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Spatial proximities and pattern of structural changes in rural areas. The case of Tuscany region.

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Over the last years, the structure of European farms has been shaped by continuing structural changes due to demography pressure and change in farming systems. The exacerbating of demography changes (i.e. ageing), domestic migrations and decline in services provided in rural areas have caused an uneven pattern of structural changes among the Italian territory. From one hand ,increasing in land demand in peri-urban areas and in other rural areas with high factor productivity is observed; while, at the opposite, there is a deep land abandonment in area with natural disadvantages (ie. internal or mountain areas). This dual situation has been one of the key element guiding RDP program (2014-2020), with design and implementation of specific measures to reduce territory unbalance.
The Tuscany Region is characterized by a strong regional differentiation registering a decline in the number of farms estimated to be around 40% and a consistent increase (+47%) in the average farm size (Census 2010). Enlarging farm size is a key factor affecting farm competitiveness and structural change in the agricultural sector which may reveal a regional differentiation among areas associated to spatial patterns (Braiser 2005). Hence a spatial analysis seems to be a good fit to assess the existence of territorial pattern (Mur, 2013).
This paper is aimed to investigate determinants of alternative patterns of structural changes and land changes. Proximities and distances to the main markets and urban areas are used to enrich traditional determinants of structural and land uses changes. To pursue such objective two spatial econometric models are applied. Spatial weights are obtained considering proximities and travel distance from the farms to the main urban center and agricultural markets (Irwin, 2010). Travel distance that represent a proof transportation costs and productive costs are measure through geocoding applications.
The analysis is conducted at two different level, first observing pattern at aggregated level (municipalities) and then at farm level. The dependent variables are changes in productive factors (i.e. farm size) uses and in farming system (changes in farm specialization) Following previous literature, the explanatory variables may be connected with agricultural profitability, agricultural policy, farm and household features, off-farm income opportunities (Piet et al., 2012; Bartolini and Viaggi, 2013) and territorial variables such as the geographic condition where the farm operate (Irwin, 2010). Data used belong to two different sources of data: the 2000 and 2010 micro-data of Agriculture Census and the Regional Agency for payments in Agriculture (ARTEA) database.
The preliminary results confirm existence of spatial agglomeration effects with area characterized by homogenous structural changes and convergence on farming systems. Our results confirm also positive effect of travel distance due to higher costs in reducing productive factor uses. Travel costs are also determinants of farming marketing systems.

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