



IMS September Meeting 2007 Seminar

Title: Exploring voting blocs in the Irish electorate: a statistical modeling approach

Speaker: C. Gormley (UCD)

Date: Tue 4th September 2007 at 3:30PM

Location: ENG226

Abstract: The electorate in any election is a heterogeneous population in that voters have different political and idealistic persuasions. A voting bloc is defined to be a group of voters who have similar voting tendencies. It can be assumed that the electorate consists of a finite number of voting blocs or 'expert networks'. Such a framework is known as a mixtures of experts model. Each voter has a probability of belonging to each of the voting blocs — the covariates of a voter determine these voting bloc membership probabilities through a multinomial logistic regression model. Interest lies in examining the Irish electorate as in Irish elections voters rank some or all of the candidates in order of preference. Rank data models are employed to model the votes cast by members of the electorate. This allows inferences to be drawn on the number of voting blocs present and on their characterising voting patterns. Thus rank data models are incorporated with a mixtures of experts model to provide a unique exploratory tool for rank data. Model fitting involves the exploitation of properties of convex functions. The application of the model to the 1997 presidential electorate reveals that age and current government opinion were influential factors on voter preferences.

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