

# Compositional data analysis: concepts, software, and examples

Peter Filzmoser<sup>1</sup>

<sup>1</sup> Institute of Statistics and Mathematical Methods in Economics, TU Wien, Austria

---

Compositional data analysis deals with relative information by making use of log-ratios between the values of the variables. This approach was introduced for constrained data, e.g. for proportional data that sum up to 1. With the log-ratio approach, however, the constraint is not relevant, and this approach can be used for any data set where relative rather than absolute information should be processed. We will present the main concepts of this approach and illustrate these with data examples.

**Keywords:** compositional data, log-ratio approach, multivariate statistics, software environment R