Weighing procedure in spatial upscaling of farm data: limitations of data sources or concepts?

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Data are often (dis)aggregated along the spatial dimension. Farm performance is characterized by different data (economic, social, environmental) for which the (dis)aggregation procedure needs to account for. The existing EU farm typology used in Farm Accountancy Data Network (FADN) is based on regional proxies for the farm income coming from different production sources. Each farm type has a weight corresponding to the number of agricultural holdings it represents in a FADN region. Transfer of data from the original FADN regions to e.g. Nitrate Vulnerable Zones, environmental zones will require information about spatial farm allocation. It is unclear whether the number of representative farms in a FADN region is the best weight to aggregate data to the different regional typologies and whether the considered farm types sufficiently represent the agricultural area in a region. The paper introduces a farm typology based on size, intensity and specialization/land use and the spatial allocation procedure developed in SEAMLESS project. It attempts to clarify the pros and cons of using FADN data and the considered farm types in terms of farm representativeness. Alternative weighing factors to aggregate socio-economic data are explored. Calculations based on FADN and SEAMLESS farm types (year 2003) in selected regions illustrate the sensitivity of the upscaled values to the choice of weights. Several approaches are discussed to ensure sufficient agreement between the agricultural area in a region and the area of the main farm types and of the remaining group of farms. The paper concludes by stressing the need for modeling the structural changes of farming systems to enable aggregation of results from ex-ante assessments. It also clarifies the consequences of methodological choices on the results of aggregation of the observed data.

Keywords: FADN, representative farms, aggregation, regional typology