Abstract

We present a locally weighted regression (loess) model defined for compositional data: C-loess. (Compositions are vectors of non-negative components summing to a constant, typically 1.) We show how C-loess can be used to create an estimate of how political parties' voter shares vary over time combining a large number of Swedish political opinion polls, a "poll of polls". Utilising the compositional data framework, we look at different ways of measuring the deviations between the C-loess estimated voter shares and the observed voter shares, and how these deviations can be used to indicate differences in the methodology of the polling institutes, "house effects". Finally, we will discuss some current research problems such as including sample size as weight in the estimation, variance estimation, structural zeros, distributional assumptions, and how to improve the house effects estimation.