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# How precise are poverty measures estimated at the regional level?

Vijay Verma<sup>1</sup>, Achille Lemmi<sup>1</sup>, Gianni Betti<sup>1\*</sup>, Francesca Gagliardi<sup>1</sup>, Mario Piacentini<sup>2</sup>

<sup>1</sup>Department of Economics and Statistics, University of Siena, Siena, Italy

<sup>2</sup>Statistics Directorate, OECD, Paris, France

\*Corresponding author: gianni.betti@unisi.it

## Abstract

There is an urgent policy need for regional (subnational) estimates for assessing regional policies and programmes. Often regional indicators, in particular those concerning poverty and social exclusion, have to be derived from surveys with sample size and design determined primarily to serve estimation at the national level. In the specific context of EU-SILC surveys and the Headline Indicator at-risk-of-poverty or social exclusion (AROPE) and its components defined by European Commission, this paper aims to contribute to the methodology for constructing such indicators at the regional level. The main difficulty arises from the smallness of regional samples in national surveys. The paper focuses on two related issues: identifying procedures potentially useful for improving sampling precision of regional estimates; and improving the precision of sampling error estimates of regional statistics based on small but complex samples. In addition to some results presented for a large number of OECD countries, more detailed numerical illustration is provided for two countries (Austria and Spain) based on EU-SILC data.

**Keywords:** poverty, small area estimation, region, SILC

## 1. Introduction

In the framework of Europe 2020 strategy of the European Commission, the EU-SILC Headline Indicator at-risk-of-poverty or social exclusion (AROPE) and its components<sup>1</sup> will be included in the budgeting of structural funds which are one of the main instruments for attaining EU and national policy targets. In this context, DG Regional Policy of the European Commission uses regional, i.e. sub-national, level data (NUTS 2, and exceptionally NUTS

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<sup>1</sup> EU Statistics on Income and Living Conditions (EU-SILC) is an EU survey aiming at collecting timely (every year) and comparable cross-sectional and longitudinal multidimensional micro data on income, poverty, social exclusion and living conditions. The headline indicator 'people at risk of poverty or social exclusion', consists of the three sub-indicators: monetary poverty, severe material deprivation, and very low work intensity.

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