



A generalized finite mixture model

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Abstract

Starting from a collection of individual trajectories, the aim of Nagin's finite mixture model is to divide the population into a number of homogenous sub-populations and to estimate, at the same time, a typical trajectory for each sub-population. An extension allows these trajectories to depend on covariates, but only through different intercept values for different groups, giving hence raise to a collection of parralel trajectories.

We present a generalization that that allows non parallel trajectories for different values of the covariates.

We investigate some mathematical properties of this model and illustrate its use by giving typical salary curves for the employees in the private sector in Luxembourg between 1981 and 2006, as a function of their gender, as well as of Luxembourg's gross domestic product (GDP).

Keywords: Statistical Models; Developmental trajectories; Trajectory Modeling.