

# Proportionality, Disproportionality and Electoral Systems

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Different PR methods should be seen not as being more proportional or less proportional than each other but as embodying different ideas as to what maximizing proportionality means and, by extension, what minimizing disproportionality means. Each of the main methods of PR (d'Hondt, Sainte-Laguë, largest remainders) generates its own index of proportionality and, thus, its own way of measuring disproportionality. Applying these indices to competitive elections of the period 1979–89 shows a high correlation between the rankings produced by the various methods, but the ordering of countries is sufficiently different to require a choice to be made between the indices.

In any assessment of the merits of different electoral systems, the concept of proportionality always comes to the fore. Yet there is surprisingly little discussion of what exactly we mean by proportionality and how we should measure it. It is not always realized that different methods of PR (proportional representation), which may produce significantly different seat allocations for a given distribution of votes, should not be seen as inherently more or less proportional in their consequences. Rather, they produce different results because they embody different conceptions of what proportionality means and of what minimizing disproportionality entails. Each PR method minimizes disproportionality according to its own principles.

This paper will first review the main PR methods and discuss the principles underlying each of them, before tackling the question of the disproportionality produced by each. This entails a review of previous ideas as to how to measure disproportionality, with suggestions for new indices, and an application of the measures to recent competitive elections.

## Methods of Proportional Representation

Only exceptionally might it be possible to distribute seats among parties in such a way as to produce perfect proportionality, defined here as a situation in which every party receives exactly the same share of the seats as it won of the votes. Otherwise, some deviation from perfect proportionality, that is to say some disproportionality, is inevitable. Every PR method will try to minimize the disproportionality created, that is, it will try to produce the outcome that is as close to perfect proportionality as possible. But once the notion of disproportionality is raised, we move away from an absolute standard to a relative one. Given two outcomes, neither of which