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Embracing Heterogeneity: The Spatial Autoregressive Mixture Model*

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Abstract

In this paper a mixture distribution model is extended to include spatial dependence of the autoregressive type. The resulting model nests both spatial heterogeneity and spatial dependence as special cases. A data generation process is outlined that incorporates both a finite mixture of normal distributions and spatial dependence. Whether group assignment is completely random by nature or displays some locational "pattern", the proposed spatial-mix estimation procedure is always able to recover the true parameters. As an illustration, a basic hedonic price model is investigated that includes sub-groups of data with heterogeneous coefficients in addition to spatially clustered elements.

Keywords: Mixture Distributions, Spatial Heterogeneity, Spatial Models
JEL Classification: C11, C21, R21

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