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**The Development of Land Rental Markets
in Bulgaria and the former Yugoslav Republic of Macedonia**

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Abbreviations

AIC - Agro-Industrial Complexes

CMEA – Council of Mutual Assistance

FYROM – Former Yugoslav Republic of Macedonia

IF – Individual Farmer

LALOU - Law for Agricultural Land Ownership and Land Use

LC - Land Commission

MCAF - Municipality Commissions "Agriculture and Forestry"

MTS - Machine and tractor stations

SAF - State agricultural farms

TBS - territory belonging to the settlement

TKZS - former communist co-operative structure: Trudovo-kooperativno zemedelsko stopanstvo (Labour-cooperative agricultural farm)

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1 Introduction

During the last decade countries in Central, Eastern and South-Eastern Europe have made significant progress in the restitution and privatization of state-owned real estate to private urban and rural owners. The restitution of private property is considered a cornerstone for future democratic development, for strengthening of the market economy and for further integration into European economic structures. Thus, priority was given to speed up the restitution and privatization processes, securing land tenure and property rights and developing land markets.

There is a pressing need for Governments of countries affected by the processes of restitution and privatization, and by land fragmentation to explore and encourage ways that allow efficient and sustainable land use and production.

Land markets, both for selling and renting, were expected to lead to efficiency gains in the allocation of land. The development of land markets is not only important from an efficiency point of view, but also for equity reasons. Therefore, it is important to study to what extent land reforms and liberalized land rental and sales markets contribute to growing efficiency in agriculture and to improved access to land for small farms and poor rural households in transition.

Low land prices and peoples' preference for preserving their ownership rights have, however, generally resulted in very low levels of land sales. This raises the importance of land rental markets. In an environment with large uncertainties and high transaction costs, where credit markets and insurance markets are imperfect, land rental markets can play an important role in improving efficiency and possibly equity in land use and access.

However, relatively little is known about the behaviour of rental markets in these economies. It is therefore important to study the behaviour of land rental

markets in order to analyze how effective rental markets can be as a means of increasing agricultural land holding sizes, thus favoring efficient and sustainable farming and lead to a diversification of activities in rural areas.

This study attempts to contribute to a better understanding of the development and functioning of land rental markets in Bulgaria and the Former Yugoslav Republic of Macedonia (FYROM). The study has three parts. Part 1 and 2 study Bulgaria and part 3 FYROM.

The analysis in the first part is based on a survey of 1400 Bulgarian rural households that was conducted in 1998. The second and third part uses new data collected in the course of this project. The surveys in the two countries were designed specifically to address key issues related to the rental market functioning. For this purpose, we will combine a direct approach with an indirect survey approach.¹ This indirect survey approach is designed to obtain data on both partners in rental activities, for specific communities. The idea behind the indirect approach is that a lot of private information is public at the level of the community. For this reason, selected informants from the community can be used to answer questions about individual community members on matters that are locally public. To avoid potential problems of selection and information bias, we plan to complement the indirect survey work with targeted survey interviews with the households themselves.

The data collection is implemented as a representative survey in two regions in Macedonia and in three regions in Bulgaria. The regions will be selected to reflect important variations in the rural economy, agricultural structure, property rights (if important), geographical conditions, etc.

¹ This approach was designed particularly for studying rental markets by Karen Macours and colleagues from the University of California at Berkeley in their analysis of Latin American rental markets.

The report presented here is based on the analysis of the full 1998 data, and on a subset of the 2003 data. More specifically, the 2003 data on which the draft report is based include around households and 6 villages for Bulgarian and around 240 households and 6 villages for FYROM, from three different regions in Bulgaria and two different regions in Macedonia.

Comparing the preliminary results with our insights from conducting the interviews and the survey indicates that the findings here are likely to be representative of the entire survey. Still, it is important to keep the preliminary status of the findings in mind when reading parts 2 and 3 of the report. As mentioned, part 1 is based on a complete dataset.

The final part of the report draws conclusions and policy implications from the studies.

2 Development of Land Rental Market in Bulgaria

2.1 Land reform and farm restructuring

The collectivisation of Bulgarian agriculture started in the late 1940s. Initially, three types of farm structures were created: collective farms, state farms and machinery and tractor stations. In the early 1970s these were unified into a small number of Agro-Industrial Complexes (AICs). The AICs were initially administered by the National Agro-Industrial Union which took over the function of the Ministry of Agriculture. Within these organisations there were four main forms, Labour agricultural co-operatives (TKZSs), State agricultural farms (SAFs), Machine and tractor stations (MTS) and brigades (Davidova et al., 1997). Two thirds of the AICs land was farmed in TKZSs and SAFs. Brigades were sub-units within AICs with their own balance sheets, some had independent bank accounts and were relatively independent of the other organisations in the AICs. They generally specialised on a single crop or livestock production. Machine and tractor services had no land and provided mechanisation services to TKZSs and SAFs.

The second group of pre-reform farm structures were the private household plots. The third group is described as 'other organisations' and includes farms attached to research stations, schools and forest enterprises, and also auxiliary farms which were part of industrial enterprises and the armed forces. Table 1 illustrates the importance of the three types of farms structures.

Most land that was cultivated by these three farm structures was still in private ownership at the end of the 1980s. Nevertheless, the economic rights related to land ownership (use, usufruct, alienation) could not be exerted by the owners. After the reforms, former landowners did receive effective land property rights. All political

parties in Bulgaria agreed to restitute land to former owners, but the way restitution should be accomplished was subject for debate. There were two main options: 1) restitute land ownership in physically identified and demarcated boundaries; 2) restitute ownership on an area with specified quality of the land within a bigger field without identifying a particular location. Land eligible for restitution was cultivated by AICs or other organisations during communism.

In the first transition years, farm restructuring also provided a field for intense political debate. The battle centred around the issue whether the re-registration of the former collective farms should take place before or after the restructuring of the farm and on the physical allocation of the non-land assets among eligible owners.

The political debate had a huge impact on the reforms. As a result of changes in the political party that was into power and hence in the objectives the government wanted to achieve, the Law for Agricultural Land Ownership and Land Use (LALOU) has changed more than 20 times since its adoption and a long-term agricultural policy was missing in the first transition years. Due to continuous changes in legislation, an environment with huge uncertainties was created and agricultural producers could hardly plan their future activities.

The speed of the restitution process differed throughout the country. In the north-east it finished much earlier than in the remaining of the country. Land restitution lasted on average 4-5 years. Former communist co-operatives (TKZS) were liquidated more or less at the same time, while land was given back to its former owners at a different moment in time, even in neighbouring villages. Often there were time gaps of several years between the end of the restitution process and the restructuring of the TKZs and this slowed down regional land market development.

Land restitution was delayed by lacking evidence to prove land ownership. In many villages, former book registers in which all land ownership information of the pre- collectivisation period was recorded were missing (burned, disappeared, etc.). This forced the Land Commissions (LCs), responsible for land restitution, to accept all kind of evidence that might prove land ownership prior to 1948. As a result, LCs' decisions were contested and land reallocation plans were rejected. Court appeals arose and suspended the market reallocation of land. In very few cases, the LC has used airplane photos to prove the pre-collectivisation location of parcels and its boundaries.

There were many land conflicts in the villages during the land restitution process. Two causes can be identified. First, land was not restituted in historical boundaries but in comparable boundaries, meaning the physical location is not necessarily in exactly the same location as the pre-collectivisation ownership. This lead to many conflicts between landowners among each other and between land owners and the LC. Older landowners (i.e. more than 55-60 years old) remember now, 12 years after the start of the land restitution process and 4 years after its official end, exactly where their pre-collectivisation parcels of land were located, but show hardly any interest in the newly restituted ones, and hence feel themselves less attached to the land. The economic benefits of having effective decision power over these restituted parcels are yet not so strong to push down the memories of pre-collectivisation situation. Second, land conflicts emerged from the fact that members of the LCs received consolidated parcels of land which were easily accessible from the main road or located in the most fertile areas of the territory belonging to the settlement (TBS), while people without decision power received fragmented parcels with inferior location or quality. This holds for almost all areas that were surveyed

during the project and has been a serious source of conflict during the restitution process and even after its official ending.

After the reforms, four farm structures can be found in Bulgaria. The relative importance of each of these structures can be deducted from table 2, which gives their number and average size.

The share of arable land used by cooperatives and their average size declined since the start of transition. In 1995 they were cultivating 41% of the agricultural land, while this share decreased to 37% in 1999. The average amount of land cultivated by cooperatives declined from 815ha in 1995 to 483 ha in 1999. Individual farmers and other farming companies grew in importance, their share in arable land increased as well as their average size. In 1999, individual farms were cultivating 56% of arable land and they have an average size of 2.6 ha.

At the end of the 1990s, the economic activities of the agricultural co-operatives declined due to serious financial problems which were caused by (1) bad management; (2) lack of financial support from the side of the state and the bank sector, and the bankruptcy of several trade banks; (3) the unfavourable market situation, low market prices of and low demand for agricultural products; (4) the loss of the CMEA export markets and payment delays from the side of the processors; (5) the import of cheap agricultural products from the neighbouring countries (mostly from Macedonia and Turkey); (6) the economic crisis in 1996-1997. As a result, many co-operatives became less active in the land rental market and have reduced the amount of land rented in. Some of them went into bankruptcy and cancelled their activities.

Large private farms were established by individuals who rented in land and shares of the with former TKZSs'. These individuals became important agents in the land rental markets and the backbone of the modern agricultural sector.

In the last years, after the end of the restitution process, rental markets have grown and became more important. Strongly defined property rights and decrease in market regulations further enhanced land exchange.

In the section below, we analyse the characteristics of farming households who are participating in the land rental market. The focus on households in analysing the development of markets in transition countries is important because in Bulgaria individual farmers are using a large part of the agricultural land (more than 50%) and 82% of all agricultural land is owned by individuals. Furthermore, the land used by large scale farms is often rented from households.

2.2 Participants in the Bulgarian land rental market in 1998

In this section, we use data collected in 1998 from a nation-wide survey in Bulgaria of 1411 rural households, financed by the European Commission². The household sample was drawn based on a two stage random selection. First, villages were selected with probability proportional to size. Second, a fixed number of households were selected in each village. The sample was designed to be statistically representative for the country. The survey captures various household characteristics and endowments. Due to missing values for some of the variables, the total number of observations that were retained for our analysis is 1,123.

² The survey was financed in the framework of the European Union's Phare ACE programme, project number P96-6090-R, co-ordinated by Erik Mathijs (Belgium) and Alexander Sarris (Greece) and carried out by a consortium of the PRG-Leuven, Department of Economics of the University of Athens

We distinguish three main groups of individual farmers: (a) individual farmers renting land in ("tenants"); (b) individual farmers renting out land ("landlords"); (c) individual farmers not participating in the land rental market ("non-participants"). Further, we divide the first two groups into several sub-groups (classes) according to the amount of land rented in/out, and we compare them with the non participants. In the next sub-sections we discuss the results of the comparative analysis.

2.2.1 Participants versus non-participants

Table 3 summarises the main social, economic and human capital characteristics of the three main groups of individual farmers: the tenants, the landlords and the non-participants.

First, the group of non-participants holds more than 60% of the IFs, while the share of the tenants holds only 8%. The landlords are about 4 times as numerous as the tenants. As expected, the tenants are younger (52 years) and better educated (9.6 years of schooling) and have larger household size (4 members) compared to the landlords (65.2 years, 8.5 years of schooling and 2.6 household members) and the non-participants (63.4 years, 8.5 years of schooling and 2.9 household members). Moreover, tenants are much better equipped with assets and participate more strongly in the market for machinery services. If we look at the livestock indices³, it becomes clear that these indices are more or less comparable among tenants, landlords and the non-participants while there are large differences in the endowment of machinery and buildings.

(Greece) and local partners. Local country co-ordinator for Bulgaria was Diana Kopeva (University for National and World Economy, Sofia).

³ Livestock index is measured as a weighted index of livestock heads owned by the household with the following weights: 1 for cow older than 2 years, male cattle, horse, mule and donkey; 0,7 for cow younger than 2 years; 0,5 for pig; 0,3 for goat, sheep and lamb; 0,1 for chicken and other poultry.

Tenants own on average 1.9 ha of land, around half of the landlords (3.5 ha) and rent in, on average, twice more than their own land endowment. Landlords form the group with the largest land endowment (3.5 ha), of which, on average, about 86% (or 3.0 ha) is rented out. The farms of landlords are much smaller (0.5 ha) than the tenants' average farm size (5.7 ha) and than the average farm size of the non-participants (2.1 ha). This suggests that landlords operate farms mostly for subsistence needs, while the opposite holds for tenants and non-participants.

The main source of owned land for the three groups is land restitution. Remarkably, 91% of the landlords have been restituted land, while only 62% of the tenants, and 67% of the non-participants have received land under the restitution program. Landlords have been restituted larger properties (3 ha) compared to tenants (1.6 ha) and non-participants (1.8 ha). As a result it is more likely that they have an excess of land compared to their other factors of production. 76% to 79% of all IFs in the three groups possess small parcels of land (0.1-0.2 ha) that they owned already before the start of the reforms. None of the landlords has bought land since the start of the reforms, while some tenants did. The share of tenants that purchased land is larger than the share of non-participants which indicates that renting and purchasing land are complementary activities.

Regarding the security of land transactions, 38% of the tenants and 62% of the landlords have signed a written contracts for land that is rented. The share is small for the group of the tenants indicating that households the rent in rely mostly on informal contracts. Additionally, the rent payment index⁴ is smaller and closer to 1 for the landlords, compared to the index for the tenants. This suggests that IFs that rent in land pay more often a fixed rental payment, while households renting out land receive

more often a variable rent payment. The difference in contract type and payment index between households renting in and households renting out is caused by the participation of cooperatives and farming companies in the land rental market. It suggests that cooperatives and companies are renting in more parcels for which a written contract has been signed and for which a variable rental payment is exchanged. If we look to the relation between landlords and co-operatives, it becomes clear that a high share of landlords (90%) are members/partners of co-operatives or agricultural companies compared to the share of tenants (24.5%) and non-participants (45.2%).

The difference in share of commercialised households, i.e. the share of households that sold some of their production on the market, supports the hypothesis that landlords run mostly subsistence farms (73% of all landlords), while non-participants, and especially tenants, run more commercialised farms (respectively 45% and 79% commercialised farms).

The income situation of the tenants, measured by the own assessment of the households (range 1 - 4) is slightly better than the one of the landlords and the non-participants. Given the similar values for the three groups, but the significant differences in the average income from their agricultural activities (in total and per household member) and in their average monthly expenditure (per household member), we can suppose that the assessment of the tenants is underestimated. Tenants spend only 50% of their income on food, while the share of food expenditures in total expenditures is larger than 67% for landlords and non-participants spend 70% of their income on food. Further, tenants have the highest income from agricultural activities per household member. About two thirds of the IFs renting in receive

⁴ The payment index is measured by a categorical variable with value 2 if the rent payment for the amount of land rented in/out is fixed amount of money (respectively in cash); 1 - if the rent payment is

income from wage employment, while pensions are significant source of income for members of households acting as landlords (91%) and non-participants (87%). Other sources also play an important role. In addition, and as expected, tenants invest considerably more in agricultural activities than the other two groups.

Finally, we observe that households renting in land are located in more rural areas, while household renting out land and non-participants are living closer to the main urban markets. This is an indication, that the incidence of tenants is higher in places, where the economic infrastructure is expected to be less developed, and agriculture is more important for the regional development.

2.2.2 Outline of tenants

In order to deepen our analysis, we divide the group of tenants into four sub-groups (classes) according to the amount of land rented in and we compare these classes with the group of individual farmers not renting in land, to which we will refer as non-tenants. Class 1 includes all IFs who have rented in land up to 0.5 ha, the second class includes the tenants with land rented in between 0.5 and 2.0 ha, the third Class comprises tenants that have rented in between 2 and 6 ha, and the last Class gathers all the tenants that rented in more than 6 ha of land.

In table 4 the main characteristics of the four classes of tenants and the non-tenants are displayed.

First, we notice that a major part of the tenants are involved in land rentals of small-scale. The tenants in Class 4 account for only 12%, while those in Class 1 holds 49% of all tenants in the sample. Tenants are considerably younger than non-tenants, and tenants in Class 4 are the youngest and most educated of all. There is a positive relation between the amount of land rented in and the asset endowment.

not fixed, i.e. variable (in kind or mixed - in kind and in cash); and 0 if there is no rent payment.

Tenants renting in more land tend to own more livestock and buildings than small-scale tenants. They own more land as well. Remarkably, class 1 owns much more machinery as indicated by the machinery index⁵, while the machinery owned by the other three classes is comparable.

The amount of land cultivated as well as the amount of land owned increases with the amount of land rented in. For all tenants, the most important source of owned land is restitution. Purchase of land remains a less important way to obtain land. The size of purchased land is very small as well as the share of households that have bought land. IFs who rented in more than 6 ha are also the most active in the land sales market. This indicates again that buying and renting are complementary activities due to the trade off between security of operation and investment and credit constraints (Vranken and Swinnen, 2003).

We observe a positive relation between the amount of land rented in and the share of households renting in from relatives, as well as the share of tenants involved in inter-family land transactions. This means that it is more likely to rent in land if the landlord is a relative. Probably, this is caused by the fact that high transaction costs to negotiate and enforce rental contracts can be reduced if both agents are related to each other. Further, it becomes clear that the State and the municipalities remain an important supplier of land in the land rental market. Additionally, renting in land from other institutions (e.g. church, etc.) is observed only among small-scale tenants

The percentage of written contracts varies but the share of IFs that rented in land based on a written agreement is always smaller than 50%. The rent payment index varies also among the tenants classes. The larger the share of written contracts,

⁵ The machinery index is measured by the weighted sum of the machines owned by the IF, with the following weights: 2 for harvester and combine; 1 for tractor, truck, seeder, spraying equipment, milking machine and milk processor; 0,5 for cultivator and grape press.

the lower is the rent payment index. This means that it is less likely to observe fixed rental payments when a written rental contract exists.

Two-thirds of the non-tenants have within their household at least one person who is a member or partner of a co-operative or agricultural company. A lower percentage of the households who are renting in land are connected with an agricultural cooperative or company.

Small scale tenants sell 65% of their products. This percentage increases when more land is rented in. The IFs of classes 3 and 4 are fully commercialised, while in class 2 about 87% of the IFs are selling products to the market.

As far as the household income is concerned, there is a positive relationship between the average monthly expenditures per household member and the amount of land rented in. Moreover, the share of food expenditures in total expenditures decreases with the amount of land rented out. This indicates that IFs renting in more land are also wealthier.

Almost 90% of the non-tenants have at least one household member receiving income from pension, while this share is smaller for the tenants and especially for those of class 4. Wage employment is an important income source for the IFs of class 2 and 3.

Table 4 shows that there exists a positive relationship between the average amount of investments per household and the amount of land rented in.

Finally, distance to the county capital appears to be related with the amount of land rented in. The closer to an urban area, the more land is rented in. Closeness of urban centres is directly related with the closeness of marketing channels and off-farm employment opportunities. As a result, landowners are more inclined to engage in

non-farm activities. More efficient producers stay in agriculture and increase their farm activities among others by renting in land.

2.2.3 Outline of landlords

We divide the landlords into four classes according to the amount of land rented out, and compare these classes with the IFs not renting out land (owner-operators). The first class includes IFs renting out land up to 1 ha, the second comprises IFs renting out between 1 ha and 2.2 ha, class 3 covers all landlords who rented out between 2.2 and 5.0 ha, and the last class incorporates IFs who have rented out more than 5 ha (table 5).

We have almost an equal share of landlords in the first three classes, and a smaller share in the last one. The amount of land rented out increases with the average amount of land owned. The more land a household owns the more likely it is to have an excess of land compared to the other factors of production and the more likely it is to rent out a share of the land it owns.

Comparing the human capital variables of households renting out land, we find a positive relationship between the amount of land rented out and the age of the household head. Household size is comparable among the four classes of landlords. The IFs renting out more than 5 ha are much better educated than the IFs in the other three classes. To a person unfamiliar with the land reform and the history of tenancy in Bulgaria this might seem weird given the high age of the landlords. Although, during the pre-communist period, larger amounts of land were owned mainly by richer people who were better educated than other citizens and rural dwellers. During the land reform process, these former owners got their land back and are now participating as a landlord in the land rental market.

Livestock indexes are high for all classes. It is not surprising that owner-operators own more machinery and use more machinery services.

Individual farmers in class 4 are cultivating considerably larger farms (4 ha), while the farm size for IFs renting out less than 5 ha is much smaller (around 0.5 ha). Restitution remains the main source of owned land for the landlords. Around 90% of the households renting out land received land under the restitution process. More than 67% of the landlords owned land before 1990, but the average amount of land owned before 1990 is very small. None of the landlords have purchased land during the transition.

In all classes, land is mainly rented out to an enterprise of which the landowner is member or partner. About 62% of the landlords have signed a written rental contract, while the rent payment index is always close to 1 meaning that the probability of observing a variable rent payments is highest among the landlords. Among the landlords we find a much higher share of households with a member or partner in a co-operative or farming enterprise than among the owner-operators.

Among the households renting out land we find on average a comparable income situation, while owner-operators spend slightly more per household member. Pensions are the most frequent source of income for all landlords as well as for the owner-operators. The value of investments is decreasing when more land is rented out.

Furthermore, we see that larger amounts of land are rented out, the closer the county capital. This confirms the idea that landowners are more likely to engage in non-farm activities if they live closer to urban areas so that they are more likely to rent out land.

2.2.4 Regional variation

Regional differences are also observed within the land rental market (tables 7-10). Based on specific climatological, landscape, social and economic conditions we divide the country into six regions (table 6): North-western (Vraca, Vidin and Montana), Central-North (Pleven, Lovech, Russe, Veliko Tarnovo, Shoumen, Gabrovo, Razgrad, Targovishte and the north part of the county of Sofia), North-eastern (Dobrich, Silistra and Varna), South-eastern (Bourgas), Central-South (Pazardjik, Smolian, Plovdiv, Haskovo, Kurdjali, Stara Zagora, Yambol, Sliven) and South-western (Blagoevgrad, Kustendil and Pernik).

Table 10 displays that, with exception of the North-eastern region, IFs not participating in the rental market dominate in all regions. Especially in the North-western and South-western region this share is very high with more than 70% of the IFs not participating in the land rental market. The share of households renting in is highest in the South-western region. However, these are typically small-scale rentals as it is displayed in table 7. Households renting in more than 2ha of land are not observed in South-western region⁶. On the other hand, households renting in large amounts of land can mainly be found in the North part.

However, the distribution of landlords is more dynamic. The Eastern part of the country is characterized by the highest share of households renting out land. In the North- and South-eastern regions, respectively 64% and 44% of households are renting out land (table 10). It appears that in the South-western region, where we have a high incidence of tenants, renting land out is not widespread among farmers. This can be an indication that tenants in that region or renting from absentee

⁶ This could be explained with the historical development of the region as it is a semi-mountainous and mountainous, and has been characterised by stronger land fragmentation prior to the communist regime than the rest of the country.

landowners or that land is rented out by a few large landowners who rent out small parcels of land to many tenants.

2.3 Participants in the Bulgarian Land Rental Market in 2003

The characteristics of the Bulgarian individual farmers renting in and renting out land and not participating in the land rental market in 2003 are presented in tables 11 to 15. We should mention here that these data are not fully comparable with the 1998 data. The methodology to collect the 2003 data differs from the data collection in 1998. Moreover, the 2003 sample is representative at regional level, but not at national as it is the case with the sample from 1998.

Table 11 shows that 20% of all households do not participate in the rental market. 72% of all households rent out land, while about 25% of all households are renting in land. Table 12 shows that almost 17% of all households are acting both as a tenant and as a landlord, i.e. they are both renting in and renting out land. 8% is renting in land and is not renting out part of the land they own, while 55% of all households are renting out land and are not active as a tenant. This means that there is simultaneous renting in and out and that there are differences between owned land and land rented, for example, quality and location. If land plots have different characteristics, one may observe indeed simultaneous renting in and out of land by the same household.

Outline of tenants and landlords

The amount of land rented in is 1.2 ha on average with a minimum amount of 0.02 ha rented in and a maximum of 42 ha. The average amount of land rented out is 3.7 ha with a minimum of 0.05 ha and maximum of 48 ha.

Table 15 displays the main characteristics of different groups of households classified according to their behaviour in the land rental market. Rural households that rent in land have younger household heads (60 years) compared to the rural households that rent out land (65 years). The old age of the tenants shows that the demographic characteristics of this group are still unfavourable for the future development of the agricultural sector. Household size of tenants (2.4 members) is slightly higher than the household size of the landlords (2.0 members). Households renting in land have more family labour at their disposal than households who are not participating in the land market and than the households renting land and hence, moral hazard problems are reduced. There is no difference in the years of education of the heads of the households renting in or out land, but among the households renting in land we find a higher share of households heads that received agricultural education. More than 90% of the household heads of both groups are working on the farm.

Not one of the households that do not participate in the rental market, is member or partner of an agricultural co-operatives or company, while more than 60% of the households that rent in or rent out land are connected with an agricultural corporation. Clearly, households with a larger social capital are more likely to exchange land. Probably this is due to the fact that they have more information at their disposal about potential tenants and landlords and because they can more easily enforce agreements due to their social network.

Tables 16 to 19 display the main reasons and obstacles to participate in the land rental market. 20% of the tenants have stated that lack of financial means for the purchase of land forced them to rent in land instead of buying land. 11% prefer land renting above buying land. Among the ‘other’ reasons to rent in land (table 16), the need for additional income and forage for livestock are dominating.

Landowners rent out land mainly because they are too old to cultivate it themselves. The lack of working capital to run a (larger) farm is also an important reason to rent out land. Further, the lack of machinery (most important ‘other’ reason in table 17) leads many households to rent out land.

Only 8% of the households in the rural areas want to rent in more land. They are mostly stopped by the lack of financial means to run a larger farm (36%) and the lack of available land that can be rented in (16%). Ill developed output markets for agricultural products stopped 12% of the households willing to rent in more land from expanding their land rental activities (table 18).

Table 19 shows that 22% of all households want to rent out more land. 42% are ceased by the fact that they can not find a tenant willing to rent in the land they offer. Improved access to information on owners willing to rent out land and agricultural producers willing to rent in land would increase activities in the land rental market. 46% of all households cannot rent out land because the land they are willing to offer is of low quality. Surprisingly, only 1.2% experiences co-ownership of land as a problem to rent out land.

Existing tensions and conflicts between households renting out land and the production structure (cooperative, company or individual farmer) renting in land are shown in table 20. Of all households that rent out land, almost half of them are not satisfied with the current land rental arrangement. Moreover, approximately three fifth of them find that the rental payment that they receive is too low. One third of them is not satisfied with the current rental agreement because the contract terms are not fulfilled. The latter relates typically to a rental payment which is lower than the one which was agreed on. Other problems with the contractual arrangement, like

disagreement with contract's duration and lack of notary certification of the contracts are of negligible importance.

In the previous section, it became clear that there are important regional variations in the development of land rental markets in Bulgaria in 1998. Our data show that 5 years later differences are still present and even have deepened.

Table 11 shows that a higher share of households in the North-eastern and North-central parts are renting out land (80% and 88% respectively), while in the South-central region only 52% is renting out land. The share of households renting in land is relatively small for the South-central and North-central regions (11% and 13%), while it is very high for the North-eastern region- 41.1%. In the South-central regions, 36% of the households are not participating in the land rental market. This share is considerably lower for the North-Eastern and North-Central region.

2.4 Land fragmentation

In Bulgaria, land fragmentation is a significant problem for the agricultural sector. Several studies by now have addressed the negative impacts of land fragmentation for agricultural development, farms' efficiency and rental markets in Bulgaria (e.g. Kopeva et al, 2000; Kopeva and Noev, 2001). However, studies presenting a clear and detailed view on the degree of land fragmentation in Bulgaria are missing.

In this section, we will try to illustrate land fragmentation in the surveyed areas by evidence on the size of land fragmentation and the parcels' distribution among the rural households.

Surveyed households possess on average 5.3 parcels of land with average size of 0.6 ha/parcel (table 13 and 14). The size of a parcel that is rented is 0.8 ha on average. Households not participating in the land rental market own on average 3.3

parcels with an average size of 0.34 ha. A household rents in on average 1.5 parcels, while the average number of parcels the rented out equals 5. Households renting out land own on average more parcels of land than the households renting in land (6.6 versus 2.4 parcels).

Figure 2 to 4 illustrate land ownership fragmentation. One fifth of the surveyed households own one parcel of land, 13% owns two parcels of land and 11% owns 3 parcels of land. 61% of all households in our sample own up to 5 parcels of land which means that 39% of all households own more than 5 parcels of land. This wouldn't be a problem if the average share of a plot owned is large. Unfortunately, this is not the case. Almost one fifth of the surveyed households own more than 10 parcels with an average size of 0.6 ha. It is pretty straight forward that this is a major impediment to improve the efficiency of the agricultural sector.

Figure 5 to 7 show regional variations in land fragmentation. In the North-eastern region land fragmentation seems to be least dramatic. 46% of all households own 1 parcel of land and another 26% own only 2 parcels of land (figure 5). In total, 84% of the households in the North-eastern part own up to 3 parcels of land and only 5% owns more than 5 parcels. Not one household in our sample from the North-eastern region owns more than 20 parcels of land.

A more fragmented land ownership structure is observed in the North-central region, where the households with one and two parcels of land represent respectively 1% and 3% of the total number of land-owning households. Only 38% of the land-owning households possess up to 5 parcels of land, while 46% owns between 6 and 10 parcels of land and 16% owns more than 10 parcels. Households with more than 20 parcels in their possession represent only 1.3 %.

The worst land fragmentation situation is observed in the South-central region of the country, where 29% of the land-owning households own more than 10 parcels of land, and 14% owns more than 15 parcels of land. However, the share of households owning 1 -3 parcels is larger than in the North-central region (28.1 % versus 13.1%).

2.5 Land ownership documentation and co-ownership of land

Land ownership documentation in Bulgaria still keeps the requisites of the transition period. Currently, households can rent out their agricultural land if they have one of the following three documents⁷: (1.) decisions of the former Land Commissions, now re-named as Municipality Commissions "Agriculture and Forestry" (MCAF); (2.) contracts for voluntarily land sub-division (in the cases when land has been sub-divided between the co-owners); and (3.) notary deeds. The fact that land can be rented with all these different, but officially accepted documents eases considerably the transaction costs and the barriers for entering the land rental market. However, there is a scope for unification of the land ownership documentation and further steps in this direction could be taken.

Co-ownership of land is an important problem for the further development of land rental markets and it will be difficult to solve it. Land co-ownership problems arose from the way land was restituted. It is further strengthened by the Law for Inheritance, according to which every heir has the right to receive an equal share of the inherited assets as the other heirs.

Rural areas are burdened with co-ownership problems. Table 11 shows that 63% of all parcels in our sample are in co-ownership, with on average three owners

per co-owned parcel. Important regional differences exist. In the North-eastern region, only 8% of the parcels are in co-ownership and hence, the problem is almost negligible. In the South-central and in the North-central region, around 80% of all parcels are in co-ownership and the average number of owners per plot is 3.6 and 2.4 respectively. A high share of parcels in co-ownership together with high land fragmentation in the South-Central region means that the situation in that area is extremely unfavorable for the development of land markets.

Figure 8 shows that only 37% of the parcels in the surveyed areas have only 1 owner. Almost one-quarter of the parcels are owned by two persons, and another 17% has three co-owners. One fifth of the parcels have between 4 and 7 co-owners, and only 3.71% are owned by more than 7 co-owners. The maximum number of co-owners per parcels that we encountered was 13.

When we talk about co-owners we have to take into account that some parcels of land are co-owned by households living within the same village or in neighboring villages, while other parcels are co-owned by households that live in the village and households that live elsewhere in the country (i.e. absentee co-owners). Whether the land is co-owned by absentee landowners or not affects the effective rights that a co-owner has over the land.

When land is co-owned by households living in the same village, effective decision rights over the land are with the oldest male heir. Usually, sons dominate the daughters as heirs and in the decision-making process. When the co-owner with the effective decision power wants to cultivate the land, but the others are willing to rent it out, the land stays out of the rental market. However, when co-owners want to rent out their land, and more specifically when they want to rent it out to different users,

⁷ We exclude from the discussion in this section the cases when land is rented out and rented in based on verbal/oral agreements.

every co-owner rents out his/her share to the respective user of the land. As a result, for example, we can end with a situation when 1/6 of 7 parcels is rented out to one user, and the remaining 5/6 are rented out to another one. This, of course, is not convenient for both sides of the land transaction. Unfortunately, given the small size of the parcels and the legal obstacles for their division⁸ (with exception of voluntary sub-divisions between the co-owners), that is the only way the household can cope with it. When the co-owners live in the village and land is rented out, rental payments are divided between the co-owners according to the shares they own.

The situation is a bit different when land is co-owned by absentee landowners. In that case, effective rights over the land are delegated to the co-owners in the village (unless there are conflicts between the co-owners), and the rent payment often stays in the hands of the co-owner living in the village. Usually, in that case, land is rented out to one user. Sometimes, the land is rented out by the co-owner that lives within the village, and absentee co-owners are not aware of this. This is often the case when co-owners are widespread over the country or even emigrated abroad or when they do not know each other. In such situation, the land decisions issued by the LCs is enough for the user to cultivate or rent the land, without taking into account the different shares other absentee household owns. Conflicts emerge when an absentee co-owner starts searching for its share and finds out that its land is rented out or cultivated without its permission.

2.6 Land use, abandoned land and access to machinery services

Most rural households in Bulgaria cultivate some land, no matter the significance for the households' income portfolio

⁸ There are certain legal requirements for the minimum size that a parcel might have. When it is divided

We can distinguish four types of land cultivated by rural households: (1) house-yards; (2) parcels of land located in the village centre (often called yards), but not next to the house; (3) land parcels located outside the village centre; (4) "personal use" land (the so called "lichno polzvane").

2.6.1 Cultivation of house-yards

Almost 80% of all households in the villages cultivate their house-yards. House-yards differ in size, but the part used for agricultural purposes is usually not bigger than 0.3 ha. Their cultivation is done manually or with donkeys and/or horses. In places where tractors can enter the yard, machinery services are sometimes used. Crops cultivated on the house yard (usually vegetables, grapes, some fruits) are mostly used for subsistence needs. There are few exceptions. When households are for example producing special crops, vegetables or flowers in green houses in their yards, the house yard production is commercially orientated. This happens rarely and mainly in the south-central region of the country.

2.6.2 Cultivation of parcels, located in or bordering to the village centre

The cultivation of parcels located in or adjacent to the village centre, but different than the house-yards, is something traditional for the Bulgarian rural population. Households are cultivating those parcels for more than 40-50 years. Even during the communist period when much land was expropriated rural households could cultivate these parcels. These parcels located within or adjacent to the village centre have usually a size of maximum 0.4 ha and are located 20 to 200 meters away from the house of the owner. Cultivation of these parcels is less time consuming than cultivation of parcels located outside the village centre. Moreover, parcels located

among heirs, a parcel must have for example a size of at least 0.3 ha for fields.

within the village centre are hardly never subject of conflict, among others because they are of no interest for enterprises or cooperatives. For the households they are important and they are often rented. Last, safety reasons also play a role, as the control on the crop theft is much easier given the closeness of houses.

2.6.3 Cultivation of parcels located outside the village centre

Based on their land portfolio, households decide which parcels they keep for own cultivation and which parcels they rent out. Usually arable land is rented out, while orchards, vineyards, meadows, and other permanent crops are kept for own cultivation. The fact that households prefer to cultivate more labour intensive crops may seem weird and not so logical given the relatively high average age (64 years) of the household heads. However, if we take into consideration the households' lack of machinery and financial means to cultivate arable land, this decision is more logical. In addition, households do not invest much in permanent crops and orchards, but rather rely and hope on a good harvest with minimal expenses for inputs besides land and labour. Further, we should mention that the value of land with permanent crops is more sensitive for improper cultivation than the value of land with annual crops. This can be another reason for not renting out its parcels with perennial crops.

In the survey areas, a high share (30%) of all households is using at least one parcel they own (located inside or outside the village centre), and a small share (7%) of households owns land which is cultivated by an other co-owner. Illegal cultivation remains insignificant and only 1% of all households is doing so.

On average, rural households own 3.3 ha of land which can be located in or outside the village centre, but they cultivate significantly less land - only 0.5 ha (Table 13). The average amount of land owned and cultivated by the household is 0.2 ha.

2.6.4 Cultivation of "personal use" land (so-called "lichno polzvane")

The so-called "personal use" ("lichno polzvane") land is a very typical for rural areas in Bulgaria. It originated in the beginning of communist era and became more important after the implementation of the state policy for self-sufficiency of rural population in the beginning of the 1980s. This specific feature of the land tenure system under communism survived despite the land restitution process (Kopeva and Noev, 2003). Currently, "personal use land" is given to households by the co-operatives and rarely by other enterprises. According to our survey data, in 2003 about 22% of the households use "personal use" land, with an average size of 0.1 ha.

Below we highlight the main characteristic of the "personal use" land.

1. If supplying households with "personal use" land is part of the co-operative's policy, every co-operative member or person that has rented out his/her land to the cooperative has the right to ask for "personal use" land, but usually not more than the amount of land he/she has rented out. Sometimes the co-operatives sets an upper limit for the size of land that is given to the household as "personal use" land no matter the amount of land rented out by the household to the co-operative. Very seldom, there is no restriction on the amount of land given to household for "personal use".
2. Land that is given as "personal use" does not necessarily coincide with the land owned by the households.
3. The crops grown on these areas vary, but are usually vegetables and maize, and sometimes lucern.
4. The agreement for "personal use" land lasts 1 year and can be renewed every year.

5. When maize or vegetables are grown on “personal use” land, a large part of the cultivation is done by the co-operatives with the households paying sometimes for machinery services. The household takes the remaining part of the cultivation for its account (including all manual operations). When a parcel with lucern is given as "personal use" land, co-operatives take the entire cultivation of the parcel for their account, but harvesting is done by the household. When a parcel with wheat or barley is given as "personal use" land, the cooperative cultivates and harvests the plot and gives the output to the households. The magnitude of the output is based on the average yield for the crop year.
6. The whole harvest from the "personal use" land belongs to the household. It is important to notice that the land taken as "personal use" land is deducted from the land for which a rent payment should be paid at the end of the crop year.

Although this type of land use seems very clear at first sight, it often leads to conflicts. These conflicts are often related to the location of the “personal use” land, especially when some parcels are irrigated and others are not. In such cases a draw for the division of parcels between all households taking "personal use" land, is usually applied. When households disagree with the location of land given for “personal use” and a draw is not applied, they can only accept the division since they are not able to impose their will on the cooperative's management.

Importantly, the "personal use" land system splits up land which was consolidated through the land rental market into small pieces, with different crop mixes, a different way of cultivation and level of the inputs.

2.6.5 Abandoned land

Abandoned land is a widespread in the Bulgarian rural areas. Reasons for leaving land abandoned are manifold and mostly related with low land quality, old aged population and lack of agricultural activities in the rural areas.

In 2003, almost 40% of all households in the surveyed areas have at least one parcel of land that is left abandoned (table 11), with an average size of 1 ha (table 14).

In very few villages, the whole TBS was left abandoned. These areas would be good to implement pilot land consolidation projects. Although, it should be taken into account that these areas are inhabited with very old population that has no stimuli neither incentives to increase its current subsistence agricultural activities. These people do remember very well the old, pre-communist, location of their land, but are not aware of the exact location of the current location of the land they own as they do not have any interest in cultivating it or renting it out. Consolidating land in such TBSs might attract agricultural producers from the neighbouring villages or new entrants, not only because of the favourable size of the parcels, but also because the transaction costs to rent in land will be reduced. It would stimulate the development of the land rental market. Those pilot projects can be supplemented with investments and projects for infrastructure development, including improvement of canalisation, the water drainage, road structure, etc.

It is necessary to notice that some producers already tried to rent in land that was located in a village where all the land belonging to the TBS was abandoned. However, they face extreme difficulties and huge transaction costs before they can actually rent in the land. Usually, the new entrant has to search the owners and co-owners of each parcel that it wants to rent in and this sometimes takes up to 9 months. In this search the producer willing to rent in land is assisted by the village authorities

and co-operative managers (if co-operative structures are still present). On average, 2 to 3 persons are involved only in the owners/co-owners search. After the owners and the co-owners of the parcels that the new entrant wants to rent in are determined, the negotiation process starts and if they agree on the contract terms, signed contracts should be certified by a notary. It becomes clear that entry costs are extremely high.

The aforementioned case demonstrates the need of further improvement of the land ownership register. The names of deceased landowners should be replaced with their existing heirs and information about the current landowners should improved. This, combined with changing the regulated access to information in the land registers, may lead to a considerable reduction in the transaction costs experienced by farmers and enterprises that want to enter the land rental market or expand their land rental activities.⁹ When transaction costs to exchange land are reduced, (part of the) land fragmentation problems may be solved spontaneously via the land rental market.

Quality categorisation of land that is left abandoned is an other issue. Our survey showed that many of the parcels that are left abandoned because of low quality are assigned a relatively good land category - 3rd and 4th.¹⁰ This shows that 14 years after the start of the reforms, there is a need to update land categorisation, as many of these parcels are now covered with bushes, forest trees or have turned into pastures.

2.6.6 Machinery services and ownership

Bulgarian rural households are not so well equipped with tractors, moto-cultivators and other small machines for the cultivation of their land. Table 15 shows that only 4% of the rural households own a tractor and only 11% have a moto-cultivator. It is important to notice that 51% have used tractors' services for the

⁹ Further, it may assist the implementation of a land tax.

¹⁰ The highest land category is 1..

cultivation of their land. Although, we have to mention that this includes household who used machinery services for their “personal use” land.

Machinery ownership doesn’t differ significantly among households who are renting in and renting out land. About two-thirds of the households renting in land and about half of the households renting out land are using machinery services. So the use machinery services is widely spread in rural areas and hence policies supporting the exchange of machinery services could have a positive impact on the productivity of the agricultural sector.

2.7 Land Rental Contracts

The majority of agricultural land (82%) in Bulgaria is owned by individuals. Land is exchanged between households, cooperatives, farming companies, the state, the municipality and other institution. Table 21 illustrates that around 38% of the parcels which are owned or cultivated by households living in the village are rented out to a cooperative and 22% is rented out to a farming company. This means that more than half of the parcels are rented out to an enterprise. Exchange of land among households exists but occurs much less frequently. Only three percent of the parcels owned or cultivated by the households living in a village are exchanged with other households. 12% of the parcels are cultivated by the owner and 17% are abandoned. If we look at household level (table 22), we see that 40% of households is renting out land to a cooperative and 31% to a farming company. Further, 10% of the households are renting out land to another household (logically a similar share of households is renting in land from a household) and 15% is renting in land from state.

Although limited information is available on the parcels owned or cultivated by enterprises located in the village, a preliminary analysis indicates that practically all land at the enterprise’s disposal is rented in from individuals: 42% is rented from

members/partners of the cooperative/company and 54% is rented from other individuals.

If land is exchanged, a written document is often signed for it. Oral agreements occur as well, but mainly when land is exchanged between households or individuals.

Tables 23 and 24 illustrate the importance of different types of rental contracts that are observed. They show that 69% of all parcels in our sample are rented. In addition, table 23 illustrates that 24% of all parcels in our sample are under written contracts, which are also registered at the MCAF and a notary office¹¹. The share of parcels under written contracts, which are only registered in the MCAF, is also quite high- 28% of all parcels. Those two types of contract account respectively for 35% and 40% of all rented parcels. That means that more than 75% of the rented parcels are under a written contract that is registered in one or another way. For 9% of all parcels a written rental document is signed which is not registered. The share of parcels exchanged on the basis of an oral agreement is only 4% and less than 1% of parcels are used without any contract. These numbers show that Bulgaria has overcome the uncertainty in the land rental markets in the first years of transition and that the market transactions become more and more transparent and secure.

Importantly, parcels for which a written contract has been signed in the village hall in front of the mayor as a guarantee for the correctness of the deal account for 0.2% of all parcels. At first glance this numbers is negligible, but the fact that such cases exist is a signal for the need to make land tenure registration more accessible at the local level.

¹¹ Two types of officially accepted rental contracts exist in Bulgaria. The first one is the so-called "Arenda" contract, which has a minimum length of 4 years and has to be registered in the MCAF and notary certified, according to the Land Lease Law. The second type is the "Naem" contract, which is mostly used for a short-term renting, and notary certification is not required. However, it also has to be registered in the MCAF.

Table 24 shows that almost 96% of the parcels that are rented out by rural households are under a written contract. In contrary to renting out land, households that are renting in land do this mostly on the basis of an oral agreement: 50% of parcels rented in by rural households are exchanged based on oral agreements, and 37% under a written, but unregistered contract.

We should also mention that some co-operative farms who have experienced big financial constraints and difficulties to continue their operations are sub-renting parts of their land to other enterprises or individual farmers. The cooperative pools the small parcels rented in from their members and other individual land owners and sub-rents the land as a large, consolidated plot to an other enterprise or individual farmer operating in the village. The rental price of the sub-rented land is several times higher than the one paid by the cooperative to the owners of the land which are often the co-operative members. Probably, this is an important process in the development of land rental markets in Bulgaria and its appearance increases constantly. Currently, there are co-operatives sub-renting all their land (and even other assets) to private individual farms or enterprises against some obligations taken by the sub-lessee. The process of sub-renting has several years of history and started in 1998-1999 with individual farmers who sub-rented part of the land from the cooperative (with a size between 2 and 50 ha) for a one-year period.

This process of land sub-renting is a way of solving the problems related to the highly fragmented land ownership structures in the country. The co-operative structure acts as an intermediary: it rents in small parcels of land from the land owners who are often co-operative members, merges the small parcels to one (or few) consolidated parcel(s) which it rents out for a much higher rental price. Currently, the price for sub-renting co-operative land varies in the border of 17.50 up to 125.00

Euro/ha, while the rent paid by the co-operatives is between 3.50-50.00 Euro/ha. Due to this process of sub-renting land, unviable co-operative structures are replaced by more viable production structures which bring innovations and possibilities for further development of the agricultural sector.¹²

Currently, we observe two types of sub-rentals: (1) sub-rental of small amounts of land, i.e. a share of the co-operative land; (2) sub-rental of all co-operative land. The first type of sub-rental is typical for co-operatives in good financial state or for those still keeping some positive expectations about their future activities. The sub-renting party only pays the rent for the sub-rented land. The second type of sub-rental is typical for co-operatives in very bad financial state, with a lot of debts and unsolved economic and social problems. Opposite to the first type of sub-rental, the sub-renting party does not pay rent for the sub-rented land, but takes over all activities of the co-operative, including the payments of the salaries, the social securities, etc. When the financial situation of the co-operative(s) is more complicated and difficult to solve, those private farmers take over all land of the co-operative, sub-renting it for a multiple year period (3 to 5 years). This happens mostly when the co-operative is not able to pay the full rental price they agreed upon with the owners of the land. Interestingly, the co-operative management and labour force assists the new lessor in his agricultural activities by providing labour and machinery services. It is important to mention that a lot co-operatives are sub-renting their land, and those who are not yet sub-renting land are on the edge of doing it in the near future since they expect an increase in the demand for consolidated land. In the surveyed areas, around 5% of total land rented in by co-operatives was sub-rented to a third party during the crop-year 2002-2003 and this share increased even to 19% for crop year 2003-2004. Sub-

¹² We have to notice that in the last 6 years there is a process of obstructing the co-operatives' activities and lack of support on the side of the state and the private institutions, linked with the agriculture,

renting was observed in North and South Central Bulgaria, but not in the North-Eastern region.

In order to understand incentives to sub-rent land, we will present the case of a co-operative in a semi-mountainous village in the North-central part of the country. The co-operative has been established immediately after the liquidation of the former TKZS structure in the village and can be seen as a direct successor of the former co-operative. After several years of economic struggling, the co-operative has problems in covering its financial obligations towards the state social security institution and towards its suppliers of fuel and main inputs. In order to keep the social peace in the village and because of difficulties to take correct economic decisions given the organisational structure of the cooperative (one member has one vote in the general assembly) and the average age of the co-operative members, the co-operative decides in 2003 to give all its members a rental payment, notwithstanding they could use the land offered by their members. As a result the cooperative rented parcels from their members which were left uncultivated during the crop year and the rent payment was only 3.5 Euro/ha, equal to 40 kg of wheat per ha. However, the decision to give all its members a rental payment, led to certain expectations and conflict of interests between landowning members whose land has been cultivated and members whose has not been cultivated. Following the lack of economically founded decision making on the side of the co-operative management, and problems to take correct decisions in the general assemblies of the co-operatives, the co-operative started to sub-rent its land to three private farmers. These individual farmers are not cultivating all the cooperative land and they pay rent only for the land that they cultivate. Private farmer are slowly, but surely taking over the economic role of the co-operative(s) in the

compared to the private individual farms and other enterprises, different than co-operatives.

villages. A diminishing role of the co-operatives could be expected as an outcome from this sub-rental process.

2.8 Subsistence and market participation

Table 15 displays that only 19% of the rural households sell (a part of) their crop output on the market. The share is higher for the households renting in land (34%), than for those households who are renting out land (20%). Households that do not participating in the land rental market are more market-orientated when it comes to livestock products - 42.4% of them sell some livestock products, and only 6.1% sells some crop output.

Of all tenants only 7% have signed a contract with processor(s) for the sale of their products, and none of them with a trader. As expected, the group of landlords is excluded from this kind of relationships: none of the households renting out land have signed a contract with processor for the sale of a certain product. However, the low number of households that have a signed contract(s) with processor(s) (1.9% on average in the survey areas) leads to the conclusion that vertical integration is not common among individual farmers; and that there is a scope for further policy measures boosting the relationships between processors and rural individual farmers.

2.9 Social aspects of rural life

Rural livelihood has changed considerably since the start of the transition. There is no village in our sample where social relationships within the village and between its dwellers has remained the same or improved compared to the situation prior 1989. People are more restricted in their financial possibilities and struggling harder in order to survive. This picture may seem a bit dramatic, but it cannot be otherwise as the

population in the villages remains old aged. Pensioners are the dominant group of people inhabiting the villages (between 50-80% of the population in the villages). In the surveyed areas, half of the households consist only of pensioners, and only 24% household does not have any pensioners (table 25). The average amount of pensions varies between 30 and 40 Euro/month. Because of bad income situation of the rural population, land rental payments that they receive are extremely important and if the contracted conditions between landowners and tenants are not met, it is a potential source of conflict.

Social conflicts often exist. A main source of social conflict is the lack of co-ordination between the social and the agricultural policy in the country. Conflicting interests between ethnic groups leads to social tensions. Protection of the crop production remains problematic, even with the inclusion and use of private guard companies or guards (including those assigned by the government on one of the social programs).

The government designed programs to make the unemployed work by forcing them to be at the disposal of the villages' city halls and to work 5 days per month in order to receive their unemployment payments. However, this program is not very efficient, because of the lack of co-ordination between the responsibilities of the villages' authorities and the municipality authorities, and the lack of motivation of the unemployed people to work. More successful are the social program that employ people for 9 or 12 months at the villages' administration.

3 Development of Land Rental Markets in the FYR of Macedonia

3.1 General introduction

The agricultural sector in the FYROM is characterized by two different farm enterprise types: small family farms operating on privately owned land and large socially owned farms. The latter can be subdivided in 1) agrokombinats, vertically integrated agribusinesses which have large landholdings and are engaged in primary productions, extensive agro-industrial processing, commercial storage and marketing services; 2) socially owned agricultural companies, which have smaller holdings and engage to a much lesser extent in non-primary production activities (Melmed-Sanjak et al., 1998)

A large number of problems related to land property have been recorded in the FYROM in the past 10-12 year. Currently, there are small parcels in private ownership, fertile and abundant as a result of migration or the age structure of its owners. The cadastre, land register and the records of ownership need improvement. However, the principal issue is the small size of the private farms and the need for their enlargement. The solution of this problem can be renting of state-owned land and the Law on the use of agricultural land.

In the FYROM, the Law on privatization and transformation of agro-combinates and enterprises utilizing agricultural land stated explicitly that agricultural land in public ownership is state-owned land. Its use should be made possible through renting, concessions and other forms of agreements. In the FYROM, 146.756ha of land were subject of transformation, and it has been estimated that only 2-5% of this can be denationalized (Figure 9).

With the adoption of the Law on denationalization (in year 1998), the FYROM chose to restitute properties that have been nationalized, but faced the problem that the parcels which have be restituted are not suitable for current agrarian structures, markets and infrastructure and hence the denationalization slowed down.

Agricultural land that was nationalized after 2 August 1944 can not be in permanent state ownership and the (the state can not sell it, give it as a gift or exchange it). The agricultural land in state ownership that is cultivated by enterprises or agricultural cooperatives and is not in the category of land for denationalization, can be taken by the Government of the Republic of Macedonia from its users and can be given in concession or rented out to other users.

The data we use in this section stems from a survey in Macedonai, that covers 8 administrative regions – four in the South-Eastern part (Star Doiran, Novo Selo, Bosilovo and Vasilevo) and four in the South-Western part (Ohrid, Resen, Kosel and Mesheishta). The first area covers the so called Mediterranean region, an important agricultural area where 89% of the population in working age is involved in agricultural activities. The region is characterised by fertile soils, suitable for the production of vegetables and tobacco. The second area covers the so-called “Large Lake” region. The region is highly specialised in production of wheat and apples.

3.2 Land fragmentation

Agricultural land in Macedonia is extremely fragmented. According to the Law for Inheritance, every heir has the right to obtain an equal share from the land that has to be divided, unless will of the already deceased owner is different and notary certified, and this resulted in highly fragment land ownership structure.

The problems of land fragmentation are further strengthened since not only land ownership, but also land use is fragmented. Farmers grow on very small neighbouring parcels of land both annual and permanent crops. In the field you often find for example a parcel with maize next to a parcel with orchards, or a parcel covered with lucern next to a field on which wheat is grown. Land use fragmentation, together with the application of different cultivation procedures and treatments on neighbouring parcels of very small size have a negative impact on the quantity and quality of output. This will be a major impediment to consolidate land and optimise land use.

However, Macedonian farmers are used to land fragmentation and most of them do not feel troubled by the fact that they cultivate many small sized parcels. Currently, the advantages of cultivating few, but larger parcels of land are not spread among the rural population. There is also no region where land is more consolidated and which act as an example for highly fragmented areas. Farmers feel comfortable cultivating their family land and are used to its fragmentation. As a consequence, the future steps and policy towards land consolidation in Macedonia should be very carefully examined and local condition of the land tenure system which existed for more many years should be taken into account.

Rural households in Macedonia own and cultivate on average 7 parcels, with an average parcel size of 0.3 ha. However, it is not exceptional that a household owns more than 10 parcels.

Figures 10-12 give the relative frequency of the number of plots owned by a household. Only 5% of the households own 1 parcel and 6% owns 2 parcels of land. The cumulative frequency shows that half of the households own up to 5 parcels.

38% owns between 5 and 10 parcels of land and 3% of all surveyed households have more than 20 parcels of land in ownership.

Many parcels of land do not have clearly defined borders and the shape is often not suitable for cultivation. You find for example regularly parcels with triangle form, or with curved borders. In addition, it is often difficult to access a parcel: a neighbouring parcel needs to be crossed as a result of which conflicts between farmers arise because harvests are damaged when tress passing the land.

3.3 Land ownership documentation and co-ownership of land

Contrary to Bulgaria, where several types of land documents have equal legal power, only the notary certificate counts as an official document for land ownership in the FYROM.¹³ Most households in our sample have such document proving their land property rights. Households without a notary certificates for their land are only those who have not taken one from the regional land register after the death of their parent (i.e. previous owner of the land). However, they do have a court decision which proves they are heirs (successors) of the deceased landowner and their property rights as heirs are strongly protected. By now, they have not faced the need to go to the land register and get hold of a land notary certificate. As a consequence, many of them keep notary certificates from the 1950s or 1960s issued on the name of their parents or grandparents, and have never experienced problems with the cultivation of the land or claims of other farmers over their land and agricultural production. The reason for not getting a land notary certificate is not related with high transaction

¹³ Most of the land-owning rural households still keep their first land documents (called "tapija") given to them by the Turkish authorities during the Ottoman empire. However, these documents are no longer accepted as official documents for land transactions or prove of land property rights.

costs, or lack of clearly defined property rights, but rather the lack of necessity for possessing such document.

Co-ownership of land has several dimensions in Macedonia and co-ownership rights are strictly determined within the household. A very significant feature is the still existing patriarchal structure in the household. Male heirs have priority to females when it comes to land ownership, land inheritance and separation of the land property and older sons have priority over the younger.¹⁴ This characteristic has an impact on the distribution of the land among household members, and on the decision-making process in the household.

Most cases of land co-ownership problems occur when a heir left the country and became co-owner during his stay abroad. Their absence impedes the process of land division and distribution. In addition, the survey showed that the emigrated co-owners don't sell their property, but rather delegated (informally) their rights to their relatives.

Our data show that 85% of the land is owned by only one household, while the remaining parcels are co-owned by two or more households. The average number of owners per parcel is 1.4. If a plot is co-owned, we find in most of the cases only two co-owners (figure 12).

Hence, programs related to parcels' consolidation and improvement of their form and borders will not face many difficulties from co-ownership point of view, compared to Bulgaria.

Rural households keep their contracts with the state for the land that has been expropriated by the state or has been replaced with other parcels of land in the territory of the village. They still expect their land to be given back, but they do not

¹⁴ As a consequence, when the assets are divided between the co-owners daughters get on average one or two parcels of land, or some machinery equipment, while the rest remains property of the sons.

have the bargain power to stimulate the development of the land denationalisation process, which has started several years ago, but has been stopped for the last 3 years mostly due to political reasons and the military conflict in the country.

3.4 Participants in the Macedonian rental market in 2003

In this section we use the survey data which was collected in 2003. The data comprehended households who are renting in land (tenants), who are renting out land and households who do not participate in the land rental market.

Before we analyse the main characteristics of the different groups, we would like to make some comparisons with the Bulgarian situation:

- Land renting between households/individuals is observed more strongly in Macedonia than in Bulgaria.
- Land renting between households/individuals and enterprises is restricted. If it occurs, the enterprises rents out land to the individuals and this is an important way for landless households to access land. Only 20% of the surveyed households do not own land. In Bulgaria, we observe renting from individuals to co-operatives and enterprises as well as renting from enterprises and co-operatives to individuals. Although, the former type dominates in Bulgaria.
- Households also rent in land located neighbouring villages, while we didn't observe this in Bulgaria.
- Rental of agricultural land owned by the state occurs in the FYROM, but not to the extent we observe in Bulgaria. Hence, there is scope to improve the management of state land which can improve the efficient allocation of land.

- The process of Land denationalization is blocked.
- No foreign enterprises or physical persons are involved in agricultural production and land rental activities

Participants in the rental market

Tables 27-33 display the main characteristics of the households renting in and renting out land and those who do not participate in the land rental market.

81% of all Macedonian rural households do not participate in the land rental market. 15% rents in land, while 5% is renting out land. 72% of all rural households cultivate at least one parcel of land which they own.

On average, households rent in 1.4 ha and rent out 1.8 ha (table 31). The area cultivated by the households not participating in the rental market is 1.2 ha, similar to the average land cultivated by the households renting out land (1.0 ha), but much smaller than the land cultivated by the households renting in land (2.7 ha). Households renting out land own 2.9 ha, which is more than twice the land endowment of the households renting in land (1.3 ha) or not participating in the rental markets (1.3 ha). Households renting out land use only 36% of the land they own, while those renting in land or not participating in the land rental market use almost all the land they own. Importantly, households who own land leave hardly any land abandoned and also illegal land use is hardly observed.

Households renting in land cultivate on average 10 parcels of land and half of them are rented (table 32). Households renting out land cultivate on average only 2 parcels and rent out 6 parcels on average. The maximum number of parcels rented in by one household and registered by our survey is 34, while the highest number of

parcels rented out that we observed is 33. Non-participants, cultivate 5 parcels on average.

Household characteristics differ among the three groups analysed in this section (see table 33).

First of all, households renting in land are larger (4.1 household members), with much younger and better educated household heads (49.3 years old and 8.4 years of schooling on average) compared to those renting out land (2.1 household members; 63.4 years old; 6.5 years of schooling) and the non-participants (3.8 household members; 52.8 years and 7.2 years of schooling).

It is important to notice that the highest share of households receiving remittances can be found among the households renting in land. This probably means that land rental activities between relatives in the villages and abroad go hand in hand with financial support from the households living abroad.

Further, membership in agricultural enterprises is not so common. One-fifth of the households renting in land are member/partner of an enterprise, while this share is considerably lower for households renting out land (12.5%) and especially for the non-participants (5.4%).

Another important difference between the households renting in and renting out land is the share of household heads working on the farm. While this number is only 62.5% for the households renting out land, it is 92% for the households renting in land.

The most important reason to rent out land is that the household head is too old to cultivate the land (50% of the answers; table 34). Only in 25% of cases the household reports to rent out because it has too much land compared to its needs. Only 5% of all households want to rent out (more) land, and 43% of them are constrained by the lack of farmers willing to rent it in (table 35). Bad quality of the

land and fear for improper cultivation comprise one-third of the reasons for not being able to rent out more land.

Almost half of the households are renting in land because of a lack of financial resources to buy land (table 36). 3% consider land renting as more profitable and 14% prefer renting land above buying.

3.5 Land Rental Contracts

Most agricultural land (72%) in Macedonia is owned by private persons. Table 29 shows that a similar share (75%) of all parcels owned/cultivated by households living in the village is also used by its owner. Almost 13% of the parcels in ownership of or use by the villagers is rented from other individuals and 5% of the parcels of the villagers is rented out. This means that a considerable share of the parcels is rented between individuals who are not living in the same village.

Land rental contracts are important to increase security of operation. However, their presence in the Macedonian land rental market is restricted and most of the land exchanges are informal and based on an oral agreement. Our data show that 99% of all contractual arrangements in the Macedonian land rental market have a verbal/oral form.

3.5.1 Land rental contracts between individuals and the state

For this type of transactions a written and registered contract is needed. State land can be obtained by individuals after participation in a special auction announced by the State, which are conducted in Skopje. The farmer who wants to rent in state land should submit his/her offer in a closed envelope. All offers are opened at the same time. The highest bid wins the auction. State land is usually rented out for a

period of 5 years and is extremely attractive for the rural households. First, it is consolidated and parcels are up to 35 ha large. Second, it can be rented for a long period, which gives the farmer the possibility to plan his/her future activities and investments. Third, the costs for submitting the offer and the rental payments are not so high. There are several places where state land is cultivated illegally, and hence management of the state land and the control over its use should be strengthened.

3.5.2 Land rental contracts between individuals

The land rental market in the FYROM is dominated by land exchanges between relatives and as a consequence, oral rental agreements are most common. These informal land exchanges are not registered by a notary and are difficult to be capture in official statistics. Farmers are not obliged to register how much land they cultivate. Moreover, farmers even avoid to sign rental contracts because of transaction costs and tax reasons.

Land exchange between individuals occurs mostly between relatives who emigrated and those that stayed in the villages. Formal contracting between emigrated relatives and those who live in the village is practically absent. Rental payments are often not collected by the landlord who lives abroad. The tenant has to cover the land tax (currently not in use) and all other costs/taxes related to the property of the landlords (incl. the house). On the other hand, there are income flows from the landlords living abroad to the tenants' family, especially for the education of the tenants' children and the purchase of equipment like personal computers, videos, etc.

Land rental among non-relatives also occurs in the rural areas although much less frequently and occurs mainly when old people can not cultivate their land and/or

when households have lost part of their labour resources due to death cases and hence are forced to rent out their land. Land rental agreements between households living in the same village are mostly oral and the rent payment is fixed, usually in cash. When land exchanges occur between households living in different villages or between landowners living in urban areas and tenants from the villages, a written contract is signed, but it is not registered by a notary due to high transaction costs. In general, these rental agreements are for a one-year period and they are renewed every year. When rental payments are due, they are in almost all cases a fixed amount of money, varying from 67 Euro/ha up to 500 Euro/ha.

Land renting within the households occurs as well. In these cases, fathers cultivate the land of their sons who usually live in urban areas, or the sons are renting part of their fathers' land, without exchange of rental payments or formal contracting. This intra-family renting is mostly observed in the Ohrid and Resen rural areas, and in households where the father stayed abroad for a certain period of time and managed to earn enough financial means with which to buy enough land for its whole family.

Another major type of land exchange occurs between a marginal group of big landowners who usually live in urban areas and gathered their financial resources abroad and used them to buy land, and who rural households who do not have enough owned land at their disposal.

3.5.3 Land rental contracts between individuals and enterprises

Land renting between individuals and enterprises (presented mostly by the old type socially-owned enterprises) is not often observed in Macedonia. By now, land transactions between these both groups always go from enterprises to individuals, but not vice versa so a completely different situation than what we see in Bulgaria.

Land rental by enterprises is observed in the South-eastern part of the country, but the extent to which these relationships develop depends very much on the agricultural output market. Our survey evidence shows that payment delays on the side of the food processors cause contraction of land rental activities which has a negative affect on the welfare and the economic life of whole villages.

When land is rented in from enterprises, a written contract is usually signed for a one-year period. Enterprises usually rent out their land to landless households, or households whose own land is of bad quality.

3.6 Land cultivation, abandoned land and access to machinery services

3.6.1 Land cultivation

In the Macedonian rural areas, agriculture is the main source of income for the rural population.

Contrary to the Bulgarian rural households, the Macedonian ones do not cultivate their house yards. The house yard is used as a parking place for the agricultural machinery and other transport vehicles or for entertainment.

On average, a land-owning household possess 1.8 ha of land, situated on 6.8 parcels (tables 31 and 32), which means the average parcel size is 0.3 ha. A household cultivates, on average, 1.9 ha located on 7 parcels.

3.6.2 Abandoned land

Hardly any land is abandoned in the Macedonian rural areas. We only observe it in areas where state land is located, or in the places where land should be denationalised. Private farmers in the valleys cultivate all their land and there is even

scarcity of land in the villages with small TBSs. However, some private land is abandoned in the semi-mountainous or mountainous regions, but most of it is abandoned for more than 20-30 years and its use as agricultural land is considerably reduced. Transition increased the amount of abandoned land. In the Resen region for example where orchards (and more specifically apple trees) dominate the crop portfolio of the rural households, some fields not appropriate for growing apples and other orchards are left abandoned, as they are not of interest for the farmers.

Only 5% of the households abandoned parts of their land. Households renting in land don't own land that they leave abandoned, while households that do not participate in the rental markets leave very small parcels of land uncultivated (on average 0.04ha). The maximum amount of land abandoned by a household registered in the survey is 1.5 ha.

3.6.3 Access to machinery services

Macedonian rural households are well equipped with agricultural machinery, and more specific with tractors. Households often have one or two tractors, and the necessary equipment for land cultivation. Table 33 shows that on average 51% of the households in Macedonia own a tractor, among the households renting in land this share rises up to 65%. Among households renting out land nearly 40% owns a tractor. Moto-cultivators are owned by households renting in land (11.5%), but not by those renting out land. The latter group has less machinery in general.

Households obtained a large part of their machinery, during the communist period, in the middle of the 1970s - beginning of 1980s. Farmers permanently purchase new tractors as well as second-hand machinery from Bulgaria and Serbia & Monte Negro. Machinery ownership shows the importance of the sector and the need

of to develop the machinery market in the country, by improved access to credit for purchase of machinery and policies supporting the local production and the import of machines for land cultivation.

On average, 16.5% of the households in the rural areas use tractor services. Households renting out land use less tractor services (12.5%) than the households renting in land (26.9%).

3.7 Subsistence and market participation

Contrary to Bulgaria, most of the Macedonian rural households are not only producing for subsistence but are selling crop and/or livestock products on the market. More than 70 % of the households renting in land are producing for the market, while only 40% of the households renting out land sell their products on the market. In general, only 32% of all households are subsistence farmers. Due to the import taxes levied by Bulgaria for Macedonian agricultural products, problems to sell output rose. This lowered output prices not only in the South-eastern part, but also in the South-West. Since these taxes were imposed, Albanian traders became the main buyers of agricultural output.

Around 10% of all households have contracted with processor and about 7% have a contract with a trader. These shares are much higher for the households renting in land (respectively 23% and 15%), while none of the households renting out contracted with traders or processors.

Producers have difficulties to market its products. Nostalgia for the previous system when the purchase of all products has been guaranteed and prices have been high enough to cover all the costs exists in almost all villages. Current prices to obtain a spot on the agricultural market in the cities are extremely high compared to the

production prices. Households often go to the market early in the morning or even during the night to secure a place to sell their products.

3.8 Social aspects of the rural life

Life in the Macedonian villages has not changed much since the start of transition. Households are relatively large (3.8 members on average) and the household head is relatively young (53 years) and has on average a low education level (7 years) compared to the inhabitants in the rural areas in Bulgaria. Poverty, lack of financial means and access to credit remain unsolved problems demanding policy attention.

Few issues need to be added to the discussions in previous sections.

First, agriculture remains the main activity and income source in the villages. Villages are specialised in production of one product (eg apples, tobacco, watermelons, etc.), with a slight incorporation of other crops (mainly wheat, used for the subsistence). Hence, changes in output prices affect the income status and welfare of a whole village.

Second, there is great difference in the living standard of and the economic activities performed by households who receive remittances and households who do not.

Third, few household members receive pensions from abroad, mostly from Germany, which helps them overcome their financial constraints.

Last but not least, investments in the infrastructure of the villages are needed. Usually there is only one road covered with asphalt that goes through the village, the rest being ground paths and roads made by the inhabitants. Canalisation and water supply problems are huge and remain unsolved.

4 Policy implications and conclusions

The analysis in the previous sections shows that land rental markets are important for the agricultural development in Bulgaria and Macedonia.

Both in Bulgaria and Macedonia, agricultural land is very fragmented. Land owners own often several plots of land of very small size and shapes unfavorable for cultivation. Hence, there is a need to consolidate agricultural land and this should preferably be done on a voluntarily basis. The administrative approach should be left as a final option. Land rental can be a very useful tool to reduce land fragmentation problems. Currently, more and more Bulgarian cooperatives experience big financial constraints and difficulties to continue their operations sub-rent their land. This process of land sub-renting is a way of solving the problems related to the highly fragmented land ownership structures in the country. The co-operative structure acts as an intermediary: it rents in small parcels of land from the land owners who are often co-operative members, merges the small parcels to one (or few) consolidated parcel(s) which it rents out for a much higher rental price. Sub-renting land is a way to accommodate the demand for and need of consolidated land. This clearly indicates that land consolidation programmes and/or pilot projects should assist this spontaneous process of land consolidation.

In Bulgaria, numerous plots of land are owned by more than one person or household and this leads to problems in governing the land. Problems related to co-ownership of land should be reduced. Procedures to divide land among heirs should be simplified and facilitated. The question rises to what extent the state can interfere in the settlement of disputes among heirs. This may indeed not be the task of the government. Although they can provide a good juridical systems to settle disputes.

Land fragmentation and co-ownership of land both result from the fact that a land market was missing during communism. The outcome of this absence of land exchange is re-enforced by the way land was restituted and the current inheritance law, according to which every heir has the right to receive an equal share of the inherited assets. Will a review of the inheritance law solve the problem? A country's legislation is rooted in its history. Hence, a change in the inheritance law need to have a strong foundation and the question remains to what extent it can solve the problems of properties which have been divided based on the legislation which is currently in force. Furthermore, many western European countries have a comparable inheritance law and this does not need to lead to problems, especially when land can be exchanged through rental (Swinnen, 2003).

The importance of land fragmentation and co-ownership problems vary regionally. Therefore, regional approaches to tackle the problems are desirable.

There is a need to improve information on land ownership, i.e. to update the land databases. This mainly refers to the inclusion of current owners in the land database, instead of the names of their predecessors. The land register can be updated by establishing a state institution which undertakes the search for (co-)owners and by synchronising the land register with the municipality register of the inheritance service. This would reduce transaction costs to rent in land, i.e. to find the land owners, negotiate contracts, and validate the rental contracts. Currently, a landowner can rely on different types of documents to prove that he/she owns a certain parcel of land. Instead of having several documents with equal power, governments should take steps to standardize and unify land ownership documents. The transitional document, namely the contract for voluntary land division, should be eliminated, while issuance of notary deeds should be stimulated. If only one type of ownership

documents is valuable, property rights security will improve. It is important to apply a systematic approach to unify ownership documents so that all landowners can benefit.

When the state, cooperatives, farming companies, agricombinats enter into a land rental contract, it will often be a written contract that is registered at the notary office and/or land commissions. Although, when individuals/households exchange land among each other, this is often done based on a verbal agreements or a non-registered written contract. Registering all (or at least more) land rental contracts is desirable. On the one hand, registration of land tenure is a requirement of the European Union for accession.. On the other hand, registration of land rental contracts makes them more reliable and enforceable. Land use security will improve and this will boost investment incentives and hence agricultural efficiency. Therefore, it is important to reduce barriers and costs to register rental contracts. Although, land rental registration should not be made compulsory. Mandatory registration increases the costs of engaging in an agreement and this may have the opposite effect as intended by increasing transaction costs for some of the rental agreements which the agents themselves currently prefer to do informally. The question rises whether an alternative registration process is necessary and whether giving more power to local authorities would be a solution. Keeping and updating land ownership registers is the task of the government, while registration of land rental contracts could be done at a regional or local level only if there are good information flows among the different levels.

Abandoned land is widespread in the Bulgarian rural areas. Reasons for leaving land abandoned are manifold and mostly related with low quality of the land, old aged population and lack of agricultural activities in the rural areas. Leaving marginal or bad quality land abandoned is not a big issue, while providing incentives for owners

not to leave good quality land abandoned can be desirable. These measures can be both punitive and encouraging. An important issue related to that is quality categorisation of land. Our survey showed that many of the parcels that are left abandoned because of low quality are assigned a relatively good land category. This shows that 14 years after the start of the reforms, there is a need of a new quality categorisation of the agricultural land in the country, as many of these parcels are now covered with bushes, forest trees or have turned into pastures.

Land rental reallocates land to more productive users: relatively younger, better educated with more family labour at its' disposal so that moral hazard problems are reduced. Households who are least endowed with land use land rental to increase its farm size. Households who rent in are also the most active in the land sales market, which indicates again that buying and renting are complementary activities due to the trade off between security of operation and investment and credit constraints. The fact that households who rent in land run larger and more commercialised farms and that they have a higher living standard reveals the benefits of the possibility to exchange land.

Obstacles to expand agricultural activities and/or participate in the land rental market are mainly a lack of access to capital and capital assets. Therefore, it is important to increase access to credit and the availability of working capital and machinery. Exchange of machinery services through is a good way to circumvent imperfections in the credit market. Many households cultivate land for subsistence to get some additional income besides income they get from wages and pensions. Improving social security and especially securing the provision of sufficiently high pensions to elderly will make that land is be transferred to more productive users.

The development of land rental markets is not an issue on its own, but it should be embedded in a general framework of rural development. The functioning of land rental markets is linked with developments in input and output markets. Improved access to capital, availability of non-farm labour opportunities would affect the functioning of the land rental markets. Contracting with upstream processors might assist farmers to overcome market imperfections. Processors can assist in accessing capital and provide technical assistance. Further, the presence of a good juridical system is important so that mortgages and contract terms can be enforced. Updated land databases (both land ownership and land use records) would facilitate the development of land rental markets.

Conflicts between participants and low trust levels are an impediment for the functioning of land rental markets. A lack of trust between users, landowners and regional and national institutions results in discussions between co-owners, non-registration of rental contracts as well as the large number of verbal agreements.

Regulating rental payments as is done in some Western European countries can be beneficial for the functioning of the land rental market. However, upper and lower thresholds for the rental prices might only be indicative since it is very difficult to impose prices especially in the case of informal agreements and lack of competition in the sector. Furthermore, regulating rental payments might reduce incentives for landlords/tenants to participate in the land rental market. Moreover, in a free market, prices should be determined based on supply and demand of land. Although, the immovable character of land and the dominance of large-scale farming cooperatives and companies in the land rental market make information flows on land values desirable. Most important issue within this respect is actually the establishment of a

system to collect and distribute information about prevailing markets prices taking land quality into account.

5 Policy proposals

This study confirms that the functioning of labour and credit markets is very important for the development of the land rental market, as discussed by Vranken and Swinnen (2003). Imperfections in the labour and credit market have far reaching consequences for the function of the land market. Therefore, the general proposal is to direct public good investments to improve access to credit and stimulate the availability of non farm labour opportunities, to reduce market imperfections and to invest in infrastructure and rural development. Based on the policy recommendations and conclusion discussed in the previous section, a more specified course of action can be outlined.

1. Information and awareness campaigns should be implemented. Make landowners and (potential) users aware how they can use their asset land in an optimal way and inform farmers about the possibilities they have to use and exchange their land and how rental, especially in the case of written rental contracts, can reduce fragmentation problems without reducing security of operation.
2. It is important to support capacity for local authorities in the operation and maintenance of land tenure data base.
3. Registration of land transactions should be stimulated.
4. Land consolidation strategies should include incentives for owners not to leave good quality land abandoned. These measures can be both punitive and encouraging. In that respect, it is useful to improve public land management strategies and involve land banking/national land funds to consolidate land use. Further, social policies should be adjusted to promote efficient agricultural

production for example by providing early retirement schemes and viable pensions for elderly people.

5. Solve the problem of undivided properties in agro-combinats. These properties should be divided so that its users are more secure about future cultivation. This will enhance investments to improve the land.
6. Land valuation and land taxation criteria and schemes should be improved. Consequently, a change in land use can easily be linked with a change in land value and the tax that can be levied for a particular parcel.
7. Land market information systems should be established to disseminate referential/indicative price information.
8. Rural- regional development strategies on local/micro-regional level are necessary. Promoting non-farm labour opportunities and the use of land for non agricultural purposes (e.g. reforestation programs, protection of water reservoirs, construction of irrigation channels) is desirable.

6 References

- Davidova, S., Buckwell, A. and D. Kopeva, 1997, "Bulgaria: economics and politics of post-reform structures", in Swinnen, J, Buckwell, A. and E. Mathijs (eds), *Agricultural Privatisation, Land Reform and Farm Restructuring in Central and Eastern Europe*, Ashgate, Aldershot.
- Melmed-Sanjak, J., Bloch, P. and R. Hanson, 1998, Project for the analysis of land tenure and agricultural productivity in the Republic of Macedonia, Working Paper No 19, Land Tenure Center, University of Wisconsin-Madison.
- Kopeva, D., Noev, N and V. Evtimov, 2000, *Aspects of Land Consolidation in Bulgaria*, FAO, 122 pages.
- Kopeva, D. and N. Noev, 2001, "Aspects of Land Consolidation after the Land Reform in Bulgaria", in Ieda O. (ed.), *The New Structure of the Rural Economy of Post-communist Countries*, Slavic Research Center, Hokkaido University, Sapporo, Japan, 2001, pp.123-159.
- Kopeva, D. and N. Noev, 2003, "Subsistence Farming in Bulgaria: Between Tradition and Market Requirements", in the proceedings of the 76th EAAE Seminar *Subsistence Agriculture in Central and Eastern Europe: How to Break the Vicious Circle*, IAMO, Halle/Saale, Germany, forthcoming.
- Sadoulet, E., Murgai, R., and A. de Janvry, 2001, "Access to Land via Land Rental Markets" in: de Janvry, A., Gordillo, G., Platteau, J.-P. and E. Sadoulet (eds.), *Access to Land, Rural Poverty, and Public Action*, Oxford University Press, Oxford.
- Swinnen, J., 2002, "Political Reforms, Rural Crises, and Land Tenure in Western Europe", *Food Policy*, 27(4), pp. 371-394
- Vranken, L. and J.F.M. Swinnen, 2003, "Land Markets and Household Farms in Transition: Theory and Evidence from Hungary", *LICOS Discussion Paper*, No 129.

Figure 1. Farm restructuring

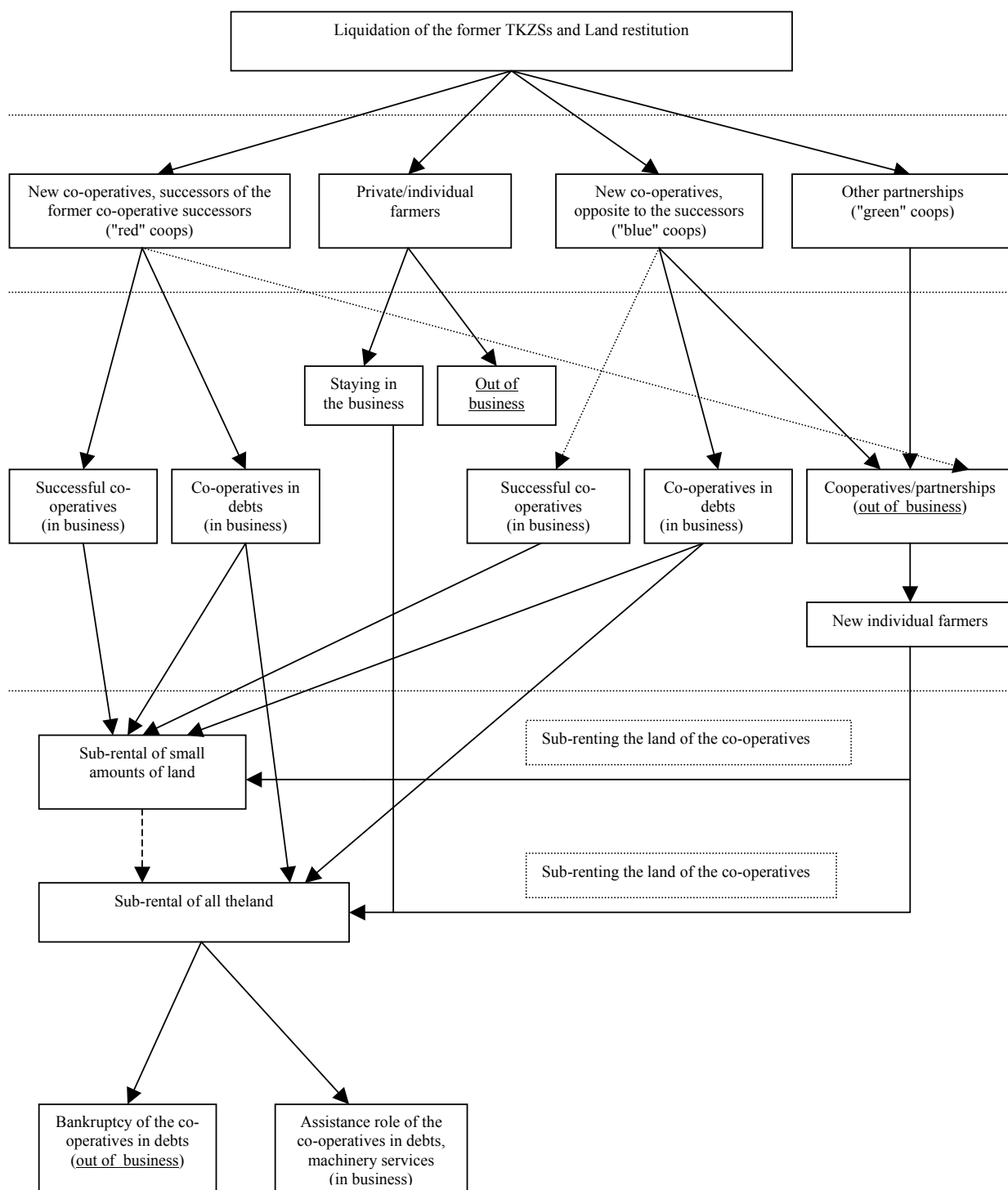
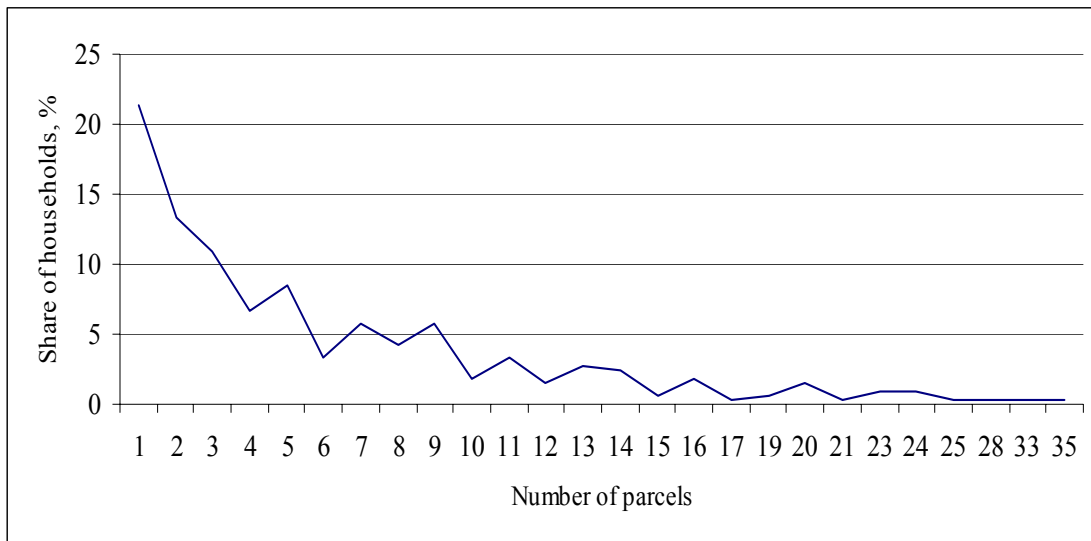
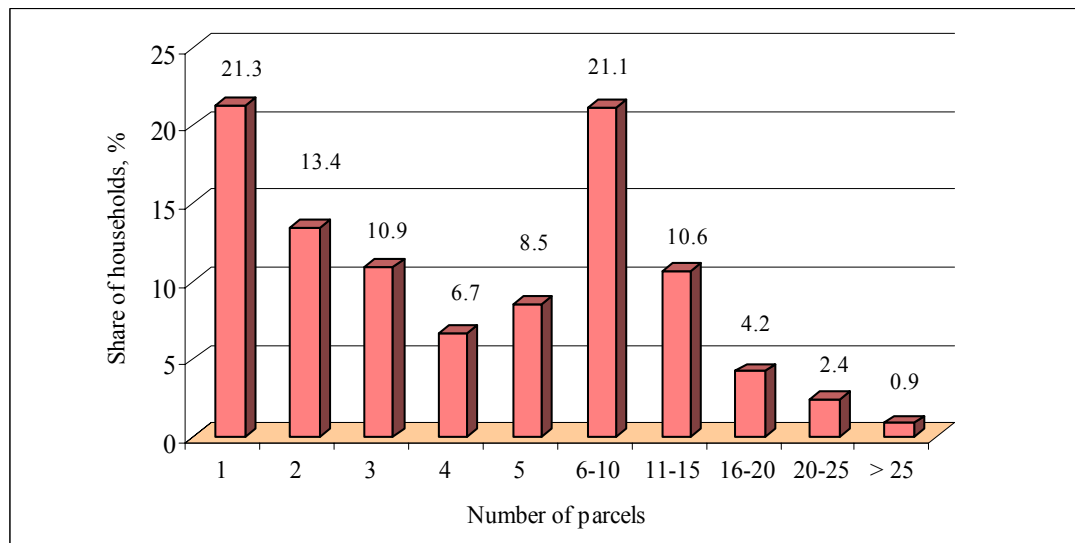


Figure 2. Number of parcels owned per household – Bulgaria, 2003



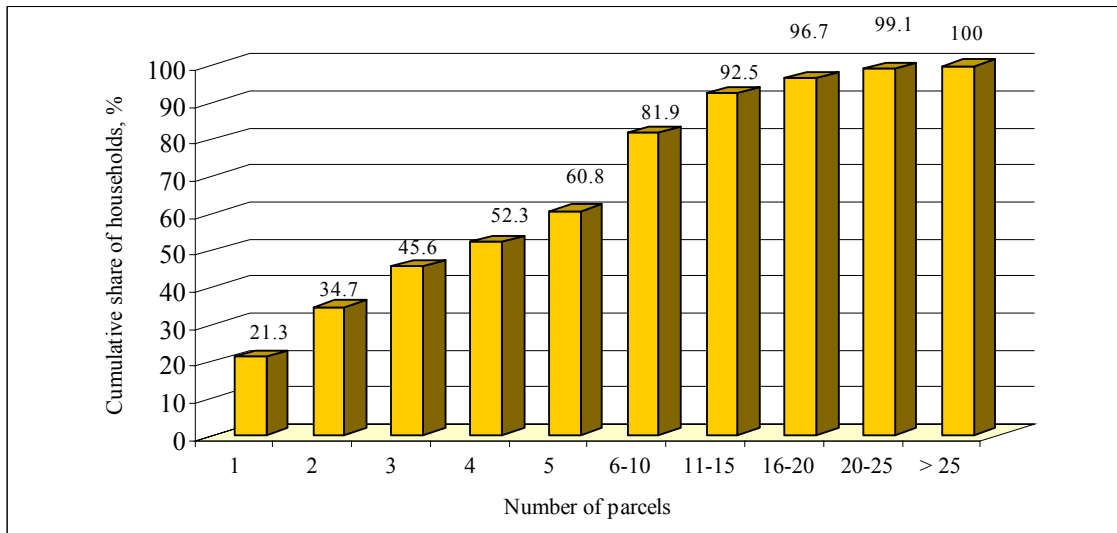
Source: Own calculations based on the 2003 sample

Figure 3. Distribution of the number of parcels owned per household – Bulgaria, 2003



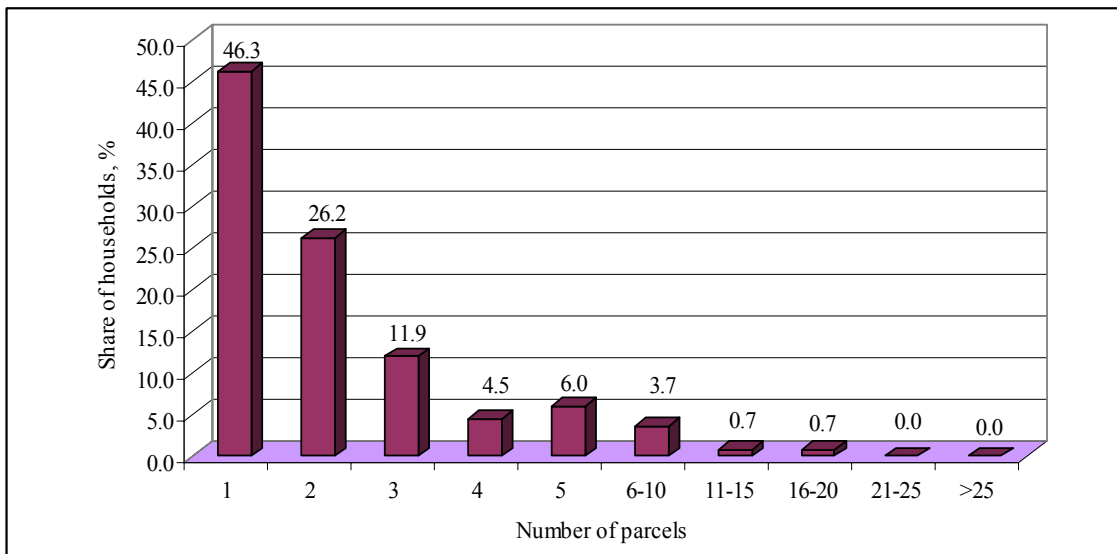
Source: Own calculations based on 2003 sample

Figure 4. Cumulative distribution of the number of parcels owned per household – Bulgaria, 2003



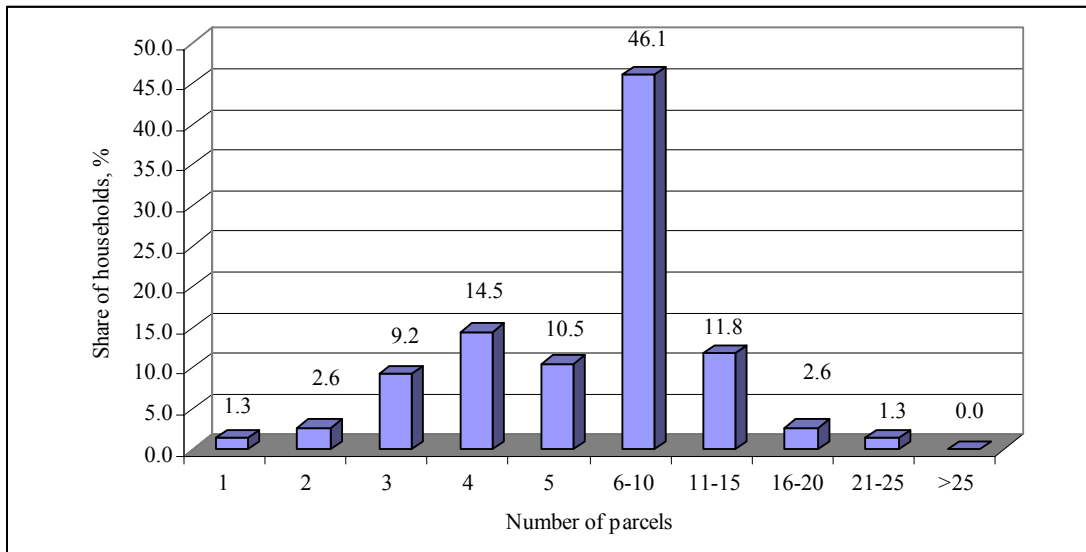
Source: Own calculations based on 2003 sample

Figure 5. Distribution of the number of parcels owned per household – Bulgaria, North-East, 2003



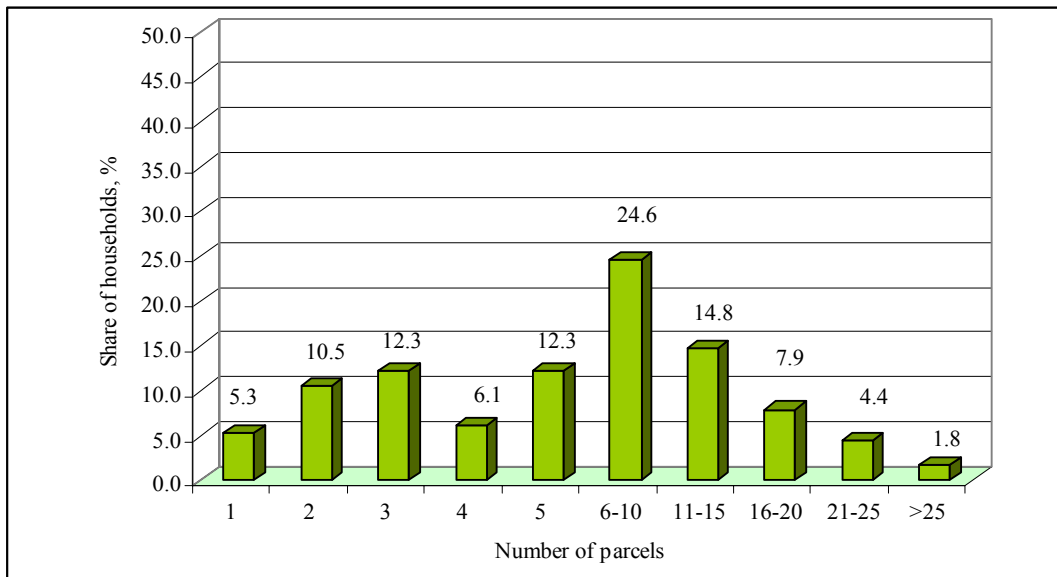
Source: Own calculations based on 2003 sample

Figure 6. Distribution of the number of plots owned per household – Bulgaria, North-Central, 2003



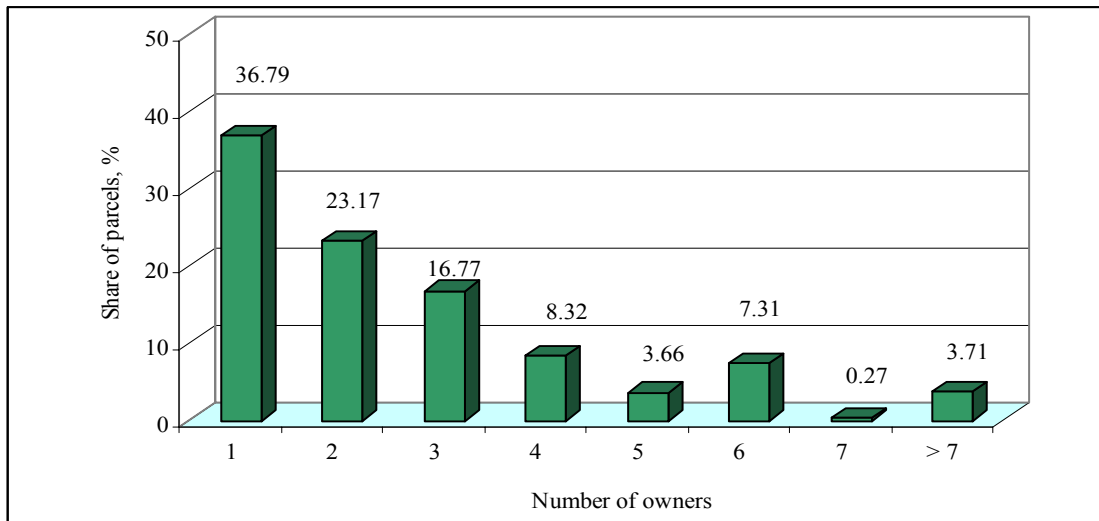
Source: Own calculations based on survey data from 2003

Figure 7. Distribution of the number of parcels owned per household – Bulgaria, South-Central, 2003



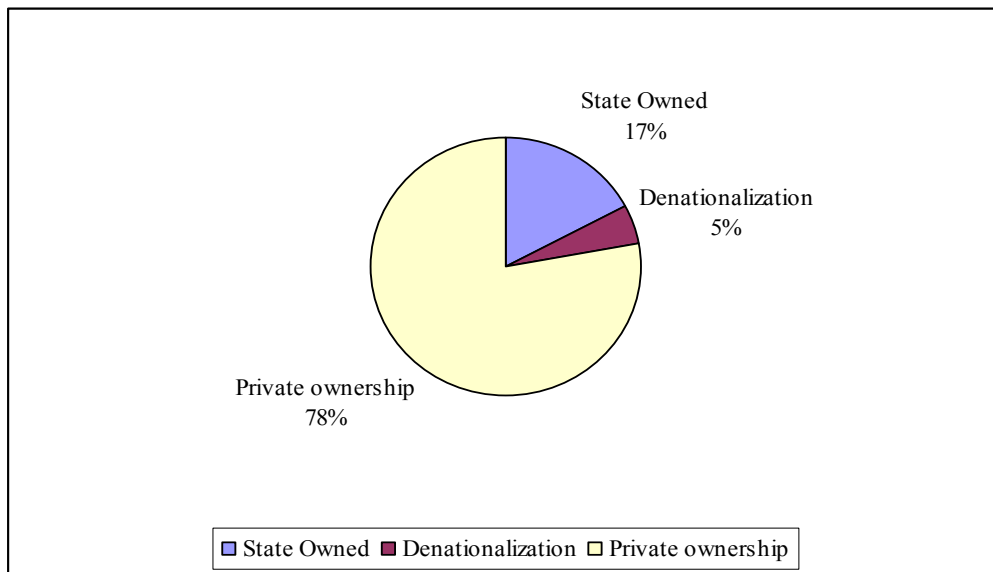
Source: Own calculations based on survey data from 2003

Figure 8. Number of owners per parcel of land – Bulgaria, 2003



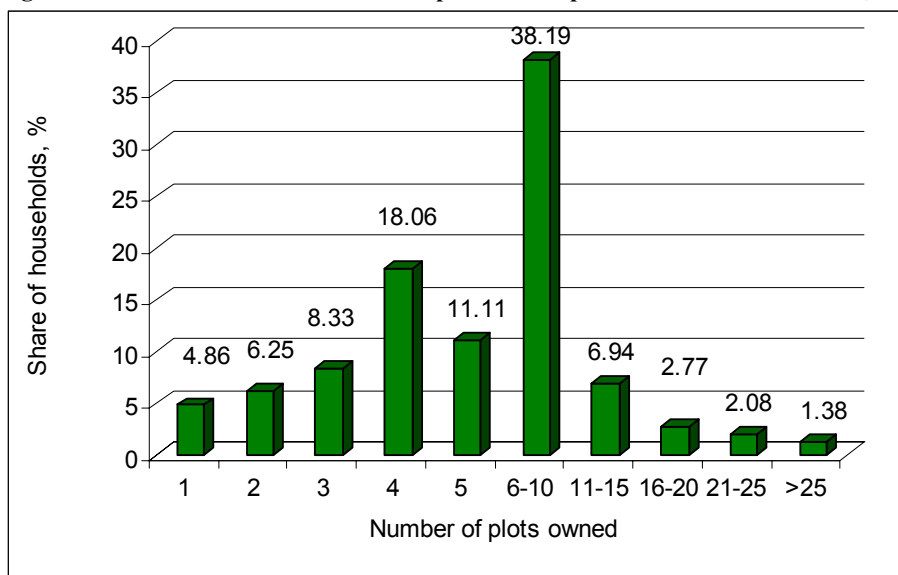
Source: Own calculations based on survey data from 2003

Figure 9: Land ownership structure in Macedonia



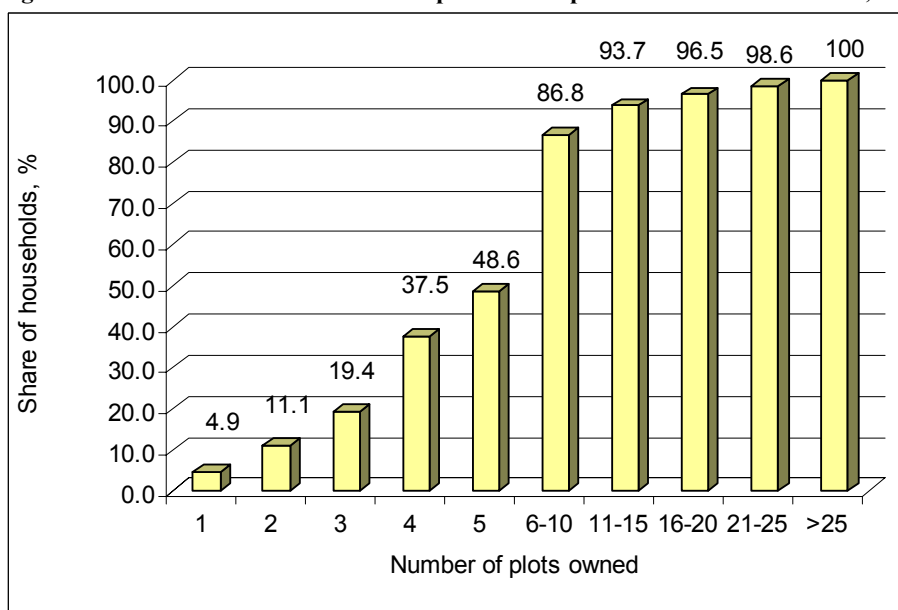
Source: Own calculations based on survey data from 2003

Figure 10. Distribution of the number of plots owned per household – Macedonia, 2003



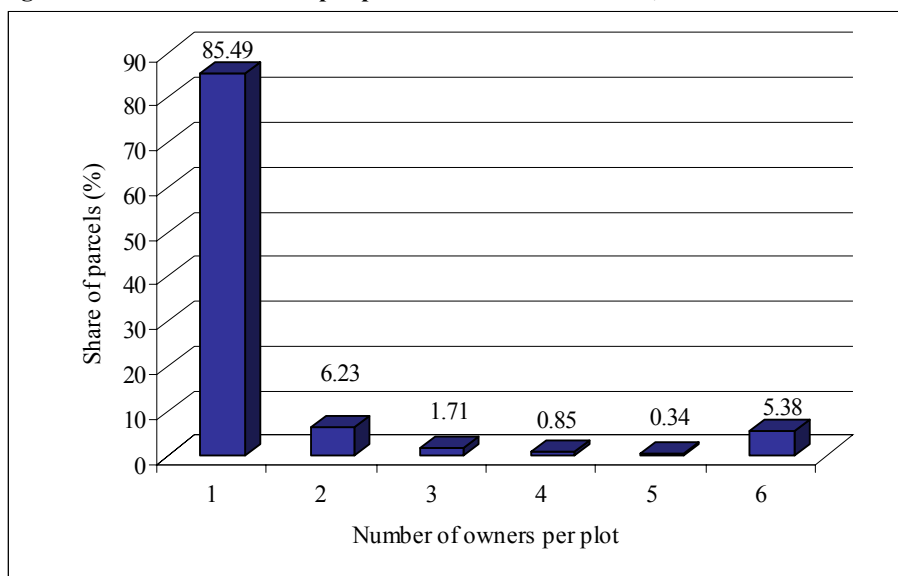
Source: Own calculations based on data from 2003

Figure 11. Distribution of the number of plots owned per household – Macedonia, 2003



Source: Own calculations based on the survey data

Figure 12. Number of owners per parcel of land – Macedonia, 2003



Source: Own calculations based on the survey data

Tables

Table 1: Pre-reform agricultural structures in Bulgaria, 1985

	Share of arable land (%)	Average size (ha)
AICs comprising of	80.7	12 600
TKZS	58.3	4 000
SAFs	8.8	2 100
MTS	0	0
Brigades	13.6	na
Other agricultural organisations	6.2	1 215
Private plots	13.1	0.38
Total	100	

Source: NSI, Davidova et al., 1985

Table 2: Post-reform agricultural structures in Bulgaria, 1995-1999

	1995		1999	
	Share of arable land (%)	Average size (ha)	Share of arable land (%)	Average size (ha)
State farms	6.5	310.9	1.6	241.2
Municipality farms	-	-	2.0	n.a.
Organisations under liquidation	-	-	0	0
Co-operatives	40.8	815.3	36.8	482.5
Individual farms	52.5	1.4	56.0	2.6*
Farming companies	0.7	283.5	3.6	378.6
Total	100.0		100.0	

* Kopeva et al. (2000).

Source: NSI, Davidova et al., 1997 (for 1995); NSI, Noev et al., 2002 (for 1999)

Table 3. Characteristics of the different groups of Bulgarian IFs according to their behavior in the land rental market in 1998

	IFs not renting in/out	IFs renting land in	IFs renting land out
Share of total sample	60.7	8.4	31.4
Age of the household head (years)	63.4	52.2	65.2
Education of the household head (years)	8.5	9.6	8.5
Household size	2.9	4.0	2.6
Machinery index	2.0	6.0	1.6
Share of households owning machinery (%)	43.7	81.9	33.1
Share of households using machinery services (%)	38.9	72.3	30.6
Building index	1.1	1.5	1.2
Livestock index	4.0	6.4	4.5
Land endowment (ha)	2.12	1.86	3.5
Rented land in (ha)	-	3.93	0.03
Land rented out (ha)	-	0.11	3.01
Farm size (ha)	2.12	5.68	0.52
Division of land ownership by source (ha)			
Owned before 1990	0.20	0.14	0.15
Received under restitution programme	1.82	1.61	3.04
Received under compensation programme	0.06	0.06	0.17
Received as land given to landless	0.015	0.02	0.01
Bought after 1990	0.002	0.04	0.00
Share of households (%) with land:			
Owned before 1990	76.4	76.6	79.6
Received under restitution programme	73.4	61.7	91.1
Received under compensation programme	4.4	5.3	7.1
Received as land given to landless	1.8	2.1	1.4
Bought after 1990	1.2	3.2	0.0
Source of land (%)			
Owned before 1990	27.6	32.1	6.6
Received under restitution programme	66.9	62.1	85.2
Received under compensation programme	3.5	3.9	6.2
Received as land given to landless	0.7	1.2	0.6
Bought after 1990	0.6	0.6	0.0
Share of written contracts	-	38.3	61.8
Rent payment index	-	1.55	1.14
Membership in co-operative/agr. enterprise	45.2	24.5	90.1
Share of commercialised IFs	38.4	78.7	26.9
Share of commercialised IFs selling only crops	21.3	59.6	15.0
Income situation (= living standard)	2.14	2.59	2.34
Income ('000 BGL)			
Average income from agr. activities	1721	7014	1521
Total household income from agricultural activities per household member	654	2061	709
Average monthly expenditure per household member	60.8	74.1	53.2
Share of food expenditure in total expenditure per household member (%)	70.4	49.7	67.6
Share of households (%) with income from			
Wage employment	54.0	66.7	49.4
Pensions	87.0	55.3	90.7
Rents	41.7	17.5	82.2
Dividends, interest, etc.	9.2	7.1	9.1
Other	43.5	68.9	40.4
Average annual investments per household ('000 BGL)	95.9	2245.2	66.5
Distance of the farm from the county capital	73	114	70

Source: Own calculations based on 1998 data set

Tables

Table 4. Characteristics of Bulgarian tenants in 1998

	Non-tenants 0	Class 1 (0, 0.5]	Class 2 (0.5, 2.0]	Class 3 (2.0, 6.0]	Class 4 < 6.0
<i>Land rented in - range for grouping</i>					
Share of total sample	91.6	4.1	2.1	1.3	1.0
Share of tenants	-	48.9	24.5	14.9	11.7
Age of household head (years)	64.1	51.5	52.5	56.1	49.8
Education of household head	8.5	9.5	8.8	9.6	11.2
Household size	2.8	4.0	3.9	4.5	3.9
Machinery index	1.9	7.5	4.9	4.3	4.6
Share of household owning machinery (%)	39.8	71.7	82.6	100.0	100.0
Share of households using machinery services (%)	35.8	63.0	69.6	92.9	90.9
Building index	1.2	1.1	1.9	2.4	1.5
Livestock index	4.1	3.7	6.1	12.0	11.7
Land endowment (ha)	2.58	0.58	1.51	3.94	5.40
Land rented in (ha)	-	0.22	1.29	4.07	24.76
Land rented out (ha)	1.02	0.06	0.00	0.53	0.00
Farm size (ha)	1.56	0.74	2.80	7.48	30.16
Division of land ownership by source (ha)					
Owned before 1990	0.2	0.11	0.13	0.24	0.14
Received under restitution programme	2.2	0.44	1.34	3.25	4.97
Received under compensation programme	0.1	0.01	0.04	0.29	0.00
Received as land given to landless	0.02	0.001	0.00	0.16	0.00
Bought after 1990	0.001	0.004	0.00	0.0	0.29
Share of households (%) with land:					
Owned before 1990	77.4	71.7	73.9	92.9	81.8
Received under restitution programme	79.4	58.7	52.2	71.4	81.8
Received under compensation programme	5.3	2.2	4.4	21.4	0.0
Received as land given to landless	1.6	2.2	0.0	7.1	0.0
Bought after 1990	0.8	4.4	0.0	0.0	9.1

Tables

Table 4. Characteristics of Bulgarian tenants in 1998(continued)

	Non-tenants 0	Class 1 (0, 0.5]	Class 2 (0.5, 2.0]	Class 3 (2.0, 6.0]	Class 4 < 6.0
Source of land (%)					
Owned before 1990	20.5	37.7	40.3	14.9	12.9
Received under restitution programme	73.2	57.6	56.4	62.4	85.4
Received under compensation programme	4.4	1.2	3.3	15.8	0.0
Received as land given to landless	0.7	0.1	0.0	6.9	0.0
Bought after 1990	0.4	1.0	0.0	0.0	1.7
Share of households renting from state or municipality (%)	-	23.9	47.8	21.4	36.4
Share of households renting from other institutions (%)	-	10.9	0.0	0.0	0.0
Share of households renting from relatives (%)	-	15.2	26.1	57.1	45.5
Share of households renting from non-relatives (%)	-	54.4	30.4	57.1	45.5
Land rented from state and municipality (ha)	-	0.05	0.55	0.63	3.18
Land rented from other institutions (ha)	-	0.03	0.00	0.00	0.00
Land rented from relatives (ha)	-	0.03	0.30	2.36	7.95
Land rented from non-relatives (ha)	-	0.11	0.40	1.08	13.64
Share of written contracts	-	34.8	39.1	50.0	36.4
Rent payment index	-	1.65	1.5	1.31	1.55
Membership in co-operative/agr. enterprise	60.4	17.4	30.4	42.9	18.2
Share of commercialised households	34.4	65.2	87.0	100.0	100.0
Share of commercialised households selling only crops	19.1	52.2	47.8	71.4	100.0
Income situation	2.20	2.25	2.73	3.07	3.09
<i>Income ('000 BGL)</i>					
Average household's income from agr. activities	1636	2410	3407	10560	29296
Total household income from agr. activities per hh member	666	720	1906	2452	9327
Average monthly expenditure per household member	58.11	56	72	74.17	153.12
Share of food expenditure in total expenditure (%)	69.5	64.1	45.8	49.0	31.9

Tables

Table 4. Characteristics of Bulgarian tenants in 1998(continued)

	Non-tenants 0	Class 1 (0, 0.5]	Class 2 (0.5, 2.0]	Class 3 (2.0, 6.0]	Class 4 < 6.0
Share of households (%) with income from					
Wage employment	52.5	58.1	72.2	91.7	62.5
Pensions	88.1	60.9	52.2	64.3	27.3
Rents	60.2	5.6	33.3	33.3	33.3
Dividends, interest, etc.	9.3	0.0	0.1	0.0	50.0
Other	42.3	47.4	93.3	92.3	87.5
Average annual investments per household ('000 BGL)	85	290	269	5556	10341
Distance of the farm from the county capital	72	147	92	74	80

Source: Own calculations based on 1998 data set

Tables

Table 5. Characteristics of Bulgarian Individual farmers renting out land in 1998

	owners-operators 0	Class 1 (0, 1.0]	Class 2 (1.0, 2.2]	Class 3 (2.2, 5.0]	Class 4 < 5.0
<i>Land rented out - range for grouping</i>					
Share of total sample	68.6	7.8	8.5	10.6	4.6
Share of landlords	-	24.6	26.9	33.7	14.7
Share of households not cultivating land	-	13.8	19.9	18.5	28.8
Age of household head (years)	62.1	62.2	65.4	65.4	69.6
Education of household head (years)	8.7	8.9	8.1	8.3	9.3
Household size	3.0	2.5	2.8	2.4	2.8
Machinery index	2.5	2.3	1.5	1.1	1.5
Share of household owning machinery (%)	47.9	39.1	36.8	26.1	30.8
Share of households using machinery services (%)	42.6	36.8	29.5	26.9	30.8
Building index	1.2	1.0	1.3	1.3	0.9
Livestock index	4.18	3.72	4.08	5.63	4.16
Land endowment (ha)	2.08	1.29	2.06	3.9	8.91
Rented land out (ha)	-	0.72	1.65	3.45	8.31
Land rented in (ha)	0.47	0.00	0.03	0.05	0.60
Farm size (ha)	2.55	0.57	0.44	0.52	4.16
Division of land ownership by source (ha)					
Owned before 1990	0.17	0.12	0.15	0.20	0.09
Received under restitution programme	1.79	1.03	1.66	3.40	8.06
Received under compensation programme	0.05	0.04	0.14	0.20	0.38
Received as land given to landless	0.02	0.001	0.02	0.03	0.01
Bought after 1990	0.01	0.00	0.00	0.00	0.00

Tables

Table 5. Characteristics of Bulgarian Individual farmers renting out land in 1998 (continued)

	owners-operators 0	Class 1 (0, 1.0]	Class 2 (1.0, 2.2]	Class 3 (2.2, 5.0]	Class 4 < 5.0
Share of households (%) with land:					
Owned before 1990	76.2	78.2	82.1	83.2	67.3
Received under restitution programme	72.0	90.8	88.4	89.7	94.2
Received under compensation programme	4.4	5.8	10.5	6.9	3.9
Received as land given to landless	1.7	2.3	1.1	0.9	1.9
Bought after 1990	1.4	0.0	0.0	0.0	0.0
Source of land (%)					
Owned before 1990	28.0	10.8	6.7	5.5	1.1
Received under restitution programme	65.6	83.8	80.4	86.7	93.1
Received under compensation programme	3.4	3.5	8.9	6.9	4.1
Received as land given to landless	0.8	0.1	1.0	0.9	0.01
Bought after 1990	0.6	0.0	0.0	0.0	0.0
Share of households renting out to enterprise where the landlord is not a shareholder (%)	-	9.2	4.2	2.5	3.8
Share of households renting out to enterprises where the land owner is a shareholder (%)	-	72.4	91.6	94.9	78.8
Share of households renting out to relatives (%)	-	4.6	3.2	1.7	13.5
Share of households renting out to non-relatives (%)	-	13.8	1.1	0.8	9.6
Land rented out to enterprise where a household member is not a member or shareholder (ha)	-	0.06	0.06	0.09	0.27
Land rented out to enterprises where at least one of the hh landlords is shareholder (ha)	-	0.55	1.53	3.27	6.07
Land rented out to relatives (ha)	-	0.02	0.04	0.06	1.34
Land rented out to non-relatives (ha)	-	0.08	0.02	0.03	0.64

Tables

Table 5. Characteristics of Bulgarian Individual farmers renting out land in 1998 (continued)

	owners-operators 0	Class 1 (0, 1.0]	Class 2 (1.0, 2.2]	Class 3 (2.2, 5.0]	Class 4 < 5.0
Share of written contracts	-	60.9	66.3	57.9	63.5
Rent payment index	-	1.14	1.13	1.09	1.25
Membership in co-operative/agr. enterprise	42.3	77.0	95.8	97.5	84.6
Share of commercialised households	43.3	32.2	24.2	26.9	23.1
Share of commercialised households selling only crops	25.8	18.4	13.6	12.9	12.5
Income situation	2.19	2.24	2.45	2.31	2.34
Income ('000 BGL)					
Average household's income from agr. activities	2345	1430	1357	1634	1716
Total household income from agr. activities per household member	816	631	657	799	730
Average monthly expenditure per household member	62.4	52.4	55.0	52.5	53.3
Share of food expenditure	67.5	64.4	74.3	64.8	67.1
Share of households (%) with income from					
Wage employment	56.0	48.5	45.3	51.4	58.3
Pensions	82.9	85.1	90.5	91.6	98.1
Rents	37.9	62.8	82.6	90.2	95.9
Dividends, interest, etc.	8.9	2.0	8.8	11.1	26.7
Other	47.5	33.9	47.5	37.7	46.7
Average annual investments per household ('000 BGL)	358	91	36	42	23
Distance of the farm from the county capital	79	85	68	65	58

Source: Own calculations based on 1998 data set

Tables

Table 6. Bulgarian counties included in the different regions

Region	County
North-western Region	Vraca, Vidin, Montana
Central-North Region	Pleven, Lovech, Russe, Veliko Tarnovo, Shoumen, Gabrovo, Razgrad, Targovishte, north part of Sofia-county
North-eastern Region	Silistra, Dobrich, Varna
South-eastern Region	Bourgas
Central-South Region	Pazardjik, Smolian, Plovdiv, Haskovo, Kurdjali, Stara Zagora, Yambol, Sliven
South-western Region	Blagoevgrad, Kustendil, Pernik, South part of Sofia county

Table 7. Distribution of tenants and non-tenants by regions in 1998

Region	Non-tenants	Class 1 (0, 0.5]	Class 2 (0.5, 2.0]	Class 3 (2.0, 6.0]	Class 4 < 6.0
North-western Region	15.16	2.17	8.70	0.00	9.09
Central-North Region	32.65	8.70	39.13	28.57	54.55
North-eastern Region	13.90	0.00	17.39	28.57	27.27
<i>Total for the North part</i>	<i>61.71</i>	<i>10.87</i>	<i>65.22</i>	<i>57.14</i>	<i>90.91</i>
South-eastern Region	3.21	0.00	0.00	7.15	0.00
Central-South Region	24.20	32.61	17.39	35.71	9.09
South-western Region	10.88	56.52	17.39	0.00	0.00
<i>Total for the South part</i>	<i>38.29</i>	<i>89.13</i>	<i>34.78</i>	<i>42.86</i>	<i>9.09</i>
Total	100.00	100.00	100.00	100.00	100.00

Source: Own calculations based on 1998 data set

Table 8. Distribution of Bulgarian landlords and owners-operators by regions in 1998

	Owners - operators	Class 1 (0, 1.0]	Class 2 (1.0, 2.2]	Class 3 (2.2, 5.0]	Class 4 < 5.0
North-western Region	17.79	4.60	7.37	5.04	11.54
Central-North Region	32.99	17.24	20.00	35.30	55.77
North-eastern Region	7.27	22.99	27.37	34.45	21.15
<i>Total for the North part</i>	<i>58.05</i>	<i>44.83</i>	<i>54.74</i>	<i>74.79</i>	<i>88.46</i>
South-eastern Region	2.47	6.90	8.42	0.84	0.00
Central-South Region	22.60	34.48	36.84	24.37	11.54
South-western Region	16.88	13.79	0.00	0.00	0.00
<i>Total for the South part</i>	<i>41.95</i>	<i>55.17</i>	<i>45.26</i>	<i>25.21</i>	<i>11.54</i>
Total	100.00	100.00	100.00	100.00	100.00

Source: Own calculations based on 1998 data set

Table 9. Distribution of different types of Bulgarian individual farmers by regions in 1998

	IFs renting land in	IFs renting land out	IFs not participating in the rental market	Non-tenants	Owner-operators
North-western Region	4.25	6.52	15.16	17.79	19.50
Central-North Region	24.47	29.74	32.65	32.99	33.87
North-eastern Region	11.70	27.76	13.90	7.27	6.89
<i>Total for the North part</i>	<i>40.42</i>	<i>64.02</i>	<i>61.71</i>	<i>58.05</i>	<i>60.26</i>
South-eastern Region	1.06	4.25	3.21	2.47	2.79
Central-South Region	26.60	28.33	24.20	22.60	22.14
South-western Region	31.92	3.40	10.88	16.88	14.81
<i>Total for the South part</i>	<i>59.58</i>	<i>35.98</i>	<i>38.29</i>	<i>41.95</i>	<i>39.74</i>
Total	100.00	100.00	100.00	100.00	100.00

Source: Own calculations based on 1998 data set

Table 10. Participation of the individual farmers in the Bulgarian rental market by region in 1998

Region	IFs renting land in	IFs renting land out	IFs not participating in the rental market
North-western Region	2.50	14.38	83.13
Central-North Region	6.41	29.25	64.35
North-eastern Region	7.14	63.64	30.52
South-eastern Region	2.94	44.12	55.88
Central-South Region	9.12	36.50	55.11
South-western Region	21.13	8.45	71.13

Source: Own calculations based on 1998 data set

Table 11. Regional variation in land use and ownership of Bulgarian households in 2003

Share of households that	North- eastern	North- central	South- central	Total
Rent in	41.1	13.3	11.4	24.6
Rent out	80.4	88.0	52.3	72.2
Do not participate in rental market	12.3	9.6	36.4	20.1
Use plot(s) that they own	8.6	50.6	44.7	30
Use land illegally	0.0	3.6	0.8	1
Leave land abandoned	2.5	90.4	51.5	38.9
Own land which is cultivated by other co-owner	0.0	14.5	9.8	7
Share of co-owned parcels	7.9	75.5	77.4	63
Average number of owners per parcel	1.2	2.4	3.6	2.8

Source: Own calculations based on the sample from 2003

Table 12. Share of Bulgarian households renting land, 2003

Share of households	Rent out		
Rent in	No	Yes	Total
No	20.1	55.3	75.4
Yes	7.7	16.9	24.6
Total	27.8	72.2	100.0

Source: Own calculations based on the sample from 2003

Table 13. Land use and ownership of Bulgarian rural households in 2003- size (ha)

Area (ha)	HH renting in	HH renting out	Non- participants	Total
Owned	2.55	4.29	0.82	3.29
Cultivated	1.32	0.3	0.31	0.49
Used by owner	0.13	0.16	0.31	0.19
Rented in	1.19	0.14	0	0.29
Rented out	2.3	3.72	0	2.69
Used illegally	0.01	0.01	0.05	0.01
Used by other co-owner	0	0.04	0	0.03
Abandoned	0.12	0.37	0.52	0.38

* Included are all households for which land data has been collected (landless are included as well)

Source: Own calculations based on the sample from 2003.

Table 14. Land use and ownership of Bulgarian rural households in 2003- number of parcels

Number of parcels	HH renting land in	HH renting land out	Non-participants	Total
Owned	2.4	6.6	3.3	5.3
Cultivated	2.2	5.5	3.0	4.3
Used by owner	0.4	0.6	0.4	0.7
Rented in	1.5	0.3	1.4	0.4
Rented out	1.8	5.0	2.6	3.6
Used illegally	0.0	0.0	0.0	0.0
Used by other co-owner	0.0	0.2	0.0	0.1
Abandoned	0.3	0.9	0.3	0.9

Source: Own calculation based on survey data from 2003

Table 15. Characteristics of Bulgarian rural households in 2003

		Households renting out land	Households renting in land	Non- participants	Total
Share male head	%	71.5	81.8	82.4	73.0
Age household head	years	64.8	59.9	63.0	63.6
Education household head	years	8.7	8.8	9.9	8.8
Share household head with agricultural education	%	8.1	13.0	8.8	8.3
Share head working on farm	%	91.9	94.8	55.9	86.3
Share receiving remittances	%	9.1	5.2	8.8	8.3
Share with member/partner of cooperative/company	%	65.1	62.3	0.0	53.5
Household size	members	2.0	2.4	2.5	2.2
Share owning machinery	%	59.3	55.9	23.5	59.8
Share owning tractor	%	3.7	5.1	3.0	3.7
Share owning cultivator	%	10.4	6.8	15.2	10.6
Share leasing tractors	%	56.1	67.8	24.2	50.9
Share contracting with processor	%	0.0	6.8	0.0	1.9
Share contracting with processors in previous years	%	0.0	6.8	0.0	1.9
Share contracting with traders this crop year	%	0.0	0.0	0.0	0.0
Share contracting with traders in previous years	%	0.0	0.0	0.0	0.0
Share selling livestock products	%	9.1	11.9	42.4	16.2
Share selling crop products	%	20.1	33.9	6.1	18.5
Share selling crop and livestock products	%	1.8	1.7	3.0	2.3

Source: Own calculations based on the sample from 2003

Table 16. Reasons for renting in land, Bulgaria, 2003

Reason	Percent
Not enough money to buy land	20
Nobody wants to sell the land that we are interested in	4
Renting is preferred above buying	11
Favourable contract terms beside payment	4
Other	62
Total	100

Source: Own calculations based on the sample from 2003

Table 17. Reasons for renting out land, Bulgaria, 2003

Reason	Percent
Too old to cultivate the land	31
Employed in other sectors	6
Not interested in agriculture	10
Not enough working capital	17
Can not find workers	0
Land of bad quality	1
Too much land compared to their needs	4
Agriculture is not profitable	1
Co-ownership problems	0
Other	30
Total	100

Source: Own calculations based on the sample from 2003

Table 18. Reasons for not being able to rent in (more) land, Bulgaria, 2003

	Percent
Households willing to rent in more land	8
<i>Obstacles to rent in (more) land</i>	
Not enough money to run larger farm	36
No land available	16
No developed output market	12
No labour available	4
Land withdrawal problems	4
Other	28
Total	100

Source: Own calculations based on the sample from 2003

Table 19. Reasons for not being able to rent out more land, Bulgaria, 2003

	Percent
Households willing to rent out more land	22
<i>Obstacles to rent out more land</i>	
Afraid to lose land	0.0
Rental payment too low	1.2
No one wants to rent in land	42.4
Afraid the land will be cultivated badly	0.0
Too low quality	45.9
Intention to sell the land	0.0
Problems with co-owners	1.2
Contract duration too long	0.0
Contract duration: too short	0.0
Other	9.3
Total	100.0

Source: Own calculations based on the sample from 2003

Table 20. Problems with current rent out arrangement, Bulgaria, 2003

<i>Problems</i>	<i>Percent</i>
Duration of the contract is too long	2.50
Too low rent payment	58.75
Registered contract would be preferred	1.25
Contract terms are not fulfilled	31.25
Other	6.25
Total	100

Source: Own calculations based on the sample from 2003

Table 21. Destination/origin of the land owned/cultivated by Bulgarian rural households, 2003 – parcel level information

Share of parcels that are owned/cultivated by households permanently living in the village	Percent
Used by the owner	12.3
Cultivated by other coowner	2.1
Rented out to an other household	2.6
Rented out to a cooperative	38.0
Rented out to company	21.9
Rented out to a cooperative which leaves it abandoned	0.1
Rented out to a company which leaves it abandoned	1.7
Rented in from another household	0.0
Rented in from the municipality	3.5
Rented in from state	0.3
Rented in from an enterprise	0.3
Rented in from an other institution	0.1
Cultivated illegally	0.4
Abandoned	16.7
Total	100

Source: Own calculations based on the sample from 2003

Table 22. Destination/origin of the land owned/cultivated by Bulgarian rural households, 2003 – household level information

Share of rural households that own/cultivate a parcel that is	Percent
Used by the owner	30.4
Cultivated by other co-owner	6.6
Rented out to an other household	10.1
Rented out to a cooperative	41.0
Rented out to company	31.2
Rented out to a cooperative which leaves it abandoned	0.8
Rented out to a company which leaves it abandoned	7.7
Rented in from another household	7.9
Rented in from the municipality	14.8
Rented in from state	1.6
Rented in from an enterprise	0.8
Rented in from an other institution	0.5
Cultivated illegally	1.4
Abandoned	38.9

Source: Own calculations based on the sample from 2003

Table 23. Rental agreements, Bulgaria, 2003

<i>Contract type</i>	<i>Share of parcels</i>
Written and Registered at notary office	24.08
Written and Registered only in MCAF	27.75
Written but not registered	9.29
Written and signed in the village hall	0.2
Oral agreement	4.27
No contract	0.41
No contract information	2.93
No renting	31.07

Source: Own calculations based on the sample from 2003

Table 24. Contract type of rented parcels, Bulgaria, 2003

Contract type of rented parcels	Share of rented out parcels	Share of rented in parcels
Written and Registered at notary office	38	9
Written and Registered in LC	45	4
Written but not registered	13	37
Oral agreement	4	50
No contract	0.0	0.0
Written and signed in the village hall	0.3	0.0
Total	100	100

Source: Own calculations based on the sample from 2003

Table 25. Number of pensioners in rural areas, 2003

Average number of pensioner per household	1.2
Share of households with only pensioners (%)	53.9

<i>Households with</i>	<i>Share of households</i>	<i>Cumulative share</i>
No pensioner	24.0	24.1
1 Pensioner	36.9	61
2 Pensioners	37.3	98.4
3 Pensioner	1.7	100
Total	100	

Source: Own calculations based on the sample from 2003

Table 26. Constraints to increase agricultural activities, Bulgaria, 2003

Share of households willing to increase their agricultural activities	24
<i>Constraints (%)</i>	
Not enough money	48.5
No land available	4.5
Not enough family labour	10.6
No output market	7.6
Other	28.8
Total	100.0

Source: Own calculations based on the sample from 2003

Table 27. Land use and ownership of Macedonian households in 2003

Share of households that:	%
Rent in	14.5
Rent out	4.8
Do not participate in rental market	80.7
Use plot(s) that they own	71.5
Use land illegally	0.0
Own land which is cultivated by other co-owner	3.8
Share of co-owned parcels	14.5
Average number of co-owners per parcel	1.4

Source: Own calculation based on survey data from 2003

Table 28. Share of households renting land, Macedonia, 2003

Share of households	Rent out		Total
	No	Yes	
No	80.7	4.8	85.5
Yes	14.5	0.0	14.5
Total	95.2	4.8	100.0

Source: Own calculation based on survey data from 2003

Table 29: Destination/origin of the land owned/cultivated by Macedonian rural households, 2003 – parcel level information

Share of parcels owned/cultivated by rural households permanently living in the villages	Percent
Used by the other owner	75.0
Cultivated by other owner	5.0
Rented out to other household	5.1
Rented in from other household	12.7
Rented in from state	0.1
Abandoned by the owner	2.1
Total	100.0

Source: Own calculation based on survey data from 2003

Table 30: Destination/origin of the land owned/cultivated by Macedonian rural households, 2003 – household level information

Share of households that own/cultivate a parcel that is	Percent
Used by the other owner	71.5
Cultivated by other owner	3.8
Rented out to other household	4.8
Rented in from other household	14.0
Rented in from state	0.5
Abandoned by the owner	5.4

Source: Own calculation based on survey data from 2003

Table 31. Land use and ownership of Macedonian households in 2003 –size

	Renting land in	Renting land out	Not participating in the rental market
Owned	1.3	2.9	1.3
Cultivated	2.7	1.0	1.2
Used by owner	1.3	1.0	1.2
Rented in	1.4	0.0	0.0
Rented out	0.0	1.8	0.0
Used illegally	0.0	0.0	0.0
Used by other co-owner	0.0	0.0	0.1
Abandoned	0.0	0.0	0.0

Source: Own calculation based on survey data from 2003

Table 32. Land use and ownership of Macedonian households in 2003 –number of parcels

	Households renting in land	Households renting out land	Non- participants	Total
Owned	5.1	8.4	5.1	5.2
Cultivated	10.4	8.4	5.1	5.3
Used by owner	4.9	2.0	4.6	4.5
Rented in	5.3	0.0	0.0	0.8
Rented out	0.0	6.3	0.0	0.3
Used illegally	0.0	0.0	0.0	0.0
Used by other co-owner	0.2	0.0	0.3	0.3
Abandoned	0.0	0.1	0.1	0.1

Source: Own calculation based on survey data from 2003

Table 33. Characteristics of Macedonian rural households, 2003

		Households Renting land out	Households Renting land in	Non- participants	Total for all households
Share male head	%	100.0	100.0	91.8	93.3
Age household head	years	63.4	49.3	52.8	52.7
Education household head	years	6.5	8.4	7.2	7.2
Share household head with agricultural education	%	25.0	3.8	4.1	5.1
Share head working on farm	%	62.5	92.3	78.1	79.7
Share receiving remittances	%	0.0	15.4	2.7	3.9
Share with member/partner of enterprise	%	12.5	19.2	5.4	7.9
Household size	member	2.1	4.1	3.8	3.8
Share owning machinery	%	37.5	65.4	57.8	57.9
Share owning tractor	%	37.5	46.2	53.1	51.1
Share owning cultivator	%	0.0	11.5	2.7	3.9
Share leasing tractors	%	12.5	26.9	15.0	16.9
Share contracting with processor	%	0.0	23.1	8.2	10.2
Share contracting with processors in previous years	%	0.0	26.9	18.4	19.1
Share contracting with traders this crop year	%	0.0	15.4	5.4	6.7
Share contracting with traders in previous years	%	0.0	11.5	4.1	5.1
Share selling crop products	%	37.5	76.9	64.6	65.2
Share selling livestock products	%	12.5	23.1	15.8	15.8
Share selling crop and livestock products	%	12.5	23.1	12.2	12.9

Source: Own calculation based on survey data from 2003

Table 34. Reasons for renting out land, Macedonia, 2003

<i>Reason</i>	<i>Percent</i>
Too old to cultivate it	50
Not enough working capital to run larger farm	8
Too much land compared to their needs	25
Other	17
<i>Total</i>	<i>100</i>

Source: Own calculation based on survey data from 2003

Table 35.: Reasons for not being able to rent out (more) land, Macedonia, 2003

<i>Reason</i>	<i>Percent</i>
No one wants to rent in their land	42.9
Afraid the land will be cultivated badly	14.3
Bad quality	14.3
Other	28.6
<i>Total</i>	<i>100.0</i>

Source: Own calculation based on survey data from 2003

Table 36.: Reasons for renting in land, Macedonia, 2003

<i>Reason</i>	<i>Share, %</i>
No money to buy land	44.4
Prefer renting above buying	13.9
Favourable contract terms, beside rental payment	8.3
Renting is more profitable	2.8
Other	30.6
<i>Total</i>	<i>100</i>

Source: Own calculation based on survey data from 2003