and day-to-day concerns. Several studies argue that how the dominant group perceives other groups’ sizes from the narratives they receive, whether they are false or correct perceptions, have important implications for ethnic attitudes.\textsuperscript{28} The mere size of the other groups at a state-level is reflected in an increased sense of threat among members of the group in question.\textsuperscript{29} The citizens are thus concerned with the ethnic ratio within the state, to a certain degree independent of the ratio in their immediate surroundings. However, our model differs substantially from that of Schelling in one important aspect apart from size. It is not as easy to move out of one’s own country as it is to change neighborhood. Even if an individual decides to emigrate, that would in most cases only worsen the ratio-problem, considering that he or she now would be a minority in the new country. This implies that individuals whose \textit{threshold of tolerance} has been passed will instead of moving (as they could in the bounded-neighborhood model), develop a larger degree of ethnic aversion.

Up to a certain point more diversity can be expected to lead to increased levels of tolerance. This can be explained by the logic of intergroup contact theory: increased interaction between different groups will lead to more ethnic tolerance. However, we follow the logic of Schelling, who states that each person has a threshold point (which would be the mean threshold point of all its individual members). Schelling\textsuperscript{30} provides us with a micro level explanation of this: a person might very well want to sit at a mixed-race table in a cafeteria, but the same person will be hesitant to sit down at a table where everyone belongs to the opposite group. This example transferred to a country-level is when persons feel that their group is being threatened, whether numerically, culturally, financially, religiously, or any combination of these. For example, for a traditionally dominant group it can be a major psychological effect of realising that at some point your group is not going to be the numerical majority any more. Or, for a smaller group, it could be the fear of becoming too small and to lose their identity vis-à-vis other groups within that country. Parallel to Schelling

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\item \textsuperscript{30} Schelling, \textit{supra} note 1.
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and Granovetter’s modeling of a chain effect, it can be assumed that the intolerance or aversion of one person will spread to others within the same society.

We state that the turning point of tolerance, which is decisive of the effect of intergroup contact- and group threat mechanisms, is determined by a country’s ethnic composition. In ethnically polarized societies, the effect of intergroup contact mechanisms will be at its highest, before the effect is surpassed by that of group threat. We illustrate this in Figure 2, where scenario (a) is a portrayal of what we call an *equilibrium state of maximum tolerance* and which corresponds to the polarized society in Figure 1. Up to a certain point there is little effect of group threat mechanisms. However, the effect of intergroup contact increases the more diverse a society is. We argue that after a certain point of fractionalisation is reached, group threat mechanisms will increase in importance.

**Figure 2. The group threat mechanism in polarized and fractionalised societies**

> a) 
> b) 
> c)

*Note: Threshold = 35 percent. Black figures are those fearing for their group’s identity.*

The group threat mechanism is illustrated in Figure 2, where each type of figure represents one ethnic group. For simplicity, we state that each group must constitute at least 35 percent of the total population (i.e., 20) for its members to feel safe. If a group is less than 7 (constitution 35 percent), individuals will feel that their group’s position, culture, ethnicity, or status is threatened. Inside circle (a), that is, the polarized societies, only the four triangles will feel threatened. Feeling threatened increases the risk of these individuals harboring

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31 This point is set by the authors as an example in order to demonstrate how an increase in fractionalization will lead to greater levels of fear. The real threshold will vary from group to group and from one individual to another.
intolerant ethnic attitudes. In circle (b) we have increased the degree of fractionalisation by altering the ratios of the figures as well as introducing stars. Here, both the triangles, squares, and the stars fall below the given threshold, and feel threatened. Finally, in circle (c), which represents a high degree of fractionalisation, all the groups will feel threatened.

The mean effect of this, we argue, can be translated to the curvilinear effect of ethnic fractionalisation on ethnic aversion (Figure 3). We argue that polarized societies are likely the most tolerant. However, similar to how Schelling models ethnic segregation, this equilibrium of tolerance will eventually become altered, and in most cases polarized societies will become more fractionalised due to different birth-ratios between groups and immigration. As mentioned, the threshold point will vary from one group to another, the traditional dominant group being least likely to accept being in a numerical minority. It is also reasonable to assume a certain psychological effect on members of the traditionally dominant group (like the whites in Brazil) when the media portrays a future in which they will comprise less than 50 percent of the total population. Related to this, a demographic transition is argued to be underway in Europe and the United States where the ancestry of some populations is being altered by high levels of immigration as well as sub-replacement fertility rates within the traditional in-groups.\(^{32}\) In brief, such rapid changes in a country’s demography can increase the individual’s fear for the preservation of their own ethnic group, leading to an increase in ethnic aversion. Even considering that different groups and individuals have different thresholds, we suggest that the shape of the aggregated result will be similar to the curvilinear effect of fractionalisation on aversion seen in Figure 3.

**Figure 3. The turning point of tolerance**

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Overall, the studies investigating the presence of a threshold or tipping point with regard to tolerance are relatively old and often focus on lower levels of aggregation than the present paper. However, the notion “seuil de tolerance” was coined in the 1970s by French academics, journalists, and politicians. Two parallel studies of voting for the French right-wing party the Front National identified a so-called halo effect, showing that the communities close to those neighborhoods with a large proportion of out-group members tended to vote for Front National given that the out-groups had reached a certain size. Sigelman et al. argue that positive contact between minority and majority group members is expected corresponding with the relative size of the minority populations until a certain tipping point is reached. Any further increase in minority populations will lead to more ethnic intolerance. Similar findings are shown at the neighborhood level in a study of ethnic relations in Los Angeles.

We wish to test if there is such a turning point of tolerance present at a global level by investigating the relationship between individual attitudes and country level diversity. Based on Schelling as well as later neighborhood studies we assume intergroup contact theory to exert more explanatory power than group threat theory until a certain tipping point is reached, and vice versa when this turning point is passed. Our first hypothesis can be postulated:

\[ H1: \text{The degree of ethnic fractionalisation is linked to ethnic aversion in the form of a U-curve.} \]

Also, despite the frequent occurrence of civil war in ethnically polarized societies, parts of the literature on conflict and peace do not view ethnic hatred as the main source of civil conflict. Following the logic of rational actor scholars, ethnicity should be viewed more as an instrument for conflict (as opposed to a source of). This line of thinking contests the primordialist view that conflict between two ethnic groups is unavoidable because of some

35 Zubriniski and Bobo, supra note 4.
36 Schelling, supra note 1.
unchangeable, essential characteristics of ethnicity. Gagnon, for example, argues that conflicts which take place along ethnic divisions are not originally caused by ethnic hatred, but rather by determined political actors who use ethnicity as an instrument to actively create violent conflict.38 Whether ethnicity becomes a salient issue with regard to civil war is dependent upon whether the elites regard it as being in their interest to use it as a tool to mobilise support for conflict.39 The most common rational actor approach to explaining violent conflict is to downplay the role of ethnicity and to focus instead on other explanatory variables such as structural, political, economic, and cultural factors.40

1.2 The Special Case of the West
Migration has become the driving force behind demographic change in many European countries, both directly and indirectly through the natural increase of populations of immigrant origin. In some cases, as in the Mediterranean countries, immigration prevents or moderates demographic decline; in others, it has re-started considerable population growth, especially in Northern Europe.41 From the seventeenth century until well into the post-World War II period, most European countries except France have been countries of emigration. By contrast, since the 1950s most countries have experienced – for the first time – substantial immigration on a large scale, particularly from non-European countries. As intra-European migration has moderated, the dynamic has changed and we see more non-European inflows, their rapid growth made salient by distinctive differences in appearance, culture, language, and religion.42 Despite frequently filling an important need for unskilled labor in their host countries, Europe’s new minorities have experienced considerable resistance from native populations. Over time, ethnicity has become a prominent issue on the political agenda in Western European societies.43 The most visible manifestation of this opposition is the resurgence of right-wing nationalist parties.44 Parallel to this, the public discourse has become

42 Coleman, supra note 32.
more focused on the challenges associated with immigration in general, and Muslim immigration in particular.

Inglehart states that the West has gone through an intergenerational shift from an emphasis on economic and physical security toward increasing emphasis on self-expression, subjective well-being, and quality of life. Within this package of post-materialist values lies tolerance, including ethnic tolerance. Post-materialism implies an acceptance of difference and concern about the protection of individual expression. Further, building on Huntington’s cultural zones, Inglehart and Baker argue that development is path-dependent, and thus, with regard to values like ethnic tolerance, the West is generally more tolerant than individuals from other parts of the world. Youth emphasize post-materialist goals to a far greater extent than the older generation, and cohort analysis indicates that this reflects generational change far more than just an age effect. Building on the insight of Inglehart we argue that the development of the self-expression dimension is decisive when it comes to explaining why Western societies tend to be ethnically tolerant, even in countries with few out-group members where there is little effect of intergroup contact. Considering that only two Western countries can be labeled as ethnically fractionalised, we would not expect to find any marked effect of the increased group threat mechanisms that we argue finds place once the turning point of tolerance is passed. We thus present a hypothesis specific only to the West:

\[ H2: \text{For Western countries, there is a negative effect of fractionalisation on ethnic aversion.} \]

2 Data and analysis

To gauge the relationship between ethnic fractionalisation and ethnic aversion we have combined survey data from a 26 year period with country-level statistics. Our individual level data are from the World Values Survey (WVS). We employ data from five survey rounds

45 Inglehart, supra note 13.
47 Weldon, supra note 43.
48 Huntington, supra note 6.
49 Inglehart and Baker, supra note 7.
50 Inglehart, supra note 13.
51 More information about WVS can be found at http://www.worldvaluessurvey.org. These datasets are made available through the Norwegian Social Science Data Service (NSD). Neither Ronald Inglehart, WVS, or NSD are responsible for the analysis or interpretations made in this article.
and 81 countries. We have nested the data into two levels: (1) individuals; and (2) country-survey-years. Also, we test the effect of a country-survey-year-level variable on individual level attitudes, thus relying on hierarchical modeling. The object of a multilevel analysis is to account for variance in a dependent variable measured at the lowest level by investigating information from all levels of analysis. Multilevel modeling also enables us to investigate data structures that are hierarchical where the sample data can be viewed as a multistage sample from this hierarchical population. Our dependent variable is dichotomous, where value 1 denotes that the respondent does not wish to have neighbor belonging to a different race, thus providing us with a measure we denote as ETHNIC AVERSION. Similar to the word prejudice, ethnic aversion can be viewed as having negative attitudes toward members of different groups merely because they belong to a different race, rather than judging them by their individual qualities. This was the only measure of ethnic aversion answered in all five waves of the WVS. Of course, a scale made with background in tests of underlying factors and reliability would be preferable, but this question is nonetheless a good indicator of people’s propensity to hold ethnically averse attitudes.

As a measure of ethnic diversity our starting point is Fearon and Laitin’s updated ethnolinguistical fractionalisation index (ELF). This variable indicates the probability that two randomly drawn individuals from the population will belong to different ethnolinguistic groups.

\[
[1] \quad ELF = 1 - \sum_{i=1}^{n} s_i^2
\]

\(s_i\) is the share of group \(i\) out of \(n\) groups. The groups are defined by their roles, their descent, and their relationship to other groups. The index is based on the formula for the Herfindahl index, and data from Atlas Naradov Mira and other sources.

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52 For a list of the countries, see Appendix A1.
54 J. Hox, Multilevel Analysis: Techniques and Applications (Lawrence Erlbaum, Mahwah, 2002).
55 The exact wording of this question is: On this list are various groups of people. Could you please indicate any that you would not like to have as neighbors? People of a different race.
56 Fearon and Laitin, supra note 40.
58 The Herfindahl index is used in economics as a measure of the size of firms and their competition for the market share.
However, there are many caveats related to this measure. Its latest source of data is from 1990, and many ethnic groups, especially in Western countries that have seen a large influx of recent immigration, are thus underrepresented. We have made a new measure for the year 2011 employing various sources to get more updated and reliable numbers.\textsuperscript{61} We have interpolated the values between Fearon and Laitin’s 1990-value and our 2011-observation.\textsuperscript{62}

Our main explanatory variable is thus called ETHNIC FRACTIONALISATION, and ranges from 0 (ethnolinguistical homogeneity) to 1 (maximum heterogeneity or fractionalisation). To test our first hypothesis (that aversion will be lowest in polarized societies) we also include a squared term of ETHNIC FRACTIONALISATION. There are, of course, other measures of ethnicity, like ethnic polarization,\textsuperscript{63} the size of the largest minority,\textsuperscript{64} and the newer $N^*$ measure.\textsuperscript{65} However, the ethnolinguistical fractionalisation index is more suitable for our purpose, both with regard to validity when testing our hypotheses and with regard to coverage (the other measures do not cover as many countries).

Even though our main explanatory variable is at the country level, our multivariate analysis consists of both micro- and macro-variables. We have included the relevant individual variables from previous studies that were present in all five waves of the WVS. These include WOMAN (dichotomous variable where women have the value 1), AGE, INCOME (a ten-point scale showing total household income) and a dummy set representing the respondents self-placement on a 1–10 political left–right scale (values 1–2 = FAR LEFT; 3–4 = LEFT; 5–6 = CENTER [reference]; 7–8 = RIGHT; 9–10 = FAR RIGHT). In addition we control for two measures of trust, namely PERSONAL TRUST which is dichotomous (value 1 indicating that the respondent feels most people can be trusted) and INSTITUTIONAL TRUST (1–4). As level-2 controls we employ PER CAPITA GDP,\textsuperscript{66} DEMOCRACY (0–20) and EDUCATION (1–10),

\begin{itemize}
\item[\textsuperscript{59}] Department of Geodesy and Cartography in the State Geological Committees of the USSR, Атлас Народов Мира/Atlas Narodov Mira [Atlas of the People of the World] (Glavnoe upravlenie geodezii i kartografii, Moscow, 1964).
\item[\textsuperscript{60}] The original Soviet researchers provided a list of population by ethnicity without documentation of the methodology. Fearon and Laitin improved on this and filled in missing values based on sources like the CIA Factbook, Encyclopedia Britannica, the Library of Congress Country Studies, and other country-specific sources.
\item[\textsuperscript{61}] Based on information from Ethnic Groups World Wide, CIA Factbook, The Joshua Project, and Library of Congress we have calculated the new ELF-values using the formula presented in Equation 1.
\item[\textsuperscript{62}] Generally, linear interpolation takes two data points, and the interpolant is given by:
\begin{equation}
[2] \quad y = y_a + \frac{(x - x_a)(y_b - y_a)}{(x_b - x_a)}
\end{equation}
\item[\textsuperscript{63}] Montalvo and Reynal-Querol, \textit{supra} note 21.
\item[\textsuperscript{64}] Ellingsen, \textit{supra} note 14.
\item[\textsuperscript{65}] Cederman and Girardin, \textit{supra} note 14.
\item[\textsuperscript{66}] World Bank, \textit{World Development Indicators}. http://www.worldbank.org/indicator.
\end{itemize}
the latter two which are from the *Quality of Government Dataset*. At the country level, in addition to *ETHNIC FRACTIONALISATION*, we have also controlled for *WESTERN COUNTRY*, which denotes whether or not the country belongs to the Western civilization.

We present four models in this paper. The first tests the direct link between ethnic fractionalisation and ethnic aversion, the second models the proposed curvilinear relationship between these two variables, while in the third and fourth models we include interaction terms, taking into account that the effect is different depending on whether the respondent belongs to a Western country:

\[
\ln(\text{ethnic aversion}_{ij}) = \beta_0 + \beta_1 \text{woman}_{ij} + \beta_2 \text{age}_{ij} + \beta_3 \text{income}_{ij} + \beta_4 \text{far left}_{ij} + \beta_5 \text{left}_{ij} + \beta_6 \text{right}_{ij} + \beta_7 \text{far right}_{ij} + \beta_8 \text{personal trust}_{ij} + \beta_9 \text{institutional trust}_{ij} + \beta_{10} \text{ethfrac}_{ij} + e_{ij} + u_{0j}
\]

\[
\ln(\text{ethnic aversion}_{ij}) = \beta_0 + \beta_1 \text{woman}_{ij} + \beta_2 \text{age}_{ij} + \beta_3 \text{income}_{ij} + \beta_4 \text{far left}_{ij} + \beta_5 \text{left}_{ij} + \beta_6 \text{right}_{ij} + \beta_7 \text{far right}_{ij} + \beta_8 \text{personal trust}_{ij} + \beta_9 \text{institutional trust}_{ij} + \beta_{10} \text{ethfrac}_{ij} + \beta_{11} \text{ethfrac}^* \text{ethfrac}_{ij} + e_{ij} + u_{0j}
\]

\[
\ln(\text{ethnic aversion}_{ij}) = \beta_0 + \beta_1 \text{woman}_{ij} + \beta_2 \text{age}_{ij} + \beta_3 \text{income}_{ij} + \beta_4 \text{far left}_{ij} + \beta_5 \text{left}_{ij} + \beta_6 \text{right}_{ij} + \beta_7 \text{far right}_{ij} + \beta_8 \text{personal trust}_{ij} + \beta_9 \text{institutional trust}_{ij} + \beta_{10} \text{gdppc}_{ij} + \beta_{11} \text{democracy}_{ij} + \beta_{12} \text{education}_{ij} + \beta_{13} \text{ethfrac}_{ij} + \beta_{14} \text{ethfrac} \times \text{ethfrac}_{ij} + \beta_{15} \text{western country}_{ij} + e_{ij} + u_{0j}
\]

\[
\ln(\text{ethnic aversion}_{ij}) = \beta_0 + \beta_1 \text{woman}_{ij} + \beta_2 \text{age}_{ij} + \beta_3 \text{income}_{ij} + \beta_4 \text{far left}_{ij} + \beta_5 \text{left}_{ij} + \beta_6 \text{right}_{ij} + \beta_7 \text{far right}_{ij} + \beta_8 \text{personal trust}_{ij} + \beta_9 \text{institutional trust}_{ij} + \beta_{10} \text{gdppc}_{ij} + \beta_{11} \text{democracy}_{ij} + \beta_{12} \text{education}_{ij} + \beta_{13} \text{ethfrac}_{ij} + \beta_{14} \text{ethfrac} \times \text{ethfrac}_{ij} + \beta_{15} \text{western country}_{ij} + \beta_{16} \text{western country}_{ij} \times \text{ethfrac}_{ij} + \beta_{17} \text{western country}_{ij} \times \text{ethfrac}_{ij} \times \text{ethfrac}_{ij} + e_{ij} + u_{0j}
\]


\[69\] All models include controls for time (wave) effect.
In our equations \( i \) stands for individual respondents, \( j \) represents country-survey-year and \( k \) is country. Shown in Equation 5 is our assumption that one macro-level variable (ETHNIC FRACTIONALISATION) is dependent on the value of another (WESTERN COUNTRY). With regard to the individual level variables we make use of sampling theory, generalising our findings from the sample to the population. We also use country-survey-years as units of analysis employing stochastic model theory. When one follows sampling theory one should get perfect predictions when investigating the whole population. Yet, when following stochastic model theory we are generalising from the observation made, to the process or mechanism that brings about the actual data.\(^{70}\)

The models are presented in Table 1. In Model 1 we include commonly-used variables in research on attitudes and ethnicity, such as GENDER, AGE, INCOME, PERSONAL- AND INSTITUTIONAL TRUST and SELF PLACEMENT ON THE LEFT-RIGHT SCALE, as well as the level-2 variable ETHNIC FRACTIONALISATION. Briefly stated, we find that on an individual level age, income, placement on the political left–right scale and trust are predictors of ethnic aversion, while gender has no effect. AGE and INSTITUTIONAL TRUST have a negative effect on ethnic tolerance, while being on the left side of the political scale is associated with more positive attitudes towards other groups than those who place themselves in the center. PERSONAL TRUST is associated with more tolerant attitudes. In this model, ethnic fractionalisation is positive, but not significant. In the second model we have included a squared term of ethnic fractionalisation. Here the model clearly shows that there is a u-shaped curvilinear relationship between ethnic fractionalisation and ethnic aversion.

Table 1. Two-level logistic models on ethnic aversion, 1981–2007

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Constant</strong></td>
<td>-2.708***</td>
<td>-2.451</td>
<td>0.287</td>
<td>0.590</td>
</tr>
<tr>
<td></td>
<td>(0.218)</td>
<td>(0.235)</td>
<td>(0.647)</td>
<td>(0.662)</td>
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<tr>
<td><strong>Level-1 variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Woman</td>
<td>-0.009</td>
<td>-0.009</td>
<td>-0.007</td>
<td>-0.007</td>
</tr>
<tr>
<td></td>
<td>(0.012)</td>
<td>(0.012)</td>
<td>(0.012)</td>
<td>(0.012)</td>
</tr>
<tr>
<td>Age</td>
<td>0.009***</td>
<td>0.009***</td>
<td>0.009***</td>
<td>0.009***</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Income</td>
<td>-0.060***</td>
<td>-0.060***</td>
<td>-0.060***</td>
<td>-0.060</td>
</tr>
<tr>
<td></td>
<td>(0.003)</td>
<td>(0.003)</td>
<td>(0.003)</td>
<td>(0.003)***</td>
</tr>
<tr>
<td>(Center as reference)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Far left</td>
<td>-0.014</td>
<td>-0.015</td>
<td>-0.014</td>
<td>-0.0136</td>
</tr>
<tr>
<td></td>
<td>(0.024)</td>
<td>(0.024)</td>
<td>(0.024)</td>
<td>(0.024)</td>
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<tr>
<td>Left</td>
<td>-0.226***</td>
<td>-0.226***</td>
<td>-0.224***</td>
<td>-0.224***</td>
</tr>
<tr>
<td></td>
<td>(0.021)</td>
<td>(0.021)</td>
<td>(0.022)</td>
<td>(0.022)</td>
</tr>
<tr>
<td>Right</td>
<td>0.118***</td>
<td>0.117***</td>
<td>0.121***</td>
<td>0.121***</td>
</tr>
<tr>
<td></td>
<td>(0.018)</td>
<td>(0.018)</td>
<td>(0.018)</td>
<td>(0.018)</td>
</tr>
<tr>
<td>Far right</td>
<td>0.370***</td>
<td>0.370***</td>
<td>0.371***</td>
<td>0.371***</td>
</tr>
<tr>
<td></td>
<td>(0.020)</td>
<td>(0.020)</td>
<td>(0.020)</td>
<td>(0.020)</td>
</tr>
<tr>
<td>Personal trust</td>
<td>-0.191***</td>
<td>-0.192***</td>
<td>-0.188***</td>
<td>0.020***</td>
</tr>
<tr>
<td></td>
<td>(0.015)</td>
<td>(0.015)</td>
<td>(0.015)</td>
<td>(0.015)</td>
</tr>
<tr>
<td>Institutional trust</td>
<td>0.021***</td>
<td>0.021***</td>
<td>0.021***</td>
<td>0.020***</td>
</tr>
<tr>
<td></td>
<td>(0.007)</td>
<td>(0.007)</td>
<td>(0.007)</td>
<td>(0.007)</td>
</tr>
<tr>
<td><strong>Level-2 variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Per capita GDP</td>
<td></td>
<td>-0.162**</td>
<td>-0.164**</td>
<td>(0.082)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.080)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Democracy</td>
<td></td>
<td>-0.061**</td>
<td>-0.056**</td>
<td>(0.025)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.024)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td>-0.029</td>
<td>-0.014</td>
<td>(0.024)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.024)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnic fractionalisation</td>
<td>0.028</td>
<td>-2.412**</td>
<td>-2.207**</td>
<td>-4.398***</td>
</tr>
<tr>
<td></td>
<td>(0.263)</td>
<td>(0.952)</td>
<td>(0.861)</td>
<td>(1.164)</td>
</tr>
<tr>
<td>Ethnic fract. (squared)</td>
<td>3.017***</td>
<td>2.104**</td>
<td>4.589***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.133)</td>
<td>(1.046)</td>
<td>(1.333)</td>
<td></td>
</tr>
<tr>
<td>Western country</td>
<td></td>
<td>-0.153</td>
<td>-0.783***</td>
<td>(0.157)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.283)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Western×Ethfrac</td>
<td></td>
<td></td>
<td>3.100***</td>
<td>(1.085)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-5.598***</td>
<td>(1.920)</td>
</tr>
<tr>
<td>Western×Ethfrac (squared)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Time controls</strong></td>
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<tr>
<td>(Wave 1 as reference)</td>
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</tr>
<tr>
<td>Wave 2</td>
<td>0.855***</td>
<td>0.850***</td>
<td>0.529**</td>
<td>0.475**</td>
</tr>
<tr>
<td></td>
<td>(0.248)</td>
<td>(0.243)</td>
<td>(0.229)</td>
<td>(0.225)</td>
</tr>
<tr>
<td>Wave 3</td>
<td>0.362</td>
<td>0.448*</td>
<td>-0.015</td>
<td>-0.122</td>
</tr>
<tr>
<td></td>
<td>(0.246)</td>
<td>(0.244)</td>
<td>(0.236)</td>
<td>(0.233)</td>
</tr>
<tr>
<td>Wave 4</td>
<td>0.743***</td>
<td>0.826***</td>
<td>0.410*</td>
<td>0.315</td>
</tr>
<tr>
<td></td>
<td>(0.236)</td>
<td>(0.234)</td>
<td>(0.227)</td>
<td>(0.224)</td>
</tr>
</tbody>
</table>
In Models 3 and 4 we have included level-2 controls for PER CAPITA GDP, DEMOCRACY, and EDUCATION. The general finding is that democratic and wealthy countries are more tolerant towards other ethnic groups; while EDUCATION is not statistically significant. It is confirmed that the effect of ETHNIC FRACTIONALISATION is conditioned by whether or not a country is Western. We find a significant curvilinear effect of ethnic fractionalisation on ethnic aversion if the country is non-Western. For Western countries there is a linear negative effect. The relationship between ethnic composition and ethnic aversion is illustrated in Figure 4. Model 4 shows strong support for the turning point argument in non-Western societies, where polarized countries are found to be most tolerant. In our data the turning point of tolerance is reached when there is a 48 percent chance that two randomly drawn persons from a non-Western country are of different ethnic backgrounds. The non-Western country in our data that is closest to this point is Tanzania. The country that is most influential for our finding is Brazil, which has just passed the 48 percent mark, now standing at 55 percent. When we look at the percentage of Brazilians who do not want to have a neighbor belonging to a different race, the number stands relatively low at 4.17 percent. The homogeneous South Korea, for which we also have data, has a much higher percentage of 36.45. These two results are illustrative of our general finding: non-Western societies that are ethnically homogenous are those which are least likely to be tolerant, and that non-Western societies which are ethnically polarized are the most tolerant. However, if the turning point of tolerance is passed, as is the case in the ethnically fractionalised country of Indonesia, this rises to 32.82 percent.

<table>
<thead>
<tr>
<th>Wave 5</th>
<th>0.533**</th>
<th>0.643***</th>
<th>0.290</th>
<th>0.218</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>(0.245)</td>
<td>(0.244)</td>
<td>(0.236)</td>
<td>(0.231)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variance</th>
<th></th>
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<tr>
<td>Level-2 variance</td>
<td>0.674</td>
<td>0.651</td>
<td>0.485</td>
<td>0.463</td>
</tr>
<tr>
<td></td>
<td>(0.068)</td>
<td>(0.066)</td>
<td>(0.050)</td>
<td>(0.048)</td>
</tr>
<tr>
<td>Level-1 N</td>
<td>241,246</td>
<td>241,246</td>
<td>237,885</td>
<td>237,885</td>
</tr>
<tr>
<td>Level-2 N</td>
<td>208</td>
<td>208</td>
<td>202</td>
<td>202</td>
</tr>
</tbody>
</table>

Note: Multilevel mixed-effects logistic regression coefficients with standard errors in brackets. *** denotes \( p < .01 \), ** \( p < .05 \), * \( p < .10 \), two-tailed tests.
Figure 4. The effect of fractionalisation on ethnic aversion
Figure 5. Ethnic aversion and fractionalisation in non-Western countries

Note: Values on aversion and ethnic fractionalisation are the mean scores for all surveys each country has participated in.
Figure 6. Ethnic aversion and fractionalisation in Western countries

Note: Values on aversion are the mean scores for all surveys each country has participated in.

In Figures 5 and 6 we show the percentage of respondents for each country that have stated that they do not wish to have a neighbor of a different race. For the non-Western countries (Figure 5) we see that Singapore, Brazil, and Guatemala are examples of countries that are ethnically polarized while at the same time having tolerant ethnic attitudes. Japan can be considered somewhat of an outlier in this grouping. In spite of being a non-Western country, Japan has experienced the effects of the post-materialist shift in values. The result is a relatively tolerant society despite its homogeneous ethnic composition. With regard to the Western countries, Figure 6 shows that there is a negative relationship between diversity and aversion. Attitudes are also generally more tolerant than in non-Western societies.
3 Discussion and Concluding Remarks

The contribution of this paper has been twofold. First, there is a lack of comparative studies testing ethnic attitudes on a global level. To fill this gap in the literature we have collapsed data from all five waves of the World Values Survey and combined it with country-level variables, employing two-level logistic models to test our hypotheses. Our models include 81 countries, 201 country-survey-years, and more than 200,000 individuals. This enabled us to include sundry level-2 control variables, something that has been a caveat associated with previous studies. Second, the models include a “tipping point of attitudes”, or as we call it, a turning point of tolerance. Our point of departure was the classic theories of ethnic relations: intergroup contact theory and group threat theory. Our study offers the first global empirical test of Schelling’s threshold limit. Previous research has investigated the tipping point effect at a lower level of aggregation. The present paper does the same at the macro level, showing the generalisability of the turning point argument. We have revealed a pattern of results that is of interest not only for the study of ethnic relations but which also has implications for research on conflict and peace. The original aim of this paper is to explain variations in ethnic tolerance across states, synthesize and further develop present theoretical approaches to explaining ethnic attitudes, as well as shedding light on their role as a potential source of conflict.

Our main finding is that in non-Western societies a rise in diversity up until a certain point leads to more ethnic tolerance, but when this turning point is reached any further diversity is associated with less tolerance. Non-Western societies that are ethnically homogenous are those which are least likely to be tolerant. This renders support to intergroup contact theory which states that a lack of intergroup contact leads to ethnic intolerance. Those non-Western societies that are ethnically polarized are the most tolerant. These countries are characterized by ethnic demographic balance, where there is not a clear difference in size between the few ethnic groups. Here the effect of intergroup contact is clearly present, while the effects of group threat mechanisms have not made their mark.

In sum, our findings show that the most tolerant societies are those that are ethnically polarized, while homogeneity is associated with ethnic aversion in Western societies, and both homogeneity and fractionalization are associated with ethnic aversion in non-Western countries. The lack of a turning point effect in Western societies can be explained using Inglehart’s concept of post-materialism. Inglehart shows that development is linked with a syndrome of predictable changes away from absolute social norms, toward increased levels of tolerance and trust. Economic development implies a gradual shift from survival values to
self-expression values, which helps explain why richer societies are more likely to be democracies. Fundamental in explaining the findings is the survival/self-expression dimension which involves the themes that characterize postindustrial societies. Drawing on Inglehart’s dimensions the survival values are more prominent in non-Western societies while self-expression values characterize Western societies. The cultural values associated with democracy, such as trust, tolerance and well-being have generally good conditions in Western societies.

The possibility of economic decline in Western societies could lead to an increased struggle over resources. Quillian has found that especially during a recession when the economic conditions are tough, the perceived threat in the majority group is likely to expand. This threat is connected to competition among the ethnic groups for jobs and other economic resources. There is a possibility that the present economic decline in many Western societies could lead to the same mechanisms we find in non-Western societies, that is, the presence of survival values strengthen the importance of group threat mechanisms. This could, if the West follows the same trajectory as the rest of the world, lead to more ethnic aversion in countries that fall below the proposed turning point of tolerance. At present, few Western countries are above this turning point.

Drawing on the dynamic models of segregation, we presented the Bounded-State Model. The argument is that up to a certain point, more diversity will lead to increased levels of tolerance. However, when this threshold is reached, any further diversity implies more ethnic aversion. Thus, the countries which are expected to be most tolerant are those that are ethnically polarized. The explanation for this is that these countries enjoy a substantive positive effect of intergroup contact, without being exposed to the full extent of group threat mechanisms. Western societies are on average more tolerant than societies that have not experienced the same transformation from materialist to post-materialist values. Our results are explained by certain traits that make Western countries unique when it comes to understanding variations in tolerance in general and ethnic tolerance in particular.

In addition to being a contribution to the research on ethnic attitudes, we believe this study is of relevance for scholars concerned with conflict and peace. Several studies show that the risk of civil war is at its highest in ethnically polarized societies. Our finding whereby these societies actually comprise those where intolerance is at its lowest implies that these

71 Quillian, supra note 5.
72 Schelling, supra note 1.
73 Huntington, supra note 6. Inglehart and Baker, supra note 7.
conflicts may not be driven by ancient ethnic hatred. This article thus lends support to the rational actor argument which views ethnicity more as an instrument for, and not necessarily a source of, conflict. The lessons learned from this study is that while ethnic polarization can provide societies with an equilibrium of high tolerance, a move away from this ethnic composition – by way of variations in birth rates or increased immigration – can move a country into a level of diversity associated with greater levels of intolerance. The best way of ensuring high levels of tolerance is to lay the groundwork for modernization and democratization, two factors associated with tolerance regardless of ethnic composition. One caveat concerning our research deserves mention: Our sample has only included 81 countries and we should be wary of drawing conclusions for all countries in the world. Still, we believe that we have contributed to unveiling the connection between diversity and ethnic attitudes on a global scale. The introduction of a turning point in country-level studies has so far received little attention, and future research would be well advised to pick up on this thread.
APPENDIX

Appendix A1. Countries included in the analysis

*Non-western:* Albania, Argentina, Armenia, Azerbaijan, Bangladesh, Belarus, Bosnia & Herzegovina, Brazil, Bulgaria, Burkina Faso, Chile, China, Colombia, Cyprus, Dominican Republic, Egypt, Ethiopia, Georgia, Ghana, Greece, Guatemala, India, Indonesia, Iran, Japan, Jordan, Kyrgyzstan, Macedonia, Malaysia, Mali, Mexico, Moldova, Morocco, Nigeria, Pakistan, Peru, Philippines, Romania, Russia, Rwanda, Serbia, South Africa, South Korea, Tanzania, Thailand, Turkey, Uganda, Ukraine, Uruguay, Venezuela, Vietnam, Zambia, Zimbabwe

*Western:* Australia, Austria, Belgium, Canada, Czech Republic, Croatia, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom, United States