TITLE: A REVEALED PREFERENCE ECONOMETRIC ANALYSIS OF LAND USE CHOICE IN ANDALUSIA

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Abstract

We investigate transitions among crop, range and forest land uses in Andalusia using an econometric model based on different explanatory variables to predict the impact of potential policies on land use shares. The model uses as dependent variable real land uses observed in the Corine Land Cover (CLC) database in 1990, 2000 and 2006 for 10,000 sampling points in Andalusia, and net income, subsidies and bio-physical factors associated to the observed points as explanatory variables. We use multinomial logit models to measure the effects of these variables on land use decisions in the periods 1990-2000 and 1990-2006. We find that net income and subsidies explain permanence in cropland uses, and that transitions from range or forest to crop uses are more likely for higher crop net income and less likely for parcels under a protection figure and with a higher slope. Net income explains transition from range to forest, and net subsidies explain permanence in range uses. These two variables, however, do not play a significant role in transitions from forest uses. The results show that bio-physical variables improve model performance. The model offers potential for application in other regions when information on explanatory variables is available.

Keywords: revealed preferences, land use change, spatially-explicit data, environmental policy