When land markets 'do not work' and status-quo agrarian structures persist: A case study from rural Albania

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Introduction

Efficient land transactions and a functioning land market are fundamental for rural development. If land markets operate efficiently they play an important role in economic development and growth. Land markets have the potential to increase access to capital and technology, and improve productivity (Swinnen and Vranken 2007).

Albania went through dramatic changes in the last two decades and half. Under the communist regime land was state or collectively owned and was used by large cooperative and state farms. The land reform implemented in 1991 aimed at transferring property rights from state and collective ownership to private individuals. This was a key prerequisite for allowing land markets to develop and thus to stimulate agricultural productivity growth and improve food security of rural population (Swinnen 1997; de Waal 2004). However, while privatization encouraged rural people to extent their production and to use efficiently their resources, it led to high land fragmentation, which is ultimately translated into subsistence type of farming. The 1991 land reform distributed land to farm labour, whereas former landowners before the collectivisation in 1945 often claim and occupy land to present day. This created uncertainty of property rights potentially constraining the functioning of land markers (Swinnen 1997).

The main objective of this paper is to document the functioning agricultural land market in Albania. Drawing on a set of empirical evidence, the paper provides a picture of the current state of land markets after two decades of transition. We use data from a survey conducted in four Albanian villages during May 2013.

Descriptive background of the study villages

We have conducted surveys in four Albanian villages using face-to-face interviews with village representatives and head of households. The survey was conducted during May 2013. The villages selected for the surveys include *Pulahe* from Korca District, *Çidhen*, from Dibra District, *Dushk Peqin* from Lushnja District and *Vishaj* from Tirana district. Villages were selected so that they represent geographic diversity of Albania and different methods of land reform implementation (Demaj 2013).

Pulahe village is located in the Komuna Mollaj within the Korca District. Komuna Mollaj is one of the biggest rural centre in Korca's district and lies in the south-western part of Korca city, 8 km away from the centre of the region. Its territorial area is 54.7 km^2 and the average height is 1000-1100 m above the sea level. Mollaj municipality is composed of five villages. Pulahe village was chosen for the purpose of our study. It lies on the south-western part of the municipality and is mainly oriented towards agriculture and livestock. It is very easy to reach the centre of the district, and there are frequent transport lines connecting

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Pulahe with the centre of the district. The agricultural land in Pulahe village consists of 258 hectares. The total territorial area is 537.3 hectares. The number of registered inhabitants in the village is 669 of which 425 are over 18 years old. The main crops grown include wheat, white beans, potatoes, barley for livestock, vineyards, and apple trees.

Çidhen village is located in the Arras municipality within the Diber district. Arras municipality has an average density of 96 inhabitants per km^2. Çidhen has the larger population in Arras commune. The population in Çidhen decreased in the early 90's, mainly because of the internal and international migration. Main destinations of emigrants were urban cities of Albania, Greece and UK. The total number of those who left the village is 65. However, there was observed also an inward migration of about 11 families who previously lived in the village. The reason of returning was higher social security benefits or lower contribution to social security system. Total population of the Çidhen is 523 inhabitants and agricultural area represents 97 hectares making land scarce relative to total population.

Dushk Peqin village is located in the Dushk municipality within the Lushnja district. Total population of Dushk Peqin is 1565 inhabitants. In 1991 the total agricultural land in the Dushk-Peqin village represented 602 hectares. Currently the agricultural land represents 591 hectares. The difference with respect to total area in 1991 amounting to 11 hectares was shifted to non-agricultural uses (for the construction of the highway and other construction purposes) and is outside the scope of this study.

Vishaj village is located in the Vaqarr municipality in the district of Tirana. It is composed of 10 villages. The Vishaj village is situated 12 km from the capital Tirana. The proximity to the capital city provides the opportunity for non-agricultural labour for the villagers. Total population of the Vishaj is 507 inhabitants and agricultural area represents 186 hectares.

Land reform in the study villages

Pulahe (Korca District)

Pulahe's agricultural land was a part of an agricultural cooperative prior to land privatization. The implementation of the land reform began in 1991 and lasted until 1992. It ended peacefully without any contestation or conflict between the new and the former landowners. The distribution was based entirely on the law 7501 and the amount of land distributed was 0.47 ha per capita. Land was granted based on the first pre-collectivization ownership but not more than the norm allowed (i.e. no more than 0.47 ha per capita). It means that the former owners received only a part of land owned before 1945. Families received land of different types (e.g. arable land, orchards) often scattered in different part of the village.

Çidhen (Dibra District)

Land reform implementation in Çidhen was not based on the Law 7501. Land was restituted to former owners. There was a common agreement between land commissioners. The former landowners' claims were identified by gathering the third generation of the family members (the elder men). The elder men restituted land taking in consideration old boundaries, firstly based on the *fis (kinship)* and then per family. In general, the restitution process was peaceful and no conflicts were reported. The elders' decisions were accepted by all community.

Dushk Peqin (Lushnja District)

Land reform was implemented based on the Law 7501. It started in 1992 and it was completed in 1993. The amount of land distributed was 0.44 hectares per capita: 0.07 hectares was of category 2 and 3; 0.17 hectares was of category 1; 0.1 hectares was of category 4,5; and 0.1 hectares were orchards.

The whole land distribution process was peaceful, without any major conflict. The fact that one representative of the *fis* was included in the land division commission perhaps

contributed to the peaceful implementation of the reform. Important is to note that land was not owned by the current residents of the village before 1945. Unlike in other villages, the land was divided in a way that individuals of the same family obtained land in one plot to avoid its fragmentation. All farmers received ownership certificates to land.

Vishaj (Tirana district)

The implementation of land reform in Vishaj was originally in compliance of the Law 7501. The amount of land initially distributed was between 0.25-0.28 hectares per capita. However, after land distribution was completed, the former owners claimed the land and the whole process ended in conflict. Some former owners occupied land already distributed and to which ownership was granted (under the Law No. 7501) to 'non-autochthonous' residents (new-comers). Two solutions were offered former owners to remedy the conflict: (i) to give/donate a part of the land to former owners or to sell it to them at a lower price than the actual market price. These solutions (including the occupied land) were informal and are not recognized as legal ownership. Officially, individuals who were distributed land under the Law 7501 are legal owners of the occupied property.

Survey results: Land market in the study villages

Land Fragmentation and Farm Size

Dijk (2002) divides land fragmentation in two types: (i) the ownership fragmentation and (ii) the use fragmentation. Both types of fragmentations are significant in study villages. The total area of all four study villages (1133 ha) is split in 3512 plots implying that on average a hectare of land is split in 3.1 plots.[2] The highest number of plots per hectare is in Çidhen (8.3) where the land is scarcer, whereas the lowest is in Vishaj (2.48). This could be also explained by the fact that land in Çidhen was restituted to former owners in the old boundaries. In other villages an attempt was made to consolidate plots, such as it happened in Dushk Peqin, and the distribution land was not constrained to old boundaries (Table 1).

The land ownership fragmentation can be measured by the distribution of land between landowners and the number of plots per landowner. Results in Table 2 show that the ownership fragmentation is quite significant in the study villages. The average area owned per landowner is 1.1 hectares with the largest landowner owning only 14.58 hectares. Each landowner's area is split on average in 3.5 parcels and it varies between 1 and 25 plots. The largest land ownership fragmentation is in Çidhen where average landowner owns only 0.5 hectares split in 3.7 plots. In the other three villages the ownership size varies between 1.2 and 1.8 hectares with plot numbers being between 2.8 and 4.5 (Table 2).

The land use fragmentation is visible from small average farm size prevalent in study villages and relatively large number of plots per farm. The average farm size varies between 0.5 and 1.8 hectares[3] with the highest being in Pulahe (1.8 ha) and the lowest in Çidhen (0.5 ha). The range of farm size in surveyed villages is between 0.03 hectares and 7.8 hectares. The maximum farm size of 7.8 hectares is relatively low if compared to European standard. Particularly small farms are in Çidhen because of land scarcity, where 71% farms are of size between 0.51-1 hectares. In the other three villages most farms have a size (more than 60%) between 0.5 and 3 hectares (Table 1, Table 3). In Pulahe, the smallest farms belong to the specialists who used to work in the cooperatives during the previous regime, while in Dushk-Peqin they belong to newcomers who bought land from villagers. The average number of plots per farm is between 3 and 4.5. The highest number of plots is in Pulahe (4.5) due to having more categories of land. In other villages the number of plots per farm is between 3 and 3.7 (Table 1).

[2] This is in the range of national average reported in **Error! Reference source not found.**..

[3] This is consistent with the country average which is at 1.25 hectares (**Error! Reference source not found.**).

There are three main reasons for farmland fragmentation in the surveyed villages: (i) land scarcity relative to density of rural population, (ii) land distribution based on a per capita basis, and (iii) split of distributed land by its type (e.g. arable land, orchards) and location. These factors lead to both ownership and use fragmentation of land.

Land use fragmentation may influence farmers' performance and productivity. The costs associated with land fragmentation include: higher transportation costs if farmer needs to travel from one parcel to another; waste of labour force time in travelling; remote plots may suffer from low soil quality improvements; extra equipment, extra farm buildings might be needed in order to cope with land fragmentation (Buck 1964; Johnson and Barlowe 1954; Blarel et al. 1992; Latruffe and Peit 2012; Dijk 2002).

Fragmentation might have also positive impact on farm performance. Parcels may differ with respect to soil type, water retention capability, slope, altitude, and agro-climatic location. Operating parcels in different locations, farmers are able to reduce the variance of total output because the scattering of parcels reduces the risk of total loss from flood, drought, fire, and other perils and also because farmers can more efficiently diversify their cropping mixtures across different growing conditions. Further, land fragmentation may lead to increased biodiversity (positive externality) (Buck 1964; Johnson and Barlowe 1954; Blarel et al. 1992; Latruffe and Peit 2012; Dijk 2002).

Dijk (2002) considers land fragmentation in land use to be more problematic than ownership fragmentation. However, Ciaian and Swinnen (2006) argue that also land ownership fragmentation might be problematic in the context of transition countries. They show that ownership fragmentation in transition countries increases land market transaction costs and improves access to land to incumbent farms at the expense of new entrants.

Land ownership and land sale market

The survey results indicate that since the land reform completion in 1991-1993, the land ownership structure remained virtually unchanged and land sale transactions for agricultural purposes were minimal or non-existent.

According to the results reported in Table 4, more than 88% of land has the same owner who received the land through the land reform process in 1991-1993. In Çidhen all land was given to former owners and since then this situation remained unchanged. The land was transferred only through family line through inheritance. In the rest of the surveyed villages, land was distributed according to the Law 7501 and most of the land did not change the owner since the end of the privatization. Due to conflict between former owners and non-autochthonous residents, 4.8% of land has been occupied in Vishaj where some of the former landowners decided to take the land from the legal owners. As the Table 4 shows, this situation persists and continues to create uncertainties in the land market.

There is also acquisition of land reported by purchase but its size is very small, representing less than 3% of the total agricultural area in more than two decades (since the end of the privatization process) (Table 4). Land sales/purchases were more often conducted during 1992 – 1996 and 2002 – 2005. Main purposes of land purchase were construction of houses and small to medium businesses (the case of Dushk- Peqin and Vishaj). A bigger share of land acquisition through purchase is observed in Vishaj. However, this is the effect of the above mentioned conflict that emerged between former-owners and farmers who received land through the privatization. Some of the land bought in Vishaj from farmers is mainly given at a lower price to the former-owners in order to cease conflicts over land. Main buyers of land in Dushk-Peqin were newcomers who usually bought land from poor landowners. In Pulahe land sales occurred only once and everyone remembers it. A poor farmer who owned a lot of land due to its large family sold land to a newcomer. In Çidhen land sales are absent mainly because land is scarce and because it has multiple functions to

the owners. Land for Çidhen inhabitants provides basic consumption, status and linkage to a certain *fis*.

Moreover, due to tradition and official regulation there are a lot of barriers to land sales markets. The civil code inflicts several requirements to the land owner before he/she can sell land. The owner must first offer land for purchase to its family members (e.g. brothers, father); the next in the line are the closest relatives followed by neighbours. Only after obtaining approval from these three groups, finally land can be sold on the open market to any potential buyer.

Land rental market

Land is used most of the times by owners, land renting is not widespread in the study villages. Land renting is the highest in Pulahe, representing 31% of the total village area. The lowest level of land renting is observed in Dushk-Peqin where only 6% of the total village land is rented, whereas the rest (94%) is used by the owner (Table 5).

A strong determinant of land renting is family ties. In all surveyed villages the relationship between landowners and tenants is based on family acquaintances. In Çidhen 96.7 % of households who rent in land are relatives with the landowner. Family ties appear to be the least important in Vishaj where land renting occurs between family members only in 68.2% of total rental cases (Table 6). According to Holden and Ghebru (2006) this may be explained by the fact that the trust level among relatives is higher than among non-relatives, and therefore they should be preferred in rental arrangements in an environment with uncertainties and high transaction costs. Particularly this is related to uncertainties with respect to land ownership as former owners may claim property right to land if rented out. For this reasons landowners prefer to rent out land only to individuals who they trust (i.e. relatives) to avoid losing land and/or to avoid potential conflict with former owners.

Absentee landowners are the main suppliers of land on rental market. They are represented by individuals who left the village since the beginning of transition and live outside the village. According to results reported in Table 7, more than 70% of landowners renting out land are located outside the village where their land is located. In Pulahe, Çidhen and Dushk Peqin more than 75% of landowners who rent land out either live outside the district or are migrants in other countries. The exception is Vishaj where only those landowners rent land out who live within the district. Note that only 10% of landowners who rent land out from Vishaj live outside of the Albania, whereas the rest are living in the village or within the district. This is likely linked to uncertainty of landownership, where former-owners claimed and occupied some land after land reform. The absence of the landowner from the village while renting out land may lead to the loss of land to former owner. For an absentee landowner monitoring of tenant's land use practices and ensuring that the land is not occupied by former owner is costly. Renting land to relatives reduces monitoring costs due to higher trust level among relatives. The pervasiveness of the absentee landowners' rental market participation, may also explain why renting to relatives is predominant in surveyed villages.

Vast majority of tenants (between 94% and 100%) live within the village where the land is located (Table 7).

Most of the rental payments are in cash and paid as a fixed monetary payment. This could be explained by the fact that fixed-rental prices may be preferred by absentee landowners in order to minimise the costs of monitoring and enforcing the rental contract (Holden and Ghebru 2006). Average rental prices are lower in cases when landowner and tenant are relatives (except for Vishaj). This difference is more noticeable in Dushk-Peqin and Çidhen (Table 6).

Most land contracts are oral and of short-term duration (Table 6). Landowners and tenants decide every year if the contract is still in power or not. However, in practice contracts are extended regularly. More than 85% of all rental arrangement had the same tenant for more than 6 years in the four study villages. In Vishaj the situation is different. Around 60% of the current tenants have been using the same parcel for not more than 5 years (i.e. between 1 to 5 years), suggesting that landowners and tenants change more frequently than in other villages (Table 8). This is surprising as according to Holden and Ghebru (2006) if the landowner and tenant continue to trade over several periods the trust will increase which may circumvent the property rights insecurity particularly relevant for Vishaj. On the other hand, by changing regularly the tenancy arrangement, landowner may attempt to enforce their control and ownership right over the land which may prevent former landowner claim for it. Former landowner may more likely claim land if it is not used by the owner. As expected in Çidhen, with high land scarcity, 78.1% of tenants have been using the same plot between 6 and 11 years and 20.2% for more than 15 years (Table 8).

Determinants of land renting

In this sub-section we analyze determinates of participation in the rental market and factors affecting the choice rental of contract duration. Current literature estimates land renting behaviour using two or more stage approaches. The first stage focus on the decision making to rent out/in land, in order to examine factors that motivate the participation in rental market (Holden and Ghebru 2005; Huy et al. 2013; Akter 2006; Tu et al. 2006, Feng and Heerink 2008; Deininger and Jin 2002). In the second stage, given the decision to rent out/in land, the landowner/tenant makes decision on the tenant/landowner type (Macours et al. 2004; Ma; Wang; Deininger and Jin 2002) or contract type (Macours 2003; Bezabih and Holden 2006).

In this paper, we apply two stage probit model first to estimate land renting behaviour and second to estimate contract duration choice. The first stage is expressed by the rental market participation model, where dependent variable is equal to one if a given plot is rented out and zero otherwise. The independent variables include plot's characteristics (*P*) (total size of the plot), landowner's characteristics (*L*) (gender, age, female to male ratio, number of family members, number of cattle, total area of owned land by the household) and village characteristics (*V*) (village dummies):

(1) $$R = \alpha_0 + \alpha_1 P + \alpha_2 L + \alpha_3 V + \varepsilon$$

where *R* is dependent variable (=1 if the plot is rented out; 0 otherwise), α are unknown coefficients to be estimated, and ε is independently and identically distributed random error.

The variables included in the rental market participation model (1) are described in Table 9.

In the second stage, the rental partners decide whether the rental contract will be short term or long term:

(2) $$C = \beta_0 + \beta_1 L + \beta_2 T + \beta_3 P + v$$

where *C* is a dummy for the contract duration choice (=1 if long term contract; 0 if short term contract), β are unknown coefficients to be estimated, and *v* is independently and identically distributed random error (Table 13).

The results are reported in Table 10 for rental participation decision (first stage) and contract duration choice (second stage), respectively. The probability to rent out land (Table 10) increases when the head of household family is male. The relationship between

landowner age and his decision to rent land out is non-linear. Land renting out is lower for young landowners than for older landowners because younger farmers tend to have more labour endowments than older farmers and therefore supply less land on the rental market. The probability to rent out land increases with the number of landowner household's family members. This is in contrast to findings in the literature. Larger families consume more food which may require to attain higher agricultural production and hence renting out is expected to decrease.

Households which use cattle in farming tend to rent out less land. A higher level of asset endowment (cattle) allows them to expand farm operation. The land endowment of landowner and the female ratio have statistically insignificant impact on land renting decisions. In Pulahe land renting is significantly higher than in other three villages. This could be due to village proximity to the district centre. Villages closer to towns may offer more employment opportunities and people may thus tend to rent out their land. On the other hand, farmers can sell their production directly in town markets than those from distant villages which has a reverse effect on land renting. The results in Table 10 indicate that the former effect is likely stronger than the letter for Pulahe.

The results in Table 10 indicate that kinship relationship is a strong determinant for the choice of rental contract duration. Landowners tend to choose long term contracts if they are related with the tenant and short-term contracts with non-kin tenants. As explained in previous sections, landowners prefer renting to relatives and offer long term contracts more likely to tenants they trust due to property rights insecurity and to reduce monitoring costs given the fact that most of the landowners are absentee.

Conclusions

In this paper we analyse land market development in Albania more than two decades after the completion of the land privatization in the early 1990s. Albania represents particularly interesting case for studying land markets. Agriculture still represents an important share in the overall economy as well as the transition from the planned economy to market economy in early 1990s provides a natural experiment in identifying structural changes that took place in land markets. We derive our analyses from survey conducted in four Albanian villages during May 2013.

The results of the paper indicate that land markets are rigid with almost no structural change took place over the last two decades of transition in the surveyed villages. Sale markets are almost non-existent; only less than 3% of the total agricultural land was exchanged between households since the end of the privatization process. This could be attributed to property rights insecurity and prevalence of subsistence farming in rural Albania.

Rental markets are more sizable representing 15% in total area of the surveyed villages. However, land supply on rental market comes mainly from absentee landowners. Due to property right insecurity and to reduce monitoring costs the vast majority of rental arrangements are between family relatives. The rental arrangements relay on trust as most contracts are oral and informal. Tenants have been using the same plot long period, sometimes even since the beginning of transition.

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Table 1: Farm and plot characteristics in the surveyed villages

Location	Land per capita (ha)	Average farm size (ha)	Max. farm size (ha)	Min. farm size (ha)	No. of plots (No.)	Average no. of plot per farm (no.)	No. of plots per hectare
Pulahe	0.61	1.8	7.8	0.40	657	4.5	2.54
Çidhen	0.19	0.5	1.9	0.03	802	3.7	8.28
Vishaj	0.37	1.2	5.1	0.05	463	3.0	2.48
Dushk-Peqin	0.38	1.2	5.4	0.14	1590	3.3	2.69
All villages	0.45		7.8	0.40	3,512		3.10

Table 2: Number of land owners and hectares per owners

Location	Number of owners (No.)	Area per owner (ha)	Min area per owner (ha)	Max area per owner (ha)	Number of plots per owner (No.)	Min number of plots per owner (No.)	Max number of plots per owner (No.)
Pulahe	145	1.8	0.40	7.80	4.5	1	11
Çidhen	214	0.5	0.02	1.85	3.7	1	16
Vishaj	160	1.2	0.05	5.10	2.8	1	14
Dushk-Peqin	489	1.2	0.06	14.58	3.3	1	25
All villages	1,008	1.1	0.02	14.58	3.5	1	25

Table 3: Farm size distribution (% share)

Farm size (in hectares)	Pulahe	Çidhen	Vishaj	Dushk-Peqin
0 - 0.5 ha	1.5	39.2	4.8	2.5
0.51 - 1.0 ha	5.0	32.0	17.7	13.9
1.01 - 2.0 ha	36.3	28.8	39.3	46.3
2.01 - 3.0 ha	33.6	0.0	11.3	22.4
3.01 - 4.0 ha	18.6	0.0	14.5	9.2
4.01 - 5.0 ha	0.0	0.0	9.7	2.2
>5 ha	5.0	0.0	2.7	3.5

Table 4: How did the owner gain the land ownership (% of ha)

Location	Law 7501	Compensation	Bought	Inherited	Occupied	Other
Vishaj	88.9%	0.3%	2.8%	2.4%	4.8%	0.8%
Pulahe	98.9%	0.0%	1.1%	0.0%	0.0%	0.0%
Çidhen	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Dushk Peqin	99.3%	0.0%	0.7%	0.0%	0.0%	0.0%
All villages	89.0%	0.0%	1.1%	9.0%	0.8%	0.1%

Table 5: Land renting in survey villages

	Used by owner			Rented to another household		
	No. plots	Area (ha)	% (ha)	No. plots	Area (ha)	% (ha)
Vishaj	400	160.9	86.3	62	25.5	13.7
Pulahe	461	177.2	68.7	193	80.9	31.3
Çidhen	600	72.4	74.6	205	24.7	25.4
Dushk Peqin	1,492	551.9	93.6	103	37.9	6.4
All villages	2,953	962.4	85.1	563	169.0	14.9

Table 6: Characteristics of land rented out in surveyed villages

Indicator	Unit	Pulahe		Vishaj		Dushk-P.		Çidhen	
		Relative	Non-relative	Relative	Non-relative	Relatives	Non-relative	Relative	Non-relative
Tenant households	%	75.0	25.0	68.2	31.8	70.6	29.4	96.7	3.3
Rented-out plot size									
Min	Ha	0.04	0.06	0.05	0.08	0.04	0.06	0.01	0.01
Max	Ha	1.55	1.85	1.35	3.27	1.28	1.35	0.70	0.52
Average	Ha	0.41	0.45	0.45	0.86	0.31	0.43	0.12	0.17
Period of the renting agreement									
Min	years	3	3	2	3	4	7	5	8
Max	years	15	14	15	10	15	12	18	14
Average	years	8	9	7	6	10	9	12	11
Rental price									
Min rental price	lek/year/ha	6,000	7,000	20,000	10,000	10,000	22,000	8,000	22,000
Max rental price	lek/year/ha	15,000	15,000	50,000	50,000	25,000	25,000	25,000	23,000
Average rental price	lek/year/ha	12,230	13,610	36,320	29,380	19,708	24,400	17,290	22,500
Rental payment arrangement (% of rented-out plots)									
Fixed payment	%	73.1	88.1	100.0	100.0	51.9	100.0	59.9	46.2
Variable payment	%	5.2	3.4	0.0	0.0	48.1	0.0	40.1	53.8
Fix+var. payment	%	19.4	8.5	0.0	0.0	0.0	0.0	0.0	0.0
No payment	%	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rental contract (% of rented-out plots)									
Written/ registered	%	0.0	8.5	0.0	0.0	5.1	8.3	0.0	0.0
Written, only	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oral, only	%	90.3	88.1	100.0	100.0	75.9	91.7	100.0	100.0
No contract	%	9.7	3.4	0.0	0.0	19.0	0.0	0.0	0.0

Table 7: Location of household (%)

		Within village	Within district	Outside district	Out of Albania
Vishaj	Renting-out	25	65	0	10
	Renting-in	94	6	0	0
Pulahe	Renting-out	12	13	25	50
	Renting-in	96	4	0	0
Çidhen	Renting-out	0	0	98	2
	Renting-in	100	0	0	0
Dushk-Peqin	Renting-out	0	6	26	68
	Renting-in	94	6	0	0

Table 8: For how long has the current cultivator been using the plot? (share in %)

Location	1-5 years	6-10 years	11-15 years	>15 years
Vishaj	59.5	33.8	6.5	0.2
Pulahe	13.8	74.9	11.3	0.0
Çidhen	1.7	34.8	43.3	20.2
Dushk Peqin	12.6	51.3	36.1	0.0
All villages	13.5	47.0	26.8	12.7

Table 9: Definitions of variables

First stage		Second stage	
Var.	Definition	Var.	Definition
R	Dummy variable for land renting; 1 if plot rented in/out; 0 otherwise	C	Dummy for contract type: 1 if long term contract; 1 if short term contract
P1	Total area of the plot	P1	Total area of the plot
L1	Dummy for gender: 1 for male landowner	L1	Dummy for gender: 1 for male landowner
L2	Age of household head	L2	Age of household head
L3	Square of the age of household head	L3	Number of family members
L4	Female-to-male ratio	L4	Number of cattle
L5	Number of family members	L5	Total area of owned land by the household
L6	Number of cattle	T1	Dummy for kinship relationship: 1 for kinship
L7	Total area of owned land by the household	T2	Age of the tenant
L8	Square of owned land by the household	T3	Number of cattle of the tenant
V1-V3	Village dummies: V1=1 for Dushk, V2=1 for Çidhen, V3=1 for Pulahe	T4	Total area of owned land by the tenant
		T5	Number of family members of the tenant

Table 10: Two stage *probit* estimation results

Rental market participation (first stage)		Contract choice decision (second stage)	
	Estimated coefficients		Estimated coefficients
area	1.28E-05	area	-2.74E-05
gender (male)	0.441**	gender	0.7
age	-0.0814***	age	0.196***
age2	0.000674***	no_family_members	-0.505**
female_to_male_ratio	0.146	cattle	-0.709***
no_family_members	0.0927**	owned_land	9.02e-05**
cattle	-0.450***	kinship	4.036***
owned_land	1.23E-05	age_tenant	0.115**
owned_land2	0	cattle_tenant	-0.174
dushk	-0.221	owned_land_tenant	-0.000156***
Çidhen	0.233	no_family_members_tenant	-0.343
pulahe	1.553***	Constant	-15.43***
Constant	-0.232		
No. of observations	2,689	Number of observations	98

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1