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Determinants of agricultural land price in Brittany: the role of quotas, environmental and land regulations

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Determinants of agricultural land price in Brittany: the role of quotas, environmental and land regulations

Abstract

The objective of the paper is to estimate the determinants of agricultural land price in the French region of Brittany, in particular to assess the role of regulations that may affect farmland price: agricultural policies, environmental regulations, and land regulations.

We use data regarding individual transactions obtained from notaries, from 1994 to 2010. Based on a Present Value Model, we estimate a random parameter model, where some regulations directly affect land price and other affect it indirectly through revenues generated by the land. We estimate the model on two sub-samples: a sub-sample including only farmer buyers, and a sub-sample including non-farmer buyers.

Results indicate that milk quotas increase the price of land purchased by farmers. Environmental zoning regulations decrease the price of land, while the Nitrate Directive increases the price of agricultural land bought by farmers. The price of plot decreases when buyers are farmers, even more when they are currently farming the plot. However, no significant effect of the public body regulating land transactions (SAFER) is found.

Keywords

agricultural land price; milk quotas; environmental regulations; land regulations; Brittany

JEL codes

Q24; Q15; Q28

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1. Introduction

The observation of time and space variations in prices of agricultural land has triggered a large body of literature on farmland price formation. Most of the research is based on the Ricardo capitalisation formula, where land price is given by the discounted value of expected revenues. However, the differing development of agricultural revenues and land prices has questioned the validity of the simple Ricardo capitalisation formula (Weersink et al., 1999). In their literature review, Latruffe and Le Mouël (2009) conclude that, although agricultural revenue can explain a major part of the agricultural land price variation, it is not the only determinant of this price. The main issue with Ricardo theory is that it assumes a competitive market, while institutional regulations affect the land market (Ciaian et al., 2012).

This paper contributes to this issue. More specifically, the objective is to estimate the determinants of agricultural land price in a French region and in particular to assess the role of regulations that may affect farmland price. Regulations that may affect agricultural land prices are of three types: i) agricultural policies (subsidies, quotas); ii) environmental regulations (such as zoning regulations, or specific regulations linked to livestock pollution; and iii) land regulations.

It is well known that agricultural policies affect land price, as they affect the revenue generated by agricultural activities. In particular, agricultural subsidies are capitalised into land prices (for a review, see Latruffe and Le Mouël, 2009). As for quotas, they may increase land prices. Environmental regulations such as the Nitrate Directive aims at limiting the quantity, per hectare of land, of nitrogen released by livestock, and therefore may increase the demand for agricultural land and therefore its price. Other environmental regulations such as zonings may also be capitalised in land prices (Henneberry and Barrow, 1990; Vaillancourt and Monty, 1985).

The effect of land regulations on agricultural land price are less known. Land regulations are an important feature of developed countries, and may exist in the form of prohibited land ownership for specific entities, pre-emptive rights for specific buyers, restrictions regarding the size of the plot exchanged (Ciaian et al., 2012). In France in particular, land regulations are relatively strong, among the strongest in Europe (Van Herck et al., 2012). There exist regulations in favour of the farmer tenant (who has pre-emptive rights for the purchase of the land), regulations on the rentals (whose values are framed), and regulations on the sale market through the intervention of a regulatory body, the SAFER ("Société d'aménagement foncier et d'établissement rural"). The specific missions of local offices of SAFER is to oversee land transactions in order to support the settlement of farmers, favour farm consolidation and limit farm enlargement, and avoid price speculation. For this, each plot transaction should be notified by the notaries to the local SAFERs, which then has two months to approve or refuse the transaction. If the transaction is rejected, SAFER will then try to reach a mutual agreement with the buyer and the seller. If this is not possible, SAFERs have a pre-emption right on the land exchanged: they can purchase land at a lower price, and re-sell it later at a lower price, or at the same price and to another buyer.

Here we focus mainly on the role of environmental and land regulations on the agricultural land price. We consider the case of a French NUTS2[1] administrative region in Western France, Brittany ("Bretagne"). Brittany has a strong agricultural character, as it is among the first European regions producing milk, pork, poultry and vegetables. Pollution from agriculture is a crucial problem, in particular in terms of livestock dejections, resulting in high nitrogen rates in water and, more recently, in high concentration of green algae in some ocean bays. Adding to this is the fact that the region is densely populated, and that the incoming population flows is among the first French regions in terms of positive migration rate. All this results in frequent conflicts over land use within agriculture, and between agriculture and other land uses such as urban development and tourism.

In this paper we estimate the determinants of land price, including regulations, with recent data (1994-2010) at the individual (plot) level, based on a Present Value Model (PVM) and a random parameter econometric specification. The paper is structured as follows. The next section presents the conceptual framework, while section 3 explains the econometric specification and the data used. Section 4 describes the results and the last section concludes.

2. Conceptual framework

The PVM is the basis of our analysis. The model stipulates that land price is given by the capitalisation of expected revenues generated by the land. More precisely, assuming that the use of the land is on an infinite horizon, the value of land at a period *t* is given by the sum of discounted revenues from land. In mathematical terms (Weersink et al. 1999):

$$L_t = \sum_{i=1}^{\infty} \frac{E_t R_{t+i}}{(1+r_{t+1})(1+r_{t+2})..........(1+r_{t+i})} \tag{1}$$

or

$$L_t = \int_{i=1}^{\infty} E_t R_{t+i} e^{-r_{t+i}s} ds \tag{2}$$

where L_t is the value of land at period t; R_{t+i} is the agricultural revenue generated at period $t+i$; r is the time-varying discount rate; E_t represents the expectation of the revenue on the basis of information available in period *t*.

An extension of the basic PVM model consists in accounting for the fact that agricultural land price is not solely determined by the revenue generated by agricultural activities, but is also affected by the possibility for land to be converted for other uses (e.g. urban development, transportation or tourism infrastructures). Hence, an opportunity cost component (i.e. rent from alternative uses) is added to the agricultural component of land price (Plantinga and Miller 2001; Goodwin et al. 2003), as follows:

$$L_t = \int_{i=1}^{i*} \left(E_t R_{t+i} e^{-r_{t+i}s} \right) ds + \int_{i=i*}^{\infty} \left(E_t X_{t+i} e^{-r_{t+i}s} \right) ds \tag{3}$$

[1] The Nomenclature of Territorial Units for Statistics (NUTS) provides a single uniform breakdown of territorial units for the production of regional statistics for the EU. In France, NUTS2 corresponds to the administrative regions ("régions") and NUTS3 to the administrative sub-regions or districts ("départements").
(source: http://epp.eurostat.ec.europa.eu/portal/page/portal/nuts_nomenclature/introduction).

where X is the rent of alternative land uses; i^* is the period at which the conversion to non-agricultural use occurs.

According to model (3), the current value of agricultural land is a non-linear function of rents stemming from agricultural activities, rents stemming from potential future conversion of land to alternative uses, and from discount rate. In this paper we extend this model to account for regulations that affect agricultural land market and may therefore affect its price. For this, as proposed by Plantinga et al. (2002), a random parameter specification is used. The model used is a specific case of the random parameter model developed by Hildreth and Houck (1968), Swamy (1970), and Swamy and Tinsley (1980). As suggested by Hornbarker et al. (1989) and used by Plantinga et al. (2002) in the case of agricultural land price, the parameters to estimate are not fixed but are a function of specific explanatory variables. Such specification is appropriate for the assessment of the role of regulations on land price. Indeed, while some regulations may directly affect land prices (e.g. the intervention of SAFER), other regulations affect land prices indirectly, through the basic factors of the PVM model: the agricultural revenue *R* and the rent of alternative land uses *X*.

The random parameter model of land price is:

$$L_p = \alpha_{0p} + \alpha_{1p} R_p + \alpha_{2p} X_p + \mu_p \tag{4}$$

where subscript *p* denotes the observation level (plot); μ_i is a white noise; and where the parameters to estimate, α_{0p}, α_{1p} and α_{2p}, can be written as a function of specific explanatory variables *Z* including regulations, as follows:

$$\alpha_{jp} = \delta_{j0} + \sum_z \delta_{jpz} Z_{pz} + \upsilon_{jp} \tag{5}$$

where υ_{jp} is a white noise.

The land regulations are assumed to directly affect the land price. Therefore, the land price model can be written as follows:

$$L_p = \left(\delta_{00} + \sum_z \delta_{jpz} Z_{pz} + \upsilon_{0p}\right) + \left(\delta_{10} + \sum_z \delta_{jpz} Z_{pz} + \upsilon_{1p}\right) R_p + \left(\delta_{20} + \sum_z \delta_{jpz} Z_{pz} + \upsilon_{2p}\right) X_p + \alpha_{Zland,p} Zland_p + \mu_p \tag{6}$$

where $Zland_p$ are the land regulations variables, and Z_{pz} are explanatory variables excluding land regulations.

3. Econometric specification and data

3.1. Econometric specification

Model 6 can be estimated as an heteroscedastic model using Feasible Generalised Least Squares (FGLS), as the model can be rewritten as follows:

$$L_p = \left(\delta_{00} + \sum_z \delta_{jpz} Z_{pz}\right) + \left(\delta_{10} + \sum_z \delta_{jpz} Z_{pz}\right) R_p + \left(\delta_{20} + \sum_z \delta_{jpz} Z_{pz}\right) X_p + \alpha_{Zland,p} Zland_p + \xi_p \tag{7}$$

with

$$\xi_p = \left(1 + R_p + X_p\right)\sum_{i=0}^{2}\upsilon_{ip} + \mu_p \tag{8}$$

Model (7) is the model to be estimated. However, the potential rents from agricultural activity (R) and the potential rents from alternative uses (X) for each plot considered are not observed. Instead we use proxies which we assume represent the rents as a linear function. The potential rents from agricultural activity are thus modelled by (9) and the potential rents from alternative uses by (10):

$$R_t = f\left(\sum_{h=1}^{H} RV_{ht}\right) = \sum_{h=1}^{H} RV_{ht} \tag{9}$$

$$X_t = g\left(\sum_{h=1}^{H} XV_{ht}\right) = \sum_{h=1}^{H} XV_{ht} \tag{10}$$

We estimate the model with FGLS on the pooled sample, adding year dummies and NUTS3 dummies in the equation (Brittany counts four NUTS3 regions).

3.2. Data

We use data for all individual transactions that occurred in Brittany between 1994 and 2010. The data were obtained from notaries. The database consists in 14,991 sale transactions over the whole period for the region. We consider only transactions of arable and pasture land. We exclude transactions of other type of land (e.g. permanent cultivation) as prices as too heterogeneous. The dependent variable, plot price, is the price per hectare of the plot exchanged. All variables in values were deflated by the yearly French price consumer index with base 2005.

Figures 1 presents the evolution of average agricultural land prices in Brittany between 1994 and 2010 based on the notary data used here. The average price during the period is 4,275 Euros per hectare, which is in the range of average agricultural land prices in France. The yearly average prices have slightly fluctuated during the period but remained between 4,000 and 4,800 Euros per hectare. Figure 2 shows the evolution of the average area of the sold plots over the period considered. The yearly average plot area fluctuates around 4 hectares; the average for the whole period is 4.1 hectares.

Figure 1: Evolution of the average deflated agricultural land prices (Euros/hectare) in Brittany between 1994 and 2010

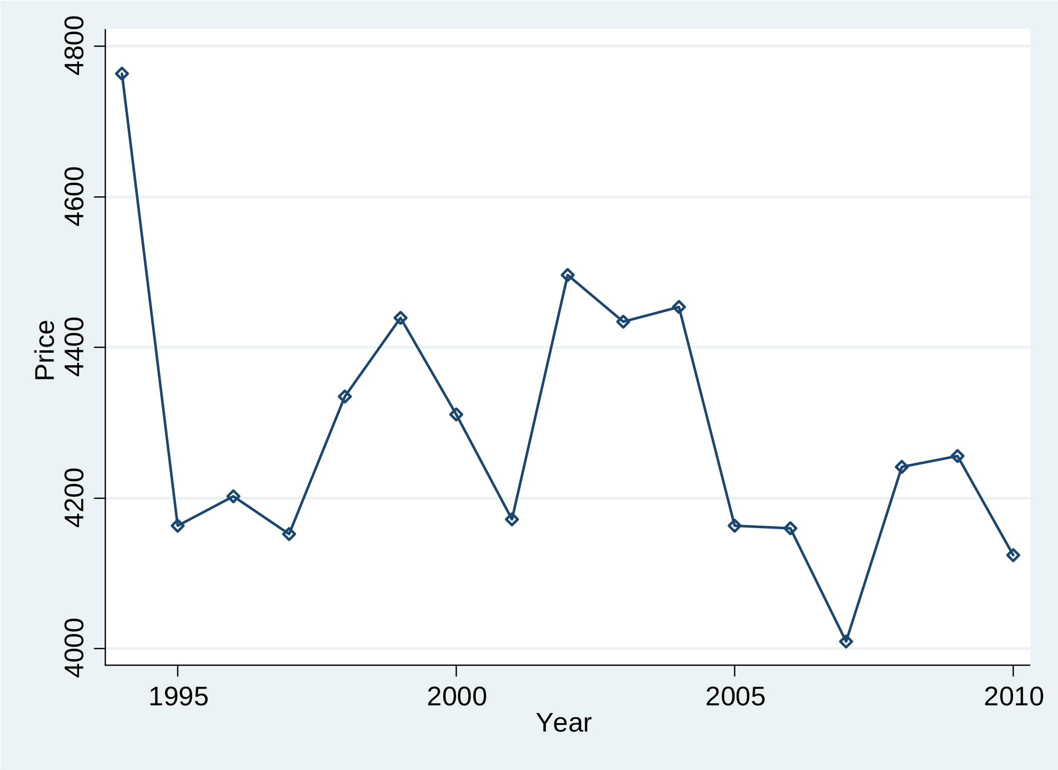
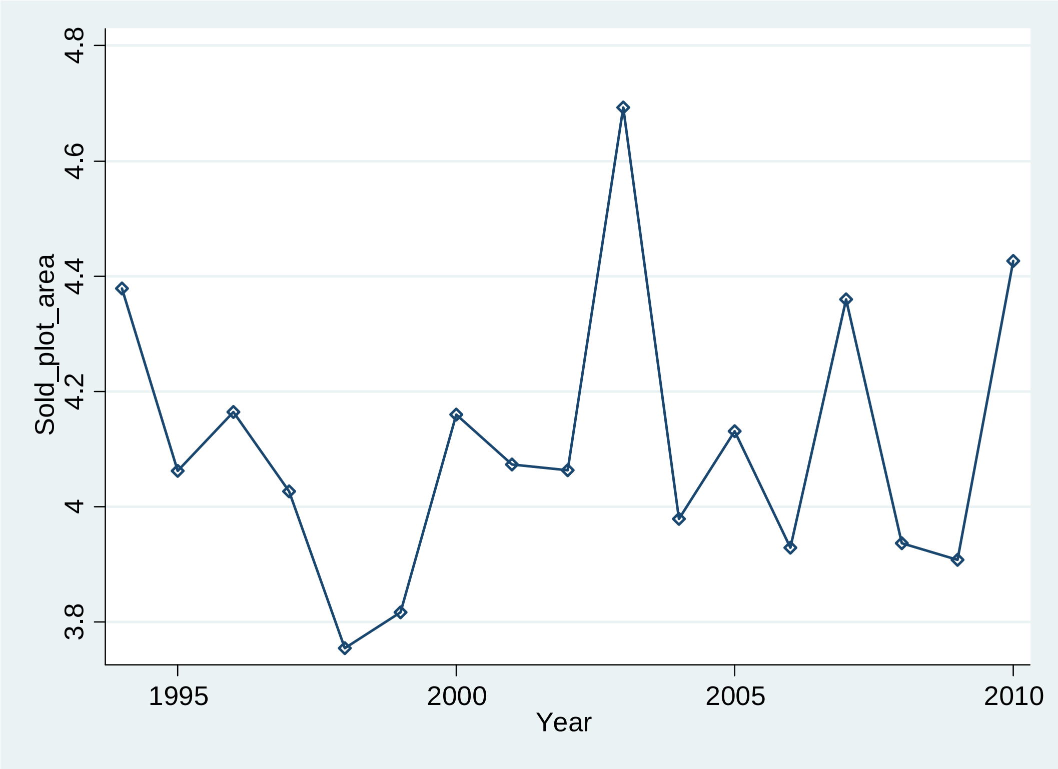


Figure 2: Evolution of the average sold plots' area (hectares) in Brittany between 1994 and 2010



3.3. Specification of the variables used

The dependent variable (*L*) is the price per hectare for the exchanged plot, that is to say the price of the transaction divided by the area of the sold plot. The proxies related to agricultural rents (*R*) are the plot area, whether the plot is irrigated or not, the average gross margin per hectare for the municipality where the plot is located, weather variables observed in the municipality where the plot is located (namely quantity of rain, wind, average temperature, number of days of frost), and soil characteristics observed in the district ("canton") where the plot is located (namely pH, cation exchange capacity, carbon quantity, saturation rate, clay quantity, limestone quantity) in the area where the plot is located. The proxies related to other rents (*X*) are the population density, the population density growth and whether the plot is located in an urban area.

As for regulations, they consist in agricultural regulations (*Zagr*) in terms of milk quota (the proxy being the number of cows per hectare in the plot municipality), environmental regulations (*Zenv*) and land regulations (*Zland*). The environmental regulations include three proxies: whether the plot is located in an environmental zoning area, whether the plot is located in a green algae zoning area, and the number of pigs per hectare of land in the municipality (proxying the nitrogen regulation constraints imposed by the Directive Nitrate). The land regulations include three dummy variables: whether the buyer is a farmer, whether the buyer is SAFER, and whether the plot is currently farmed by the buyer.

It should be noted that variables are not observed at the same geographical level (plot or municipality or district level) and are observed for different periods: transaction's characteristics are available for each year during 1994-2010, while variables from Agricultural Census are for the year 2000, variables from the Population Census are for the years 1990, 1999 and 2009, weather variables are for each year between 2000 and 2008, and soil variables are averages for the sub-periods 1995-1999, 2000-2004 and 2005-2009.

Table 1 describes the variables used. Table 2 presents descriptive statistics of the variables used in the estimation. Half of the plots (51%) are located in an urban area. The majority of the plots (69%) are located in an environmental zoning area, while only 4% are located in a green algae zoning area. For a large part of the plots exchanged, a farmer is the buyer (62% of the transactions), and in particular the farmer who is currently farming the plot (43% of the transactions). However, SAFER intervened on only 3% of the transactions.

Following model (6), the dependent variable is the land price *L*, and the explanatory variables in the price land model are the agricultural revenue proxies *R*, the other revenue proxies *X*, and some land regulations variables (*Zland*) namely whether the SAFER is the buyer and whether the current tenant is the buyer. The other regulations (*Zagr*, *Zenv*) affect the land price indirectly trough the random parameters. More previcely, it is assumed that the variables influencing the random parameters (Z_{pz}), that is to say the variables influencing the revenues *R* and *X*, are the plot area, whether the plot is irrigated, weather and soil characteristics, population density, population growth, whether the plot is located in an urban area, agricultural and environmental regulations (*Zagr* and *Zenv*), and whether the buyer is a farmer.

Expectations regarding the influence on explanatory variables on land price are as follows. We expect a positive effect from revenue proxies (whether revenues from agriculture *R* or revenues from alternative uses *X*) on land price. The number of cows per hectare in the municipality where the plot is located, proxying the milk quotas (*Zagr*), is also expected to increase land prices. Regarding environmental regulations (*Zenv*), the effect depends on the regulation considered. The number of pigs per hectare in the plot municipality, proxying the nitrogen constraints imposed by the Nitrate Directive, is expected to have a positive effect. As mentioned above, the nitrogen limit imposed by the regulation implies that pig producers need to spread manure on an increasing land surface. The resulting increasing demand for agricultural land results in an increase in price. The environmental zoning and green algae zoning may have an ambiguous effect. On the one hand, because farmers' practices are constrained within these areas, the demand for land in these areas is low, resulting in low price (negative effect). On the other hand, farmers located within such areas would need additional land to be able to generate sufficient revenue from farming, and therefore a positive effect may be expected. As for land regulations (*Zland*), we expect all three dummy variables (whether the buyer is a farmer; whether the buyer is SAFER; whether the buyer is the current farmer tenant) to have a negative effect on land. A non-farmer buyer is willing to pay a higher price than a farmer, as the planned use of land may not be agricultural and therefore the future land revenue is expected to be higher. This effect is reinforced by the pre-emption rights from the current tenant. SAFER also has pre-emption rights on plots for which the price is too high; it then sells the land back to farmer at a lower price. For this reason, it is expected that SAFER's intervention reduces land price.

Table 1: Description of the variables used in the regression

Variables	*Year of observation*	*Observation level*	*Source*
Dependent variable *L*			
Land price per ha of plot area	1994-2010	Plot	Notaries
***R* variables**			
Sold plot's area	1994-2010	Plot	Notaries
Irrigated sold plot or not[a]	1994-2010	Plot	Notaries
Gross margin per ha	2000	Municipality	Agricultural Census
Quantity of rain	2000-2008	Municipality	Météo France
Wind			
Average temperature			
Number of days of frost			
Soil pH	Averages for subperiods 1995-1999, 2000-2004, 2005-2009	District ("canton")	Réseau de Mesures de la Qualité des Sols (RMQS), GIS Sol
Soil cation exchange capacity			
Soil carbon quantity			
Soil saturation rate			
Soil clay quantity			
Soil limestone quantity			
***X* variables**			
Population density	1990, 1999 and 2009	Municipality	Statistical Office INSEE
Population density growth	Between 1990 and 2009	Municipality	Statistical Office INSEE
Urban area location or not [a]	1994-2010	Municipality	Geographical map
***Zagr* variables**			
Number of cows per ha	2000	Municipality	Agricultural Census
***Zenv* variables**			
In environmental zoning location or not [a]	1994-2010	Municipality	Regulation text
In green algae zoning location or not [a]	1994-2010	Municipality	Regulation text
Number of pigs per ha	2000	Municipality	Agricultural Census
***Zland* variables**			
The buyer is a farmer or not [a]	1994-2010	Plot	Notaries
The buyer is SAFER or not [a]	1994-2010	Plot	Notaries
The plot is currently farmed by the buyer or not [a]	1994-2010	Plot	Notaries

[a] Dummy variables

Table 2: Descriptive statistics of the variables used in the regression

Variables	*Unit*	*Average for the period*
Dependent variable *L*		
Land price per ha	Euros per ha	4,275
***R* variables**		
Sold plot's area	ha	4.1
Irrigated sold plot or not [a]		0.04
Gross margin per ha	Euros per ha	2,144
Quantity of rain	mm	855.0
Wind		38.4
Average temperature	°C	11.7
Number of days of frost		16.5
Soil pH		6.3
Soil cation exchange capacity	cmol+/kg	9.6
Soil carbon quantity	g/Kg	20.2
Soil saturation rate	%	78.5
Soil clay quantity	g/Kg	157.8
Soil limestone quantity	g/Kg	2.9
***X* variables**		
Population density	Inhabitants per square km	91.7
Population density growth	%	12.6
Urban area location or not [a]		0.51
***Zagr* variables**		
Number of cows per ha	Number per ha	0.2
***Zenv* variables**		
In environmental zoning location or not [a]		0.69
In green algae zoning location or not [a]		0.04
Number of pigs per ha	Number per ha	4.1
***Zland* variables**		
The buyer is a farmer or not [a]		0.62
The buyer is SAFER or not [a]		0.03
The plot is currently farmed by the buyer or not [a]		0.42

[a] Dummy variables (1 if yes; 0 if not)

4. Results

Table 3 presents the elasticities calculated at the sample's average based on the results from the econometric estimation on the whole sample. The average municipality gross margin and the plot's area both have a negative effect on land price, which is contrary to the expectations. The three other revenue variables (*X*) also have a negative effect, opposite to what was expected. However, the variables proxying the regulations all have the expected effect. The quota proxy (*Zagr*) has a positive effect, while being located in municipality subject to environmental zoning regulations decreases the price per hectare of the plot. By contrast, the variable proxying the nitrogen constraint (number of pigs per hectare) has the expected positive effect. Finally, regarding the land regulations, it is interesting to note that the SAFER intervention does not significantly reduce the sale price. However, when buyers are farmers, whether currently farming the plot or not, the sale price of the plot is reduced as expected.

The estimation was then performed on two sub-samples: the first sub-sample includes buyers who are farmers, while the second sub-sample consists in the non-farmers buyers. Table 4 presents the elasticities for the two sub-samples. For the farmer buyers, the average gross margin per hectare has the expected positive effect on price. However, the plot's area still has an unexpected negative effect. The variables are not significant for the non-farmer buyers, which can be explained by the fact that agricultural revenue characteristics should matter less if their project for the plot is non-agricultural. When splitting the sample into the two sub-samples, it appears that the population density has the expected positive effect on land price, while the unexpected negative effect of the population density growth is confirmed. As for the location in an urban area, it has an expected positive effect on land price for the sub-sample of farmers, but a negative effect for the sub-sample of non-farmers. Intuitively, the quota variable (*Zagr*) significantly influences, in a positive way, the price of land bought by farmers only. Regarding environmental regulations (*Zenv*), the number of pigs per hectare significantly influences (in a positive way) the price of land purchased by farmers only, confirming the constraints imposed by the Nitrate Directive. The location in environmental zoning area and in green algae zoning area has a negative influence on the price of land purchased by non-farmer buyers, suggesting the role of negative agricultural externalities (e.g. air pollution) on such buyers' decisions. As for land regulations (*Zland*), the negative effect of the current farmer is confirmed on price paid by farmer buyers, and the non-significant effect for SAFER on price paid by non-farmer buyers.

Table 3: Results of the regression on the whole sample

Variables	*Elasticities*
***R* variables**	
Sold plot's area	-0.01
Irrigated sold plot or not [a]	n/a
Gross margin per ha	-2.39
Quantity of rain	-0.18
Wind	n/a
Average temperature	0.54
Number of days of frost	-0.001
Soil pH	n/a
Soil cation exchange capacity	0.31
Soil carbon quantity	-0.25
Soil saturation rate	-0.22
Soil clay quantity	-0.34
Soil limestone quantity	-0.003
***X* variables**	
Population density	-0.47
Population density growth	-0.03
Urban area location or not [a]	-0.02
***Zagr* variables**	
Number of cows per ha	0.14
***Zenv* variables**	
In environmental zoning location or not [a]	-0.01
In green algae zoning location or not [a]	-0.005
Number of pigs per ha	0.04
***Zland* variables**	
The buyer is a farmer or not [a]	-0.05
The buyer is SAFER or not [a]	n/a
The plot is currently farmed by the buyer or not [a]	-0.06
Model statistics	
Number of observations	13,501
Adjusted R-square	0.22

[a] Dummy variables (1 if yes; 0 if not)

Table 4: Results of the regression on the two sub-samples

Variables	*Elasticities for the sample of farmer buyers*	*Elasticities for the sample of non-farmer buyers*
***R* variables**		
Sold plot's area	-0.005	n/a
Irrigated sold plot or not [a]	n/a	n/a
Gross margin per ha	2.72	n/a
Quantity of rain	n/a	-0.35
Wind	-0.05	-0.26
Average temperature	-0.09	n/a
Number of days of frost	n/a	n/a
Soil pH	1.24	n/a
Soil cation exchange capacity	0.20	n/a
Soil carbon quantity	n/a	-0.42
Soil saturation rate	n/a	n/a
Soil clay quantity	-0.27	n/a
Soil limestone quantity	n/a	n/a
***X* variables**		
Population density	0.08	0.11
Population density growth	-0.03	-0.04
Urban area location or not [a]	0.04	-0.04
***Zagr* variables**		
Number of cows per ha	0.16	n/a
***Zenv* variables**		
In environmental zoning location or not [a]	-0.01	-0.03
In green algae zoning location or not [a]	n/a	-0.01
Number of pigs per ha	0.06	n/a
***Zland* variables**		
The buyer is a farmer or not [a]	n/i	n/i
The buyer is SAFER or not [a]	n/i	n/a
The plot is currently farmed by the buyer or not [a]	-0.07	n/i
Model statistics		
Number of observations	8,391	5,110
Adjusted R-square	0.33	0.13

[a] Dummy variables (1 if yes; 0 if not)

n/a: elasticity not available (parameters in the regression not significant). n/i: the variable was not included in the regression.

5. Conclusion

In this paper, using data from individual transactions for the period 1994-2010 in the French NUTS2 region Brittany, we investigated how public regulations (agricultural, environmental, and land regulations) influence the price of sold plots. Regressions on two sub-samples were performed in order to assess whether they have different expectations or plans regarding the farmland purchased: a sub-sample including only farmer buyers, and a sub-sample including non-farmer buyers.

Results indicate that milk quotas increase the price of land purchased by farmers. Environmental zoning regulations decrease the price of land, due to constraints on farming practices (faced by farmer buyers) and negative agricultural externalities (faced by non-farmer buyers). The Nitrate Directive increases the price of agricultural land bought by farmers, due to the increased competition for land to spread manure. Regarding land regulations, the price of plot decreases when buyers are farmers, even more when they are currently farming the plot. This could come from the fact that, in these cases the land will be used for agricultural uses and not for alternative uses for which the price may be higher. However, contrary to what was expected, we found no significant effect of the SAFER pre-emption right.

This may be explained by the fact that only 3% of the transactions considered here were subjected to such pre-emption right. In addition, among these pre-empted transactions, not all of them are effectively subjected to a reduced price. SAFER may intervene on the land market by buying land and selling it back at a lower price, but it can also sell it back at the same price but to another buyer. While the first type of intervention is to limit price increases, the second is to limit enlargement of farms that are already large and to favour the settlement of young farmers. In addition, SAFER's role is not confined to pre-empting land that is being exchanged. Before resorting to this extreme case, SAFER firstly tries to solve the issue by mutual agreement. Therefore, a part of SAFER's intervention on the land market is France is not captured in our data.

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