Poverty mapping and extensions

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Abstract

'Poverty mapping' is a relatively new small area-estimation technique for obtaining high-resolution maps of distributional characteristics of income or expenditure in developing countries.

For many developing countries, high-quality and extensive information on household income or consumption expenditure is collected on a regular basis, but for a relatively small sample of households only. We combine this information with information about covariates avialable from a census to create so-called poverty map. In this lecture we will address a number of issues arising in the construction of maps, give examples of poverty maps from various contexts, and consider some extensions to the basic approach. In particular the lecture will be in three parts.

In part 1 we will give an exposition of poverty mapping: statistical foundation, data requirement, estimation strategy and computational requirements. We will discuss prediction accuracy and compare poverty mapping to other small area-estimation techniques.

In part 2 we give examples of poverty maps and their use and discuss some of the problems and experiences encountered in constructing the maps. Also we will discuss some of the extensions that have been proposed, in particular using the same technique for mapping non-income variables (e.g., health), or mapping along non-geographical dimensions. Also we briefly discuss some related alternative approaches to poverty mapping.

Part 3 discusses how poverty maps can be used in subsequent 'downstream' research. Essentially small area estimates of income distribution characteristics are synthetic and cannot be used in subsequent analysis without addressing prediction error. Ever since the first map was constructed people have asked for updates without having to wait for a new census. We discuss some of the ideas we currently try out to update poverty maps and how such multiple maps could be used in research. Finally we discuss some research which attempts to verify small-area poverty predictions directly from survey data.

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