

2018년 제9회 통계세미나

통계연구소에서는 다음과 같이 통계 세미나를 개최하오니 많은 참여 바랍니다.

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Parties in Political Spectrum: Statistical Modeling and Estimation of Positions from Texts (German Federal Elections 1990-2013)

<Abstract>

A primary task in comparative politics is to locate party positions in a political space. There have been numerous empirical methods to extract the information from political texts. Political texts contain an extremely large number of words and the statistical problem of analyzing the counts of the word simultaneously is rather challenging. This has not been satisfactorily answered in the literature. In the paper, we first attempt to answer this by considering Poisson models for each word count simultaneously and by providing a suitable statistical analysis. In particular, we allow for multi-dimensional party positions and develop a data-driven way of determining the number of positions from theory. This gives a new insight in the evolution of party positions and helps our understanding of a political system. Additionally, we consider a novel model which allow the political lexicon to change over time and develop a technique of using LASSO and fused LASSO in order to make inference. This gives more insight into the use of words by left and right-wing parties over time. Furthermore, to address the potential dependence structure of the word counts over time, we included integer-valued time series processes into our modeling approach and we implemented a suitable bootstrap method to construct confidence intervals for the model parameters. We apply our approach to German party manifestos of five parties over all seven federal elections after German reunification. Here, penalization in form of LASSO and fused LASSO makes it possible to deal with the resulting high-dimensional setup and allows us to fit a model of more than 50,000 parameters to a (7,000 by 35) data matrix which is sparse. Our real data application confirms that our procedure is robust, runs stable and leads to meaningful and interpretable results.

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