Ethnic Groups in National Legislatures: Notes on Representation Scores

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Description of Data

The data are presented in a separate Excel document. This allows an intuitive and transparent presentation of the data and their sources, yet the data can easily be imported into statistical software.

The data were collected for a study covering countries classified as *free* or *partly free* by Freedom House (2006), with the aim of establishing a single representation score for each country. All data are for single or lower chambers. The data presented were collected from a range of sources. Data for *unfree* countries are listed separately and were not checked to the same extent.

Description of Variables

Variable	*Description*
Country	Name of the country
Q-Score	Q-scores are ethnic representation score (ERS) to estimate to what extent the ethnic make-up of the population and parliament are the same. See the section on calculating representation scores below for further details.
R-Score	R-scores describe the proportion of ethnic minority groups in the population compared with the proportion of members of ethnic minority groups in parliament.
Presence	The variable is "yes" if ethnic minority groups are present in parliament, and "no" if ethnic minority groups are absent in parliament.
Source for Estimate	Data source used to calculate the ERS
Other Sources	Other sources available, used to check the reliability of the data: US Dpt (U.S. Department of State 2006), A&R (Alonso and Ruiz 2005; later published as Alonso and Ruiz-Rufino 2007), R.06 (Reynolds 2006), R.07

Variable	*Description*
	(Reynolds 2007), B.10 (Bloemraad 2010), Bio (coded from official biographies), Contact (data provided by parliamentary contact), Other (as indicated, alternative estimates are sometimes available depending on the classification of ethnic groups used)
Min Q	Lowest ERS estimate from the sources available
Max Q	Highest ERS estimate from the sources available
Proportions in Population	Ethnic groups identified and their size (proportion) among citizens (where specific information was available) or the general population (else)
Proportions in Legislature	Ethnic groups identified and proportion of representatives of this group
Notes	Additional notes, such as where data average over a period of time.

Calculating Representation Scores

The underlying assumption behind the representation scores is that the ethnic composition of parliament should reflect that of the population. In order to calculate representation scores, data on the composition of the population and the parliament are required. I have calculated two different representation scores:

- Q-scores, which express the level of representation overall, considering the weighted difference between the population and the situation in parliament for all ethnic groups identified (including the majority group)
- R-scores, which combine all minority groups, and compare the situation of minority groups against that of the majority population.

Ethnic representation scores (Q-scores) are calculated as the difference between the proportion of each ethnic group in the population (Z_i) and the equivalent in the elected members of parliament (R_i). The measure is thus $Q = 1 - \frac{1}{2}\sum_{i=1}^{n}|Z_i - R_i|$. The subtraction from 1 is necessary to ensure that higher levels of representation are marked by higher Q-scores. The division by 2 is used to standardize values between 0 and 1. Q-scores are suited for all countries, regardless of the size or number of minority groups in the population. This measure corresponds to the *Rose index* (Mackie and Rose 1991). The nature of this measure is that the scope for under-representation is larger in more heterogeneous societies, and for that reason a control variable *must* be used alongside Q-scores.

R-scores are calculated by dividing the proportion of ethnic minorities in parliament (R_m) by the proportion in the population (Z_m): $R = R_m / Z_m$. This is a measure of relative representation. The variable m denotes all ethnic minority groups combined. Such R-scores are simply a statement of what proportion of the minority population is included in parliament, irrespective of its size. R-scores are suited to assess the representation of all minority groups combined, but can also be used for individual groups. The values range from 0 where

ethnic minorities are absent in parliament, to values greater than 1, where they are numerically over-represented. R-scores are insensitive to the heterogeneity of society overall, and are therefore useful to assess the influence of heterogeneity on levels of representation measured by Q-scores. However, R-scores can be sensitive to measurement error. In some countries there are no clear ethnic majority and minority populations, in which case combined R-scores become meaningless.

Q-scores versus Least Squares

Q-scores are a measure of proportionality, similar to the *Gallagher index* of least squares (Gallagher 1991), as used for instance by Reynolds (2007). Differences between Q-scores and the Gallagher index occur, because the Gallagher index is sensitive to splitting groups: The more groups that are considered, the larger the resulting value relative to Q-scores. For example, if there are 80% blue and 20% orange in the population, but all the representatives in parliament are blue, both formulas lead to the same result (0.8). However, if I then differentiate between 10% dark orange and 10% light orange, the two measures lead to slightly different values. The Gallagher index will result in a value of 0.83, whilst Q-scores are unaffected (0.8). In the case of ethnic group representation, only the latter is satisfactory, because distinctions between ethnic groups may not always be clear. However, the in practice differences are insignificantly small.

Data Sources Used

The data are as of July 2006, although some estimates are based on earlier data. The ethnic groups recognized vary from country to country, according to which divisions are salient.

Composition of the Population

In order to assess the composition of the population, data were taken from national statistics, or where unavailable, from Fearon (2003) and *Britannica* (2006), and cross-checked against the *World Factbook* (2006), and in some cases the *Ethnologue* (Raymond 2005) and the *Joshua Project* (2006). Where possible, I restricted the data to citizens of a country, because citizens may have a stronger claim to representation. The resulting ethnic representation scores, however, are similar, often almost identical. In some cases, I had to combine ethnic sub-groups into larger groups to match the classifications used for the representatives.

Composition of the Legislature

Data were obtained by approaching official parliamentary contacts via e-mail. In a few cases, official biographies include the ethnicity of parliamentarians. The data I collected were complemented with secondary data. Because of the multiple data sources, I have multiple data points for many of the countries. In most cases, the different sources agree on the magnitude of the proportion of the representatives belonging to each group. When in doubt about classification, I have also tried alternative classifications. However, the resulting ethnic representation scores are similar, often almost identical.

For the US Department of State, I went through the country reports individually, and extracted the information. At the time of data collection, the information was not always in the same section, nor was there a keyword I could search for to reliably identify the relevant information.

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