Comuns: An Open-Data Provider, Explorer and Analytic Toolbox Based on FOSS

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Abstract. Research efforts in the Social Sciences have a great potential impact on society in general as it promotes greater knowledge of any and every aspect of human interactions. With this in mind, a combined project - Comuns, was developed, bringing together recent technological trends in data exploration and visualization, and the production of new high-precision historical geo-demographic datasets. Using dasymetric algorithms implemented within an Free and Open Source Software (FOSS) platform, source geographical data- aggregated according to distinct geometrical schema, was re-allocated according to common areas. The innovative nature of Comuns is three-folded: (1) for the first time, a large scale comprehensive time-space database is built for Portuguese census data; (2) the fact that data is made available online contributes to the goal of making knowledge symmetrically available; (3) the fact the only FOSS is used means that, other than man-hours, the project is costs' free, accountability increases as does reproducibility. The open character of the project have potential implications in terms of the way human landscapes are perceived, given that new coherent datasets allow new explorations of the territory. Its target are primarily civil society in general; its applications range from academic to recreational, with potential uses in geomarketing projects.

Keywords: Open-data · FOSS · Database Management Systems · Dasymetric mapping · Computational statistics

1 Introduction

Research breeds innovation, which in turn spills over society and space through contagious behaviour [8]. Also, the importance of collaborative work within and between groups is justified as it promotes synergies. If, on one hand this traditionally happens within a closed system, because of agents proximity, on the other, linkages into the civil society (namely into the administrative, productive and informal sectors) are non-existent if channels are not opened between producers of new (open) knowledge and the outside.