

## The Lords of the Rent

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## **1. Objective of the paper**

The present paper aims at evaluating which factors affect farmland rents, measuring their relative importance through an empirical analysis based on a hedonic pricing model.

## **2. Background and relevance**

Land is one of the most limiting factors in agricultural activity. Combined with crops' yield, land availability constrains the producers' choices and the economic dimension of farms; consequently, it represents one of the most important structural assets of farms. Farms can expand their dimension, enjoying economies of scale, by purchasing or renting land. According to the last Agricultural census data, the 45.7% of northern Italian farmland is rented (INEA, 2014a, 2014b) and an increasing number of European farms have access to this input through the rental market (Ciaian et al., 2012). Compared to buying, in fact, the rent contract is a flexible tool that complies with the technological and economic dynamics of the agricultural sector, allowing farms to increase their structural dimensions even under credit constrain. Despite its relevance for agricultural production, available information on Italian rental market is currently provided by opinions of experts, sample (FADN) or aggregated data (Povellato, 1997) without any systematic collection of contract-level data, thus, no complete, nor standardized databases are provided for stakeholders and/or researchers. All these aspects considered a research on farmland rental market may shed light on farms' accessibility to this resource and, thus, on opportunities and constraints to structural changes in agricultural systems

## **3. Data and methodology**

The empirical analysis is based on microdata from land rent contracts signed and filed at one of the Italian Province institution accountable for agricultural land contracts advice, namely the *Associazione provinciale della Proprietà Fondiaria Rustica e Urbana di Mantova*, over the period 2010-2014. While the case study might seem narrow as compared to Italian territory, data on rental price have been originally collected from each signed contract by researchers. This represents a substantial difference respect to the majority of the Italian studies found in the literature, which typically consider aggregated census data, or use stated information from farm-level survey.

The research studies the contracts signed according to the Article 45 of the 203/82 Italian law on Agricultural contracts norms. Almost all the Italian land lease contracts apply this article (Gaviglio, 2003), because it allows a free negotiation between landowners and tenants, subjected to assistance provided by experts from agricultural professional associations. Data on rental price, contract length, location, characteristics of landowners and tenants, plot size and land parcels' registry information have been collected by each contracts. In order to control for all potential determinants of rent price, some other variables have been matched from territorial and census databases.

For our analysis we take advantage of hedonic pricing model, where the rent is explained by the sum of implicit values of attributes that compose the rented good, i.e. the farmland. Following the hedonic approach, we explain the value of the rent detected in the study area with the explanatory variables found in the literature (e.g. Feichtinger and

Salhofer, 2015; Hüttel et al., 2015; März et al., 2014; Guastella et al., 2014; Kilian et al., 2012; Breustedt and Habermann, 2011). The considered explanatory variables can be grouped into the following categories: (i) contract information (available at contract level); (ii) land use (available at land parcel level); (iii) territorial variables (available at municipal or higher level); and, (iv) characteristics about tenant farms (available at contract level). Unfortunately information in the dataset are not geo-referenced and this limitation did not allowed a spatial econometric estimation, that would be appropriate for estimating spatial dependence. To fix such shortcomings and to control for spatial dependence, we have estimated the model clustering data for homogeneous areas (agricultural regions).

#### **4. Results**

Using hedonic regression analysis, we estimate the main determinants of rent price. According to OLS results, the land rental price (€/hectare) is influenced by the total rented plot size, the average dimension of land parcel, the presence of rural buildings rented with the land, the economic dimension (standard output of the land tenant) and type of farming (prevalent farm production specialization) of buyers, the coupling of CAP subsidies to the lease contract. Also the livestock pressure, the relevance of agricultural activity in the area and the length of contract of lease have been taken into account. Particular attention is paid on the variables that represent the agricultural land use (share of rented land cultivated with certain crops), because the significant estimated coefficients provide the implicit values, i.e. the shadow price, of different types of land use on rental market. Interestingly some variables like total area rented, average dimension of parcels and contract length show a non-linear effect on the rent price.

#### **5. Originality of the paper, conclusions and implications**

The present analysis provides a contribution to the scientific debate on determinants of land value in the Italian context. Research findings may help those stakeholder and researchers interested on rental market dynamics, in particular at local level, compensating the lack of information on this issue. Furthermore, empirically grounded and transparent information on rental market will provide a new tool for market negotiation, that could restore the power of owner and tenants that are not aware of land rent value at local level, and improve farmers' choices on structural adjustment in the long period.

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