FR2 (Castagniccia, France): Impact of CAP on landscape management in a Mediterranean and mountainous region

Objective

We specifically aim in that study to analyse farmers' decision to opt for beef cattle ranching, an activity that is known to rely heavily on CAP subsidies (Bernués et al. 2011; Le Carignon et al. 1994, Paoli et al., 2013) and that is reputed to impact vegetation less favourably than small dairy ruminant breeding (Gutman et al. 2000). This study thus fills a gap in the existing economic literature on farmers' decision drivers, which is mainly composed of analyses of the determinants of intensification within a production type (Caraveli 2000, Sturato et al. 2009) or of changes from one type of production to another requiring an equivalent level of fixed inputs and technical know-how (e.g. replacement of one crop by another, see e.g. Just et al, 1983; Babcock et al. 1987, Coyle 1993, Antle and Capalbo 2001, Antle and Stoorvogel 2006). However analyses of livestock production choices in an environment where data are scarce, and within a Mediterranean extensive livestock system, are rare.

Methodology

We wanted to assess breeders' decision drivers that explain the choice of beef cattle ranching. Economic theory leads us to assume that farmers choose the type of production that maximizes their income under economic or social constraints. In the Corsican context, beef cattle ranching ranks poorly as a profitable agricultural activity compared to other types of production. Yet beef cattle ranching provide a very high level of CAP premium. Consequently, the personal annual income of these breeders is higher than that of other farmers. However, ranching requires a low level of land competition for increased pasture. Thus, we assume that the farm density surrounding each ranch is the main constraint in breeders' decisions. In this framework, we estimate a multinomial dependent variable (Ranch) describing the production types of each holding with respect to beef cattle production: either "beef only", "beef among other productions" or "no beef".

Results

As expected, our results highlight the significant effects of surrounding farm density on ranching decisions, especially when the farm is devoted solely to beef cattle. Moreover, for this "beef only" type, decision probability is higher when there is pasture near the farm: it is an opportunistic system using agricultural land abandoned by other systems. Lastly, these systems are mainly located in municipalities whose populations fell between the two last censuses, often small rural villages that young people leave to work in towns.

Lesson learned / Policy Recommendations

Concerning the effects of CAP measures applied to livestock activity, we should be cautious. What we can affirm is that the beef cattle industry maximizes the uptake of these premiums in a context of land abundance. In other words, results show the Mediterranean ranching systems to be opportunistic, using agricultural land abandonment to maximize personal income together with CAP premiums (despite low agricultural profit). From this perspective, the main driver of farmers' decision to raise livestock is low surrounding farm density, where low competition enables farmers to extend pasture. In addition, these farmers are likely to keep other farming projects out.

An important objective of the CAP premiums is to maintain farms and agricultural landscapes in mountainous areas, in order to maintain agricultural open spaces in disfavoured areas. However, in these Mediterranean areas with low farm density, livestock pressure is too low to control biomass growth. Our results indicate that the current way of distributing premiums without conditions on biomass growth control is questionable. We suggest that there should be a threshold for farm density or biomass growth below which the premium distribution system should be adapted to the area targeted. For instance, one option would be to base premiums on objectives (i.e. effective biomass growth control) and/or to focus on targeted areas rather than on technical criteria (i.e. livestock size and claimed grazing area, the latter being difficult to verify).

A massive redirection of aid toward traditional extensive farming systems and targeted clusters (in our case, the chestnut orchards and small ruminants and regions higher than 400 m) as advocated by Cocca (2011) for the Italian Alps is still possible. However it is doubtful whether this would achieve rapid results, since a limited area is impacted by such farms in Castagniccia today. Our results clearly show that the key problem is the density of small farming systems. Thus, it might be worthwhile assessing whether CAP applications can be designed in such a way as to maintain these small systems and even to make them more attractive for young farmers. Part of the solution may be to encourage the techniques and skills required to maintain and exploit this kind of landscape (generally non-mechanized), instead of merely granting subsidies.

However, choosing ranching in this kind of Mediterranean context is not only a producer trade-off between agricultural practices, techniques and income. Ranching alone cannot control vegetation growth and is therefore leading toward its own doom in the long term, with cattle activity itself endangered, perhaps eventually to be replaced by forestry (principally for fuel wood).

Responsible partner/person

L. Delattre, F. Guéniot, L. Leonelli, M. Mouléry, C. Napoléone, J.C. Paoli, P. Santucci.
INRA Laboratoire pour le développement de l'élevage, CORTE, Corsica, France, and INRA Unité Ecodev, AVIGNON, Provence, France