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This study examines the challenges facing land rental markets in the Europe and Central Asia Region – to understand the patterns of land rental market development and constraints on further growth, and propose policy recommendations needed to improve their functioning in order to achieve desirable equity and efficiency outcomes.

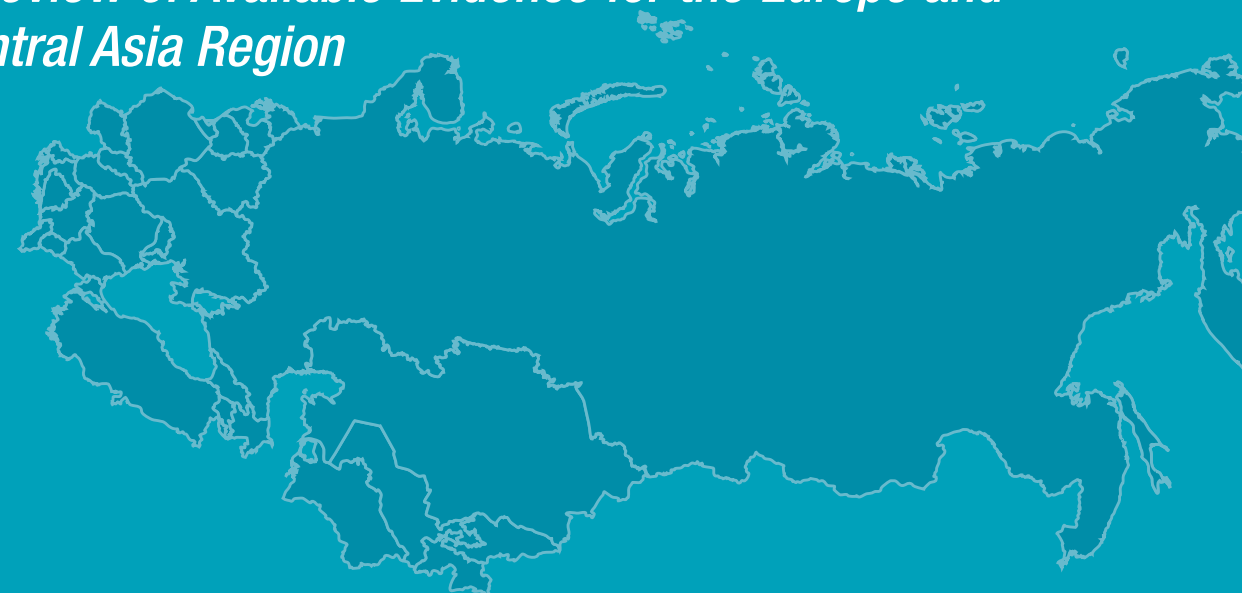
Land rental is widespread in the countries of Eastern Europe and Central Asia, largely driven by the way land was redistributed in the 1990s and by the role of corporate farms. Throughout the region, land rental markets have the potential to play an important role in stimulating much-needed land consolidation and farm restructuring for agricultural recovery and growth, and contributing to employment and poverty alleviation in rural areas. To realize this potential, governments need to turn their attention to making land rental markets work better by creating the enabling environment and supporting infrastructure for these markets to develop.

Government actions to support the development of land rental markets can be organized in four broad categories: securing individual property rights; encouraging efficient land rental markets while protecting the rights of small landholders; activating land rental market by addressing constraints in other markets; and preventing further land fragmentation and complicated land-ownership arrangements by simplifying laws and procedures to divide land among heirs.

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Emerging Challenges of Land Rental Markets

*A Review of Available Evidence for the Europe and
Central Asia Region*



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THE WORLD BANK

Europe and Central Asia Region
Environmentally and Socially Sustainable Development

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A Review of Available Evidence for
the Europe and Central Asia Region

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TABLE OF ACRONYMS

AWU	-	Annual Working Unit
CEE	-	Central and Eastern Europe
CF	-	Corporate Farm
CIS	-	Commonwealth of Independent States
ECA	-	Europe and Central Asia
EU	-	European Union
EU CAP	-	European Union Common Agriculture Policy
FF	-	Family Farm
FSU	-	Former Soviet Union
GTZ	-	German Technical Cooperation Agency
IF	-	Individual Farm
IME	-	Institute for Market Economies
LCU	-	Local Currency Unit
OECD	-	Organization for Economic Cooperation and Development
RFF	-	Registered Family Farm
RH	-	Rural Household
SAFER	-	Sociétés pour l'aménagement foncier et l'établissement rural
UFF	-	Unregistered Family Farm
UK	-	United Kingdom
WB	-	The World Bank

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EXECUTIVE SUMMARY

Land rental is widespread in the countries of Central and Eastern Europe (CEE) and the former Soviet Union (FSU), largely driven by the way land was redistributed in the 1990s and by the role of corporate farms. **Throughout the region, land rental markets have the potential to play an important role in stimulating much-needed land consolidation and farm restructuring for agricultural recovery and growth, and in contributing to employment and poverty alleviation in rural areas.** To realize this potential, governments need to turn their attention to making land rental markets work better by creating the enabling environment and supporting infrastructure for these markets to develop.

Government actions to support the development of land rental markets can be organized in the following four broad categories:

1. **Secure individual property rights** by focusing on reducing transaction costs, completing demarcation, improving land administration systems, enhancing transparency, and improving access to information on the land market.
2. **Encourage efficient land rental markets** while protecting the rights of small landholders by providing better information about transactions to small landowners to enhance their bargaining power, and by providing trusted mechanisms for resolving contract disputes.
3. **Activate the land rental market** by addressing constraints in other markets—in credit and output markets to help family farms become more competitive and stimulate the demand for land, and in labor markets to facilitate both the movement of labor out of agriculture and the release of agricultural land.
4. **Prevent further land fragmentation and complicated landownership arrangements** by simplifying laws and procedures to divide land among heirs.

The prioritization and relevance of actions will vary across countries in the region (hereafter referred to as Europe and Central Asia (ECA)). For instance, countries with a majority of small family farms, but with relatively clear property rights (Albania) should focus on improving the competitiveness of agriculture and access to credit for small farmers. Countries such as Romania and Bulgaria, which are about to join the European Union (EU) but where ownership is highly fragmented and restitution is incomplete, should focus on improving rights security, reducing transaction costs, and encouraging more efficient land rental markets. In countries such as Ukraine and Russia, where land redistribution and farm restructuring has advanced little and large corporate farms dominate the rental market, the focus should be on securing individual property rights and addressing constraints in credit, labor, and input markets.

In ECA countries, renting land is more common for land exchange than land sales. Less than 5 percent of rural households have sold land in all countries surveyed (Albania, Azerbaijan, Bulgaria, the Czech Republic, Hungary, Kazakhstan, Moldova, Poland, Romania, Slovak Republic, and Tajikistan) and in many cases the share is below 2 percent. The share of land rented as a percentage of cultivated land area varies across the region, from more than 90 percent

in Slovak Republic and the Czech Republic, to between 50 and 60 percent in Bulgaria, Hungary, and Moldova, to 35 percent in Azerbaijan and 10 percent in Albania. At the same time, the vast majority of rural households in the region (more than 90 percent) own some land, though the average amount of land owned by households and family farms (FFs) in ECA is small—fewer than 7 hectares in most countries.

Land renting is fully consistent with modern agricultural practices and is widespread in developed market economies. Land renting in Organization for Economic Cooperation and Development (OECD) countries, though it varies widely from less than 20 percent (Ireland) to more than 70 percent (Belgium), shows that land rental can play an important role in modern agriculture. In the United States, commercial farms rent on average about half of the land they use. In some Asian countries (China, Vietnam), land rental markets have developed rapidly as property rights become more secure and restrictions on land transactions are removed, allowing land reallocation across households.

Land rental markets have the potential to provide access to land to those who are productive but own little or no land, allow for the exchange of land as the off-farm economy develops, and facilitate the use of land as collateral to access credit. Land rental markets in ECA, just as in other parts of the world, can have a positive effect on income distribution and poverty reduction and on economic growth in the rural sector.

- Households with more human capital access land through a combination of buying and renting land, and rental markets contribute to increased returns to labor on family farms.
- Older and less educated households rent out land for additional income, and those who choose to rent out their land have a higher standard of living.
- Rental markets reduce inequality of access to land by transferring land from households with high land endowments to those with low land endowments.
- In contrast, sales markets seem to contribute to inequality of landownership.
- Larger family farms combine renting and buying of land to enlarge their farm operations (as do farms in the United States and the EU).

Land rental markets can provide these benefits with more flexibility and lower transaction costs than land sales markets. Land rental requires a smaller outlay of capital to access the land, leaving more for productive investments, and can provide a stepping stone toward landownership for the landless. This is important in transition economies where rural financial systems remain poorly developed and the profitability of agriculture is low.

Ownership structures, resulting from the way land was privatized and redistributed, have a significant impact on the way land rental markets have developed. Restitution of land in many ECA countries (such as Bulgaria, Hungary, Romania, and the Baltic countries) meant that land was often allocated to individuals who were no longer active in agriculture, but were either retired or living in urban areas. Data from Bulgaria, Hungary, and the Slovak Republic illustrate that the heads of household who are renting in land (from others) are significantly younger than the heads of household who are renting out land. Those renting out land in Hungary, the Slovak

Republic, and Bulgaria are on average at least 60 years old. Land rental markets can provide for an exchange of land from older landowners to younger, rural residents who are more likely to be land-poor but labor-rich. The data show that in the Slovak and Czech Republics, and parts of Hungary, very extensive renting of land is going on (60 percent or more of total land used is rented), but mostly from households to large-scale corporate farms.

The other type of land reform was distribution of land, either as plots or shares in former collective farms. The distribution of land as physical plots with boundaries has created stronger property rights for the new owners than distribution of shares. For example, where land was distributed in kind to rural households and where labor was abundant, such as in Albania, Azerbaijan, the Kyrgyz Republic, and large parts of Romania, rapid growth in family farming occurred. In Albania and Azerbaijan, within a few years following the distribution of land, more than 90 percent of all agricultural land had shifted to family farms. In land-abundant agricultural economies where land was distributed as shares (Russia, northern Kazakhstan, and pre-2000 Ukraine), land use and ownership became concentrated in corporate farms (CFs), and the share of land cultivated by family farms was much lower—41 percent for Kazakhstan, 13 percent for Russia, and 18 percent for Ukraine. Several countries do not fit into a single pattern as described above, either because they have hybrid characteristics or because they have changed patterns over the last decade. For example, land policy changes since the late 1990s in Azerbaijan, Moldova, and Ukraine, where land was first distributed in shares and then in kind, has had major implications for the land rental markets. Examples of hybrid patterns within one country are Bulgaria and Moldova, where half the land is used by corporate farms renting from households, with the other half of the land used by family farms renting in much less.

The large country differences in the role of land rental markets in ECA reflect the importance of corporate farms (on average corporate farms hold more than 1,000 hectares of land). A strong correlation exists between the share of corporate farms in land use and the importance of land renting—where corporate farms dominate land use, land rental is important. In the Czech and Slovak Republics, where more than 90 percent of cultivated land area is rented, the share of corporate farms in land use is more than 70 percent; in Albania, only 10 percent of total land used is rented and the share of corporate farms in land use is negligible.

That is because corporate farms rent in most of their land. In Hungary, Bulgaria, Moldova, and the Czech and Slovak Republics, 85 percent or more of the land used by corporate farms is rented. Larger family farms operate on both owned and rented land, and have typically enlarged their farms by both purchase and rental. However, the amounts of land purchased (8 hectares in Bulgaria, 3 in Moldova, 12 in Hungary) are on average smaller than the amounts rented (20 hectares in Bulgaria, 71 in the Czech Republic, 85 in the Slovak Republic). Small family farms and subsistence farms operate mostly on owned land and are more likely to rent out land—in Bulgaria (44 percent), the Czech Republic (61 percent), and Moldova (38 percent). It appears that large-scale corporate farms rent most of their land from small, often older, landowners. This is the opposite of the historical large landlord-small tenant relationship most recognized in rental markets around the world.

Where corporate farms dominate the land rental market, the positive equity and efficiency effects of land rental can be very different. While corporate farms may be efficient farming organizations in some regions and for some farming activities, transaction costs and regional monopoly power of corporate farms in the land market are causing negative equity and efficiency effects. Corporate farms are using more land (than is efficient) and act as a brake on agricultural

growth and competitiveness. Corporate farms pay lower rental prices than family farms, are more likely to pay rents in kind than family farms (which pay cash), have rental contracts of longer duration (locking in land), and often use their political powers/relationships to influence policies that shift effective land property rights in their favor. In the Czech and Slovak Republics, land rents paid by corporate farms are generally much lower; most vary between 20 and 50 percent of the rents paid by family farms. In Azerbaijan 100 percent of corporate farms pay for rented land in kind; in Moldova, 83 percent pay in kind.

Corporate farms tend to dominate where

- land is owned as shares rather than where households have physical plots;
- land is initially allocated in the middle of large consolidated plots; and
- the cost of withdrawal is expensive, because there is considerably uncertainty as to the (co-)owners of the land, or because ownership is highly fragmented through the combination of restitution and an egalitarian historical rural landownership structure (e.g., Bulgaria and the Slovak Republic), or because the registration costs are high and/or corporate farms consider the land as their quasi-property (e.g., Ukraine and Russia).

Government policies may not directly favor corporate farms, but they may be biased toward corporate farm interests because of technical requirements related to land exchange and withdrawal procedures, because of complex and expensive land registration procedures, and because of established relationships between farms (managers) and officials. In extreme cases, such as Kazakhstan, government policies have reallocated land rights from small owners to large farms.

Rental markets can have positive effects on rural incomes and agricultural competitiveness, but the role of corporate farms in the land rental market is a cause for concern. Corporate farms reverse the usual large landlord-small tenant relationship observed in the rest of the world and shift the balance of power toward the renter. This makes applying the experience from Western Europe or other regions of the world difficult. In addition, landownership and the general economic and institutional conditions vary among ECA countries, making specific policy recommendations difficult at the regional level. However, some general principles still apply.

Security of ownership is a condition for the efficient operation of land rental markets. Where land rights are not secure, landlords are reluctant to rent out for longer periods, are less likely to use formal contracts, and restrict renting to farms from the same ethnic or social group. **The focus should be on reducing transaction costs, and enhancing transparency and access to information in the land market.** The high cost of land transactions impedes the ability of landowners to choose what to do with their land. Costs related to land transfers include notary fees, taxes, and other administrative charges. For instance, the studies on Poland, Bulgaria, Lithuania, and Romania estimate these costs at between 10 and 30 percent of the value of the land transaction. In such cases, renting to the corporate farm may be the only choice a rural landowner has.

Missing or incomplete records, absence of or unclear boundaries, unknown owners, and unsettled inheritance claims within families all raise the cost of land withdrawal. In Romania, incomplete

parcelling and unclear boundaries of the land distributed (approximately 4.5 million parcels) have stunted the agricultural land market. Therefore, owners hold an undefined physical share of the whole cooperative farm, which is clearly difficult to use as collateral for a loan, or to sell or rent. The Romania case is indicative of many other countries in the region, where the difficulty in withdrawing land is highly dependent on the location of the plot. While the withdrawal procedure is stipulated by law in most countries, it is also determined by the willingness of the corporate farm to implement it. Withdrawal of a plot that is located in a consolidated field makes the process more difficult and more costly. The corporate farm and the landowners have to agree on the physical demarcation of the plot. If the plot is located in the middle of a consolidated field, the parties will typically try to agree on a comparative parcel at the border of the field. In that sense, it is important that farm management cooperate on the withdrawal procedure. In addition, corporate farm managers typically have more information than rural landowners about the regulations and laws governing withdrawal and other land transactions.

Better information, enhanced bargaining power of small owners and farmers, and trusted mechanisms for resolving contract disputes will also contribute to both equity and efficiency in the land market. The existence of long-term rental contracts in many parts of the world, including ECA, implies that rental contracts can be adjusted to solve the incentive problems for land-related investments. The ability to enforce tenant contracts at low cost and the availability of necessary information are key to facilitate the longer-term contracts that will be needed to cope with the structural imbalance caused by corporate farms. To a large extent, the magnitude of the impact of tenancy on equity and investment in the longer term will depend on these factors. In the case of disputes, the court system is working slowly and is overburdened and generally not effective in enforcing or solving rental or ownership disputes. Improving access to information, supplying standard contracts at no cost, providing alternative dispute resolution mechanisms (perhaps at the local level), and lowering transaction costs for registering rental agreements would improve the functioning of the land rental market.

Because landownership and farm structures have undergone major changes in the past 15 years and are expected to continue, significant dynamics in land exchange, including the form and the extent of land rental contracts, should continue. The two surveys done in Bulgaria show an increase in the average length of rental contracts from one year in 1997 to three years in 2004. They also show an increase in the formality of contracts, with 56 percent of written contracts in 1997 increasing to 82 percent in 2004. As the land market matures, farms and landowners are often uncertain about how market conditions, institutions, and laws will evolve. In such conditions, flexible and short-term rental contracts may be better choices than sales or long-run contracting, for both sides of the transaction. In addition, standard contract forms will help both landowners and renters.

In Western Europe, the prevalence of land rental reflects historical policy choices in promoting the development of competitive, family farms. In broad terms, two types of policy strategies were used in Western Europe to regulate rental markets. One type focused on improving tenure security for tenant-farmers and was followed in countries such as Belgium, France, and the Netherlands. The other type aimed to help tenants become owners and was dominant in countries such as Denmark, Italy, and Ireland. In the first type, regulations included contract specifications, minimum term lengths, automatic lease renewal, and automatic succession rights. These regulations led to a situation where farmers no longer wanted to purchase land because their tenure security was very high, and they could use their capital for other investments. In these countries, the rental share is relatively high. In the second type, the government set up state funds

to purchase farms for poor tenants, and/or to subsidize the purchase of land by poor tenants, either directly or through regulating prices, through subsidized loan conditions, or through tax benefits for purchasing land. In all these countries, the share of land rental is relatively low, and regulation of land rental markets tends to be light.

Several countries created a mechanism for conflict resolution specific to agricultural land. The United Kingdom (UK) created land tribunals to resolve conflicts between landowners and tenants. In some other countries, land committees (such as the “grondkamers” in the Netherlands) have the power to set maximum and minimum prices and impose extensions for rental contracts. The experience from Europe is that the extensive regulation of land rental contracts has created tensions and constrained the use of land and growth. Excessive regulation has led to the paradoxical outcome that owners no longer want to rent land, and land rental has decreased.

The functioning of credit markets, output and input markets, and labor markets are important for land markets to develop, and the main bottleneck for land rental may not be the land market itself. In much of the ECA region, market institutions that provide access to finance, inputs (such as fertilizer and equipment), and output markets (where farmers can sell their products), are still not working well. In countries where these market institutions are immature or not functioning, rental markets are constrained by low demand, and the role of corporate farms can be seen as a normal reaction to these market failures. Corporate farms in the region have more access to credit, and to input and output markets, than small family farms. Where financial markets do not work, land may be used to store wealth, even if it lies unproductive. With constrained access to credit, investment in land ties up much-needed capital and prevents farmers from investing in technology, equipment, or quality inputs. The profitability of agriculture also plays a role in the development of land rental markets. Where agriculture is not profitable due to outdated methods and technology, lack of access to markets, poor quality control, and other factors, land may have a low value, making it difficult to use as collateral. More important, banks may not wish to lend to farmers whose incomes are too low. If countries enact policies to address these imperfections, market institutions will work better, allowing landowners more choice—to farm themselves, rent to small family farms, or sell the land, rather than the only current choice: to rent to a corporate farm.

Labor market imperfections also play a crucial role in fragmentation problems and constrain the land rental market from solving fragmentation of land use. A rural development strategy focused on reducing rural labor constraints (e.g., by investing in rural infrastructure, creating opportunities for off-farm rural employment, improving safety nets or pension schemes, reducing labor mobility costs, and increasing education and skills), in combination with a strategy to improve the functioning of land rental markets, is essential to address the fragmentation problems. Such strategy is a condition for successful farm restructuring, more so than land consolidation programs.

In several countries (Moldova, Bulgaria, Albania), rural households have tried to cope with labor market constraints through migration. The relationship between migration and land renting is bidirectional. First, land renting can stimulate migration by providing households with a rental income to finance the costs of migration (either investment costs or partially covering (temporarily) reduced income due to loss of local returns to household labor). Second, migration can affect land renting as (a) migration stimulates the supply of land (reduces demand) for renting out as labor moves out of the rural areas, or (b) it may stimulate the supply of land (reduces demand) as remittances allow households to invest in off-farm activities, or (c)

migration increases the demand for land as remittances reduce capital constraints, for example, by allowing households to invest in labor-substituting technology, such as farm animals or machinery.

For the future, the choice and transaction costs (taxes) of inheritance systems have important implications for the efficiency and equity of land markets, and rental markets in particular. The role of rental markets in intergenerational transfers of farms and land is an issue that has received relatively little attention so far in ECA, but is important for the future. In Western Europe, renting of land is importantly related to how land is passed from one generation to the next in farming families. In Italy, Spain, and Greece, for instance, land is distributed in equal shares among heirs, leading to much land fragmentation. In France, Denmark, and Belgium, land is distributed as equal shares but with “preferential allotment” allowing for inheritance of the land by one heir with a cash settlement to the others. In England and Wales, land is inherited by one heir without a requirement for legal compensation to the others.

The evidence indicates that land rental markets have considerable potential to improve productive outcomes, efficient land use, and equity gains. The potential benefits of land rental markets are to allow for more flexible adjustments of the land area used with relatively low transaction costs; to require only a limited capital outlay, thereby leaving more liquidity available for productive investments rather than locking it all up in land; to facilitate easy reallocation of land toward more efficient users than the current owners; and to provide a stepping stone toward landownership by the landless.

The failure to harness the potential of land rental markets means countries forgo large equity and productivity benefits. The implications are that more needs to be done to improve the policy environment and land market infrastructure to facilitate land rental markets for ECA countries to realize their full potential.

1. INTRODUCTION

An important component of the rural transition process in the countries of Central and Eastern Europe and the former Soviet Union was the privatization of land and restructuring of the farm organizations. Much of the attention of policymakers, analysts, and the World Bank (WB) in this region has focused on support to privatization, titling, and long-term cadastre projects.

The distribution of landownership resulting from the land reform process implies a very important need for exchanging land between new owners and new users. Land markets are developing in ECA, but in an uneven way. Various pieces of evidence indicate that sales of land have been limited, in some cases because government regulations prohibit them, but often because households and farms do not want to sell or buy land.

Renting of land appears to be more widespread and may be the most important form of land exchange in ECA. For example, in Bulgaria in 2003, only 3 percent of rural households had sold agricultural land, while 80 percent of them were renting land in or out. Ad hoc evidence also indicates that land rental plays an important role in the consolidation of farms.

International evidence indicates that rental markets can be an effective instrument to transfer land to the most efficient users and stimulate investment, if a number of conditions are fulfilled—in particular, sufficient tenure security. Among other factors, this has to do with the type of rental contracts used and the regulations of the tenure system.

In addition to efficiency effects, rental markets may also have positive equity impacts. In many of the poor ECA countries, land is one of the few assets owned by the rural poor. Even with major imperfections in credit, labor, and insurance markets, land rental provides a set of benefits for poor people – by temporarily renting out land they can get additional income without losing rights to their land.

Finally, from a policy perspective, regulations affecting the rental market may be easier to implement and change than regulations affecting ownership and sales because of the extreme political sensitivity of the latter.

In summary, land rental markets appear to be growing in importance, and have the potential to play a beneficial role for equity and efficiency growth in ECA countries. However, information on the development of land rental markets in ECA is weak. It is important to gain a better understanding of the development of land rental markets in ECA, what constrains them, and what is needed to improve their functioning in order to achieve these desirable equity and efficiency outcomes.

The objective of this study is to identify conditions under which land rental markets yield beneficial outcomes for efficiency and equity, to assess the status of the development of land rental markets in ECA, to identify important constraints, to identify key reforms or measures that would be needed to help formalize the land rental market and make it more efficient, to draw implications for WB operations, and to identify areas for further analysis.

The report is organized as follows. The next sections present a conceptual framework on land rental markets and review evidence from other countries on land rental markets.

Sections 4 and 5 present survey data from various countries, and use these data sets to analyze the structure of rural landownership, use of land by farms, the development of land markets, and the type of contracts that exist in the rental markets. Section 6 presents some of the constraints and imperfections in the land markets, and Section 7 presents the efficiency and equity implications. The final section presents a summary of the key issues and some policy choices.

2. METHODOLOGY

The methodology used in this study is a combination of (a) a desk study to draw lessons from other economies, (b) a review of existing studies on ECA land rental markets, (c) an analysis of existing data sets that include data on ECA land rental markets, and (d) interviews with key experts from several countries. This study is an effort to bring together existing data and literature on the topic and provide a structure for further research and discussion, while also outlining some key constraints and policy options to address them. This is not an exhaustive analysis of all countries in the region, or of the causality of the current status of land rental markets in ECA.

The data analysis draws on 15 surveys implemented between 1997 and 2004 in 11 ECA countries by the World Bank and by European research institutions. The World Bank surveys include Azerbaijan 2004, Bulgaria 2004, Moldova 2004, Kazakhstan 2004, Romania 1996, Tajikistan 1999, and Poland 2000. Surveys implemented by European research institutions include Albania 1999, Albania 2003, Bulgaria 1997, Bulgaria 2003, the Czech Republic 1999, Hungary 1997, Romania 1998, and the Slovak Republic 1999.

Details on the surveys and on an overview of the data sets, the time of data collection, the institutions that organized the surveys, and the units of information collection are available in annexes 1 and 2.

3. LAND RENTAL MARKETS: A CONCEPTUAL FRAMEWORK

Land transactions can play an important role for several reasons (Deininger and Feder, 2001). They provide land access to those who are productive but own little or no land. They allow the exchange of land as the off-farm economy develops. They facilitate the use of land as collateral to access credit markets. However, the form of the transaction matters and both sales and rental markets have advantages and disadvantages (see annex 2 for a detailed discussion).

3.1 Land Sales Markets

Land sales markets typically function imperfectly, especially in poor countries. First, imperfections in input, product, credit, and insurance markets all affect the functioning of land sales markets. Second, transaction costs (notary and other fees, access to information, lack of parcel boundary definition) in land sales can be high. These factors make it expensive and difficult for efficient producers to buy land; they also reduce the attraction for less efficient producers to sell their land. Third, families hold on to land for reasons of prestige, lifestyle value, and tradition. As a consequence, rural land sales markets are often thin and may even be limited to distress sales.

3.2 Land Rental Markets

The potential benefits of land rental markets are to allow more flexible adjustments of the land area used with relatively low transaction costs; to require only a limited capital outlay, thereby leaving more liquidity available for productive investments rather than locking it all up in land; to facilitate easy reallocation of land toward more efficient users than the current owners; and to provide a stepping stone toward landownership by the landless.

However, rental markets can also have problems with (a) investment incentives because of the lack of long-term security, (b) segmentation of land rental markets with insecure property rights, and (c) access to credit due to the absence of collateral options. Several of these potential problems depend strongly on the nature of the rental contracts, on the institutional environment affecting property rights and enforcement costs, and on government regulation of rental contracts.

Tenure security problems refer to two separate, but interrelated, issues: the security of property rights for the owners, and the security of operation for the tenants.

- Security of property rights is a condition for the efficient operation of land rental markets. Where land rights are not secure, landlords who rent out will run the risk of not being able to claim their land back, and will restrict renting of land to the same ethnic or social group, constraining positive equity and efficiency effects. Secure property rights in land transactions requires transparency and enforceability of rental agreements, and the presence of reliable conflict resolution mechanisms.
- An important critique on land rental markets is that rental agreements, which are temporary by nature, provide insufficient incentives for efficient farm investments by tenants. In Western Europe, governments have introduced legislation to improve tenant security by imposing minimum lengths for rental contracts and by regulations for compensating tenants for land improvements and investments.

Mixed strategies: combining owned land and rented land. Obviously, the investment effect will also depend on the nature of the investments, and one should expect the length of the investment depreciation to be correlated to the length of tenure security required. On the other hand, a major advantage of renting land is that farms can use capital to invest in new technology and other production assets rather than tying up large sums of capital in land purchases. Modern farms in the United States and Western Europe often combine owned land and rented land, the more so when farms are larger. In this way, farms combine tenure security (with their most immobile assets and longest-term investments concentrated on owned land) with flexibility in land allocation and freeing up capital for other investments (by renting additional land).

Perverse effects of regulations. In Western Europe, the extensive regulation of land rental contracts led to some perverse effects as landowners were no longer interested in renting land to farmers and preferred to sell it.¹ Overregulation led to the paradoxical outcome that land rental decreased.

¹ Regulations take various forms, including contract specifications, rent control, minimum (or maximum) length, automatic succession rights, automatic lease renewal, and preemption rights (see annex 2 for details).

3.3 Land Rental Markets in Other Regions

Land rental markets are very important in rural areas across the globe, but there is also much variation both in the importance of land rental markets and in the contractual forms that are used. Renting varies from very informal transactions to officially registered and long-term contracts. (See annex 2 for a detailed survey of land rental markets in other regions.)

Land renting is fully consistent with modern agricultural systems, and widespread in developed market economies. In the United States, commercial farms rent on average about half of the land they use (table 1). Still, there is much variation in land renting even among developed countries.

Table 1: Land renting by U.S. farms

	% of farms	% of acres operated	Mean acres operated
<i>Tenure class</i>			
Full owner	55	28	223
Part owner	36	59	714
Tenant	9	12	602
<i>Acres operated</i>			
Acres owned	92	63	n.a.
Acres rented in	45	43	n.a.
Acres rented out	12	6	n.a.

Source: USDA, ERS Structural and Financial Characteristics of U.S. Farms.

In **Western Europe**, land renting is widespread but varies strongly among countries, with more than 70 percent of farmland rented in some countries, and less than 20 percent in others (table 2). These variations in land renting have historical and institutional roots, reflected in different landownership and rental regulations. In some countries, rental conditions for small tenants were improved through regulations, while in others, governments helped tenants to become owners of the land (Swinnen, 2002). The renting of land is also related to how land is passed from one generation to the next in farming families. There are several patterns of succession and inheritance of farms and land in Western Europe, with significant impact on the land markets (see annex 2 for more detail).

The importance and nature of land renting has changed significantly throughout history. Historically, European countries were dominated by large landlord-small tenant relations with weak bargaining power for tenants, resulting in poor tenure security and few tenant rights, albeit with significant variations across the region. Changes in the importance of land rental reflected changes in institutions and in economic and political conditions (Swinnen, 2002). One can, in broad terms, distinguish two types of policy strategies to improve the situation of the tenants. The first strategy was to improve the rental conditions for the tenants through regulations. The second strategy was to help the tenant become the owner of the land.

The first strategy was followed in countries such as Belgium, France, and the Netherlands, where rent regulations were introduced that focused primarily on improving the tenure security for farmers. These were not introduced all at once, but incremental

increases throughout the 20th century led to a situation where farmers no longer wanted to purchase land because their tenure security was very high, and they could use their capital for other investments. In these countries, the rental share is relatively high.

The second strategy, to help tenants become landowners, was the dominant strategy in countries such as Denmark, Italy, and Ireland. There, the government set up state funds to purchase farms for poor tenants, or to subsidize the purchase of land by poor tenants, either directly or through regulating prices, subsidized loan conditions, or tax benefits for purchasing land. Notice that in all these countries, the share of land rental is relatively low. The most dramatic impact occurred in Ireland, where almost all land was rented in the beginning of the 20th century, but this share has declined to around 17 percent today. In summary, the same policy objective led to different policies, different institutions, and different tenure situations in Europe.

Table 2: Share of land rented by farmers in Western Europe (% of total agricultural land)

	Share of land owned by user (%)	Share of land rented by user (%)
Ireland	83	17
Denmark	76	24
Finland	71	29
Austria	71	29
Spain	67	33
Italy	63	37
Netherlands	62	38
UK	59	41
Sweden	56	44
Luxembourg	51	49
Germany	32	68
Belgium	25	75

Source: Eurostat.

In **Latin America**, one would expect considerable land renting given the high inequality of landownership. While land renting can be efficiency and equity enhancing, relatively limited renting is going on in several Latin American countries. The reason appears to be high transaction costs, insecure property rights, and restrictions on rental markets. In particular, weak property rights and the lack of reliable conflict resolution mechanisms constrain rental transactions. Landowners are reluctant to rent out land for fear that tenants will establish a claim to the land. Hence, rentals are few, informal, short-term, and often limited to closely related people to facilitate enforcement.

In **Asia**, there is considerable variation in land tenancy across countries, reflecting a variety of factors. In the East Asian transition countries, China and Vietnam, land rental markets have developed only slowly in the first decade after land reforms. With high rural poverty and high labor/land ratios, most rural households used their land themselves to provide income and food security. Other reasons are regulations and rights insecurity. However, since the mid-1990s, land rental markets have developed rapidly as incomes have grown, off-farm employment opportunities have emerged, property rights have become more secure, and rental restrictions have been removed (Deininger and Jin, 2002; 2003). The land rental market has allowed land reallocation across households with differential endowments or abilities in an environment of rapid economic growth and has thus contributed to significant gains in efficiency and equity (Dwayne et al., 2000).

In summary, there is considerable evidence from across the globe that land rental markets can help to improve efficiency and equity, but also that these effects are to some extent conditional on a variety of factors. The evidence indicates that land rental markets have considerable potential to improve productive outcomes, suggesting that failure to harness their potential could forgo large equity and productivity benefits. To realize these benefits, governments need to ensure that tenure security is high enough while avoiding unjustified restrictions on the operation of land rental markets.

However, the lessons from other regions have to be interpreted with care. Much of the literature on land renting focused strongly on a large landlord-small tenant relationship. However, the dominant form of renting in ECA is quite different. First, it is mostly by various-sized farms (very small to very large) from small- to medium-sized landowners, and by small and large farms from the state. Second, in few cases are large landowners dealing with small tenants. Third, large corporate farms are more important in ECA than in other parts of the world.

3.4 Patterns of Land Rental Markets in ECA

Land markets in ECA countries have particular characteristics including fragmented ownership among many rural and urban households, absentee landlords, and small farms competing for access to land with large-scale corporate farms. These characteristics have an impact on the way that rental markets have developed. On the basis of the data sets available, one can identify several patterns of land rental development across ECA.

Pattern A is that of labor-intensive agricultural economies where land was distributed in kind to rural households and where small-scale family farms dominate. Examples of this pattern are Albania, Azerbaijan, Kyrgyz Republic, and large parts of Romania and southern Kazakhstan. In these countries and regions, there is relatively little rental going on, all of it household to household and mostly informal. Key constraints in the rental market are due to constraints in other markets such as the credit and input markets, product market (output marketing), and labor market, which is partly resolved through migration.

Pattern B is that of capital-intensive agricultural economies where land was restituted to former owners and where large-scale corporate farms dominate. Examples of this pattern are the Slovak and Czech Republics, and parts of Hungary. In these systems, there is very extensive renting of land going on, mostly from households to large-scale corporate farms, often based on formal contracts. Land rental markets are well developed and prices are increasing, especially in those countries that have acceded to the EU. Constraints in these markets are transaction costs in the rental market due to fragmented, unidentified, or joint landownership.

Pattern C is that of land-intensive agricultural economies where land was distributed as shares and where large-scale corporate farms dominate. Examples of this pattern are (pre-2003) northern Kazakhstan, parts of Russia, and (pre-2000) Ukraine. Where corporate farms rent much land, constraints are poor identification and weak enforcement of ownership rights and major problems in accessing output and input markets for smaller farms. In other regions, corporate farms, or agro-holdings, have acquired vast amounts of land either through bankruptcy proceedings (e.g., vertically integrated grain companies in northern Kazakhstan and agro-holdings in Russia) or through government policy that transferred property rights from households to farms using the land (in current Kazakhstan). In these systems a large share of the land is owned by large corporate farms, and very little renting takes place.

Hybrid cases. Several countries do not fit into a single pattern, either because they have hybrid characteristics or because they have changed patterns in the course of the past decade. For example, land policy changes since the late 1990s (such as in Azerbaijan, Moldova, Ukraine, and Kazakhstan) had major implications for the land rental markets. Examples of hybrid patterns within one country are Bulgaria and Moldova, where half the land is used by corporate farms renting from households (Pattern B), while the other half of the land is used by family farms renting much less (Pattern A). Unregistered family farms mostly work on their own land and rent very little. Many registered family farms also do not rent land. Only between 25 and 40 percent of them rent land from others, and they combine renting and buying as a joint strategy to enlarge their farms.

Box 1: Farm Types and Definitions in ECA

The analysis of farm-level data distinguishes between several types of farms. Corporate farms include cooperatives, limited liability companies, etc. Family farms include both “unregistered” and “registered” family farms.

Unregistered family farms include subsistence farms and household plots. In all countries, unregistered farms are small (a few hectares on average).

Registered family farms can be quite large (table B3 in annex 2).² For example, in the Czech Republic the unregistered farms use fewer than 2 hectares on average, while the registered farms use 55 hectares on average. In Azerbaijan and Kazakhstan, registered family farms are cultivating 140 and 555 hectares on average, respectively.

Corporate farms are much larger. The average size of the agricultural enterprises is between 1,300 and 2,000 hectares in Bulgaria, the Czech Republic, Hungary, and the Slovak Republic (table B4 in annex 2). They are even larger in Kazakhstan (more than 5,000 hectares), and somewhat smaller in Moldova (around 900 hectares on average). In some countries, such as Albania and Azerbaijan, very few corporate farms are left.

For simplicity, unless specified more explicitly, we use “households” in the tables in a generic way, referring to all households (which can include unregistered farms, registered farms, or non-farming households) that were surveyed.

4. OWNERSHIP AND EXCHANGE OF LAND

4.1 Landownership

The vast majority of rural households and family farms own some land in ECA (table B3 in Annex 2). In many countries, more than 90 percent of households in the surveys own land.

² There are large differences in the importance in land use by family farms with and without registration across countries. In Czech Republic and Kazakhstan, 90 percent of the agricultural land used by family farms is cultivated by registered farms. In Moldova, registered family farms use also a larger share of land than the unregistered farms. However, the differences are not as pronounced as in Kazakhstan and the Czech Republic. In Azerbaijan and Bulgaria, unregistered family farms are much more important in terms of land use: they use more than 90 percent of the land in individual use.

The average amount of land owned by rural households and family farms is small in the surveyed ECA countries. Average landownership is fewer than 7 hectares for most of the countries and most of the categories. Only registered family farms in Azerbaijan (12 hectares), the Czech Republic (17 hectares), and the Slovak Republic (17 hectares) own more on average. Landownership is even smaller in poorer countries with labor abundance in the rural areas, such as in Albania and Tajikistan, where households own less than 7 hectare on average.

Corporate farms own very little land in most ECA countries, although “ownership” is not always well-defined. In Azerbaijan, Bulgaria, the Czech and Slovak Republics, and Hungary, large corporate farms own less than 5 percent of the land they operate.

Box 2: Exceptional Kazakhstan

The situation in Kazakhstan is different from the general findings: all farms own more land than elsewhere, due to a combination of abundant land endowments and different land policies. Average landownership is more than 20 hectares for unregistered farms and more than 500 hectares for registered family farms. In addition, the share distribution system together with bankruptcy proceedings allowed some corporate farms to acquire large areas of land before 2003 (Gray, 2000). However, many corporate farms still continued to rent land from households. The 2003 land code changed this and effectively transferred all land used by corporate farms into ownership of the corporate farms.

4.2 Exchange: Buying and Renting Land

Because farms own little land in general, they need to buy or rent land to increase their farm operations. The survey data indicate that this happens mostly through renting land.

Almost everywhere, buying and selling land is more difficult than renting land, according to the household interviews in the survey data. The only exception is where they are almost equal because virtually all households express difficulties in both renting and selling.

4.2.1 Selling or renting out

On the supply side (renting out versus selling), many more households and farms are renting out land than are selling land. Very little land is sold by rural households or family farms in ECA. Less than 5 percent of the rural households and family farms had sold land in all countries, and in many cases the share was below 2 percent.

In countries where many households or farms are providing land to others, the vast majority is through renting out. In countries where little land is rented out, even less is sold, but the difference is (obviously) also less. The main conclusion seems to be that few rural households have been willing to sell land; if they allocated land to others, they did it through rental arrangements.

4.2.2 Buying or renting in

On the demand side (renting in or purchasing), the results differ by country and farm type. Renting and purchasing of land vary strongly by farm type. All corporate farms are very

active in the rental markets, and rent a large share of their land. Unregistered family farms are the opposite: few of them rent in land and if they do, it is only small plots. Registered family farms are in between: a significant share of them rent in land, and often relatively large plots, but several have also purchased land.

Corporate Farms

- Corporate farms purchased some land but the amount is very small compared with the cultivated land area. In Azerbaijan, 13 percent purchased on average 3 hectares of land. Around a third of the corporate farms in Moldova and Bulgaria purchased land. Bulgarian corporate farms bought larger amounts of land than did Moldovan farms (135 versus 44 hectares). In Kazakhstan, none of the corporate farms in the survey purchased land.
- Corporate farms rent a large share of their land. In Hungary, Bulgaria, Moldova, the Czech and Slovak Republics, and Azerbaijan, 85 percent or more of the land used by corporate farms is rented.
- Corporate farms rent in from three sources: members,³ nonmembers, and the state. In Azerbaijan, the vast majority of corporate farms are using land that is owned by the municipality or the state. In the Czech and Slovak Republics, Hungary, Bulgaria, Moldova, and Kazakhstan, corporate farms are using much land that is owned by their members. In Bulgaria, 70 percent of the land used by corporate farms is owned by their members. This number was more than 96 percent in Kazakhstan in 2003.

³ Expert interviews indicated that regarding rental payment or contract types, members/partners, employees, and households that are not related to the corporate farm are generally treated in a similar way.

Table 3: Corporate farms renting land

	Czech Republic (1999)	Slovak Republic (1999)	Hungary (1997)	Azerbaijan (2004)	Bulgaria (2004)	Moldova (2004)	Kazakhstan (2004)
<i>Area, hectares</i>							
Cultivated	1354	1989	1837	200	1434	883	5413
Owned	22	16	85	0.4	53	15	50
Rented	1341	1965	1811	200	1381	868	5363
<i>Share of land cultivated land area (%)</i>							
Owned	0.48	1.42	1.42	0.20	3.71	15.08	0.93
Rented	99.52	98.58	98.58	99.80	96.29	84.91	99.07
Rented from members	n.a.	n.a.	50	10	70	42	96
Main lessor	Members or partners	Members or partners	Members or partners	Municipality/ state	Members	Members	Members

Registered Family Farms (RFFs)

- A significant share of the registered family farms purchased land, albeit relatively modest amounts. Land purchases by registered family farms were common, in particular in Bulgaria and Moldova, where 30 percent and 23 percent, respectively, of the registered family farms had purchased land. The average size of the land purchase was 8 hectares in Bulgaria and 3 hectares in Moldova. Since the start of transition until 1997, around 17 percent of the Hungarian family farms bought land; the average amount of land purchased was 12 hectares.
- A large share of the registered family farms are renting land from others, often in large amounts. In all countries where data are available for RFF, they show that many of the registered family farms are renting in land: Azerbaijan (93 percent), Bulgaria (39 percent), the Czech Republic (54 percent), Moldova (23 percent), and the Slovak Republic (46 percent). They often rent in large areas of land: on average 137 hectares in Azerbaijan, 20 hectares in Bulgaria, 71 hectares in the Czech Republic, and 85 hectares in the Slovak Republic. The exception is Kazakhstan, where fewer registered family farms rent in land (15 percent), but those who do rent in large areas—more than 250 hectares on average.
- Registered family farms rent in almost exclusively from other households, which can be members of their extended family, other farmers, retired people, or households no longer active in agriculture (see tables A1, A2, and A3 in annex 1).

Unregistered Family Farms (UFFs)

- Very few unregistered family farms purchased land. By 2004 less than 5 percent of unregistered family farms had purchased land in Azerbaijan, Bulgaria, Moldova, and Kazakhstan.
- Unregistered family farms are not active in renting in land either. Few of them rent in and if they do, they rent in much smaller areas of land. In most cases less than 10 percent of unregistered family farms rent in land, and the area they rent in is only a few hectares on average. The exception is Azerbaijan, where the 5 percent of unregistered family farms that rent in, rent 17 hectares on average.
- Unregistered family farms are more likely to rent out land than to rent in. In almost all countries, more unregistered family farms are renting out than renting

in land (see table B3 in annex 2). In all cases they are more likely to rent out than registered farms. Among the countries for which data are available, most unregistered family farms are renting out in Bulgaria (40 percent), the Czech Republic (61 percent), and Moldova (38 percent).

- These households are renting out mostly to corporate farms, and to a lesser extent, to family farms (see tables A1 and A2 in annex 1). In many of the countries, including the Czech and Slovak Republics, Hungary, Bulgaria, Kazakhstan, and Moldova, more than two-thirds of the households that rent out, rent a large share of their land to corporate farms.

4.2.3 State land in the rental market

Renting in from the state is important in only a few countries. In Azerbaijan, renting by both corporate farms and registered family farms is mostly from the state, which seems to explain the high share of land renting by registered farms in Azerbaijan: 90 percent of the registered family farms rent land from the state. Also, in Poland the state is an important source of land for renting by farms.⁴ In Hungary, 20 percent of the land used by corporate farms was rented from the state, while half of the land was rented from members and almost 30 percent from outsiders. Renting from the state or municipalities is of minor importance in Bulgaria and Moldova. In the latter, the corporate farms rent in around 42 percent from members and a similar share from outsiders. In Bulgaria and Kazakhstan, farm members are the most important source of land renting by corporate farms. In Bulgaria, 70 percent of the land cultivated by corporate farms is rented from members, while 23 percent is rented from outsiders.

4.3 Complementarity of Renting and Buying Land

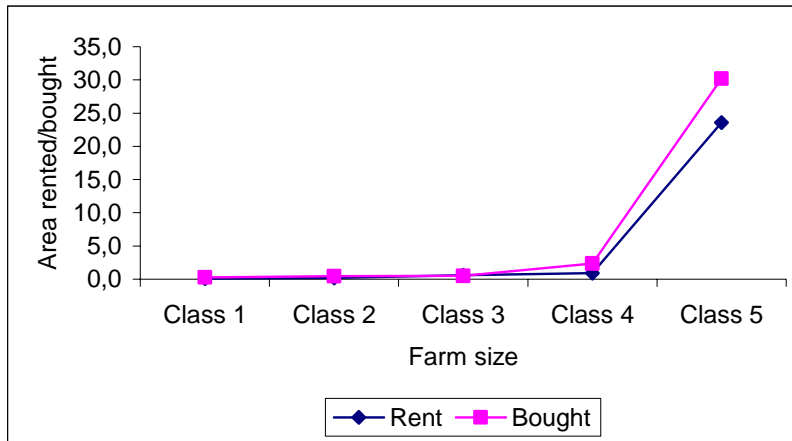
In ECA, just as in the United States and Western Europe, commercial farms see renting and buying land as complementary. In countries where larger family farms and corporate farms are buying land, they rent in at least as much, and often much more, land. For registered family farms, the amount of land rented in is on average around twice as much as that purchased (see table B3 in annex 2).

Moreover, the complementarity of renting and buying of land increases by farm size. Larger family farms are more likely to both rent and buy land. Figure 1 shows how the amount of land bought and rented increases by size category. Moreover, the data for Hungary (and our own econometric analysis) show that for larger farms, buying and renting land is increasingly a complementary strategy.

⁴ In Poland the privatization of state farms resulted in land being rented to private farms.

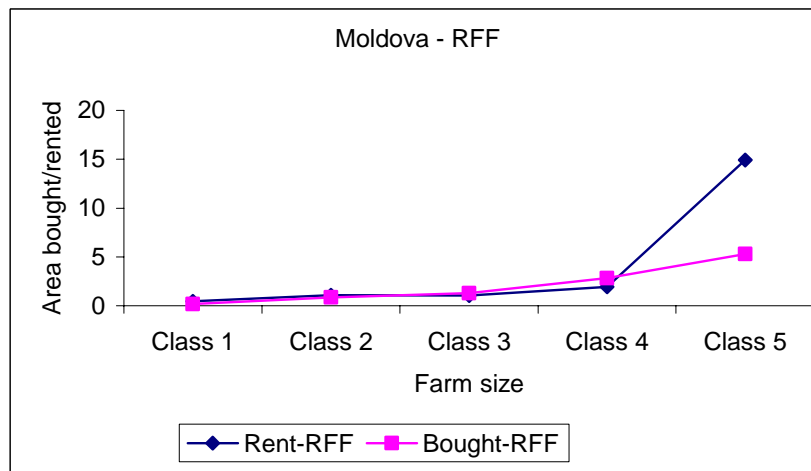
Figure 1: Land renting and purchasing by farm size

A. Hungarian family farms



Class 1: 0–0.1 ha; Class 2: 0.1–0.3 ha; Class 3: 0.3–1 ha;
Class 4: 1–3 ha; Class 5: <3 ha

B. Moldovan registered family farms

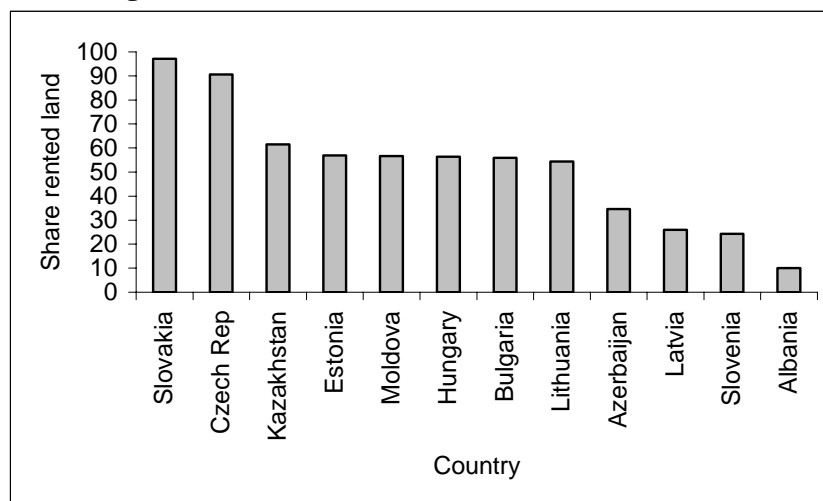


Class 1: 0–1.8 ha; Class 2: 1.8–2.9 ha; Class 3: 2.9–3.7 ha;
Class 4: 3.7–6.6 ha; Class 5: <6.6 ha

4.4 Farm Organization and Country Differences

There are large country differences in the role of rental markets in land allocation (see figure 2). Figure 2 presents aggregate indicators of the importance of renting as a share of total land used. The variations are huge. For example, in the Slovak and Czech Republics, more than 90 percent of the cultivated land area is rented. In Bulgaria, Hungary, Moldova, and Kazakhstan, between 50 and 60 percent of the cultivated area is rented. In Azerbaijan, this number decreases to 35 percent, and to 10 percent in Albania.

Figure 2: Share of rented land in total land used (%)



The main cause of these country differences is the importance of corporate farms. While corporate farms own little land, they use a lot of land in some countries, most of it rented. In the Czech and Slovak Republics, 75 percent of the total agricultural land area or more is used by corporate farms (see figure 3).⁵ Also in Hungary, Bulgaria, Kazakhstan, or Moldova, corporate farms still use around half of all land. In contrast, corporate farms have virtually disappeared in countries such as Albania and Azerbaijan, where more than 95 percent of the land is used by family farms.

The strong correlation between the share of corporate farms in land use and the importance of land renting is demonstrated in figure 4.

Finally, there is an issue of why the share of corporate farms differs so strongly among countries. This question is somewhat beyond the scope of this report, and has already been the topic of several studies (e.g., Lerman et al., 2004; Mathijs and Swinnen, 1998; Rozelle and Swinnen, 2004), and more details are available in annex 2. Key factors are relative factor endowments (corporate farms have disappeared in labor-intensive

⁵ Since the start of transition the importance of family farms in land use increased in all countries. However, both the magnitude and the speed of the change differed strongly (figure A1 in annex 1). In 2004, in Albania and Azerbaijan, the vast majority of the land is used by family farms. In Albania, this was already the case 5 years after the start of the reforms. At the other end of the spectrum we find the Slovak Republic, where after more than 10 years of reforms only 11 percent is used by family farms. In Bulgaria, Kazakhstan, and Moldova, around half of the land is used by family farms. This change in land use occurred faster in Bulgaria than in Moldova or Kazakhstan, reflecting differences in land reform. Also the share of total output produced by family farms increased. (Their share in livestock herd increased even more due to the labor intensity of animal breeding.)

agricultural systems), commodity characteristics (scale economies are larger in grains than in vegetable and dairy production, for example), market imperfections (family farms face disadvantages in accessing inputs and output markets if supporting institutions are not present), and the nature of the land reform (restitution and share distribution have helped corporate farms to survive while land distribution in kind (plots) has contributed to their disappearance—see box 3). All these factors have, often indirectly, had a major impact on the development of land rental markets.

Figure 3: Share of corporate farms in land use (%)

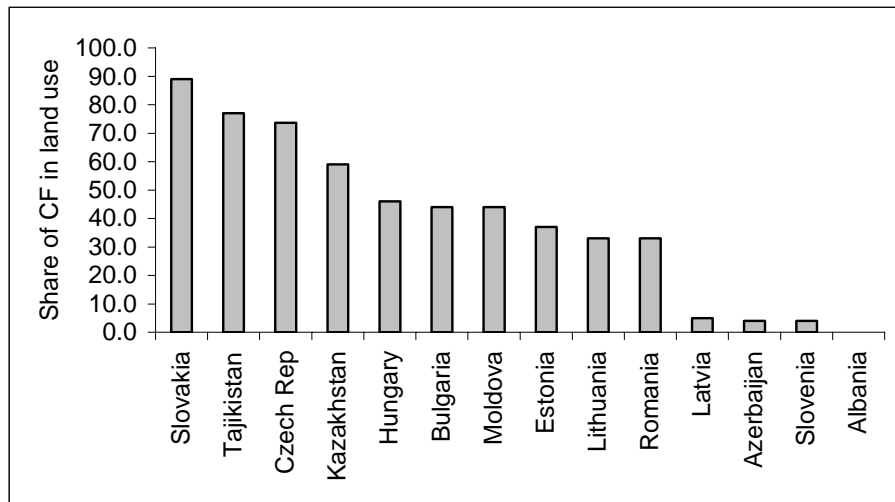
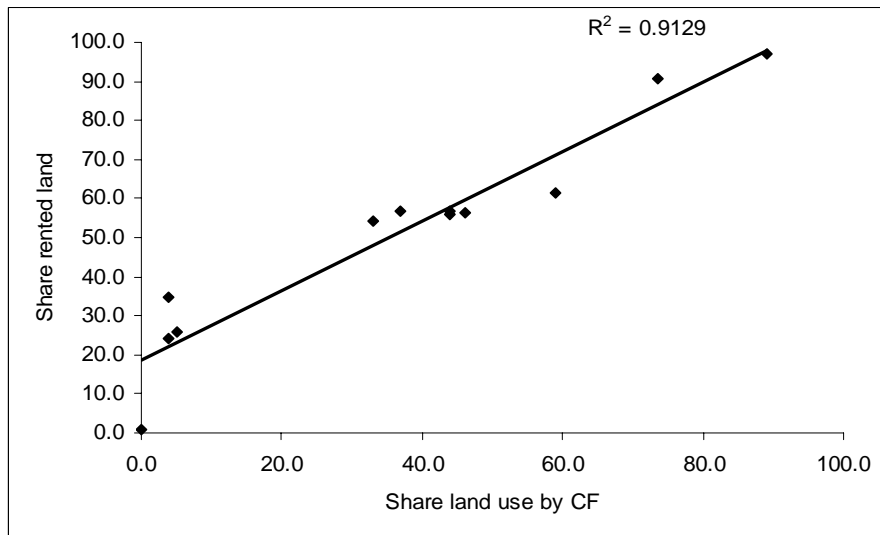


Figure 4: Correlation between land renting and the importance of corporate farms



Box 3: Land Reform Choices and Effects

Different land reform resulted in different ownership structures. The most important land reform choices were restitution, distribution in kind (actual plots), distribution of land shares, and a combination (first distribution in shares, then in kind). These differences can have important implications for the role of rental markets in these countries. See annex 2, table B5 for more detail.

Restitution versus Distribution of Land: An important difference between restitution of land to former owners and the distribution of plots or shares to farm workers and rural households is that with restitution (such as in the Czech and Slovak Republics, Bulgaria, the Baltic states, and large parts of Romania and Hungary) a significant share of the land is (potentially) allocated to individuals who are not (or no longer) active in agriculture. They may be retired or living in urban areas. This has several implications for the development of land markets.

One, there is probably more need for an exchange of land, since retired and urban households are less likely to use land than rural households that are active in agriculture.

Two, restitution is more likely to lead to a consolidation of the large-scale farming structures (collective and state farms in the past, now corporate farms) because corporate farm management, which was the historical user of the land, has transaction cost advantages in dealing with the new owners (Mathijs and Swinnen, 1998). For both reasons, restitution of land is associated with more land exchanges, including renting.

Distribution in Shares or in Plots: Distribution of land has been done by allocating physical plots (such as in Albania) or in shares (such as in Russia and Kazakhstan) or first in shares and later in physical plots (such as in Azerbaijan). There are important implications.

The distribution of land in specific plots (with boundaries) has created stronger property rights for the new owners. The distribution of shares has often implied uncertain property rights and high transaction costs.⁶ The stronger rights (with distribution in plots) caused a stronger growth of family farms, as it was easier for these new farms to access their land. For example, the distribution of land in kind led to the rapid growth of family farming in Albania in the early 1990s and in Azerbaijan in the second half of the 1990s. In both countries, within a few years after the start of the land reform, about 90 percent of all agricultural land shifted to family farms. In contrast, where land shares were distributed (e.g., Russia, Kazakhstan, and pre-2000 Ukraine), the shift of land use to family farms was much less.

Another effect of the share distribution is that it has allowed a concentration of landownership, much more so than the other types of land reform. Shares were exchanged without being linked to specific plots. In several cases, workers transferred their land shares to the corporate farm, for example, in exchange for employment. When farms were sold, often after bankruptcy, the land shares became part of the farm assets, and investors who took over the farm became landowners. This process led to the concentration of landownership, e.g., in parts of Kazakhstan, with vertically integrated companies now owning hundreds of thousands of hectares of land. In contrast, land distribution in plots and restitution⁷ has led to relatively egalitarian landownership distributions.

⁶ Individuals usually had to declare their intention to start up their own farm to take physical possession of their land. However, the barriers to exit were severe, as leaving the farm was often discouraged by farm managers and local officials. In addition, in several countries, the share distribution system was accompanied by continued soft budget constraints for the large farms (e.g., in Ukraine, Russia, and Kazakhstan), further reducing incentives for restructuring the farms.

⁷ The ownership distribution following the restitution process depends on the precollectivization ownership distribution. This distribution was relatively egalitarian as it was typically preceded by a Communist-imposed land reform that distributed land from large landowners and institutions (such as the Church) to landless peasants and small farmers. The main exception is Albania, where the precollectivization was very in egalitarian (feudal). This was one

5. RENTAL CONTRACTS IN ECA

5.1 Variations in Contracting

Land rental contracts vary widely among countries and within countries. Contracts vary from a few months to many years, from verbal and informal to written and formally endorsed contracts. Some require cash payments, others payments in kind (table 4 below, tables A5-A10 in annex 1).

Contract length. The average length of a land rental contract was around 1 year in Albania, Bulgaria, and Romania, around 1997–1999 (see table 4). In contrast, the average rent length was between 5 and 15 years for the registered farms and the agricultural enterprises in the Czech and Slovak Republics in 1999. In 2004, in Azerbaijan, land rental contracts were also rather long: 9 years and longer for renting in and 3 years for renting out. In Kazakhstan and Moldova rental contracts were also several years (3 to 4 on average), although unregistered farms in Kazakhstan were different: they rented out for much longer (12 years) while renting in on annual contracts.

Table 4: Average length of rent contract (years)

			Renting in	Renting out
Azerbaijan	2004	Unregistered family farms	10 °	3
		Registered family farms	22 °	-
		Corporate farms	17 °	-
Albania	1999	Family farms	0.8	0.9
Bulgaria	1997	Family farms	0.9*	1.1*
Bulgaria	2004	Rural households	-	4
		Registered family farms	-	2
		Corporate farms	-	1
Czech Republic	1999	Unregistered family farms	3	7-9*
		Registered family farms	8	7-9**
		Corporate farms	8	5
Kazakhstan	2004	Unregistered family farms	1	12
		Registered family farms	3	1
		Corporate farms	3	-
Moldova	2004	Unregistered family farms	4	5
		Registered family farms	4	3
		Corporate farms	-	-
Romania	1996		1	-
Slovak Republic	1999	Registered family farms	7	5-6 ***
		Corporate farms	13	5

* no significant difference between source of land (owners) or lessees (farm types)

** nine years for renting to cooperatives; seven for renting to others

*** six years for renting to cooperatives; five for renting to others

° from state

Formality of contracts. In Romania in 1996, 92 percent of rental arrangements for renting in land by family farms were through informal contracts, and only 8 percent were formally registered. In contrast, Bulgarian households renting out land used formal contracts for 82 percent of contracts in 2004 (see tables A6 and A8 in annex 1). In

of the reasons why restitution was heavily opposed in Albania and the government distributed the land equally to rural households (Cungu and Swinnen, 1997).

principle, formal agreements are signed when households rent out land to corporate farms.⁸

Type of payment. Rental payments are made in kind, in cash, combined cash and kind, and as sharecropping (see tables A6–A10 in annex 1). Here also are large variations: almost all Kazakh family farms renting in pay cash, while almost none of the households in Azerbaijan get cash for their land.

There is little evidence on the role of sharecropping. Only for Romania do we find evidence that sharecropping was fairly important. In Romania in 1998 more than 40 percent of the rental contracts of rural households (both in and out) were with sharecropping arrangements (table A5 in annex 1).

5.2 Causes of Variations

The type of rental contract (length, formality, payment conditions) depends both on the stage of transition and on the type of user and owner.

Progress in transition leads to longer and more formal contracts. Compared to annual contracts in Albania, Bulgaria, and Romania, even unregistered farms in the Czech Republic were using contracts for 2.5 years on average for renting in land. The two surveys in Bulgaria show that the average length of the rental contracts increased from 1 year in 1997 to around 3 years in 2004. Also the formality of contracts has grown over time: only 56 percent were written contracts in 1997, while this share increased to 82 percent in 2004.

Typically, contracts between relatives are shorter and less formal, while contracts with formal organizations (corporate farms or the state) are longer and more formal. For example, in 1998, Bulgarian households renting out to other households were almost entirely based on informal verbal agreements. In contrast, renting land from the state/municipality was in 77 percent of the cases based on written contracts, while a written contract was signed only for around 23 percent of the agreements for renting in from individuals (Noev and Swinnen, 2004). These differences still existed in 2003, although contracting with registered family farms was 80 percent registered and of the same length as with corporate farms. In Moldova and Kazakhstan, rural households (UFFs) were mainly renting out to farm enterprises and these land transfers were generally based on registered contracts. Renting between households is less likely to be formalized. The long length of contracts in Azerbaijan is related to the state as the main source of land.

The type of payment varies strongly by farm organization. Rural households mostly pay cash for land that they rent in, but are paid in kind for land that they rent out (see figure 5). For example, in Kazakhstan, cash payments account for 95 percent of total payments for land they rent in, while less than 24 percent of total payments are received in cash for land they rent out.

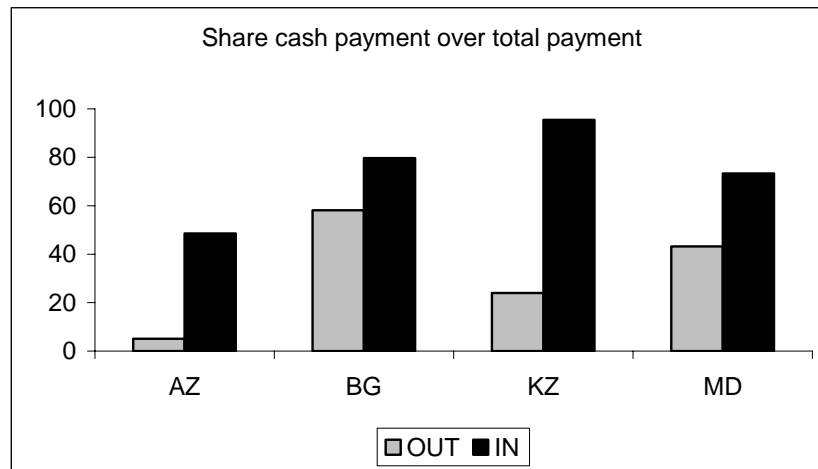
Corporate farms do not pay cash in many of the countries. The share of corporate farms paying (partially) in kind is 100 percent in Azerbaijan, 98 percent in Moldova, and 83

⁸ This does not hold for plots owned by absentee landowners. The land of these absentee landowners is sometimes used by corporate farms or individuals without permission (and hence without formal agreement). In other cases, their land is co-owned by people living in the village who make the decisions.

percent in Kazakhstan. This is the main reason why households receive in-kind payments for their land while they have to pay cash themselves.

The relationship between contract length and rental payments changed during transition. Although empirical evidence is limited, it appears that early in the transition period when there was low demand for land, corporate farms were able to lock in households with long-run contracts with generally low rent payments. That is the evidence coming out of the surveys at the end of the 1990s in Central Europe. Hence, the relationship was negative between land rents and contract length. However, more recently, demand for land has increased as productivity and prices (and subsidies in the EU8 countries) have gone up; farms have to pay a premium to owners to commit their land to a long-run contract. In this case, the relationship between contract length and rents has become positive.

Figure 5: Cash payment in total rental payments/incomes (%)
Unregistered family farms in Azerbaijan, Bulgaria, Kazakhstan, Moldova



6. CONSTRAINTS AND IMPERFECTIONS

This section presents conclusions from the surveys on land market constraints, then a series of specific market imperfections.

6.1 Problems in Renting Land

There are large differences among countries in problems in the land rental markets. Farms in the Czech and Slovak Republics experienced few difficulties in renting land. In contrast, in Azerbaijan, Bulgaria, Moldova, and Kazakhstan, a high share (more than 70 percent) of all farms express “difficulties to rent in land” in all farm categories.

The reasons farms in Azerbaijan, Bulgaria, Moldova, and Kazakhstan have difficulties renting in land are (a) credit constraints and (b) country-specific factors.

- *Access to credit is an important constraint for family farms in Azerbaijan, Bulgaria, and Moldova, and more so for the unregistered family farms. “No money to rent” is the most important problem for unregistered farms in these countries (for almost 90 percent in both Azerbaijan and Moldova); and also*

for registered farms in Moldova. Credit constraints are less of a problem for Kazakh farms in 2003, and for corporate farms in Bulgaria. Corporate farms in Moldova put credit constraints as their number one problem in the rental market.

- *In Kazakhstan, the main problem for family farms is that “they do not know the authority that deals with the land rental.”* More than 50 percent of both registered and unregistered family farms and even 30 percent of the corporate farms identify this as a problem in Kazakhstan, while less than 5 percent of any farm type in the other countries identify this as a problem. This seems to reflect the continued important role that the state is playing in the land rental market and land reform implementation, which contrasts strongly with other countries where this is not an issue.
- *Shortage of land supply is an important problem for farms in Azerbaijan.* The share of farms identifying that “nobody wants to rent out” is much higher in Azerbaijan than in the other countries. This reflects the strong growth in agricultural production and productivity, and the flow of labor into agriculture since the start of the land reforms in the second half of the 1990s.
- *Land fragmentation is an important constraint in Bulgaria, especially for the larger farms.* Forty-three percent of registered family farms and 69 percent of corporate farms identify “small and fragmented parcels” as an important problem. Land fragmentation is extreme in (some parts of) Bulgaria. For example, in north- and south-central Bulgaria, rural households own on average seven parcels of land with an average size of 0.5 hectare. High fragmentation together with co-ownership of land is having an important impact on households’ participation in the land rental market (Vranken et al., 2004).
- *Lack of information and uncertainty in the land rental market seems to be a serious problem in Moldova.* Around 30 percent of farms say that they “do not know the rental price” and 20 to 30 percent of the farms say that “the rental process is complicated and unclear.” This holds true across all farm types and is significantly higher than in the other countries (except for Azerbaijan where the complexity of the rental process is also a problem for 30 percent of farms).

6.2 Problems in Buying Land

There are major problems in the land sales markets. Between one-third and two-thirds of the family farms in the Czech and Slovak Republics express difficulties in selling and buying land. In Albania, the share is higher, 64–74 percent.

The problems in the sales market are remarkably similar to those in the rental market in Azerbaijan, Bulgaria, Moldova, and Kazakhstan, where a very high share of all farms have difficulties buying land (the lowest share of any farm type in these countries is 87 percent):

- The main constraint is credit. “No financial means to purchase land” is the most important problem across the countries, and is identified by the vast

majority of all farms in the countries, except Bulgaria where it is the main problem only for unregistered farms.

- For the larger Bulgarian farms (corporate farms and registered family farms), the fragmentation of land parcels is the main problem in buying land.
- As in the land rental market, a limited land supply is a problem in Azerbaijan, especially for the larger farms.
- Uncertainty, complexity, and an expensive transaction process in buying land is a more important problem in Moldova than in the other countries.

Experts point out that land sales markets are constrained because foreigners, and in some countries also legal entities, are not allowed to buy land. This puts a downward pressure on land prices and limits the possibility to use land as collateral for credit. This, in turn, lowers investments in land improvements, buying of land, and agricultural production in general.

6.3 Credit Markets and Profitability

These findings indicate that poor access to capital is a major constraint, not just for land sales markets but also for land rental markets. Lack of farm profitability and imperfect credit markets both constrain farms' access to capital. There is an extensive literature on land markets showing theoretically and empirically that credit market imperfections are a major cause of land market imperfections.

Capital market imperfections may constrain the efficiency of land sales markets in several ways. One, where capital markets work imperfectly, land purchases typically have to be financed out of one's own savings. Two, where financial markets do not work well, or where confidence in money as a repository of value is low, land may be used to store wealth and may be acquired for speculative purposes. Three, land may be purchased or held onto as a hedge against inflation, or as an investment asset in the absence of alternative investments or hedging options. Four, with constrained access to credit, investments in land tie up much-needed capital in land, and prevent farmers from using these savings for investments in technology, equipment, or quality inputs. These factors mean that the sale price for land will typically be higher than the productive value of land.

During the 1990s credit market imperfections were widespread across all transition countries. These problems have been mitigated substantially, in particular in the EU accession countries, where credit from banks and other rural financial institutions and contracts with agribusinesses have reduced credit constraints for farms. However, in many poorer transition countries these constraints remain very important.

Related to this, the profitability of agriculture plays an important role in land markets. When credit markets are imperfect, land transactions have to be financed out of savings. Obviously, when profitability in agriculture is low, this is a major additional constraint. Profitability has improved in many countries in recent years because of EU accession, increased productivity (sometimes as a consequence of land reforms, such as in Azerbaijan or the Kyrgyz Republic), improved terms of trade (in particular in countries affected by the 1998 Russian financial crises that caused major exchange rate effects), or enhanced demand for agricultural products with growth in the rest of the economy.

EU accession and the impact of subsidies have had a major effect on rental markets in the CEE accession countries. The combination of security of rights and improved legal frameworks for transactions, inflow of foreign capital (into the land markets directly or indirectly through agri-food industry investments), and increased prices and large land subsidies under the EU's Common Agriculture Policy have caused a major impact on land prices and land transactions in these countries. For example, land rental prices tripled in the first year after accession in Lithuania.⁹

6.4 Market Power and Imperfect Competition

The domination of large corporate farms also leads to imperfect competition in the land market. Large farm corporations use their market power in local or regional land markets to influence land prices and rental contract conditions in their favor. For example, in countries like Bulgaria, in some villages, almost the entire village is renting to a single corporate farm. A number of other factors also affect the land market and the market power of certain groups.

6.4.1 Transaction costs

Several indicators in the survey findings point at remaining high transaction costs in land markets. This is consistent with findings from other studies. Several studies document that land markets in the transition countries, even the most advanced such as in Central Europe, are still characterized by the existence of significant transaction costs in the rural land markets, constraining land exchanges (Dale and Baldwin, 2000; Lerman et al., 2004). Transaction costs include bargaining costs, costs of enforcement of withdrawal rights, costs related to asymmetric information, costs related to co-ownership and unknown owners, and unclear boundary definitions.

The land reform process has created a class of new, sometimes absentee, landowners while land is used by a mixture of smaller individual farms and large-scale corporate farms. These corporate farms continue to use large parts of the land for a variety of reasons (see annex 2). An important reason is that historically the large-scale farms were the users of the land. New owners of the land may face significant transaction costs if they want to withdraw their land from the farms and reallocate it.

While the withdrawal procedure is usually stipulated by law, it is also determined by the willingness of the corporate farm to implement it (Mathijs and Swinnen, 1998). Interviews with country experts confirm that the difficulty to withdraw land is highly dependent on the location of the plot. Withdrawal of a plot that is located in a consolidated field makes the process more difficult and more costly. The cooperative farm and the landowners have to agree on the physical demarcation of the plot. If the plot is located in the middle of a consolidated field, the parties will typically try to agree on a comparative parcel at the border of the field. In that sense, it is important that farm management is cooperative on the withdrawal procedure. According to the legislation, corporate farms have no right to block such withdrawals. However, in practice they are

⁹ The impact of agricultural subsidies on the rental market depends on the implementation and the nature of the subsidies. For example, Deininger et al. (2003) argue that subsidies that disproportionately benefit large farms will induce small to large rentals. The removal of such subsidies will have equity benefits. However, this finding appears conditional on the nature of the subsidies and on the landownership structure. As Ciaian and Swinnen (2005) show, even with important land market imperfections, agricultural subsidies in Eastern Europe may benefit small landowners.

not always that supportive. While difficulties between withdrawal of physical land plots and land shares are not that dissimilar, indications are that the withdrawal of land shares is even more difficult, especially for land owned by individuals not related to the corporate farms (nonmembers/nonpartners). In general, these problems increase the costs for the landowner, since he or she can be deterred from withdrawal by being offered a plot located far from the operation or a plot of lower soil quality.

Corporate farm managers typically have more information than landowners about the economic situation of the farm and about regulations governing local land transactions.¹⁰ This is especially true for landowners who have not been involved in agriculture, or who are living outside the village where their land is located, or for pensioners (Swain, 1999).¹¹

Other transaction costs follow from co-ownership of land, unclear boundary definition, and the problem of unknown owners. In many CEE countries, landownership registration was poorly maintained, if at all, and in many areas land consolidation was implemented, wiping out old boundaries and relocating natural identification points (such as old roads and small rivers). The loss of information on registration and boundaries produced a large number of unknown owners in some transitional countries (Dale and Baldwin, 2000). In addition, unsettled land inheritance within families during the socialist regime caused a strong landownership fragmentation and a large number of co-owners per a plot of land (see box 4). This raised the costs of land withdrawal, as land withdrawal from the corporate farm normally required agreement from co-owners.

Finally, other costs related to land transfers include notary fees, taxes, and other administrative charges. For instance, the studies on Poland, Bulgaria, Lithuania, and Romania estimate these costs at between 10 and 30 percent of the value of the land transaction (OECD, 2000; Prosterman and Rolfes, 2000; World Bank, 2001).

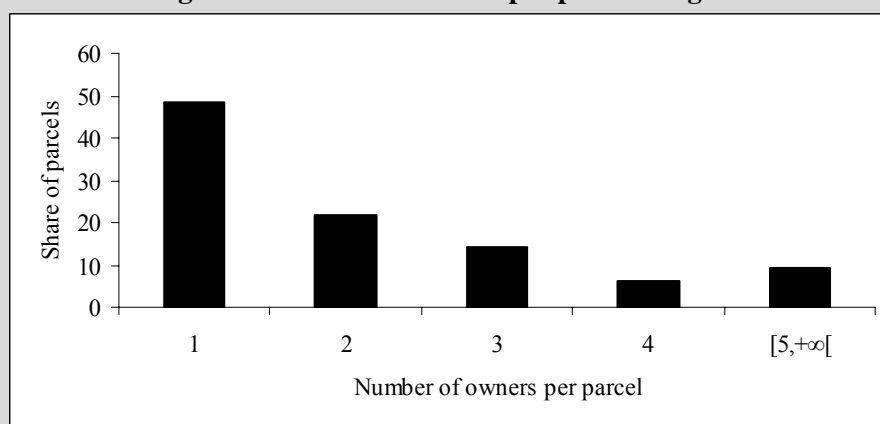
¹⁰ For example, Swain describes how pensioner-members of cooperatives in the Slovak Republic were “forced” to rent the land to the cooperative by being threatened with losing their pensions.

¹¹ In Hungary, “passive owners” (this includes village-based pensioners, landowners who are not active in the cooperatives, and those living outside of the village where their land is located) received around 71 percent of agricultural land (Swain, 1999).

Box 4: Joint Ownership of Land

According to the OECD (1997), in 1993 approximately 9.6 million plots were registered in Slovakia, roughly 0.45 hectares per plot, and each plot was owned by on average 12 to 15 people. As Dale and Baldwin put it, “a single field of twenty hectares may have hundreds of co-owners.” In the Czech Republic, there were 4 million ownership papers registered in 1998 for 13 million parcels, with an average parcel size of 0.4 hectares. In Bulgaria, a recent study for FAO found that 50% of the plots were co-owned, often by several people¹² (Vranken et al., 2004). The average number of co-owners was more than two (excluding husband and wife co-ownership). Some co-owners may be unknown, may not be in the country, or may be scattered throughout the country.

Figure 6: Number of owners per plot in Bulgaria



Source: Vranken et al, 2004

6.4.2 Impact on land rental markets

Rental prices for land rented by corporate farms are often much lower than that rented by individual farms due to the combination of imperfect competition and transaction costs. In the Czech and Slovak Republics, land rents paid by corporate farms are generally much lower: most vary between 20 percent and 50 percent of the rents paid by family farms (see table 5). In Hungary land rental prices were significantly lower in regions where corporate farms dominated (Vranken and Swinnen 2004).

Corporate farms also reduce payments by paying in kind instead of in cash. A study by the Institute for Market Economies (IME) (2000) found that in Bulgaria, corporate farms generally paid their rents in kind, while family farms were much more likely to pay cash or mixed cash and in kind.

¹² Due to inheritance practices of splitting land among all heirs, small plots of land can end up being owned by multiple and often distantly related ‘family’ members.

Table 5: Land rents in the Czech and Slovak Republics by farm type (in local currencies)

	Individual farms A	Corporate farms B	Ratio (A/B)
Czech Republic			
1999	718	346	2.1
Slovak Republic			
2001	795	242	3.3
2002	816	333	2.4

Source: Czech Ministry of Agriculture; Research Institute of Agricultural Economics. Farm Accountancy Data Network. Bratislava, various years.

In-kind payments used by corporate farms are less transparent. They often depend on yields, which are difficult to control by the landowners, and may result in lower effective rent payments. In several countries, experts indicate that less productive corporate farms often do not pay rents as contractually agreed upon. This seems to be more problematic in countries where land is under land share ownership, or where some land is owned in physical plots and some in land shares. For example, in Ukraine experts estimate that when corporate farms are using land shares owned by individuals, rental payments are made in only approximately 70 percent of the cases.

This may also reflect the perception of corporate farms in several FSU countries, such as Russia, Ukraine, and Moldova, that the land they rent as shares is de facto their own land, even though rent is paid (from time to time) to the owners.¹³ In the CEE countries, the ownership situation of households is more secure and corporate farms do not consider the land that they rent as their own, although they try to use their bargaining power to affect contract terms in their own favor.

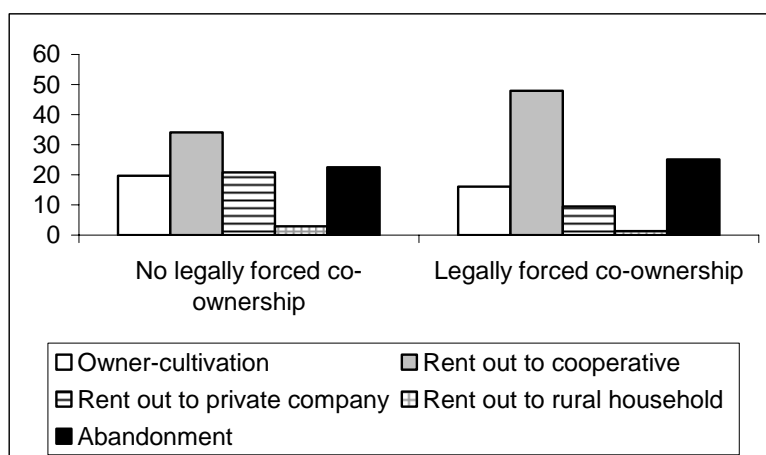
Transaction costs and property rights imperfections, even after titling and well-developed cadastre and land information systems, can have a strong impact on the allocation of land. Take the case of co-ownership in Bulgaria (see also box 4). The study by Vranken et al. (2004) finds that:

- co-owned plots of land in Bulgaria are more likely to be used by corporate farms, and less likely to be used or rented out to other farms (figure 7);
- the probability of land being used by a cooperative or being abandoned increases with the number of owners; and
- the impact of co-ownership depends on whether co-owners are living in or outside the village. Coordination problems are higher when co-owners are living farther away.

In summary, these findings show that property rights imperfections and associated transaction costs continue to have a major impact on land use and allocation. That affects both use and exchange of land.

¹³ Notice that in Kazakhstan this perception became reality in 2003, as the farmers pressured the government into new legislation that effectively made them owners of the land that they used (and de facto transferred rights from households to the farms).

Figure 7: Effect of co-ownership on allocation of land in Bulgaria¹⁴



6.5 Labor Market Constraints

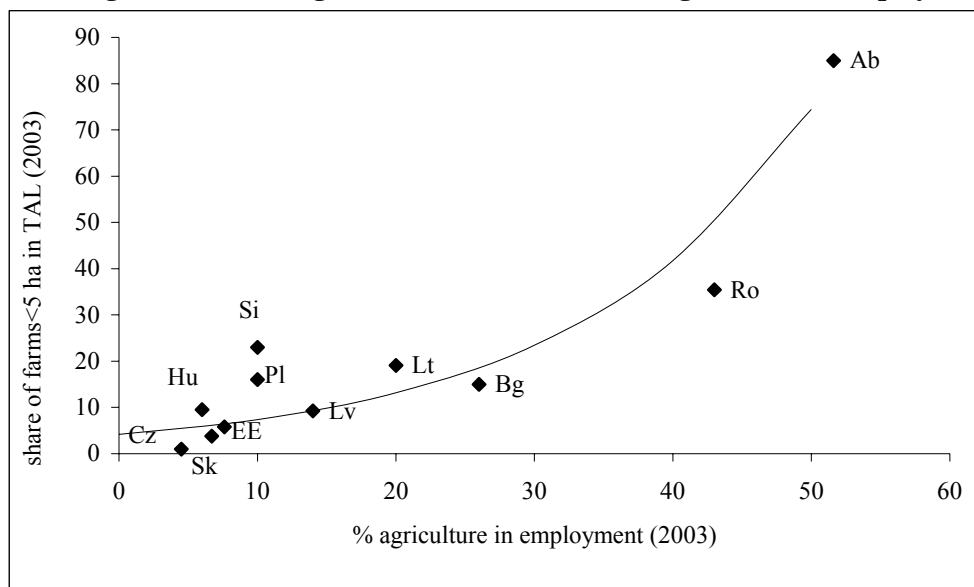
Fragmentation of land is often cited as a constraint on the functioning of land markets, or on their ability to lead to consolidation of farm land. However, evidence suggests that labor market constraints may be a more fundamental cause of fragmentation, and that a combination of improved off-farm employment, retirement, and rental markets can address the major land consolidation problems.

There is no evidence that fragmentation of ownership causes fragmentation of land use. Fragmentation of ownership is very strong in Central Europe (the Slovak and Czech Republics, and Hungary) while it has not led to fragmentation of land use. Quite the opposite is true—farm land is very consolidated through rental agreements.

A closer look at the fragmentation of land use across Eastern Europe suggests that fragmentation has less to do with the land market than with the labor market. Figure 8 illustrates that land use fragmentation is strongly correlated with the employment structure of the economy. In the mid-1990s there was an almost perfectly linear relationship between the share of land used by very small farms and labor employed in agriculture. Land use fragmentation was a problem mostly in countries where too many rural households had to rely on agriculture.

¹⁴ According to Bulgarian law, a parcel cannot be divided among owners if the size of the newly created plots will be below a certain size. This situation is referred to in figure 7 as “forced co-ownership.”

Figure 8: Farm fragmentation and the share of agriculture in employment



The survey data also confirm that within countries, for example in Hungary, fragmentation of land and small plots are essentially associated with old, often retired, and part-time farmers. Both larger family farms and large corporate farms in Hungary use large and consolidated land plots. Commercial farms rent a large share of the land they operate. Hence, this evidence is consistent with the earlier conclusion that if there is a fragmentation problem, it is primarily caused by labor market constraints.

In several countries (Moldova, Bulgaria, Albania) rural households have tried to cope with labor market constraints by migrating to urban areas or to other countries (Macours and Swinnen, 2005). Migration and the associated remittances have contributed to the growth of farming, and to a lesser extent of rental markets, by allowing households to obtain a more productive labor/land ratio, by reducing credit constraints, and by stimulating the supply of land in labor-intensive agricultural systems (see box 5).

Box 5: Migration and Land Rental Markets

The relationship between migration and land renting is bidirectional. First, land renting can stimulate migration by providing households with a rental income to finance the costs of migration (either investment costs or partially covering (temporarily) reduced income due to loss of local returns to household labor). Second, migration can affect land renting as (a) it stimulates the supply of land (reduced demand) for renting out as labor moves out of the rural areas; (b) it may stimulate the supply of land (reduced demand) as remittances allow households to invest in off-farm activities; or (c) it increases the demand for land as remittances reduce capital constraints, by allowing households to invest in labor-substituting technology, such as farm animals or machinery. Data on Albania, which has witnessed massive migration flows,¹⁵ show important interactions with the land rental market.

Around half of land rented in Albania is from people living abroad (47 percent of individuals, and 55 percent of plots). A large share of these rental agreements (33 percent) is with relatives—not unusual in a country like Albania where families are large and where most families have migrants. Fifty-five percent of the surveyed households have a member who is permanently or temporarily abroad.

Migration plays an important role in alleviating credit constraints and land constraints. Households that receive remittances are less financially constrained (Germenji and Swinnen, 2004).¹⁶ Per capita expenditures of households receiving remittances are considerably larger than for those not receiving remittances. In addition, households with remittances are cultivating and owning significantly more land. In Albania the land/labor ratio is very low and migration allows better land use within the household. Migration does not increase the probability to rent out land, but induces the household to increase its land/labor ratio. When whole households migrate, renting increases: more than 50 percent rent out their land.

7. EFFICIENCY AND EQUITY

7.1 Impact on Productivity

Land rental markets transfer land from older and less-educated individuals to younger and higher-educated individuals. Data from Azerbaijan, Bulgaria, Hungary, and the Slovak Republic (table 6, tables A11-A16 in annex 1) illustrate that the heads of household who are renting in land are significantly younger and more educated than the heads of household who are not participating in the land rental market. The head of households who are renting out land are significantly older, close to retirement age.

¹⁵ Around one-third of the male population of working age has migrated (Germenji and Swinnen, 2004).

¹⁶ E. Germenji and J. Swinnen (2004), "Human Capital, Market Imperfections, Poverty and Migration: Evidence from Albania," *LICOS Discussion Paper*.

Table 6: Human capital characteristics by rental activities

	Age (years)			Education (years)		
	OUT	IN	*	OUT	IN	*
Azerbaijan	61	51	*	7	6	
Bulgaria	61	46	*	9	8	
Hungary	59	51	*	9	11	*
Slovak Republic	62	46	*	9	12	*

*Test for equal means of household renting in land and households renting out land is rejected at a 0.1 significance level.

Renting in allows for better use of labor. Unregistered family farms in Azerbaijan and Bulgaria that are not renting in land have a land/labor ratio lower than one, while those renting in have a ratio higher than four (table 7, tables A13–A14 in annex 1). The labor productivity of the Azerbaijani and Bulgarian unregistered family farms that rent in land is also more than three times as high. That indicates that they are able to use their stock of family labor more productively. That is especially important in rural areas where off-farm labor opportunities are scarce and households are left with no other options than self-employment in agriculture.

Renting in allows farms to reach a higher output per worker. Data from Azerbaijan, Bulgaria, and Moldova show that family farms that do not rent in land use more labor on their land (table 7, tables A13–A15 in annex 1). Renting in probably allows for a more efficient labor/land allocation, leading to higher output per unit of labor in family farms. The differences are particularly large for unregistered farms. We also find that family farms that are renting in are more likely to be commercial farms.

Table 7: Labor productivity, land/labor ratio and commercialization degree by rental activities

Households that rent		Azerbaijan			Bulgaria			Moldova	
		NOT	IN	*	NOT	IN	*	NOT	IN
Labor productivity	LCU/AWU ^a	1272	4101	*	1073	3650	*	10361	9514
Land/labor ratio	Ha/AWU ^a	0.7	5.2	*	0.7	4.3	*	1.1	1.6 *
Commercial farms	%	93	97		38	85	*	90	97

*Test for equal means of households renting in land and households renting out land is rejected at a 0.1 significance level.

^a LCU = local currency unit, AWU = annual working unit

7.2 Impact on Welfare

Better functioning rental markets increase welfare, at least in labor-intensive, poor countries. In Azerbaijan and Moldova, rural households that had easier access to the rental market in the previous years have a higher level of well-being. These results are robust to various changes in the specification of the models. In Bulgaria, the main factor affecting household welfare is access to credit rather than access to land. This is consistent with other studies on rural Bulgaria, which find that the main constraint to growth and welfare is access to agricultural markets and finance, rather than land. Still, both renting in and renting out are positively correlated with higher well-being of households in Bulgaria.

7.3 Land Access

Households with a larger land endowment are more likely to rent out land and less likely to rent in land. In Hungary and the Slovak Republic, households that are renting out land received larger plots during the reforms than those that are not participating in the land rental market. There is a strong positive effect of land endowment on renting out land for both countries. In the Slovak Republic, there is also a strong negative effect of land endowment on renting in land. In summary, these findings support the conclusion that land rental markets in ECA transfer land to land-poor households.

In contrast, sales markets contribute to a concentration of land among households. Households with more land also purchased more land in the Slovak Republic and Hungary.

7.4 A Tale of Two Rental Markets

To illustrate the development of rental markets in ECA, and its divergent patterns, consider the cases of Albania and the Czech Republic.

The rental market is very active in the Czech Republic and all types of farms participate actively. Large corporate farms, which use more than 60 percent of the land in the country, rent in 99 percent of their land. A significant part of this land is from households that are no longer active in agriculture and that received landownership through the restitution process. More than half of the registered family farms rent in land, and more than 60 percent of unregistered farms rent out land. Not only are most farms and households involved in renting in the Czech Republic, they also rent large plots of land: the average size of land rented in by registered family farms is 71 hectares, and the average area of land rented out by (registered and unregistered) farming households is more than 9 hectares. The latter is very large, given the fact that the average area owned by all unregistered farming households is only 6.5 hectares. In addition, most rental contracts are formal and long-term, with the average length between 5 and 10 years.

Table 8: A comparison of Albania and the Czech Republic

	<i>Albania</i>	<i>Czech Republic</i>
Share of land rented (%)	10	90
Rental contract form	Informal	Formal
Rental contract length	1 season	5–15 years
Share of land used by corporate farms (%)	0	62
Share of agriculture in employment (%)	52	5
Land reform	Distribution in plots	Restitution

The contrast with Albania is huge. In Albania virtually all the land is farmed and owned by small family farms, which received land under the land distribution scheme in the early 1990s. The 1999 survey data indicated that only 2 percent of farming households were renting land, either in or out, and the area was very small, on average 1 hectare or less. A more recent (and targeted) survey of the land rental market indicates that these numbers were likely underestimating the rental activities, because there is considerable informal renting going on within extended families, which is not generally recognized as “renting.” However, even accounting for this, only 10 percent of the rural households,

almost all of which are farming in Albania, are renting land in and another 10 percent are renting out. A large share of the rented plots belong to people living abroad (box 5), but often the rental contracts are within extended families. Much of the rental is short-term (one season) and virtually all is informal.

These enormous differences in rental market developments reflect a combination of factors: differences in farm structure, patterns of land reform, and differences in the role of agriculture in employment and in the economy. Land rental will be most important in ECA countries where the land reforms contribute to a dispersed landownership structure (including the nonfarm population), and where few people are active in agriculture. As in the Czech Republic, these countries are typically those with many large corporate farms. In contrast, land rental is lowest in countries where many households are active in farming and where land reform distributes land (in kind) to rural (farming) households. As in Albania, these countries are typically dominated by small-scale family farms.

8. CONCLUSIONS

The land rental market can provide an effective alternative to land sales markets in stimulating much-needed land consolidation and farm restructuring in the process of agricultural recovery and growth. The potential benefits of land rental markets are that they allow for more flexible adjustments of the land area used with relatively low transaction costs; require a smaller capital outlay than purchase, thereby freeing up capital for investment on the land; facilitate easier reallocation of land to more efficient users; and provide a stepping stone to landownership. However, land rental markets may also have difficulties due to insecure property rights, high transaction costs, and constraints in other markets, such as credit.

In ECA, the survey data show that buying and selling land is more difficult than renting land. While conditions of rental markets across the region vary, there are a number of issues and constraints that are relevant to all ECA countries.

Security of ownership is a condition for the efficient operation of land rental markets. Secure property rights require transparency, enforceability of contracts, and reliable conflict resolution mechanisms. If property rights are not secure, landlords who rent out run the risk of not being able to claim back their land and will restrict renting out to informal and short-term contracts, or within the same social or ethnic group. Security of ownership requires a legal framework that protects property rights, including protection of individuals against excessive power of government to expropriate; registration procedures that are secure and transparent, and provide public notification of all transfers or other contractual obligations (mortgage, rental); and clear procedures for repossession of collateralized property.

Ownership rights are still less than perfect in many ECA countries. In some regions the security of rights of small owners are still constrained. Furthermore, large transaction costs may constrain access to land for (potential) family farms, as they cannot withdraw land from the large corporate farms.

The focus should be on reducing transaction costs and enhancing transparency and access to information in the land market. Transaction costs and equal access to information remain important constraints in several countries, and policies and institutions that improve these factors will help to enhance efficiency improving land exchanges, and have positive effects on equity.

The existence of long-term rental contracts in many parts of the world implies that rental contracts can be adjusted to solve the incentive problems for land-related investments. Evidence from Western European and other industrial countries suggests that with secure long-term rights and long-term rental contracts, many entrepreneurs with limited capital endowments may actually prefer to rent than to buy land. Across countries, commercial farms seem to prefer a combination of rented and owned land. Unless secure tenure contracts are available, the incentive for tenants or landlords to either make investments in land or to engage in land exchange may be severely limited.

Much of the literature on renting is based on the historical situation of small tenant-large landlord relationships and most rental regulation has been put in place to address this issue. However, in ECA, the opposite is often the case, with large corporate farms renting from small landholders, and traditional tenure regulations may have negative impacts on efficiency and equity. This relationship between large corporate farms and small owners is a cause of concern in some countries. Providing better information about land and rental prices, and enhancing the bargaining power of small owners and farmers will all contribute to both equity and efficiency in the land market. Government regulation of the rental contracts may be ineffective in dealing with rental market inefficiencies, so governments are recommended to focus on leveling the playing field with respect to access to information and enforcement of contract terms, rather than stipulating maximums or minimum contract lengths, rent ceilings, and the like.

The ability to enforce tenant contracts at low cost, and the availability of necessary information and low transaction costs in reallocating land are key to facilitating the longer-term contracts that will be needed to cope with structural change. **To a large extent, the magnitude of the impact of tenancy on equity and investment in the longer term will depend on these factors.** For example, in Ukraine, progress on titling shares to their owners while separating them from a bigger land share is slow. Furthermore, as in Russia, the procedures for registering land titles are very complex and costly. Moreover, in the case of disputes, the court system is working slowly and is overburdened and generally not effective in enforcing or solving rental or ownership disputes. Improving and widening access to information; supplying standard contracts at no cost; providing alternative dispute resolution mechanisms, perhaps at the local level; and lowering transaction costs for registering rental agreements would improve the functioning of the land rental market.

The rental market in several countries could benefit from the establishment of an information system to collect and distribute information about prevailing market prices per land quality categories. This information on indicative upper and lower thresholds for the rental and sales prices could assist in price negotiations between owners and users. This is especially important where large-scale farming cooperatives and companies dominate the land rental market.

Updated land registers and databases are crucial to secure property rights and promote land exchange. In some countries, many current owners cannot be found in the land database. Inclusion of the current owners would reduce transaction costs to rent in land, that is, to find the landowners, negotiate contracts, and validate the rental contracts. That would reduce entry costs for individuals willing to start farming.

Ownership documents should be unified. In some countries, a landowner can rely on different types of documents to prove that he or she owns a certain parcel of land. Instead

of having several documents with equal power, governments should take steps to standardize and unify landownership documents, which improves property rights security.

Nontraditional farm organizations may be relatively efficient in ECA-specific conditions, and these conditions may change during transition. Structures and institutional arrangements have emerged that address specific transition-related constraints in the land market and the agricultural economy. For example, the survival of very large farms in some countries partly reflects institutional constraints for family farms, which should be addressed through different policies. On the other extreme, access to land for small (semi-) subsistence farms may be important as a transitional poverty-alleviating strategy. However, in the long run these institutional constraints should be resolved, and much of the labor employed on semi-subsistence farms would be better off being employed in other sectors of the economy. Rental policies should focus on removing constraints to allow this restructuring to occur.

There is much confusion on ownership and use of land in the land fragmentation debate. Rental markets have allowed countries to overcome fragmented ownership through consolidated land use. Fragmentation of farms (use) is more likely caused by labor market problems than by land market problems. Policy priority should be on stimulated rental markets, rather than consolidation projects.

In some countries land regulations to reduce excessive fragmentation have worsened efficiency and sometimes equity, and caused problems in the land markets instead of solving them, by creating unclear property rights. The Bulgarian co-ownership problems have lessons on the unwanted effects of regulation, and more specifically on undesired effects of legal initiatives to constrain land fragmentation.

A key issue is the importance of addressing constraints in other markets. The functioning of credit markets, output and input markets, and labor markets is important for land markets to develop, and the main bottleneck for the land markets may not be the land market itself. Credit markets and agricultural profitability are very important for rural land markets, not only for sales markets but also for rental markets. These are important structural conditions. In countries where key structural conditions have not been addressed, rental markets are constrained by low demand.

Increased productivity and product prices as well as migration have all caused a reduction of household financial constraints, and land demand has increased. This is true both in EU8 countries and in countries where important structural changes in the agricultural economy have increased productivity of land, and/or where credit constraints have been removed. In the EU countries, EU accession has been an engine behind the increase in land exchange and land market activities in the accession countries, even before accession with anticipation of higher prices and land subsidies. Increased productivity of farms has also contributed to this. The importance of increased productivity can also be seen from countries such as Azerbaijan, where the main constraint in the land market is the lack of supply of land, as land reform has contributed to rapidly growing productivity on household farms and increasing household incomes. Similarly, in Albania, migration has caused a reduction of household financial constraints, and land demand has increased.

Labor market imperfections also play a crucial role in fragmentation problems and constrain the land rental market from solving fragmentation of land use. While it is overly simplistic to expect the land market to solve all problems, a rural development

strategy focused on reducing rural labor constraint in combination with a strategy to improve the functioning of land rental markets may go a long way to address the fragmentation problems. The rural development strategy should focus on rural infrastructure, and creating opportunities for off-farm rural employment, reducing labor mobility costs, and increasing education and skills. Such a strategy is more likely to contribute successfully to farm consolidation and restructuring—and increase rural household welfare—than investments in land consolidation programs, in particular when the latter may decrease rather than increase land tenure security.

The role of rental markets in intergenerational transfers of farms and land is an issue that has received relatively little attention so far in ECA, but it is important for the future. In Western Europe, renting of land is importantly related to how land is passed from one generation to the next in farming families (see annex 2 for details). One pattern is the distribution of equal shares among the heirs and a breakup of the farms (which is common in Mediterranean countries), leading to much fragmentation. Another pattern is the distribution of equal shares among the heirs and the preservation of the farms through internal settlements (common in France, Denmark, and Belgium). A third pattern is the distribution of unequal shares among the heirs and the preservation of the farm (common in England, Germany, and the Netherlands). The choice between these systems has important implications for efficiency and equity. Inheritance systems that prevent fragmentation of farm structures with compensation of the other heirs seem the most efficient and equitable approach.

Land rental markets have an important role to play in strengthening the land market and contributing to agricultural growth; however, they are not a panacea. Without addressing other constraints such as access to credit for farmers, access to markets, and off-farm employment opportunities, agricultural productivity will continue to suffer. In addition, land rental markets are constrained, just as land sales markets are, by the lack of security of property rights, non-demarcated parcel boundaries, high transaction costs, and lack of transparency in the land administration system.

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ANNEX 1: Statistics, Tables, Figures

The following tables and figures provide the analysis and background data used from fifteen surveys implemented between 1997 and 2004 in eleven ECA countries by the World Bank and by European research institutions. The World Bank surveys include Azerbaijan 2004; Bulgaria 2004; Moldova 2004; Kazakhstan 2004; Romania 1996; Tajikistan 1999; and Poland 2000. Surveys implemented by European research institutions include Albania 1999; Albania 2003; Bulgaria 1997; Bulgaria 2003; Czech Republic 1999; Hungary 1997; Romania 1998; Slovakia 1999.

Table A1: Agricultural land renting by source in the Czech Republic, Slovak Republic, Hungary, and Romania

	Czech Republic				Slovak Republic		Hungary		Romania '96		Romania '98	
	RFF		UFF		RFF		%	ha	%	ha	%	ha
	%*	ha*	%	ha	%	ha						
Rent in from	54.0	71.47	7.07	1.60	42.7	84.93	7.19	17.68	1.58	0.99	7.8	2.43
	0				2						8	
Coops	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1.43	5.03	n.a.	n.a.	-	-
Companies	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.96	5.23	n.a.	n.a.	-	-
Individuals	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	6.01	15.02	n.a.	n.a.	7.1	2.46
											0	
State	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-	-	n.a.	n.a.	0.6	1.61
											0	
Other	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-	-	n.a.	n.a.	0.3	2.02
											6	
Rent out to	13.5	9.74	62.1	9.18	23.5	10.90	16.0	4.59	13.7	2.52	20.	2.58
	0		2		4		7		6		05	
Coops	9.25	10.40	56.5	9.47	16.5	7.12	11.4	4.72	n.a.	n.a.	10.	2.54
			6		0		3				74	
Companies	-	-	-	-	-	-	1.85	3.58	n.a.	n.a.	0.2	2.60
											4	
Individuals	-	-	-	-	-	-	3.15	4.15	n.a.	n.a.	7.8	2.43
											8	
State societies	-	-	-	-	-	-	-	-	n.a.	n.a.	2.3	1.97
											9	
Other	4.25	8.32	5.56	4.61	8.01	17.38	-	-	n.a.	n.a.	-	-

n.a. = not asked; not among possible answers

Table A2: Agricultural land renting by source in Azerbaijan, Bulgaria, Kazakhstan, and Moldova—unregistered family farms

	<i>Azerbaijan UFF</i>		<i>Bulgaria RH</i>		<i>Kazakhstan UFF</i>		<i>Moldova UFF</i>	
	<i>%</i>	<i>ha</i>	<i>%</i>	<i>ha</i>	<i>%</i>	<i>ha</i>	<i>%</i>	<i>ha</i>
Rent in from	4.27	17.37	3.51	3.71	10.50	2.29	4.20	1.36
Member of extended family	1.42	5.40	0.17	0.20	0.17	0.20	0.40	4.03
Private household-based farm	0.43	61.67	0.50	0.60	1.00	1.54	0.20	3.00
Old or disabled person not able to farm	0.57	1.5	1.17	0.79	0.67	31.5	1.20	1.36
Individual not engaged in farming	0.43	31.07	0.33	31.95	5.67	0.20	0.40	0.78
Farm enterprise	0.00		0.67	0.68	3.00	0.11	0.00	-
Municipality/state	1.14	28.73	0.67	0.50	0.00	0.00	2.00	0.67
Other	0.28	3.5	0.00	0.00	0.00	0.00	0.20	1.08
Rent out to	9.53	1.94	40.47	2.64	6.00	19.96	38.00	2.78
Member extended family	5.12	1.62	1.00	0.55	0.7	23.08	0.0	0.0
Private household-based farm	1.28	1.71	13.88	2.60	1.0	6.77	0.0	0.0
Other individual not engaged in farming	0.57	2.51	-	-	0.2	74.00	0.60	3.67
Farm enterprise	0.43	2.32	25.42	2.03	4.0	18.20	36.60	2.74
Municipality/state	0.00	0.00	0.00	0.00	0.0	0.00	0.20	1.44
Other	2.13	2.64	1.00	0.55	0.2	75.00	1.00	3.06

“-” not among possible answers

Table A3: Agricultural land renting by source in Azerbaijan, Bulgaria, Kazakhstan, and Moldova—registered family farms

	<i>Azerbaijan</i>		<i>Bulgaria</i>		<i>Kazakhstan</i>		<i>Moldova</i>	
	<i>RFF</i>		<i>RFF</i>		<i>RFF</i>		<i>RFF</i>	
	<i>%</i>	<i>ha</i>	<i>%</i>	<i>ha</i>	<i>%</i>	<i>ha</i>	<i>%</i>	<i>ha</i>
Rent in from	93.85	136.85	39.13	20.61	14.61	257.87	23.26	7.74
Private farmers	9.84	15.45	8.70	16.50	1.69	98.00	1.14	23.28
Old or disabled person not able to farm	1.64	10.00	13.04	2.25	-	-	12.00	5.49
Individuals not engaged in farming	4.92	48.33	17.39	13.17	4.49	151.00	1.14	3.35
Agricultural enterprise	0.00	0.00	4.35	62.00	1.69	110.52	1.71	36.17
Municipality/state	90.16	130.66	0.00	0.00	5.62	484.30	4.57	0.62
Other	0.00	0.00	0.00	0.00	1.12	14.00	2.86	5.51
Rent out to	0.00	0.00	13.04	1.67	1.12	16.00	4.02	1.56
Private farmers	0.00	0.00	13.04	1.67	0.56	30.00	0.00	0.00
Individuals not engaged in farming	0.00	0.00	-	-	0.56	2.00	0.00	0.00
Agricultural enterprise	0.00	0.00	0.00	0.00	0.00	0.00	3.43	1.76
Municipality/state	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.4

“-” not among possible answers

Table A4: Share of households renting in by farm size categories (quintiles)

Farm size (hectares)	Share of households renting in	Share of households purchasing	Of those renting in: share purchasing land	Of those not renting in: share purchasing land
0-0.1	0.49	7.6	0	7.6
0.1-0.3	3.29	16.4	14	16.5
0.3-1	7.17	14.3	10	14.7
1-3	10.04	18.3	18	18.3
<3	21.88	31.6	48	27.1

Table A5: Type of rent contract (Romania 1996 and 1998)

	Renting	
	in	out
<i>Romania 1996</i>		
Formal, certified by notary	0%	29%
Formal, not certified by notary	8%	16%
Informal	92%	55%
<i>Romania 1998</i>		
Fixed rent		
- in money	20.5%	2.8%
- in kind (crops, products)	18.8%	31.4%
- in kind (labor, services)	5.9%	7.2%
Sharecropping	43.5%	40.9%
Combination	6.8%	4.8%
Other	4.2%	12.6%

Table A6: Type of rent contract—Bulgaria 1998

<i>Households renting land out to:</i>					
	<i>CORPORATE FARMS</i>		<i>INDIVIDUALS</i>		Total
	Shareholding enterprise ^a	Another enterprise	Relatives	Nonrelatives	
<i>Share of different types of contracts per user of land, %</i>					
Written & signed contracts, of which:	63.5	38.5	0.0	14.3	56.5
registered in the notary office	16.5	15.4	0.0	0.0	15.0
not registered in the notary office	46.0	23.1	0.0	14.3	41.5
Verbal agreement/informal contract	37.5	61.5	100.0	85.7	43.5
Total	100.0	100.0	100.0	100.0	100.0
<i>Share of contracts with user of land in total number (per type of contract), %</i>					
Written & signed contracts, of which:					
registered in the notary office	95.7	4.3	0.0	0.0	100.0
not registered in the notary office	96.2	2.3	0.0	1.5	100.0
Verbal agreement/informal contract	75.0	5.9	10.3	8.8	100.0
Total	86.9	4.2	4.5	4.5	100.0
<i>Households renting land in from:</i>					
	<i>INSTITUTIONS</i>		<i>INDIVIDUALS</i>		Total
	State/municipality	Other institutions ^a	Relatives	Nonrelatives	
<i>Share of different types of contracts per source of land</i>					
Written & signed contracts, of which:	76.9	25	27.3	20.0	37.4
registered in the notary office	26.9	0.0	0.0	0.0	7.7
not registered in the notary office	50.0	25.0	22.7	20.0	29.7
Verbal agreement/informal contract	23.1	75.0	72.7	80.0	62.6
Total	100.0	100.0	100.0	100.0	100.0
<i>Share of contracts with source of land in total number (per type of contract)</i>					
Written & signed contracts, of which:					
registered in the notary office	100.0	0.0	0.0	0.0	100.0
not registered in the notary office	48.1	3.7	18.5	29.6	100.0
Verbal agreement/informal contract	10.5	5.3	28.1	56.1	100.0
Total	28.6	4.4	24.2	44.0	100.0

Source: Noev and Swinnen, 2004.

Table A7: Type of rental contract—Azerbaijan 2004**Azerbaijan—unregistered family farms**

Rent out to	Frequency	Cash	Kind	Value cash payment 1000 AZM	Value kind payment 1000 AZM	Value total payment 1000 AZM	Term Registered		Area
	%	%	%				years	%	ha
Member of enlarged family	54	44	56	184	325	262	3	3	2
Private household-based farm	13	56	44	250	170	214	3	11	2
Other people not engaged in agriculture	6	75	25	250	1000	438	1	0	3
Agricultural enterprise	4	0	100	.	167	167	8	100	2
Other	22	33	67	260	398	352	3	0	3
Total	100	43	57	216	333	282	3	7	2
Rent in from	Frequency	Cash	Kind	Value cash payment 100 AZM	Value kind payment 1000 AZM	Value total payment 1000 AZM	Term Registered		Area
	%	%	%				years	%	Ha
Member of enlarged family	33	60	40	200	930	250	9	10	5
Private household-based farm	10	67	33	46	160	51	5	67	62
Elderly, disabled people	13	100	0	175	.	175	8	25	2
Other people not engaged in agriculture	10	33	67	250	120	163	9	33	13
Municipality/state	27	100	0	75	.	120	15	88	29
Other	7	50	50	1000	125	563	4	0	4
Total	100	73	27	100	240	143	10	40	17

Table A8: Type of rental contract—Bulgaria 2004

Bulgaria—rural households		Form of Payment							
Rent out to	Frequency %	Cash %	Kind %	Cash & Kind %	No payment %	Value of payment Lev	Term Registered		Area
							Years	%	
Member of extended family	2	50	17	0	33	27	1	0	6
Private farmer	37	71	19	6	5	16	4	81	26
Cooperative	61	33	33	24	10	28	3	85	20
Other	1	0	100	0	0	40	3	100	18
Total	100	47	28	17	9	24	4	82	22
Rent in from	Frequency %	Cash %	Kind %	Cash & Kind %	No payment %	Value of payment Lev	Term Registered		Area
							Years	%	
Member of extended family	4	100	0	0	0	30	n.a.	0	2
Private farmer	13	67	33	0	0	47	n.a.	0	6
Old or disabled person physically not able to farm	29	86	0	0	14	11	n.a.	0	8
Other individual not engaged in farming	8	50	50	0	0	19	n.a.	50	320
Farm enterprise/cooperative	25	50	0	50	0	53	n.a.	67	7
Municipality/state	21	100	0	0	0	21	n.a.	100	5
Total	100	75	8	13	4	30	n.a.	42	33

Table A9: Type of rental contract—Kazakhstan 2004

Kazakhstan—unregistered family farms											
Rent to	Frequency %	Cash %	Kind %	Cash & Kind %	No payment %	Value cash Tenge	Value kind Tenge	Total Tenge	Term Years	Registered Area %	
Private household-based farm	16	17	17	0	67	5000	10000	7500	2	67	6.77
Other individual not engaged in farming	3	100	100	100	0	3000	3000	6000	0	100	74.00
Farm enterprise	65	25	71	13	17	12500	3000	3000	11	88	18.20
Other	3	0	0	0	100	.	.	.	49	100	75.00
Total	100	11	48	11	30	5000	3000	3500	11	86	19.42
Rent in from	Frequency %	Cash %	Kind %	Cash & Kind %	No payment %	Value cash Tenge	Value kind Tenge	Value total Tenge	Term Years	Registered Area %	
Private household-based farm	10	83	0	0	17	2000	.	1200	2	33	1.54
Old or disabled person not able to farm	6	75	25	0	0	5000	15000	6000	3	50	31.50
Other individual not engaged in farming	54	100	0	0	0	500	.	500	1	0	0.20
Farm enterprise	29	44	0	11	44	2000	5500	350	1	44	0.11
Total	100	81	2	3	14	500	6000	500	1	21	2.29

Table A10: Type of rental contract—Moldova 2004**Moldova—unregistered family farms**

Rent out to	Frequency %	Cash %	Kind %	Cash & Kind %	Value	Value	Value	Term Years	Registered %	Area Hectares
					cash Lei	kind Lei	total Lei			
Other individual not engaged in farming (not member of extended family)	1	0	100	0	.	1200	1200	3	33	4
Farm enterprise	96	2	88	10	425	500	529	5	86	3
Municipality/state	0	0	100	0	.	875	875	3	0	1
Other	2	0	100	0	.	400	400	6	80	3
Total	100	1	88	10	425	500	529	5	85	3

Rent in from	Frequency %	Cash %	Kind %	Cash & Kind %	Value	Value	Value	Term years	Registered %	Area Ha
					cash Lei	kind Lei	total Lei			
Member of extended family	9	0	100	0	.	490	490	1	0	4
Private household-based farm	5	0	100	0	.	666	666	2	100	3
Old or disabled person not able to farm	27	17	83	0	1400	600	900	4	33	1
Other individual not engaged in farming	9	100	50	50	635	4500	2885	3	0	1
Municipality/state	45	90	20	10	600	429	590	4	80	1
Other	5	0	100	0	.	600	600	5	0	1
Total	100	46	46	9	600	600	600	4	50	1

Table A11: Characteristics of rural Hungarian households by rental activities

		Households that rent			ALL
		OUT	NOT	IN	
Age of household head	Years	*58.6	54.6	*50.7	55.0
Education of household head	Years	9.0	9.2	*10.4	9.3
Commercial farms	%	85	84	88	84.1
Cultivated land area	Hectares	2.9	4.2	*23.3	5.4
Own land area ^a	Hectares	6.7	4.7	*9.7	5.4
Initial land endowment	Hectares	*5.6	2.8	*5.4	3.4
Total output	LCU	479227	425869	*1612077	532216
		*52670			
Total output per hectare	LCU/hectares	4	317717	*182248	336250
Total output per labor	LCU/AWU	558215	464041	*1272981	540152
Land/labor ratio	Hectares/AWU	3.3	3.3	*17.4	4.4
Number observations		238	1123	108	1469
Share of total sample	%	16.2	76.4	7.4	100

*Test for equal means of households renting in land and not participating in the land rental market and households renting out land and not participating in the land rental market is rejected at a 0.1 significance level.

^aTotal amount of land owned (initial land endowment plus land bought)

LCU = local currency unit, AWU = annual working unit

Table A12: Characteristics of rural Slovakian households by rental activities

		Households that rent			ALL
		OUT	NOT	IN	
Age of household head	Years	*62	52	*46	52
Education of household head	Years	*9	11	*12	11
Cultivated land area	Hectares	*3	15	*88	43
Own land area ^a	Hectares	11	12	17	14
Initial land endowment	Hectares	11	9	12	11
	Hectares				
Land/labor ratio	/AWU	39.2	29.4	69.6	49.5
Number observations		92	148	172	412
Share of total sample	%	22	36	42	100

*Test for equal means of households renting in land and not participating in the land rental market and households renting out land and not participating in the land rental market is rejected at a 0.1 significance level.

^aTotal amount of land owned (initial land endowment plus land bought)

Table A13: Characteristics of Azerbaijani unregistered family farms by rental activities

		Households that rent			
		OUT	NOT	IN	ALL
Age of household head	Years	*60.8	53.5	51.4	54.1
Education of household head	Years	6.9	7.0	6.2	6.9
Commercial farms	%	*82.1	92.7	96.7	91.9
Cultivated land area	Hectares	*0.6	1.9	*20.7	2.6
Owned land area ^a	Hectares	2.0	2.2	*3.5	2.2
Initial land endowment	Hectares	2.0	2.2	*3.5	2.2
Total output	LCU	*1506	3160	*14408	3483
Total output per hectare	LCU/hectares	*6733	3261	*1737	3492
Total output per labor	LCU/AWU	*770	1272	*4104	1347
Land/labor ratio	Hectares/AWU	*0.3	0.7	*5.2	0.9
Number of observations		67	606	30	703
Share of total sample	%	9.5	86.2	4.3	100

*Test for equal means of households renting in land and not participating in the land rental market and households renting out land and not participating in the land rental market is rejected at a 0.1 significance level.

^a Total amount of land owned (initial land endowment plus land bought)

Table A14: Characteristics of Bulgarian unregistered family farms by rental activities

		Households that rent			
		OUT	NOT	IN	ALL
Age of household head	Years	*61.0	53.7	*46.2	57.0
Education of household head	Years	9.0	8.7	7.9	8.8
Commercial farms	%	*24.9	37.7	*85.0	33.2
Cultivated land area	Hectares	*29.5	11.6	*45.2	22.2
Owned land area ^a	Hectares	*29.9	12.3	7.4	21.0
Initial land endowment	Hectares	*29.6	12.2	*2.9	20.6
Total output	LCU	*717	1566	*4393	1254
Total output per ha	LCU/hectares	*7005	4621	3919	5750
Total output per labor	LCU/AWU	*747	1073	*3650	1035
Land/labor ratio	Hectares/AWU	*0.4	0.7	*4.3	0.7
Number of observations		233	204	20	457
Share of total sample	%	51.0	44.6	4.4	10100

*Test for equal means of households renting in land and not participating in the land rental market and households renting out land and not participating in the land rental market is rejected at a 0.1 significance level.

^a Total amount of land owned (initial land endowment plus land bought)

Table A15: Characteristics of Moldovan registered family farms by rental activities

		Households that rent			
		OUT	NOT	IN	ALL
Commercial farms	%	85.7	89.6	97.4	91.5
Cultivated land area	Hectares	2.7	3.9	*11.4	5.5
Owned land area ^a	Hectares	3.3	3.9	3.6	3.8
Initial land endowment	Hectares	3.0	3.2	2.8	3.1
Total output	LCU	28154	36071	48565	38092
Total output per ha	LCU/hectares	12889	11892	*7601	10817
Total output per labor	LCU/AWU	6766	10361	9514	9901
Land/labor ratio	Hectares/AWU	0.9	1.1	*1.6	1.2
Number observations		7	125	39	171
Share of total sample	%	4.1	73.1	22.8	100.0

*Test for equal means of households renting in land and not participating in the land rental market and households renting out land and not participating in the land rental market is rejected at a 0.1 significance level.

^a Total amount of land owned (initial land endowment plus land bought)

Table A16: Characteristics of Kazakh registered family farms by rental activities

		Households that rent			
		OUT	NOT	IN	ALL
Commercial farms	%	100	97	100	97
Cultivated land area	Hectares	*2353	581	331	564
Owned land area ^a	Hectares	*2368	581	185	543
Initial land endowment	Hectares	*2365	581	183	542
Total output	LCU	*30100000	4502251	7368746	5217112
Total output per ha	LCU/hectares	17288	55301	76661	58024
Total output per labor	LCU/AWU	844305	565865	1308435	678727
Land/labor ratio	Hectares/AWU	64	53	31	50
Number observations		2	148	26	176
Share of total sample	%	1	84	15	100

*Test for equal means of households renting in land and not participating in the land rental market and households renting out land and not participating in the land rental market is rejected at a 0.1 significance level.

^a Total amount of land owned (initial land endowment plus land bought)

Table A17: The impact of the household's initial land endowment and the amount of land purchased by the household on household's rental decisions*

	Hungary		Slovak Republic	
	IN	OUT	IN	OUT
LANDENDOW	0.105 (0.210)	0.374 (5.713) ***	-3.326 (3.250) ***	1.043 (5.644) ***
LANDENDOW2	-0.003 (0.718)	-0.001 (2.640) ***	0.016 (3.810) ***	-0.010 (3.012) ***
LANDBOUGHT	4.376 (2.433) ***	-0.738 (0.823)	8.105 (5.322) ***	1.759 (0.249)
LANDBOUGHT2	-0.018 (4.647) ***	-0.002 (1.692)	-0.041 (4.657) ***	-1.310 (0.694)

*While we control for other factors (human capital variables, regional differences, etc.), we report only the coefficients (and their significance) of the land variables. The full regressions can be obtained from the authors. Due to potential endogeneity, we instrumented the LANDBOUGHT variable for Hungary. This was not possible for the Slovak Republic because relevant instruments were not available.

Table A18: The impact of the household's initial land endowment on household's land purchasing decisions

	Hungary	Slovak Republic
LANDENDOW	1.297 (3.05) ***	0.625 (2.500) **
LANDENDOW2	-0.004 (-1.28)	-0.001 (-1.040)

Table A19: Share of family farms in land use, livestock herd, and output

Year	Azerbaijan	Kazakhstan	Moldova
CULTIVATED LAND			
1990	2	0	9
1995	5	5	19
2000	93	33	57
2002	96	41	56
LIVESTOCK HERD			
1990	55	29	29
1995	77	51	63
2000	98	89	92
2002	97	90	91
OUTPUT			
1990	35	28	18
2000	98	75	73

Table A20: Agricultural indicators

Country	Share rented land	Share of IFs in land use	Share land use IF out of which		Share of CFs in land use	WB land reform index	WB agr reform index	Land/labor (prereform)	Agr employment (prereform)
			RFF	UFF					
Albania (1999)	0.9	100	-	-	0.0	6.8	1.6	49.5	8.0
Azerbaijan (2004)	34.6	96	5	95	4.0	6.6	4.9	30.7	8.0
Bulgaria (1997)		52	-	-	48.0	5.4	7.6	18.1	7.0
Bulgaria (2004)	55.9	56	6	94	44.0	8.2	7.6	18.1	8.0
Czech Rep (1999)	90.6	26	90	10	73.6	8.6	8.2	9.9	8.0
Estonia (2003)	56.9	63	-	-	37.0	9.6	13.9	12	10.0
Hungary (1997)	56.4	54	-	-	46.0	8.6	7.6	17.9	9.0
Kazakhstan (2004)	61.5	41	92	8	59.0	6.0	125.0	22.6	5.0
Lithuania (2003)	54.4	67	-	-	33.0	8.8	10.2	18.6	9.0
Latvia (2003)	25.9	95	-	-	5.0	9.4	11.8	15.5	10.0
Moldova (2004)	56.6	56	71	29	44.0	6.0	3.7	32.5	7.0
Romania (1996)		67	-	-	33.0	5.8	4.9	28.2	7.0
Romania (1998)		67	-	-	33.0	5.8	4.9	28.2	7.0
Slovenia (2003)	24.3	96	-	-	4.0	9.6	8.6	11.8	10.0
Slovak Rep (1999)	97.1	11	-	-	89.0	7.6	7.2	12.2	8.0
Tajikistan (1999)		23	-	-	77.0	4.2	5.4	43	5.0

Source: Own estimates based on survey data; Lerman et al., 2004; National Statistics; Eurostat.

“-” The data do not allow us to distinguish between registered and unregistered family farms.

Table A21: Problems of renting in/out agricultural land—Czech Republic and Slovak Republic

Questions/Problems	Czech Rep				Slovak Rep	
	RFF		UFF		in	out
	in	out	in	out		
Share of farmers willing to rent land but impeded from doing so (%)	33	5	1	6	27	5
Most important reason for not renting (more) land (%)						
Difficult to find people renting out/in land	41.3	55.0	50.0	63.6	35.9	11.7
Price is too high/low	5.8	25.0	0.0	27.3	29.6	80.0
Renting land is not a common practice	0.0	0.0	0.0	0.0	0.0	0.0
Boundaries are not well-defined	-	0.0	-	0.0	-	1.6
Not enough capital in the household	8.3	-	0.0	-	14.1	-
Not enough labor in the household and for hiring	6.6	-	0.0	-	5.6	-
Land supplied is not appropriate for my farm	6.6	-	50.0	-	10.6	-
Other problem	31.4	20.0	0.0	9.1	4.2	6.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

“-” not among possible answers

Table A22: Problems of renting in agricultural land—family farms in Azerbaijan, Bulgaria, Kazakhstan, Moldova

Questions/Problems	Azerbaijan		Bulgaria		Kazakhstan		Moldova	
	RFF	UFF	RFF	UFF	RFF	UFF	RFF	UFF
Share of households unable to rent more if they wanted	87.69	95.31	91.31	96.99	76.16	88	97.14	68.6
Three most important difficulties for renting in land*								
Small and fragmented parcels	-	-	42.86	12.41	-	-	-	-
Agriculture is not profitable	-	-	23.81	32.93	-	-	-	-
Households keep their land for subsistence	-	-	9.52	6.90	-	-	-	-
Nobody wants to rent out	70.18	17.91	0.00	1.03	19.70	6.43	10.00	11.37
Don't know anyone wants to rent out	49.12	2.69	0.00	1.90	16.67	3.05	5.88	5.83
Don't know rental price	8.77	8.96	4.76	8.79	16.67	10.66	28.82	31.49
Don't know if legal basis for rental	0.00	6.57	0.00	1.03	8.33	3.05	3.53	7.58
Don't know authority that deals with rental	1.75	3.58	4.76	3.10	53.79	52.96	0.00	5.54
Rental process complicated/unclear	8.77	10.90	0.00	6.55	2.27	1.69	21.18	27.41
Land transaction process too expensive	29.82	29.10	0.00	4.48	15.91	8.12	24.71	43.44
No money to rent	22.81	88.36	23.81	45.69	18.18	25.55	56.47	89.5
No tools to work on it	-	-	-	-	-	67.17	-	-
Other	1.75	8.36	0.00	14.14	-	-	18.24	-

* Percentage of households that indicated the problem as one of the three most important ones

“-” not among possible answers

Note: No information available on difficulties to rent out land.

Table A23: Problems of renting in agricultural land—corporate farms in Azerbaijan, Bulgaria, Kazakhstan, Moldova

Questions/Problems	Azerbaijan Corporate Farms	Bulgaria Corporate Farms	Kazakhstan Corporate Farms	Moldova Corporate Farms
Share of corporate farms unable to rent more if they wanted	100	76.47	77.28	91.67
Three most important difficulties for renting in land*				
Small and fragmented parcels	-	69.23	-	-
Agriculture is not profitable	-	15.38	-	-
Households keep their land for subsistence	-	7.69	-	-
Nobody wants to rent out	60.00	0.00	35.29	27.27
Don't know anyone who wants to rent out	13.33	15.38	23.53	18.18
Don't know rental price	13.33	7.69	11.76	27.27
Don't know if legal basis for rental	0.00	0.00	29.41	0.00
Don't know authority that deals with rental	0.00	3.85	29.41	4.55
Rental process complicated/unclear	20.00	7.69	0.00	18.18
Land transaction process too expensive	40.00	30.77	0.00	22.73
No money to rent	40.00	19.23	17.65	36.36
No tools to work on it	-	-	-	-
Other	13.33	19.23	-	-

* Percentage of households who indicated the problem as one of the three most important ones

“-” not among possible answers

Note: No information available on difficulties to rent out land.

Table A24: Problems of buying/selling agricultural land—Albania, Czech Republic, and Slovak Republic

Questions/Problems	Albania		Czech Republic /1				Slovak Republic	
	buy	sell	Registered buy	Registered sell	Unregistered buy	Unregistered sell	buy	sell
Share of farmers willing to buy/sell land but impeded from doing so	74	64	44	59	35	64	42	43
Most important reason for not renting (more) land								
Difficult to find people selling/buying land	32.8	47.2	38.2	66.4	45.6	85.25	38.7	59.8
Legal procedures are too complicated	10.3	10.4	12.7	10.5	10.3	2.46	26.0	20.7
Price is too high/low	23.7	20.7	30.1	8.7	36.8	8.2	17.9	11.5
There are conflicts over land I wish to buy/sell	6.4	0.9	6.9	1.7	5.9	0.82	11.0	0.6
There is no clear land title	8.3	14.9	-	0.4	-	0.0	-	5.2
Buyers are afraid others might claim the land	-	-	-	2.2	-	2.46	-	0.6
Other problems	18.5	5.9	12.1	10.0	1.5	0.82	6.4	1.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

“-” selection not among possible answers

/1 “Registered” and “Unregistered” refer to whether or not the farm is officially registered as an agricultural producer.

Table A25: Problems of buying agricultural land—family farms in Azerbaijan, Bulgaria, Kazakhstan, Moldova

Questions/Problems	Azerbaijan		Bulgaria		Kazakhstan		Moldova	
	RFF	UFF	RFF	UFF	RFF	UFF	RFF	UFF
Share of households unable to buy more land if they wanted to	96.82	96.59	86.96	97.33	92.70	94.67	97.14	98.60
Three most important difficulties for buying in land*								
Small and fragmented parcels	-	-	40.00	10.31	-	-	-	-
Agriculture not profitable	-	-	25.00	28.18	-	-	-	-
Household keeps land for subsistence	-	-	0.00	8.42	-	-	-	-
Nobody willing to sell	71.43	18.70	10.00	3.95	-	-	-	-
Don't know who wants to sell land	46.03	4.86	5.00	2.41	32.73	16.02	11.18	7.51
Difficult to determine price	19.05	5.01	40.00	9.97	15.76	6.51	6.47	3.25
Foreigners cannot buy land	-	-	0.00	0.69	-	-	-	-
Don't know if there is legal basis for purchasing land	3.17	3.83	-	-	20.61	10.92	28.24	20.49
Don't know which authority deals with transactions	1.59	2.36	0.00	3.26	16.36	3.35	2.94	3.85
Complicated transaction process	11.11	2.95	5.00	4.98	1.21	2.99	2.94	1.62
Expensive transaction process	36.51	11.34	10.00	7.56	21.82	5.99	24.71	26.98
No financial means to purchase land	55.56	88.22	30.00	52.06	24.85	26.41	38.82	46.45
No tools to work on it	-	-	-	-	62.42	77.11	86.47	90.47
Other	4.76	7.81	20.00	10.14	-	61.97	-	-

* Percentage of households that indicated the problem as one of the three most important ones

“-” not among possible answers

Note: No information available on difficulties to sell land.

Table A26: Problems of buying agricultural land—corporate farms in Azerbaijan, Bulgaria, Kazakhstan, Moldova

Questions/Problems	Azerbaijan	Bulgaria	Kazakhstan	Moldova
Share of corporate farms unable to buy more land if they wanted	100	94.12	86.36	94.67
Three most important difficulties for buying in land*				
Small and fragmented parcels	-	65.63	-	-
Agriculture not profitable	-	3.13	-	-
Household keeps land for subsistence	-	34.38	-	-
Nobody willing to sell	66.67	6.25	21.05	29.2
Don't know who wants to sell land	13.33	9.38	31.58	16.7
Difficult to determine price	13.33	18.75	26.32	16.7
Foreigners cannot buy land	-	0.00	-	-
Don't know if there is legal basis for purchasing land	13.33	-	21.05	0.0
Don't know which authority deals with transactions	0.00	0.00	5.26	0.0
Complicated transaction process	33.33	9.38	15.79	37.5
Expensive transaction process	53.33	12.50	15.79	45.8
No financial means to purchase land	73.33	25.00	73.68	66.7
Other reason	13.33	12.50	-	25.0

* Percentage of households that indicated the problem as one of the three most important ones

“-” not among possible answers

Note: No information available on difficulties to sell land.

Table A27: Ordered logit regression of the household's current level of well-being—Bulgarian unregistered family farms

	Level of well-being	Level of well-being	Level of well-being	Level of well-being	Level of well-being
Land owned	0.004 (1.105)	0.007 (1.183)	0.007 (1.189)	0.009 (1.459)	0.016** (2.479)
Rent IN=1	0.853** (2.114)				
Rent OUT=1	0.490** (2.380)				
Access to land market ^a		0.328*** (4.669)		0.249*** (3.248)	0.204*** (2.594)
Access to land sales market ^b			0.265** (2.095)		
Access to land rental market ^c			0.196 (1.503)		
Access to credit ^d				0.014** (2.505)	0.012** (2.148)
Age of household head	-0.005 (0.606)	-0.002 (0.237)	-0.002 (0.257)	-0.001 (0.152)	-0.006 (0.661)
Education of household head	0.115*** (3.814)	0.075** (2.175)	0.076** (2.185)	0.082** (2.360)	0.090** (2.529)
No. of household members	0.128** (2.134)	0.035 (0.522)	0.034 (0.514)	0.035 (0.514)	-0.035 (0.497)
District==2					0.699*** (2.768)
District==3					-0.592* (1.734)
Observations	424	308	308	308	308

^{a,b,c} Weighted average based on principal component analysis of the possibility of participating in the land market, three years ago (a) by purchasing, selling, renting in, and renting out land; (b) by purchasing, selling land; (c) by renting in and renting out land

^d Possibility of obtaining a loan three years ago

^{a,b,c,d} Possibility of accessing land or credit is based on the household's assessment of environment, three years ago (scale 1 to 5; 1=low/difficult; 5=high/easy) t-values in parentheses; *, ** and *** significant at 10%, 5%, 1%

Table A28: Ordered logit regression of the household's current level of well-being—Azerbaijani unregistered family farms

	Level of well-being	Level of well-being	Level of well-being	Level of well-being	Level of well-being
Land owned	0.083** (2.138)	0.005 (0.127)	0.004 (0.102)	-0.025 (0.632)	-0.055 (1.181)
Rent IN=1	1.274*** (3.249)				
Rent OUT=1	0.060 (0.227)				
Access to land market ^a		0.416*** (8.046)		0.459*** (8.678)	0.424*** (7.589)
Access to land sales market ^b			0.335*** (3.673)		
Access to land rental market ^c			0.253*** (2.799)		
Access to credit ^d	(0.227)			-0.022*** (4.819)	-0.019*** (3.881)
Age of household head	0.006 (1.122)	0.004 (0.673)	0.004 (0.677)	0.002 (0.280)	0.000 (0.076)
Education of household head	0.043* (1.862)	0.032 (1.370)	0.032 (1.370)	0.025 (1.089)	0.018 (0.755)
No. of household members	-0.051 (1.325)	-0.042 (1.086)	-0.042 (1.084)	-0.027 (0.705)	-0.012 (0.287)
District==2					-0.309 (0.840)
District==3					0.198 (0.588)
District==4					-0.023 (0.074)
District==5					-0.478 (1.362)
District==6					-0.191 (0.556)
District==7					0.368 (1.064)
District==8					-0.233 (0.687)
Observations	702	702	702	702	702

^{a,b,c} Weighted average based on principal component analysis of the possibility of participating in the land market, three years ago (a) by purchasing, selling, renting in, and renting out land; (b) by purchasing, selling land; (c) by renting in and renting out land

^d Possibility of obtaining a loan three years ago

^{a,b,c,d} Possibility of accessing land or credit is based on the household's assessment of environment, three years ago (scale 1 to 5; 1=low/difficult; 5=high/easy) t-values in parentheses; *, ** and *** significant at 10%, 5%, 1%

Table A29: Ordered logit regression of the household's current level of well-being—Moldovan unregistered family farms

	Level of well-being	Level of well-being	Level of well-being	Level of well-being	Level of well-being
Land owned	0.116** (2.288)	0.113** (2.228)	0.114** (2.232)	0.110** (2.173)	0.153*** (2.866)
Rent IN=1	-0.565 (1.387)				
Rent OUT=1	-0.606*** (3.242)				
Access to land market ^a		0.262*** (4.421)		0.194*** (3.089)	0.086 (1.269)
Access to land sales market ^b			0.197** (2.489)		
Access to land rental market ^c			0.174** (2.144)		
Access to credit ^d				0.011*** (3.136)	0.012*** (3.302)
Age of household head	0.015* (1.883)	-0.015* (1.769)	-0.015* (1.771)	-0.013 (1.599)	-0.015* (1.729)
Education of household head	-0.032 (1.385)	-0.043* (1.818)	-0.043* (1.822)	-0.039* (1.649)	-0.025 (0.961)
No. of household members	-0.025 (0.418)	-0.022 (0.354)	-0.022 (0.355)	-0.013 (0.213)	-0.037 (0.573)
Sector==FLORESTI					-0.128 (0.443)
Sector==NISPORENI					0.991*** (3.375)
Sector==ORHEI					-0.371 (1.185)
Sector==TARACLIA					0.530 (1.203)
Observations	496	496	496	496	496

^{a,b,c} Weighted average based on principal component analysis of the possibility of participating in the land market, three years ago (a) by purchasing, selling, renting in, and renting out land; (b) by purchasing, selling land; (c) by renting in and renting out land

^d Possibility of obtaining a loan three years ago

^{a,b,c,d} Possibility of accessing land or credit is based on the household's assessment of environment, three years ago (scale 1 to 5; 1=low/difficult; 5=high/easy) t-values in parentheses; *, ** and *** significant at 10%, 5%, 1%

Table A30: IV tobit regression for the amount of land rented in and out by Hungarian household farms

	IN	OUT
LANDENDOW	0.105 (0.210)	0.374 (1.704)*
LANDENDOW2	-0.003 (0.718)	-0.001 (0.566)
LANDBOUGHT ^a	4.376 (2.433)**	-0.738 (0.823)
LANDBOUGHT 2 ^a	-0.018 (4.647)***	-0.006 (1.692)*
MEMCOOP	4.243 (0.655)	6.123 (2.066)**
PARTCOMP	26.278 (2.160)**	4.791 (0.729)
SALESPRICE	0.194 (1.785)*	-0.017 (0.338)
QUALITY	0.003 (0.004)	0.255 (0.832)
AGEHH	3.341 (1.945)*	0.086 (0.126)
AGEHH2	-0.037 (2.251)**	-0.000 (0.009)
EDUCHH	-3.155 (0.878)	-1.027 (0.589)
EDUCHH2	0.193 (1.173)	0.062 (0.750)
EAST	-14.304 (2.136)**	1.001 (0.334)
WEST	-3.554 (0.494)	2.852 (0.862)
SOUTH	-15.057 (1.787)*	1.460 (0.377)
INTERCEPT	-147.121 (2.919)***	-14.442 (0.691)
No. of Observations	1469	1370

Table A31: Tobit regression for the amount of land rented in and out by Slovak household farms

	IN	OUT
LANDENDOW	-3.326 (3.250)***	1.043 (5.644)***
LANDENDOW2	0.016 (3.810)***	-0.010 (3.012)***
LANDBOUGHT	8.105 (5.322)***	1.759 (0.249)
LANDBOUGHT2	-0.041 (4.657)***	-1.310 (0.694)
MEMCOOP	-105.413 (2.558)**	5.839 (2.212)**
PARTCOMP	104.695 (2.148)**	-10.803 (1.346)
ADMINPRICE	-0.000 (0.353)	0.000 (1.347)
UNEMPL	5.054 (2.151)**	-0.187 (1.129)
AGEHH	-1.470 (1.639)	0.437 (5.392)***
EDUHH	14.604 (3.749)***	-0.461 (1.430)
INTERCEPT	-239.844 (2.708)***	-33.769 (4.517)***
Observations	379	327

Table A32: Tobit regression with the amount of land bought as dependent variable, Hungarian household farms

	Coefficient t-value	
LANDENDOW	1.296948	3.05***
LANDENDOW2	-0.00388	-1.28
DOMFCO	0.416106	0.05
MEMCOOP	0.014694	0
PARTCOMP	0.675918	0.04
SALESPRICE	0.286106	2.21**
QUALITY	-0.28622	-0.4
AGEHH	1.770712	1.03
AGEHH2	-0.02238	-1.4
EDUHH	-2.21622	-0.55
EDUHH2	0.227656	1.27
EAST	18.17885	2.08**
WEST	7.961666	0.79
SOUTH	38.56011	3.92***
INTERCEPT	-170.701	-3.15***

Table A33: Tobit regression with the amount of land bought as dependent variable, Slovak household farms

	Coefficient	t-value
LANDENDOW	0.625	2.500**
LANDENDOW2	-0.001	-1.040
DOMFCO	-7.726	-1.060
ADMINPRICE	0.000	2.450**
MEMCOOP	-15.238	-1.380
PARTCOMA	16.342	1.230
UNEMPL	-0.656	-0.920
AGE	-0.410	-1.540
EDUCATION	3.325	2.980***
INTERCEPT	-72.906	-2.450

Figures

Figure A1: Share of individual farms in land use, 1990–2002

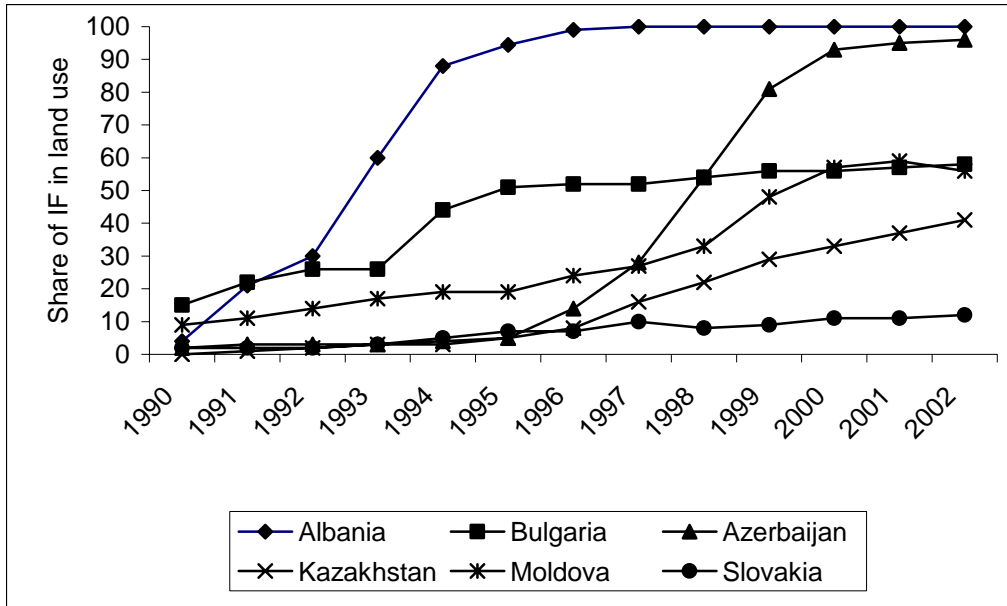


Figure A2: Percentage of family farms renting and purchasing land

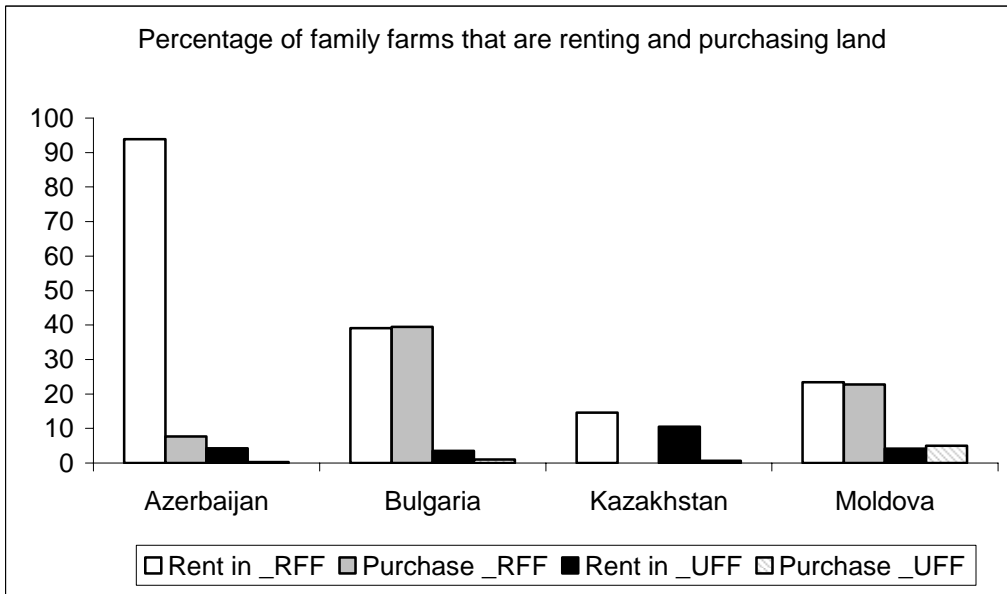
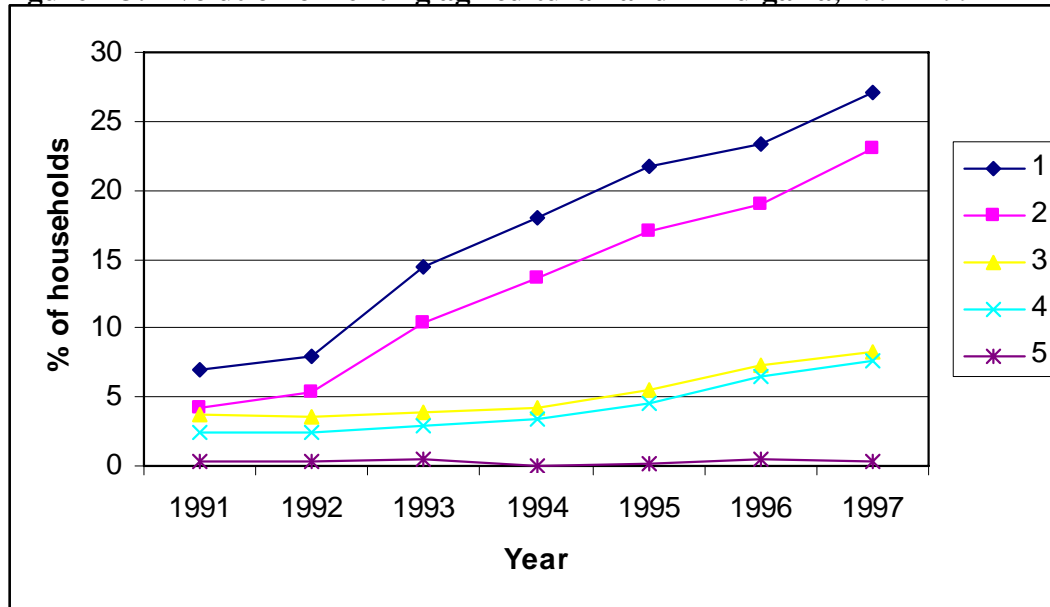


Figure A3: Evolution of renting agricultural land in Bulgaria, 1991–1997



Legend

- 1/ Households that rent out as a percentage of households that own land
- 2/ Households that rent out as a percentage of all surveyed households
- 3/ Households that rent in as a percentage of households that cultivate land
- 4/ Households that rent in as a percentage of all surveyed households
- 5/ Households that sold land as a percentage of all surveyed households

Figure A4: Percentage of transactions with (total or partial) cash payments for unregistered family farms in Azerbaijan, Bulgaria, Kazakhstan, Moldova

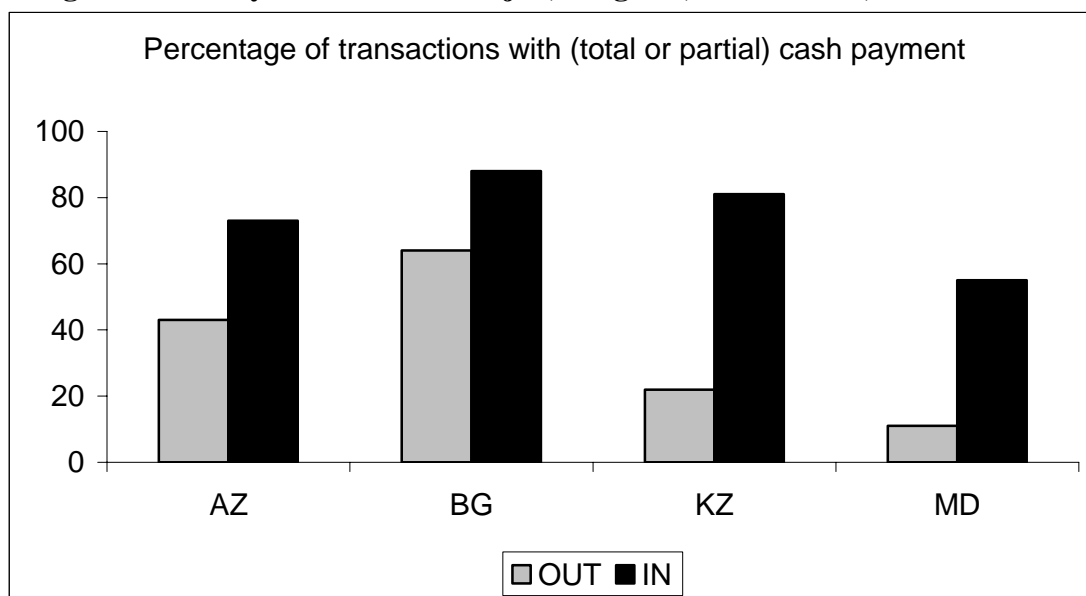
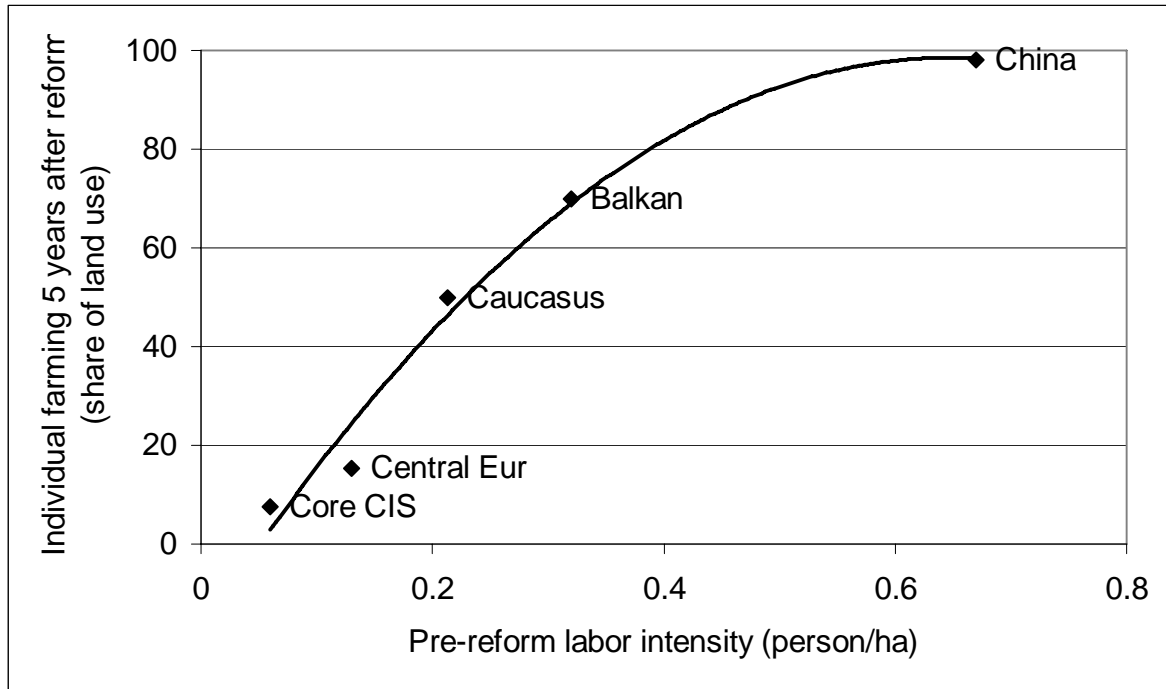


Figure A5: Prereform technology and the growth of individual farming



Source: Swinnen and Rozelle (2005).
Core CIS = Russia, Ukraine, Kazak

ANNEX 2: Background Analysis

1. Data and Definitions for Land Markets in ECA

The analysis in this report uses data from 15 surveys implemented between 1997 and 2004 in 11 ECA countries by the World Bank and by European research institutions. The World Bank surveys include Azerbaijan 2004, Bulgaria 2004, Moldova 2004, Kazakhstan 2004, Romania 1996, Tajikistan 1999, and Poland 2000. Surveys implemented by European research institutions¹⁷ include Albania 1999, Albania 2003, Bulgaria, 1997, Bulgaria 2003, the Czech Republic 1999, Hungary 1997, Romania 1998, and the Slovak Republic 1999.

Table B1 provides an overview of the data sets, the time of data collection, the institutions that organized the surveys, and the units of information collection. Some of the surveys are targeted at rural households and some at farms (both family farms and corporate farms).

In the analysis of farm-level data we distinguish between several types of farms (see table B2 for a summary of the classification). Corporate farms include cooperatives, limited liability companies, etc. Family farms include both “unregistered” and “registered” family farms.¹⁸ Unregistered family farms include subsistence farms and household plots. In all countries, unregistered farms are small (a few hectares on average), while registered family farms can be quite large (see table B3). For example, in the Czech Republic, the unregistered farms use fewer than 2 hectares on average, while the registered farms use 55 hectares on average. For example, in Azerbaijan and Kazakhstan, registered family farms are cultivating 140 and 555 hectares on average, respectively.

Corporate farms are even larger. The average size of the agricultural enterprises is between 1,300 and 2,000 hectares in Bulgaria, the Czech and Slovak Republics, and Hungary (table B4). They are even larger in Kazakhstan (more than 5,000 hectares), and somewhat smaller in Moldova (around 900 hectares on average). In some countries, such as Albania and Azerbaijan, very few corporate farms are left.

The data availability per farm type differs per data set. For example, the 2004 surveys in Azerbaijan, Moldova, Bulgaria, and Kazakhstan as well as the 1997 Czech Republic

¹⁷ The surveys were partly financed by the European Commission and by the Foundation for Scientific Research of Flanders. The Policy Research Group at the Catholic University of Leuven coordinated the surveys. Other institutions involved in the implementation were the University of Athens, Greece; GTZ Tirana, Albania; the University of National and World Economics, Bulgaria; the Research Institute of Agricultural Economics, Czech Republic; the Budapest University of Economic Sciences, Hungary; the Slovak Agricultural University in Nitra; and the Institute of Agrarian Economics, Romania.

¹⁸ Unregistered family farms: rural households cultivating land, natural persons engaged in agriculture without setting up a legal activity.
Registered family farms: family farms that formally registered as agricultural producers.

surveys collected information for three farm types (corporate farms, registered and unregistered family farms, and household farms). Other surveys have fewer or no specific categories.

Table B1: Survey overview

Country	Year	No. observations	Type of survey*	Source**
Azerbaijan	2004	703	UFFs	WB
		65	RFFs	
		15	CFs	
Albania	1999	1232	FFs	ACE/PRG
Albania	2003	517	RHs	PRG
Bulgaria	1997	1411	FFs	ACE/PRG
Bulgaria	2003	642	RHs	PRG
Bulgaria	2004	598	RHs	WB
		23	RFFs	
		25	CFs	
Czech Rep	1999	400	RFFs	ACE/PRG
		198	UFFs	
		102	CFs	
Hungary	1997	1618	FFs	ACE/PRG
		404	CFs	
Kazakhstan	2004	600	UFFs	WB
		178	RFFs	
		22	CFs	
Moldova	2004	500	UFFs	WB
		176	RFFs	
		24	CFs	
Poland	2000	2835	RHs	WB
Romania	1996	1650	Land-owning RHs	WB
Romania	1998	1676	Land-owning RHs	ACE/PRG
Slovak Rep	1999	412	RFFs	ACE/PRG
		150	CFs	
Tajikistan	1999	1456	RHs	WB

* The surveys are based on different samples. ** WB=World Bank; ACE = EU Phare Ace Program; PRG = Policy Research Group Leuven (Catholic University of Leuven)

Furthermore, for simplicity, unless specified more explicitly, we use “households” in the tables in a generic way, referring to all households (which can include unregistered farms, registered farms, or nonfarming households) that were surveyed.

Table B2: Classification of farm types used in this analysis

	Unregistered farms	Registered farms
Family farms	Unregistered family farms	Registered family farms
Corporate farms	--	Corporate farms

Some of the surveys were implemented explicitly to collect data on land markets. In other surveys, that was not the main objective of the surveys, although they may contain quite a bit of information on land markets. For example, the 2004 Azerbaijan, Bulgaria, Kazakh,

and Moldova data were collected to analyze the economic and social impact of farm restructuring. A substantial section related to landownership, land use, and land exchange is available. Three to four regions in each country were preselected to ensure adequate variation in farm types, type of agriculture practiced, degree of poverty, degree of isolation, and prevalence of a single social or ethnic group. In contrast, the Albania 2003 and Bulgaria 2003 surveys were designed explicitly for studying matching in rental markets. In specific regions of the countries, the surveys collected information on landlords and tenants in the land exchange process.

In summary, the data sets yield a potentially rich source of information on rental markets, but given their heterogeneity in structure and design, it is important to use the data with care to draw conclusions.

While all ECA countries have implemented some land reform and farm restructuring, there are significant differences among them that are relevant to this study. Specifically, they differ regarding the land reform process (restitution, distribution), their farm structure (in particular the share of corporate and family farms), their “historical legacy” (CEE vs. Commonwealth of Independent States (CIS)), and whether they are part of the EU. Table B5 summarizes these differences for countries for which survey data are available and those for which data are not available.

These differences have important implications for the role of rental markets in these countries.

In the data analysis, we will therefore provide evidence from countries with different characteristics to identify which land market characteristics are general and which are country specific, and will try to explain why.

Table B3 : Agricultural landownership and exchange

	<i>Owning land</i>		<i>Cultivating</i>		<i>Renting in</i>		<i>Renting out</i>		<i>Selling*</i>		<i>Purchasing*</i>	
	<i>% of surveyed households</i>	<i>Area, hectares</i>	<i>% of surveyed households</i>	<i>Area, hectares</i>	<i>% of surveyed households</i>	<i>Area, hectares</i>	<i>% of surveyed households</i>	<i>Area, hectares</i>	<i>% of surveyed households</i>	<i>Area, hectares</i>	<i>% of surveyed households</i>	<i>Area, hectares</i>
Albania (1999)	94.32	0.97	89.12	1.72	2.11	0.65	1.95	1.00	1.70	0.43	n.a.	n.a.
Azerbaijan (2004) RFF	84.62	14.13	100.00	139.53	93.85	136.86	0.00	0.00	0.00	0.00	7.69	2.44
Azerbaijan (2004) UFF	100.00	2.21	98.15	2.64	4.27	17.37	9.53	1.94	0.28	4.63	0.28	5.5
Bulgaria (1997)	84.98	2.27	93.77	2.77	8.25	6.16	27.10	3.06	0.92	3.33	n.a.	n.a.
Bulgaria (2004) RFF	100.00	7.00	100.00	14.93	39.13	20.61	13.04	1.67	0.00	0.00	30.43	8.04
Bulgaria (2004) RH	79.43	2.06	64.72	0.9	3.51	3.70	40.47	2.64	3.51	1.33	1.00	3.33
Czech Rep (1999) RFF	96.00	17.02	97.00	54.96	54.00	71.47	13.50	9.74	2.75	1.53	n.a.	n.a.
Czech Rep (1999) UFF	98.48	6.54	96.97	1.57	7.07	1.60	61.11	9.18	5.05	3.52	n.a.	n.a.
Hungary (1997)	93.24	4.50	89.96	4.84	7.58	17.68	16.07	4.59	n.a.	n.a.	16.88	11.75
Kazakhstan (2004) RFF	96.63	555.21	100	558.36	14.61	257.87	1.12	160.00	0.00	0.00	0.00	0.00
Kazakhstan (2004) UFF	100	22.54	100	1.72	10.50	2.29	6.00	19.96	1.00	4.58	0.67	6.52
Moldova (2004) RFF	100	3.81	99.43	5.52	23.26	7.74	4.02	1.56	1.72	1.09	22.73	3.25
Moldova (2004) UFF	94.72	2.49	99.80	1.51	4.20	1.36	38.00	2.77	1.81	0.89	5.01	1.04
Poland (1999)	60.28	8.50	53.44	10.40	17.00	12.00	8.00	3.40	4.80	2.60	n.a.	n.a.
Romania (1996)	100.00	3.18	91.88	2.28	1.58	0.99	13.76	2.52	0.18	0.77	n.a.	n.a.
Romania (1998)	98.15	3.00	96.78	2.73	7.88	2.43	20.05	2.58	0.66	0.97	n.a.	n.a.
Slovak Rep (1999) RFF	84.95	16.50	92.72	46.45	42.72	84.93	23.54	10.90	0.73	0.52	n.a.	n.a.
Tajikistan (1999)	96.02	0.59	93.82	0.84	17.38	1.00	0.41	0.38	n.a.	n.a.	n.a.	n.a.

*Sales and purchases are reported for the period: in Albania 1991–1999; Azerbaijan (2004 RFF), Bulgaria (2004 RFF), Kazakhstan (2004 RFF), Moldova (2004 RFF) since the registered farm was created in its present form until 2004; in Azerbaijan (2004 UFF), Bulgaria (2004 RH), Kazakhstan (2004 UFF), Moldova (2004 UFF) since the dismantling of the sovkhov/kolkhoz/TKZS until 2004; in Bulgaria (1997–FF) 1991–1997; in Czech Republic 1989–1999; in Poland 1995–1999; in Romania only for 1996 and 1998, respectively; in Slovak Republic 1989–1999. n.a. not available

Table B4: Land use of agricultural corporate farms

	Czech Republic (1999)		Slovak Republic (1999)		Hungary (1997)			
	% of cultivated land	Average area, ha	% of cultivated land	Average area, ha	% of cultivated land	Average area, ha		
Cultivated	100.00	1353.81	100.00	1989.32	100.00	1836.76		
Owned	0.48	21.84	1.72	15.72	1.42	84.71		
Rented	99.52	1341.40	98.76	1964.60	98.58	1810.63		
Main lessor		Members or partners		Members or partners		Members or partners		
Main lessee		Individual farmers		Individual farmers		No information		
	% of corporate farms	Average area, ha	% of corporate farms	Average area, ha	% of corporate farms	Average area, ha		
Rent in from	95.10	1356.54	97.38	2018.43	94.80	1828.24		
State	n.a.	n.a.	n.a.	n.a.	16.34	1755.06		
Members	n.a.	n.a.	n.a.	n.a.	80.20	1142.26		
Outsiders	n.a.	n.a.	n.a.	n.a.	65.59	808.64		
Rent out	4.90	52.80	4.67	214.02	17.08	346.73		
	Azerbaijan (2004)		Bulgaria (2004)		Moldova (2004)		Kazakhstan (2004)	
	% of cultivated land	Average area, ha	% of cultivated land	Average area, ha	% of cultivated land	Average area, ha	% of cultivated land	Average area, ha
Cultivated	100	200.3	100.00	1434.29	100.00	883.34	100.00	5413.23
Owned	0.2	0.4	3.71	53.21	15.08	15.19	0.93	50.20
Rented	99.8	199.8	96.29	1381.08	84.91	868.15	99.07	5363.03
Main lessor		Municipality/state		Members		Members		Members
Main lessee		-		Private farmer		-		-
	% of corporate farms	Average area, hectares	% of corporate farms	Average area, hectares	% of corporate farms	Average area, hectares	% of corporate farms	Average area, hectares
Rent in from	100	147.40	97.06	1316.43	95.83	665.6	100	5524.38
Members	53.33	20.42	70.59	1298.49	95.83	510.0	100	5202.47
Private household-based farm	0.00	0.00	14.71	491.24	8.33	565.5	4.55	82
Old or disabled person not able to farm	0.00	0.00	14.71	786.25	45.83	680.2	-	.
Individual not engaged in farming	6.67	25				100.0	0	.
Farm enterprise	0.00	0.00	14.71	2024.2	4.17			
Municipality/state	93.33	188.57	2.94	75	4.17	151.0	4.55	2000
Rent out	0	0	0.00	0.00	8.33	120.5	4.55	5000
			8.82	833.33	0	0	0	0

n.a. not available; “-” not among possible answers

Table B5: Key characteristics of ECA countries

	Land reform				Share of land cultivated by family farms	CEE	CIS	EU
	Restitution	Distribution, in kind	Distribution, in shares	Distribution in shares, then in kind				
<i>Data Countries</i>								
Azerbaijan				X	96		X	
Albania		X			100	X		
Bulgaria	X				56	X		
Czech Republic	X				38	X		X
Hungary	X	X			54	X		X
Kazakhstan ^a			X		41		X	
Moldova				X	56		X	
Romania	X	X			67	X		
Slovak Republic	X				11	X		X
Tajikistan			X		23		X	
<i>Non-data Countries</i>								
Armenia		X			33		X	
Estonia	X				63	X		X
Georgia		X			37		X	
Kyrgyz Republic					23		X	
Latvia	X				95	X		X
Lithuania	X				67	X		X
Poland ^b	-	-	-	-	82	X		X
Russia			X		13		X	
Slovenia ^b	-	-	-	-	94	X		X
Ukraine				X	18		X	

^a The land policy was changed in Kazakhstan in 2003, turning land shares into ownership titles. However, survey data used here capture the situation before the change in policy.

^b Mainly individual land holdings during the pretransition era.

2. Land Rental Markets in Other Regions

There is wide variation in the importance of land rental markets worldwide, both in terms of the share of land under rental contracts and in terms of the nature of the contracts. One observes a variety of rental forms, ranging from highly informal transactions to formalized long-term contracts. In the first section, we will review some key empirical observations on land rental markets in Western Europe and North America. In the next section, we will discuss empirical observations from other regions.

2.1 Western Europe and North America¹⁹

It is remarkable how much variation there is in land renting even among OECD countries. For example, among Western European countries huge variations in land renting can be observed. In Belgium and Germany, more than 65 percent of farm land is operated by tenants. In contrast, in Austria, Denmark, and Finland, less than 30 percent of farm land is rented to tenants.

Also, in the United States, land renting by farms is very important. Commercial farms rent on average about half of the land they use.

These numbers indicate that land renting can be an important part of modern agricultural systems. One of the main advantages of rental rather than sales transactions in these economies is that, in a capital-intensive production system, with the possibility of using other assets as collateral, farms prefer to invest in new technology and farm-specific assets rather than tying up large sums of capital in land purchases. Many farms use both owned land and rented land in their operation. In Western Europe, many farms have both owned and rented land, and the proportion of such mixed land use increases with the size of the farm (Feenstra, 1992). In this way, farms in these countries combine tenure security (with their assets and long-term investments concentrated on owned land) on the one hand, and flexibility in land allocation and freeing up capital for other investments (by renting additional land rather than buying it) on the other hand.

2.1.1. Different strategies to provide tenure security to tenants

Looking at the historical evolution of these rental arrangements provides some important insights. The importance and nature of land renting has changed significantly throughout history. Historically, European countries were dominated by large landlord-small tenant relations with weak bargaining power for tenants, resulting in poor tenure security and few tenant rights, albeit with significant variations across the region.

Changes in the importance of land rental have reflected changes in institutions and in economic and political conditions (Swinnen, 2002). Key economic factors include changes in agricultural profitability, with falling world market prices inducing distress sales by farmers (in particular in the first part of the 20th century), and the emergence of

¹⁹ Main sources: Deininger, 2003; Swinnen, 2002; Ravenscroft et al., 1998.

nonfarm employment opportunities, which weakened landlords' bargaining position vis-à-vis tenant households.

However, the most important changes have been caused by differences in institutions and political changes affecting land taxes and tenure regulations. Early on in the 20th century, landlords dominated governments in Europe. With industrialization and the distribution of voting rights to small farmers and tenants, all that changed. Those changes resulted in increased land and inheritance taxes in some countries, forcing many landlords to sell part of their estates. In other countries, improved political representation by tenants resulted in new regulations giving tenants more security of operation and better conditions in case of contract termination, such as compensation for land improvements and automatic rights for rent renewal and first buyer options.

One can, in broad terms, distinguish two types of policy strategies to improve the situation of the tenants. The first strategy was to improve the rental conditions for the tenants through regulations. The second strategy was to help the tenants become the owners of the land.

The first strategy was followed in countries such as Belgium, France, and the Netherlands, where rent regulations were introduced that focused primarily on improving the tenure security for farmers. These were not introduced all at once, but incremental increases throughout the 20th century led to a situation in which farmers no longer wanted to purchase land since their tenure security was very high, and they could use their capital for other investments. In these countries, the rental share is relatively high.

The second strategy, that is, to help tenants become landowners, was the dominant strategy in countries such as Denmark, Italy, and Ireland. There, the government set up state funds to purchase farms for poor tenants, and/or to subsidize the purchase of land by poor tenants, either directly or through regulating prices, through subsidized loan conditions, or through tax benefits for purchasing land. Notice that in all these countries, the share of land rental is relatively low. The most dramatic impact occurred in Ireland, where almost all land was rented in the beginning of the 20th century, but that share has declined to around 17 percent today.

In the UK,²⁰ improvements in the situation of tenants followed from a mixed approach. The decline in political power of the large landlords, resulted, first, in important changes in the rights of tenants, such as the right to determine crop rotations, and the right to determine purchases and sales of farm products, and the right to compensation if they were to leave the land. Later on, additional rental regulations were introduced, as well as the creation of land tribunals to resolve conflicts between landowners and tenants. The second major change was the increase of land and inheritance taxes and the shift of income taxes from tenants to landlords. In combination, these policy changes contributed to (a) better and more secure rights for tenants, and (b) a decline of tenancy as landlords sold their land to tenants.

²⁰ Strictly speaking, much of the arguments on the "UK" here apply only to England and Wales, since Scotland had somewhat different land policies.

In summary, the same policy objective led to different policies, different institutions, and different tenure situations in Europe.

2.1.2 Extent of government regulation of rental markets

There is considerable variation between Western European countries in terms of government intervention and regulation in rural land markets. Table B6 summarizes land rental regulations in various European countries. Regulations take various forms, including contract specifications, rent control, minimum (or maximum) length, automatic succession rights, automatic lease renewal, and pre-emption rights²¹

The regulation of land rental markets is most extensive in those countries where the governments focused on this strategy as a way to improve the situation of poor tenants in the first part of the 20th century, and where land renting is the dominant form of land use in farming (examples of this are Belgium and the Netherlands).

Four countries (Belgium, France, Italy, and the Netherlands) have minimum lengths, and lease extension is automatic in most of these countries. Moreover, landowners can get the land back only for specific purposes, such as when they want to farm the land themselves, or if the land is to be converted to alternative uses, which may have to be in the public interest.

In the Netherlands, state land committees (“grondkamers”) can directly intervene in rental contracts, impose extension of rent contracts, and decide the rental price. Also, in Belgium, France, and Italy, local committee-based rent controls exist, although they are more flexible than in the Netherlands. In Belgium and Italy maximum prices are set by committees, comprising farmers, landowners, and government officials. In all these countries, land rents tend to be low. In France, regional organizations—the so-called SAFERs²²—determine a minimum and maximum price bracket within which the tenant and the owner can agree on a contract price. These organizations effectively control the local land markets through their powers to buy, sell, and rent out agricultural land. Effectively, they ensure that land is owned only by working farmers. The SAFERs also control the level of farm restructuring and growth by requiring farmers to get authorization from them for farm expansion.

²¹ Preemption rights mean that tenants have the right to purchase the land they are renting before others have the chance to buy.

²² Sociétés pour l’aménagement foncier et l’établissement rural.

Table B6: Legal aspects of rental agreements

	<i>Freedom of contract</i>	<i>Leases governed by statute</i>	<i>Rent control</i>	<i>Min. term length</i>	<i>Max. term length</i>	<i>Improvements require consent</i>	<i>Automatic succession rights</i>	<i>Automatic lease renewal</i>	<i>Pre-emption rights</i>
Belgium		Yes	Yes	Yes, 9 yrs	No	No	Yes	No	No
Denmark	Yes		No	No	Yes, 30 yrs				
France		Yes	Yes	Yes, 9 yrs	No	Yes, some			
Germany	Yes	Yes	No	No	No	Yes	No	No	No
Ireland	Yes	No	No	No	No		No	No	No
Italy		Yes	Yes	Yes, 15 yrs	No				Yes
Luxembourg	Yes		No	No	No		No	No	No
Netherlands		Yes	Yes	Yes, 6 yrs	No		Yes	Yes	Yes
England & Wales	Yes, some	Yes, some	No	No	No	Yes, some	Yes, some	Yes, some	No

Source: Based on Ravenscroft et al., 1998.

In contrast, in countries that helped tenants to become landowners, and where landownership is the dominant form of land use in farming, land rental regulations tend to be less stringent (examples are Ireland and Denmark). For example, in Denmark (and Germany) the only requirement is to have a written rental contract. There are no restrictions on minimum duration, rent prices, etc.

Note, however, that in the latter countries, important controls exist (or existed) on landownership. For example, state rules restrict landownership in Denmark. Until recently, landownership was restricted to Danish citizens only. In addition, farmers seeking to purchase more than 30 hectares of additional land are required to seek a license from the local land authority. Ownership rules have recently been relaxed to allow other EU citizens and corporate farms to own land.²³

In Ireland, the Land Commission system retains the right to purchase agricultural land and to redistribute it for the purposes of existing farm expansion, effectively having a similar function as the French SAFERs.

2.1.3 Perverse effects of regulations

In most Western European countries, the extensive regulation of land rental contracts created tensions as it constrained dynamic use of the land and growth. Moreover, it had unintended effects as landowners in countries such as France, Belgium, England, and the Netherlands were no longer interested in renting land to farmers and preferred to sell it. Hence, overregulation led to the paradoxical outcome that land rental decreased, for example, in the Netherlands and France. In the Netherlands, which has the most extensive land rental regulations, the land rental has fallen from almost 60 percent after the Second World War to around 30 percent today.

In response to these developments, several countries have relaxed their regulations in recent years. In England and France, these changes stimulated rental agreements and the inflow of new capital into agriculture.

2.1.4 Farm succession and intergenerational transfer of land

Renting of land is also related to how land is passed from one generation to the next in farming families. The inheritance rules differ significantly in Europe, also affecting the importance of rental. In countries where inheritance rules are based on the Napoleonic code/civil code, the land has traditionally been divided among heirs. In countries under common law, the land (and the farm) have passed to the oldest son. Currently, there are

²³The regulations on landownership in EU countries have been significantly affected by EU regulations on free movement of capital that require unrestricted access of EU citizens to landownership. This was also a major issue in the enlargement discussion with accession countries and has resulted in a series of temporary exemptions (transition period) on this rule, with an especially long (13-year) transition period for Poland where this was the most sensitive.

three patterns of succession and inheritance of farms and land in Western Europe (Blanc and Perrier Cornet, 1993).

The distribution of equal shares among the heirs and a break-up of the farm is commonly found in Mediterranean countries (Greece, Italy, Spain, Portugal). This system creates much fragmentation. Institutions that have emerged to overcome this problem are (a) interfamily rental arrangements, often informal and complex, (b) devising of family “arrangements” to blur the identity of the owner, and (c) continued collective ownership and management.

The distribution of equal shares among the heirs and the preservation of the farm is commonly practiced in France, Denmark, and Belgium. In these countries, forms of “preferential allotment” have modified the civil code to allow inheritance of the holding by one heir, with a cash settlement to the others. These arrangements can leave new incumbents with high levels of debt.

The distribution of unequal shares among the heirs and the preservation of the farm is commonly practiced in common law countries, such as England and Wales, where inheritance normally goes to a single heir, and in civil code countries where the law has been adjusted, such as Ireland, Germany, and the Netherlands. In England and Wales, because of the common law, the preservation and inheritance of the farms occur without legal obligation to compensate others. In Ireland, there is a commitment to care for remaining parents. In Germany and the Netherlands, the coheirs are entitled to a share of the capital if the holding is sold.

Countries such as Belgium and the Netherlands now subsidize heirs who want to take over the family farm to buy out the other heirs, either by fixing the land price below the market price (the Netherlands) or by subsidizing loans for this purpose (Belgium).

Several non-traditional farming institutions have emerged in Western Europe as a reaction to inflexible land rental regulations, and to overcome the constraints posed by inheritance and to address specific capital and investment requirements within a regulated system. For example, various types of (family) partnerships in the Netherlands and France allow the transfer of land, land rental contracts, and farm assets between members with tax advantages and flexible management. This includes SAFER in France, as well as intergenerational partnerships and the “grondkamer” in the Netherlands with “Maatschaps” arrangements. These partnership agreements allow the transfer of capital and land virtually tax free.

2.2 Developing and Emerging Economies

In Latin America, one would expect considerable land renting given the high inequality of landownership and the imperfect rural credit markets. Many experts argue that land renting would be more efficient and equity enhancing (Deininger, 2003). However, relatively limited renting is going on in several Latin American countries. The reason appears to be high transaction costs, insecure property rights, and restrictions on rental markets.

Rental restrictions caused a dramatic decline in rental activity in Colombia and Brazil in the past decades. Repealing the restrictions has only partly increased rentals, as the policy changes have undermined confidence in the property rights system (Deininger et al., 2004).

Weak property rights and the lack of reliable conflict resolution mechanisms also constrain rental transactions throughout Latin America. There is substantial evidence that landowners are reluctant to rent out land for fear that tenants will establish a claim to the land (Barham et al., 2003). Hence, rentals are few, informal, short term, and often limited to closely related people to facilitate enforcement.

Even within one country, different property rights regimes may exist with very different rental effects. For example, Macours (2004) found that, due to weak property rights enforcement, Guatemalan landowners without formal title were more likely to restrict their partners for a rental contract to tenants from the same ethnic group, resulting in a segmented land market. In the Dominican Republic, insecurity of property rights reduces the level of activity of the land rental market and causes market segmentation (Macours et al., 2004).

Land sales appear relatively active in Latin America, but they are also largely restricted to segmented exchanges: sales are from large to large producers and from small to small producers. The reason appears to be a combination of high transaction costs and high costs of subdivision, as well as poor access of small farmers to credit for long-term financing.

In Africa, there is wide variation in land rental among countries. In several West and East African countries, land rental markets have a long tradition and have evolved in a dynamic way in response to environmental conditions. As population pressure grew, rental contracts in several countries have become more widespread and evolved from informal arrangements to more formal contracts (Deininger, 2003, 105–106).

In southern Africa, land rental appears to be rarer, for two reasons: land is more abundant, and earlier divisions of the land into native reserves have constrained the development of land renting.

In Ethiopia, a country of interest because of its socialist economic regime, the rental market is seriously constrained by government regulations, preventing important efficiency gains. For example, land rights are restricted to those residing in the village, and the increased likelihood of losing land rights when taking up a nonfarm job restricts growth through off-farm employment and migration.

In Asia, there is considerable variation in land tenancy across countries, reflecting a variety of factors. The most relevant cases in Asia for our purposes are what happened in China and Vietnam after the land reforms.

Land rental markets have developed slowly in the first decade after land reforms. One important reason was that with high rural poverty and high labor and high land ratios,

most rural households used their land themselves to provide income and food security. Regulations and rights in security also played a role.

However, since the mid-1990s land rental has increased strongly in both China and Vietnam. Rental markets developed rapidly when incomes grew, off-farm employment opportunities emerged, property rights became more secure, and rental restrictions were removed. In China the share of households participating in the rental market increased from 2.3 percent in 1995 to 9.4 percent in 2000. Similarly, in Vietnam the share of rural households participating in the rental market increased from 3.8 percent in 1992 to 15.8 percent in 1998, with more productive households being more likely to rent (Deininger and Jin, 2003). The land rental market has allowed land reallocation across households with differential endowments or abilities in an environment of rapid economic growth and has thus contributed to significant gains in efficiency and equity (Dwayne et al., 2000).

Several experts agree that where land is distributed in an egalitarian way (as in China and Vietnam), land rental markets are much more efficient in stimulating productivity gains than administrative reallocation by village leaders, without the danger of negatively affecting equity (Deininger and Jin, 2002; Turner et al., 2004).

A comparison of studies on land rental and sales markets in Vietnam and other Asian countries suggests that land sales markets may contribute to greater inequality of land holdings, in particular where rural credit markets do not function well. In contrast, land rental markets seem to lead to more equitable outcomes (Deininger and Jin, 2003; Suyanto et al., 2001).

3. Land Rental and Sales Markets: A Conceptual Framework

Land transactions can play an important role for several reasons. First, they provide land access to those who are productive but own little or no land. Second, they allow the exchange of land as the off-farm economy develops. Third, they facilitate the use of land as collateral to access credit markets (Deininger and Feder, 2001).

The form of these transactions matters. The most straightforward distinction is between the sale of land and renting of land. Theoretically, the sale of land is often considered superior to land rental. The arguments supporting the superiority of land sales are that land sales (a) transfer full rights to the new user, (b) are more likely to increase access to credit as owned land can be used for collateral purposes, and (c) provide optimal incentives for investment by providing permanent security of rights (Binswanger et al., 1995).

However, these conclusions rely on a number of simplifying assumptions that are not always consistent with reality, and especially not with reality in transitional and developing countries. This view is summarized in the following quotes from a World Bank Policy Research Report on land policies: “However, transaction costs ..., risk and portfolio considerations, limited access to credit markets, and the immobility of land all

imply that the actual performance of land sales markets may be far from the theoretical ideal” and “land rental markets, including share tenancy, can go a long way toward bringing the operational distribution of holdings closer to the optimum, given existing constraints” (Deininger, 2003).

3.1 Efficiency and Equity Problems of Land Sales Markets

Imperfections in input, product, credit, and insurance markets all affect the functioning of land markets. Credit market imperfections play a particularly important role. Capital market imperfections may constrain the efficiency of land sales markets in several ways. First, where capital markets work imperfectly, land purchases typically have to be financed out of one’s own savings. Second, where financial markets do not work well, or where confidence in money as a repository of value is low, land may be used to store wealth and may be acquired for speculative purposes. Third, land may be purchased, or held on to, as a hedge against inflation or as an investment asset in the absence of alternative investments or hedging options. Fourth, with constrained access to credit, investment in land ties up much needed capital in land and prevents farmers from using these savings for investment in technology, equipment, or quality inputs. Finally, people hold land for many other reasons than production, such as prestige value, lifestyle value, and family traditions, leading wealthy and politically connected households to accumulate large tracts of land. Some of these factors also make the sale price of land typically higher than the productive value of land (Binswanger et al., 2005).

Transaction costs in land sales can be large. These costs are not only notary fees, etc., but also the costs of enforcing property rights and getting access to the necessary documents and approval from local officials, which may be costly for reasons of corruption or inefficient administration. Transaction costs not only imply that a premium needs to be paid by the buyer, but also that significant losses can be incurred by buying and reselling land and hence prevent flexible adjustments of land use through land sales (Carter and Zimmerman, 2000; de Janvry et al., 2001).

As a consequence, rural land sales markets are typically thin in transitional and developing countries. The arguments raised above make it expensive and difficult for efficient producers to buy land; they also reduce the attraction for less efficient producers to sell their land. These factors imply that land markets require a premium over their expected production value to be included in the sales prices.

In some cases, land sales markets may even be limited to distress sales. Returns from agricultural production are highly covariate. Therefore, land prices will be high in good years when savings are high, sellers are few, and potential buyers of land are many. In contrast, when incomes fall, demand for land is low. However, the need to satisfy basic subsistence constraints could give rise to a large supply of land from people who are forced to sell their land to survive (Sadoulet et al., 2001). Hence, in areas with poorly developed insurance and capital markets, land sales may be limited to distress sales.

All this has important implications for efficiency. An efficient land market will transfer land from less to more productive users of the land. Because these constraints on the land market limit the transfer of land from less efficient to more efficient users, efficiency losses are incurred. For example, because transaction costs in land sales are large, owners and farmers have a difficult time adjusting their land to their other production factors and to changed market conditions. This leads to suboptimal land allocation. Similarly, as owners hang on to land for reasons of speculation, insurance, or wealth hoarding, land will not be used in the most productive way.

Constraints on land sales markets are not only important for the efficiency of the land market, but also for equity and poverty reduction. In many cases, the poor are disproportionately affected by imperfect credit and insurance markets. Also, the role of land as a source of hedging and wealth is more important for them. As a consequence, these imperfections tend to reduce disproportionately the benefits poor people can obtain from participation in the land markets.

3.2 Potential Benefits of Land Rental Markets

From this perspective, the general potential of rental markets is

- to allow more flexible adjustments of the land area used with relatively low transaction costs;
- to require only a limited capital outlay, thereby leaving more liquidity available for productive investments rather than locking it all up in land;
- to facilitate easy reallocation of land to more efficient users than the current owners; and
- to provide a stepping stone toward landownership by the landless.

Several of these advantages are especially relevant for transitional circumstances. Transaction costs for land sales are very high during transition, if sales are permitted at all. Also, flexible exchange options are particularly important in conditions of uncertainty. During transition, farms and landowners are often uncertain about how market conditions will evolve, and how institutions and laws will evolve. In such conditions flexible and short-term rental contracts may be better choices than sales or long-run contracting—for both sides of the transaction.

Finally, another potential advantage of rental contracts is to help overcome, through sharecropping contracts, market failures in labor, insurance, credit, management, and supervision, thereby potentially helping secure the competitiveness of participants (de

Janvry, 2001).²⁴ This factor seems to be especially important in countries where large landowners rent land to small tenants and where these landowners have an advantage over the tenants in accessing credit and other inputs. Through interlinking contracts, they can pass on credit and inputs at lower cost to the tenants by enforcing these input contracts through the land rental contracts (Bardhan, 1989). This may be somewhat less important in many ECA countries where land is often owned by households and renting is mostly to other household farms or to large farms. The type of interlinked contracting observed in ECA is mostly between agribusiness and food companies and farms, where input market contracts are interlinked with output market contracts (Swinnen, 2004).

3.3 Problems with Land Rental Markets

However, rental markets are not perfect. There can be problems with (a) investment incentives because of the lack of long-run security, (b) access to credit due to the absence of collateral options, and (c) segmentation of land rental markets with insecure property rights. Several of these potential problems depend strongly on the nature of the rental contracts, on the institutional environment affecting property rights and enforcement costs, and on government regulation of rental contracts.

An important criticism of land rental markets is that rental agreements, which are temporary by nature, provide insufficient incentives for efficient farm investments. In several Western European countries, governments have therefore introduced legislation to guarantee a minimum length of rental contract of several years in order to guarantee tenants sufficient security of land operation. The introduction of these regulations reflects changes in the political economy of the land market (see next section for details). Moreover, these length regulations are often accompanied by regulations forcing the owners of the land to compensate tenants for investments they made in land improvements that increased the value of the land. Other rights, such as the right of first purchase, further enforce tenant rights to reap the benefits of land investments and improve investment incentives (Swinnen, 2002).

That said, several empirical studies show that the impact of landownership (and hence of land sales versus rental) on investment incentives because of enhanced security is often surprisingly small (Carter et al., 1994). There are several reasons. One, what may appear to be precarious land rights to external observers may actually be long-term entitlements in the specific context of these societies. Two, sufficient investment incentives can be provided by use rights that are granted to the land users for a certain period (Braselle et al., 2002). Three, in some cases there is bicausality between investments and security—tenants invest in land-related assets (trees, land improvements) to enhance their security.

The most important effect of landownership on investment seems to come from enhanced access to credit because of an improved collateral situation. However, this credit-supply

²⁴ Notice that this argument is counter to the traditional Marshallian inefficiency argument that posited that sharecropping was an inefficient institution compared with fixed rent contracts (see, e.g., Bardhan and Udry, 1999; Stiglitz, 1974).

effect is strongly conditional on the existence of rural financial institutions, and with large-credit market imperfections this investment may be limited. These findings were obtained from studies on East Africa, West Africa, and China (Li et al., 1998). In summary, because of the combination of these factors the investment effect of landownership is often limited and depends on other conditions.

Obviously, the investment effect will also depend on the nature of the investments, and one should expect the length of the investment depreciation to be correlated to the length of tenure security required. This is one factor that contributes to explaining why farms may prefer a combination of owned land and rented land.

Insecure property rights are not only a problem for sales markets, but also for rental markets. Weak property rights, often in combination with the absence of reliable conflict resolution mechanisms, may cause substantial costs for owners to enforce their rights on the land once they rent it out to tenants. This reduces the incentives for owners to rent out their land. This problem often results in segmented land rental markets, with renting taking place between agents where rights enforcement can occur through different mechanisms, such as social pressure.

3.4 Efficiency of Renting and Farm Structures

The efficiency of land markets is measured by their ability to transfer land from less productive to more productive users. Evaluating efficiency, therefore, presumes that one knows which ones are the most efficient farmers.

There is an extensive literature on the best use of farm size and structure. Most of the literature on farm efficiency finds that there are relatively few economies of scale in farm operations, albeit with some important modifications. The main argument relates to relative imperfections in the labor markets versus the capital and product markets. The essence of the argument goes as follows (Eswaran and Kotwal, 1985; Pollak, 1985).

Farming is characterized by important supervision costs because in most circumstances farm workers' true efforts are not easily observable, due to the specific characteristics of agricultural production. Such imperfections imply that wage workers have limited incentives to exert effort and either need to be supervised at a cost or be offered contracts that provide higher incentives, such as sharecropping.

Family members have higher incentives to provide effort than hired labor. They share in output risk and can be employed with no or less supervision costs. This is the main advantage of family farming over wage-labor based farming.

These advantages may be offset by disadvantages of family farms in accessing credit and other markets. It is well known that rural credit markets are notoriously imperfect and that especially poor and small farmers are constrained in formal credit markets. Larger and richer farms may have easier access to credit, either because their initial wealth is larger (for self-financing) or because their transaction costs in credit markets are lower.

Another reason is access to output or input markets. Small farmers in remote areas may not be able to sell their products to urban markets, or they may get lower prices from traders. Small farmers may be less likely to access (quality) inputs for their production. Hence, in such cases, imperfections of the input, output, and credit markets have the opposite effect of labor market imperfections in determining the optimal farm size.

Hence, the optimal size is largely an empirical issue. Several studies find that there is an inverse U-function between size and efficiency (Feder, 1985). Efficiency grows with size for the smallest farms, but beyond a certain size, typically coinciding with larger family farms, there is a declining relation between size and efficiency. However, not surprisingly, these relative effects, and hence the “optimum,” depends on the nature of the farm activity (livestock, crops), available technology, relative factor abundance, market imperfections, and existing regulations and institutions.

4. Are Large Farms Efficient in ECA?

Differences in farm structures are due partly to different reform choices (see previous section) and partly to exogenous factors, in particular, relative factor endowments, technology, scale economies, market imperfections, and existing institutions.

First, relative factor endowments are important. These differ enormously across the ECA Region. The prereform land/labor ratio in, for example, Russia and Kazakhstan is many times higher than in, for example, Albania, Azerbaijan, Moldova, or Romania. In relatively labor-intensive agricultural systems, the benefits of shifting to family farms (from corporate farms) are larger while the disruption costs are lower (Rozelle and Swinnen, 2004). That is why we observe a strong correlation between factor intensities and the growth of family farming. Corporate farms remain much more important in land- and capital-intensive farming.

Second, scale economies vary by commodity. For example, grain production tends to have more economies of scale than, for example, dairy or vegetable production. Therefore, within a country one may observe strong differences in farm organizations. The most extreme example is Kazakhstan, where the northern grain belt is dominated by huge farms, while in the southern part one finds many more smaller farms, for example in cotton production.

Third, imperfections in output and input markets and existing institutions are particularly important in ECA countries, where there are substantial market imperfections and where traditional institutions, product marketing, and input supplies have been designed to serve large-scale farms. In the absence of such institutions for small-scale farms, it is not surprising that large-scale farms have remained more prominent in ECA than would have been predicted based on models from outside ECA, where institutions have been more targeted to smaller farms. In fact, in a survey of a series of studies on the relative efficiency of large corporate farms and smaller family farms, Gorton and Davidova (2004) conclude that there is no clear evidence of corporate farms being inherently less efficient than family farms and that even when family farms are on average more efficient, some corporate farms also perform as well as the best family farms. In countries

with a more supportive institutional environment for small-scale farming, the family farms are more efficient relative to large corporate farms, as in countries where small family farms are a relatively new phenomenon (Hughes, 2000).

Furthermore, nontraditional farm structures have turned out to be well suited for this nontraditional farm environment. For example, in Romania the most efficient farm organization for resource-constrained small farmers are “family societies” in which farmers collectively share in providing mechanized services (Sabates-Wheeler, 2002). In eastern Germany “partnerships” (small groups of farmers who pooled their efforts in certain production and marketing tasks) outperformed all other forms of farm organization between 1992 and 1997 (Mathijs and Swinnen, 2001). In Russia, the most successful household farms refrain from registering as “private farms,” instead choosing to remain connected in some fashion to large farm enterprises. Such producers use their connections to gain access to inputs, marketing channels, and other services in an environment where traditional markets, if any, function poorly (O’Brien and Wegren, 2002). Even in Turkmenistan, producers have begun to shift to family-based leasing within the nation’s highly regulated environment to be able to access basic inputs, services, and output channels through the state marketing order system (Lerman and Brooks, 2001).

The most extreme version of large corporate farms is in the grain-producing regions of Kazakhstan and Russia (Swinnen, 2004). There, huge farms have developed as part of vertically integrated agribusiness companies, sometimes owning and operating more than 100,000 hectares. Scale economies are more important in extensive grain production than in, for example, vegetable or dairy production. However, the main reasons appear to be transition specific (Gray, 2000):

- *Access to inputs.* In a very tight capital market, these companies control a large part of the liquid financial resources in the regions concerned, making it possible for them to farm when many other farm types are not ensured access to inputs. They have access to bank lending, apart from their own liquid resources, on the basis of non-agricultural assets with higher collateral value. Their vertical ownership in the grain market allows them to purchase inputs at source (the refinery, for fuel) and to avoid barter terms.
- *Access to output markets.* In northern Kazakhstan, land is not the most critical input in the farming process. It is not surprising that the organization of farming in the north is evolving in a way in which landownership is almost irrelevant. The new successful farms comprise a set of property and contractual relationships in which landownership is a peripheral issue. The greatest difference between the large-scale investor-led farms and smaller individual farms and partnership farms lies in the difficulties experienced by the smaller farms in marketing their output.
- *Bargaining power with the (local) authorities.* The oblast authorities continue to play a highly interventionist role in agricultural commodity markets, in spite of the greatly reduced role of the state in procurement. In practice, such interventions are open to

abuse, with favored (large) operators allowed to export grain to neighboring oblasts or to Russia while smaller producers are prohibited, often until all outstanding debts for inputs are paid. Moreover, a widespread practice until the mid-1990s was that local authorities continued to require farms, even after they became producer cooperatives, to engage in production activities that were well known to incur losses, especially livestock production. The continued dominance of the seed industry based on state farm production (in the grain sector) tends to perpetuate the single-channel system and places farms under the control of the local authorities who continue to determine the physical flows of seed grains (especially when they cross oblast boundaries). Most farms continue to depend on the local authorities to supply key inputs and to finance these inputs by issuing local authority guarantees to provide seed and fuel supplies on a barter basis against the season's production. The increased size and financial wealth of the large, integrated grain companies protect them against these state interventions.

In summary, corporate farms and "non-traditional" large farming organizations are more likely to be (relatively) efficient in the specific institutional environment and structural conditions of ECA.

However, as discussed in the previous chapter, the extensive use of land by corporate farms in several ECA countries is also influenced by (a) significant transaction costs in the land market, (b) monopoly power in the regional land markets, and (c) property rights imperfections.

The encroachment of corporate farms on land property rights has been reinforced where the farms have been able to lobby the government effectively to introduce policies to shift regulations in their favor.

Two recent examples are illustrative. As EU accession has increased profitability (through higher prices, productivity, and subsidies), land rents have started to increase. Corporate farm managers in several new European member states, claiming that agricultural subsidies are for "agriculture" and not for urban landowners, are lobbying the government to regulate land rents (meaning imposing maximums).

In another example, the most extreme case of capture of effective property rights by corporate farms was in Kazakhstan, where initially the land distribution was manipulated to benefit corporate farms. More recently, the 2003 land code transfers ownership of land to the user of the land. In the case of rented land to corporate farms, the new land policy effectively takes away property rights of the landowners and gives them to the corporate farms.

Expert interviews indicate that governments, in general, are not necessarily favoring corporate farms in the rental market through legislation. However, the implementation of the regulations is sometimes biased toward the corporate farms. In the Czech Republic, for example, land offices have the task to stimulate land consolidation through changing borders and functions of plots, unifying and dividing plots, and improving their accessibility. This requires changes to the cadastre. Unfortunately, they are progressing

slowly, which is to the advantage of the current users, the corporate farms. In Russia and Ukraine, corporate farms tend to be favored in practice because they are more familiar with very technical requirements related to land exchanges and withdrawal procedures, or because they can easier handle the complex and expensive registration procedures for land titles, and because of established trust relations between farm (managers) and officials.

5. Migration and Land Rental Markets

Rural migration is important in many ECA countries (see, for example, Macours and Swinnen, 2005a). There have been major labor flows between rural and urban areas (in both directions) in ECA countries in the course of transition. Moreover, in many countries (including Albania, Moldova, Bulgaria) a large number of rural inhabitants have migrated abroad.

Land rental markets can potentially play a very important role in migration and in contributing to its beneficial effects. The relationship between migration and land renting is bidirectional.

Land renting can stimulate migration by providing households with a rental income to finance the costs of migration either as investment costs or partially covering (temporary) reduced income due to loss of local returns to household labor.

Migration can also have an effect on land renting as (a) it stimulates the supply of land (reduced demand) for renting out as labor moves out of the rural areas, (b) it may stimulate the supply of land (reduced demand) as remittances allow households to invest in off-farm activities, or (c) it increases the demand for land as remittances reduce capital constraints by allowing households to invest in labor-substituting technology, such as farm animals or machinery. The combined impact of these effects cannot be predicted *ex ante*.

Our data sets provide some information on the relationship between migration and land rental. In particular, the Albania data sets have interesting data on migration. Albania is a good country to study these effects, since it has witnessed massive migration flows. In fact, about a third of the male rural population of Albania has migrated abroad, and most rural households have one or more members who have migrated (Germenji and Swinnen, 2004).

In 2003, around 90 percent of the households in the surveyed communities both owned and cultivated land (table B7). The average amount of land owned and cultivated was small (1.5 hectares on average). Around 10 percent of households rented in land, and those who were renting in cultivated significantly more land (2.3 hectares) than those who were not renting in agricultural land (1.5 hectares). Only 2 percent were renting out land and those households cultivated significantly less land (only 0.6 hectare on average).

Around half of land rented in is from people living abroad (47 percent of individuals, and 55 percent of plots). A large share of these rental agreements (33 percent) are with

relatives—not unusual in a country like Albania where families are large and where most families have migrants. Fifty-five percent of the surveyed households have a member who permanently or temporarily migrated.

Credit constraints and supply of land are important in the rental market: 74 percent of surveyed households would like to rent in more land, but do not have financial means to do so (45 percent) or find that there is no land available (21 percent).

Migration plays an important role in alleviating these constraints. Households that receive remittances are less financially constrained (Germenji and Swinnen, 2004). Per capita expenditures of households receiving remittances are considerably larger than for those not receiving remittances (table B8).

Households with members abroad or households that are receiving remittances are both cultivating and owning significantly more land (table B9). The latter is not surprising given the nature of land reform in Albania, where land was distributed on a per capita basis. Larger households got more land and migration is positively correlated with household size. However, this does not seem to lead to a larger supply on the rental markets. In fact, we find no significant effect on the likelihood to rent in or out. The main reason seems to be the specific endowment situation in Albania. Households continue to use the land they own. This seems to be because in Albania the land/labor ratio is very low and emigration allows a more optimal (large) land use within the household. The fact that the amount of land per household member increases when one member emigrates does not increase the probability of renting out land, but induces the household to increase its land labor ratio.

This seems to be different in the case of whole households that emigrated out of the rural villages since the start of the transition. More than 50 percent rent out their land and 38 percent leave part of their land abandoned. Another 27 percent still cultivate part of the land they own. This is probably related to the fact that the surveyed communities were located in south and central Albania. Households that have emigrated to Greece often return to Albania around the harvest period to collect the fruit from the vineyards and orchards they own.

Table B7: Land use and ownership of rural households in Albania, 2003

	% of households	Area owner-cult dynym	Area rent out dynym	Area rent in dynym	Area fallow Dynym	Total owned area dynym	Total cultivated area dynym
All rural households	100	12.6	0.1	1.1	0.0	12.7	13.6
Land-owning households	90.5	13.9	0.1	1.2	0.0	14.0	15.0
Land-cultivating households	90.3	13.9	0.1	1.2	0.0	14.0	15.1
Households renting in	9.5	11.8	0.5	11.3	0.0	12.4	23.2
Households renting out	1.4	2.0	6.9	3.8	0.1	9.0	5.8
Owner cultivation	89.6	14.0	0.1	1.1	0.0	14.1	15.2
Fallow	0.5	6.0	1.0	0.0	5.2	12.2	6.0

1 dynym=0.1 hectare

Source: Own calculations based on survey data.

Table B8: Consumption expenditures by remittances status, 1999

		All households	Households with remittances	Households without remittances
Total amount spent in household	Lek	180,200	240,905	159,690
Amount spent per capita	Lek	39,531	45,439	37,535

Source: Germenji and Swinnen, 2004.

Table B9: Land use and ownership of land cultivating households, by remittances and emigration status

		Remittances	No remittances	Members abroad	No members abroad
Share		55	45	56	44
<i>Area</i>					
Owner cultivation	dca	19.3	16.4***	19.1	16.5**
Rented out	dca	0.2	0.1	0.2	0.1
Rented in	dca	1.0	1.4	1.1	1.4
Abandoned	dca	0.0	0.0	0.0	0.0
Cultivated	dca	20.3	17.8**	20.2	17.9**
Owned	dca	19.5	16.5***	19.3	16.6**
<i>Parcels</i>					
Owner cultivation	nr	4.6	4.3	4.4	4.6
Rented out	nr	0.0	0.1	0.0	0.1
Rented in	nr	0.4	0.5	0.4	0.6
Abandoned	nr	0.0	0.0	0.0	0.0
Owned	nr	4.7	4.4	4.4	4.7
Cultivated	nr	5.1	4.9	4.8	5.2
<i>Share households with land</i>					
Under owner cultivation	%	96.1	97.6	95.2	98.8*
Rented out	%	1.6	1.1	1.5	1.3
Rented in	%	7.9	11.2	8.4	11.1
Abandoned	%	1.2	0.1	0.1	1.5

***, **, * Test for equal means between households with and without remittances, and households with and without a member living abroad is rejected at a 0.01, 0.05, 0.1 significance level.

6. Results from Expert Survey and Interviews

The nature of the rental relationship between (small) landowning households and corporate farms is a key characteristic of land rental markets in ECA and deserves further attention. Qualitative interviews and surveys with country experts were conducted during the analysis phase to attempt to understand better the nature of this relationship.

While corporate farms may be efficient farming organizations in some ECA regions and for some farming activities, we find evidence that (a) transaction costs, (b) regional monopoly power of corporate farms in the land market, and (c) government policies are causing negative equity and efficiency effects. Specifically, compared with a situation with lower (or no) transaction costs and more (or perfect) competition in the land market, corporate farms

- are using more land (than efficient);
- pay lower rental prices than family farms;
- are more likely to pay rents in kind than family farms (that pay cash);
- have rental contracts of longer duration; and
- often use their political powers/relationships to influence policies that shift effective land property rights in their favor.

These are very serious concerns in ECA, since the vast share of the land used by corporate farms is rented; and since, across countries, the importance of land renting is strongly correlated with land use by corporate farms.

Key questions relate to the following:

- 1) The problems of withdrawing the land from the corporate farms if the owners want to use it themselves or if they want to rent it to other farms.

Qualitative interviews and surveys with country experts indicate that the difficulty of withdrawing land is highly dependent on the location of the plot. Withdrawal of a plot that is located in a consolidated field makes the process more difficult. The corporate farm and the landowners have to agree on the physical demarcation of the plot. If the plot is located in the middle of a consolidated field, the owner is supposed to get a parcel at the border of the field. In that sense, it is important that farm management cooperates with the withdrawal procedure. According to the legislation in practically all countries, corporate farm management has no right to block withdrawal. However, in practice, management is not always that supportive. While difficulties between withdrawal of physical land plots and land shares are not that dissimilar, there are indications that the withdrawal of land shares is a bit more difficult, especially for land owned by individuals not related to the corporate farms (nonmembers/nonpartners).

In some countries (Hungary), there are cases where the corporate farms have signed contracts with the owners at the start of the reforms that limit their rights to withdraw land.

In the countries of the FSU, an important burden for landowners who want to withdraw land relates to the complex and expensive registration procedures for their land titles, resulting in high transaction costs.

2) The lack of transparency of rental contracts.

In principle, formal agreements are signed if the corporate farm uses land owned by individuals. However, this does not always hold for plots owned by absentee landowners in, for example, Bulgaria. They regularly give their land to co-owners living in the village or their land is used by corporate farms or individuals without permission (and hence without formal agreement).

Normally, corporate farms pay rent for the land that is owned by individuals and which they use. In-kind payments are widespread and often depend on the yields. Because these are difficult to control by the landowners, there is a possibility for the corporate farms to lower the effective rental payment. In several countries, indications are that some corporate farms do not pay rents as contractually agreed upon. For land shares, the probability of not paying rent is higher than for physical land plots. In Ukraine, for example, experts estimate that when corporate farms are using land shares owned by individuals, only in 70 percent of the cases are rental payments made.

It is quite striking that in the countries of the FSU, most corporate farms consider the land they use, and which is actually owned by individuals, as their own land, even though they pay rent. In the CEE countries, corporate farms never consider the land they use, and which is owned by individuals, as quasi-owned.

3) Differences in renting from members/partners or employees versus households that are not related to the corporate farm (as member or worker).

In terms of rental payment or formality of land transfers, members/partners, employees, and households who are not related to the corporate farm are generally treated in a similar way. However, there are some indications that, if corporate farms do not pay rent or pay less rent than agreed on in the contract terms, this is mainly at the expense of their members/partners.

4) Government policies favoring corporate farms over other farms in renting land from households.

There is little indication that the government is favoring corporate farms in the rental market, at least not through legislation. However, the realization or execution of the regulations is often to the advantage of the corporate farms. In the Czech Republic, for example, land offices have the task of realizing land consolidation through changing borders and the function of the plots, through unifying and dividing plots and through improving their accessibility. This requires change to the cadastres. Unfortunately, they are progressing slowly, which is to the advantage of the corporate farms. In Russia and Ukraine, corporate farms might be favored in practice because

they are, for example, more familiar with the very technical requirements and because of established trust between parties.

7. Problems in the Rental Market and Policy Recommendations

Land registers and databases are inaccurate and should be updated. In the Slovak Republic, it is impossible to identify the landowners of more than one-fifth of the agricultural area, and the restitution process is not fully completed. As a result, a large part of the land is excluded from the sales market, and tenure insecurity is high for these parcels.

In Ukraine, little progress has been made in titling shares to their owners while separating from a bigger land share. Furthermore, as in Russia, the procedures for registering land titles are very complex and costly. Moreover, in case of disputes, the court system is working slowly and is overburdened and unable to enforce contracts.

In Bulgaria, current owners cannot be found in the land database, while the names of their predecessors are found. Inclusion of the current owners would reduce transaction costs to rent in land (to find the landowners, negotiate contracts, and validate the rental contracts) and would reduce entry costs for individuals willing to start farming. Furthermore, 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 landownership documents, which would improve property rights security. It is important to apply a systematic approach to unify ownership documents so that all landowners can benefit.

Procedures to divide land among heirs should be simplified and facilitated. In Bulgaria and the Slovak Republic, numerous plots of land are owned by more than one person or household, and that leads to problems in governing the land. That forms a serious obstacle in exchanging (and in particular, selling) agricultural land, because co-ownership makes it necessary to agree with several owners on the allocation of the land.

Land consolidation is desirable, and this can be realized both through government-induced consolidation programs as well as through stimulation of spontaneous land use consolidation processes. Fragmentation of landownership is widespread in the Slovak Republic and Bulgaria. Land rental can be a very useful tool to reduce land fragmentation problems. Currently, many Bulgarian cooperatives experience financial constraints and sub rent their land because they have difficulties continuing their operations. This process of land sub renting is a way of solving the problems related to the highly fragmented landownership structures. The cooperative structure acts as an intermediary: it rents in small parcels of land from the landowners who are often cooperative members and merges the small parcels into 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 and need for consolidated land. This clearly indicates that programs other than land consolidation can reduce land fragmentation problems.

In Hungary, many very small farmers are active in the agricultural sector who, in the current EU environment, might have difficulty surviving. Not only consolidation of landownership but also of land use is necessary.

Land sales markets are not very active since foreigners and, in some countries also legal entities, are not allowed to buy land. Consequently, land sales prices are low, which limits the possibility of using land as collateral for credit. This in turn lowers investments in improving and buying land and agricultural production in general. In most countries in Central and Eastern Europe, the nature of the land reform (land was restored to former owners, many of whom were not interested in farming) and the restriction on purchasing of agricultural land by foreigners (and in some countries by legal entities) contribute to the majority of agricultural land being rented. Furthermore, the preemptive rights of corporate farms as land lessors blocks the rental market and the high volume of rented land, since rental limits the accessibility of mortgage-secured credit and further lowers investments in land improvements, land buying, and agricultural production.

The rental market would benefit from the establishment of a system to collect and distribute information about prevailing market prices, taking land quality into account. The provision of indicative upper and lower thresholds for rental and sales prices would make owners and users more aware of the production value of land. This is especially important given the immovable character of land and the dominance of large-scale farming cooperatives and companies in the land rental market.

Demand for land is low. Owners are not interested in farming because they lack expertise and capital, because they face problems in marketing farm products, and because of the strong competition from imported products. Due to the nature of the land reforms, both in CEE countries and the FSU, land is often owned by elderly people or people without the financial means or capabilities to start up farming. Hence, improved access to capital and machinery, availability of nonfarm opportunities, and sound social security systems would affect the functioning of the land 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 sufficiently high pensions for the elderly will make land transfers to more productive users more likely.

Interventions in the land rental markets that give preemptive rights to land lessors (i.e., to conserve land contracts) should be avoided in countries where the majority of land is rented in by corporate farms. In such circumstances, such intervention would be especially disadvantageous to small owners and farmers.

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