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Structural Change in the Farming Sectors in Central and Eastern Europe

Lessons for EU Accession—Second World Bank/FAO Workshop, June 27–29, 1999

Edited by
Csaba Csaki
Zvi Lerman

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List of Country Studies

The following country studies presented at the Workshop are being published separately in the World Bank's *Environmentally and Socially Sustainable Development Working Paper Series.* Copies of the country studies volume can be obtained by e-mailing Ms. Christin Cogley (ccogley@worldbank.org) or Mr. David Bontempo (dbontempo@worldbank.org). The country studies (except East Germany) were commissioned and sponsored by FAO.

Part One: Country Experiences in Adjustment of Farm Structures

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Foreword

The World Bank's Strategic Compact Initiative includes a set of coordinated activities that leverage the World Bank's comparative advantage in economic analysis and world-wide development experience to help the ten EU accession countries achieve EU membership. Activities include studies designed to facilitate the implementation of policy and institutional reform in preparation for accession. The studies are followed by workshops and seminars to disseminate the results and improve the analytical skills and policy analysis capabilities in the respective countries.

The First EU Accession Workshop, held in Budapest in June 1998, related regional and international trade policy issues to experiences with regional trading agreements. The workshop discussed the implications of Central and Eastern European Free Trade Agreement (CEFTA) and World Trade Organization (WTO) membership for EU accession countries. The Second EU Workshop, held in Warsaw in June 1999, focused on how farm structures and supporting institutions will need to evolve in order to enable the transition countries to withstand the competitive pressures of accession. The sessions at the Workshop dealt with an assessment of the current farming structure in the EU accession countries and explored the changes in land laws, land market institutions, and provision of farm services that are necessary for market-led restructuring and improvement of agriculture's productive efficiency. The discussion of these issues was facilitated by the presentation of studies that had been especially prepared for the Workshop as part of the work program of the World Bank and the FAO Subregional Office in Budapest.

We hope that the publication of the major findings of this Workshop in the present volume will assist the countries in the process of preparing for EU accession. The volume will also serve as a useful information resource for organizations and individuals interested in issues of EU accession in the rural sector.

Kevin Cleaver
Director
Environmentally and Socially Sustainable
Development, Europe and Central Asia
The World Bank

Jaroslav Suchman
FAO Subregional Representative
for Central and Eastern Europe
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Abstract

This volume examines the reforms and policy changes necessary in the food and agriculture sectors of the ten countries that have started the accession process for eventual membership in the European Union (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia). The papers in this volume are selected from the presentations at the Second World Bank/FAO EU Accession Workshop held in Warsaw, Poland, on June 27-29, 1999, and are organized around three topics: (I) Evolving Farm Structures and Competitiveness in Agriculture; (II) Land Laws and Legal Institutions for Development of Land Markets and Farm Restructuring; and (III) Development of Farm Services for Improved Competitiveness. This volume is intended for agricultural policy makers and government officials in the candidate countries, EU officials, World Bank and FAO staff, development scholars, and all others interested in the process of agricultural reform in Central Eastern Europe.

Preface

The World Bank, under its Rural Sector EU Accession Initiative, sponsored the Second EU Accession Workshop in Warsaw, Poland, between June 27-29, 1999. The Workshop was organized in cooperation with FAO and in close coordination with the European Commission and the Polish Ministry of Agriculture.

The Workshop participants included over 70 key government officials (among them three former ministers), all deeply involved in their countries' preparation for EU accession negotiations in the rural sector. In addition, fifteen experts and academics from both EU member countries and EU accession candidates participated in the Workshop. The participants came from all ten accession countries: Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia.

Angel Carro-Castrillo represented the Directorate-General for Agriculture (DG-VI) of the European Commission in Brussels. Kevin Cleaver, Director of World Bank's Europe and Central Asia Environmentally and Socially Sustainable Development Unit, and Gershon Feder, Manager in the World Bank's Development Economics Research Group, actively participated in the seminar, together with seven additional World Bank staff members. The FAO delegation included Jim Riddell, Chief of FAO Land Tenure Service in Rome, Jaroslav Suchmann, the FAO Subregional Representative for Central and Eastern Europe in Budapest, and five additional FAO headquarters and subregional office staff.

The organization of the Workshop was coordinated by Csaba Csaki from the World Bank and Zbigniew Karnicki, former FAO Subregional Representative in Budapest. Administrative support was provided by Courtney Smothers and David Bontempo from the World Bank headquarters in Washington, and by Stjepan Tanic from the FAO Subregional Office in Budapest.

This proceedings volume presents a selection of papers from the Workshop and a summary of the deliberations. In addition to the papers published in this volume, a rich variety of country case studies were also presented and discussed at the Workshop. These case studies are published in a separate volume in the World Bank's Environmentally and Socially Sustainable Development Working Paper Series.

This Workshop proceedings volume was compiled by Csaba Csaki and Zvi Lerman and processed for publication by Christin Cogley and Alan Zuschlag under the guidance of the editors. The assistance and support provided by the Polish Ministry of Agriculture for this Workshop is greatly appreciated.

Country Abbreviations and Symbols in Tables and Figures

Bu	Bulgaria	Pl	Poland
Bul	Bulgaria	Pol	Poland
Cz	Czech Republic	Ro	Romania
Est	Estonia	Rom	Romania
Hu	Hungary	Sk	Slovakia
Hun	Hungary	Svk	Slovakia
Lat	Latvia	Si	Slovenia
Lit	Lithuania	Sn	Slovenia
Lv	Latvia	Svn	Slovenia

Dashes in tables (–, -, --, ---) denote zero or negligibly small value

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Summary of Workshop Deliberations

Csaba Csaki
Zvi Lerman
David Bontempo

The 1999 Warsaw workshop, building on the success of the first workshop in Budapest in 1998, continued the World Bank's efforts to prepare accession candidates for full membership in the European Union. This second workshop focused on the structural changes in the farming sector in Central and Eastern Europe (CEE) associated with the transition to a market economy, and the lessons and implications of these changes for the accession countries.

The workshop deliberations clearly show that farm structures in CEE today cover a whole spectrum of forms, which include small subsistence-oriented household plots, medium-sized commercial family farms, and large corporations. The agricultural sector in CEE definitely has not embraced the family farm as the dominant farming structure, thus confounding the original expectations of Western experts. On the other hand, agriculture did not collapse because of fragmentation and privatization, as predicted by conservative doomsayers. The amount of land controlled by the individual sector is unlikely to shrink in the future. Yet market forces will probably continue to produce significant internal restructuring in the individual sector, encouraging consolidation through transfer of land resources from very small units to more efficient mid-sized farms with commercial orientation and greater earning potential. The large corporate farms are also there to stay, yet market forces and efficiency considerations will probably sustain the downsizing trend that has been generally observed so far. Consolidation of mid-sized family farms and downsizing of very large corporations will ensure that the CEE farm structure continues to move toward the market distribution pattern.

The workshop concluded that there has been significant progress toward the goals of market-oriented agriculture, but the structural change in the farming sector in CEE has not been completed. Several of the initial tasks of transforming the inherited structure into a system based on market principles and private ownership have not been fully accomplished in some countries. These uncompleted tasks include land privatization, land titling and registration, restructuring and consolidation of the new farming units, and more. Significant further changes can be expected in the pre-accession period, and although the main directions of change are foreseeable, the specific outcome of the changes in the farming structure is uncertain in detail.

It was apparent from the workshop that government policies in this period should be aimed at facilitating further smooth evolution of farm structure led by market forces. The workshop specifically discussed issues related to land markets and concluded that it will be important to eliminate restrictions on leasing, which is expected to play an especially important role during the period of underdevelopment of land sales markets, as well as land ownership. Enhancement of competitiveness and efficiency were identified as the most important tasks for government policies in the farming sector during the pre-accession period. Efforts to respond to current social problems, or avoid future problems, have recently led in several countries to government actions which undermine this objective. The political importance of these social issues was recognized by all workshop participants. However, it was agreed that the response to the social problems should also be based on a clear understanding of the economic costs and benefits of these alternative policy options.

The workshop recognized several other issues of critical importance to agriculture and agro-industry that are of more general relevance to the economy. These include especially the institutional framework, such as titling, property registration, contract enforcement, provision of public goods, taxation policy, etc. The countries need to make more efforts to understand the new tendencies and developments in the EU and in the global economy, and to develop their own strategies and farm policies in that context.

Agriculture remains important for the rural population in CEE, as the welfare of rural families increases with the increase in their land endowment. However, the future of the rural population must be considered in a broader context of rural development, including creation of alternative jobs in rural areas that will facilitate the exit of surplus agricultural labor without involving the undesirable option of rural-to-urban migration. The countries should take advantage of the adjustments required for EU accession to broaden the scope of reform and to include rural development issues in their agenda in addition to the traditional agricultural topics of land privatization and farm restructuring.

OVERVIEW OF WORKSHOP PRESENTATIONS

The Warsaw workshop was organized around three main sessions: i) evolving farm structures in Central and Eastern Europe (CEE) in light of potential EU accession and farm competitiveness; ii) land laws and related legal institutions to support development of land markets and farm restructuring; and iii) farm services to support improved competitiveness of new farming structures. Each session combined regional analyses with individual country case studies. The workshop concluded with presentations by individual country participants on where they stand in the accession process. The World Bank discussed its role in assisting the countries achieve their accession goals, and the EU provided further details on timelines for each country's accession negotiations. The main issues addressed in these sessions are summarized below. The rest of the volume provides a selection of presentations delivered at the workshop.

Session 1: Evolving Farm Structures in CEE in Light of Potential EU Accession and Farm Competitiveness

What do the new CEE farms look like? How many people are employed by them? What size are they now, and what size should they be in order to compete with western Europe? The first session was opened by **Zvi Lerman** with a description of the current status of land reform and farm restructuring in CEE. Breakup of the socialist-era collective and state farms, with consequent expansion of individual cultivation, is one of the most significant factors affecting agriculture in CEE. The emergent farm structure is characterized by a large number of relatively small farms, while at the other extreme very large farms persist, controlling a disproportionate amount of land. As a result, the distribution of farm sizes in some CEE countries retains the highly dual pattern reminiscent of socialist agriculture, which is strikingly different from the farm size distributions observed in market economies. Neither the excessive fragmentation nor the extreme concentration of land is probably sustainable, and future processes will include strengthening of mid-sized farms at the expense of very small and very large units.

Continuing from this general overview, **Johan Swinnen** presented results of recent survey work in CEE that sought to analyze the major features of the new farm structures. Evidence suggests that family farms are more efficient than cooperatives, and the least efficient structures are most likely to go out of business in the future. Breakup of the cooperatives has created a large pool of surplus labor, and the three countries with the most success in restructuring (Czech Republic, Hungary, and Slovakia) are those in which rural labor has found alternative employment outside agriculture. Liberalization policies that support labor mobility are required to achieve outflow of redundant labor from agriculture.

Klaus Frohberg examined the expected competitiveness of CEE farms under EU conditions. The CEE countries have some of the resources required for competitiveness. These include abundant land and high-quality, well-trained labor. Capital, on the other hand, may be a problem due to outdated machinery, and general lack of access to credit. Accession cannot be expected to give a big boost to CEE agriculture in general, particularly since prices for many goods (except milk, beef, and sugar) are either ahead or very near EU prices.

Hamish Gow discussed the impact of Foreign Direct Investment (FDI) on the development of a properly functioning system of contracts. Because of lax contract enforcement, payment delays to producers are very common in transition countries, particularly among downstream processors. FDI, in addition to providing an important source of financial and human capital, can help establish private contract enforcement mechanisms. Following takeover by a foreign firm, a sugar processor in Slovakia with a notoriously bad payment record to producers undertook a range of activities stimulating sugar-beet farmers to increase their production and resume deliveries to the company. By creating a transparent contract, the foreign-controlled processor has forced all other sugar processors to do the same while competing for inputs, and the entire system has been improved.

Country Case Studies on Farm Restructuring: East Germany, Bulgaria, Czech Republic, Slovenia

Following the more general discussions above, four country case studies were presented (East Germany, Bulgaria, Czech Republic, and Slovenia). **Ulrich Koester** provided an overview of the experience with farm policy in East Germany following unification. The most striking feature of agricultural adjustment in East Germany is the huge out-migration of labor from agriculture. Generally, single-owner farms have fared best, whereas cooperatives have fared least well. Many East German are not sustainable, and a similar situation would prevail for the CEE cooperatives under EU conditions. Agriculture should strive to be successful not through government policies, but rather through technology, open markets, better management, and flexible land markets.

Tom Morrison discussed the experience of Bulgaria. The government policy on machinery provides grants and credits to the large, inefficient farms, while offering no options to make machinery available to small farmers. The assets of government-owned machinery services should be quickly auctioned, and the market should be allowed to determine the right size for hire companies. In addition, a new advisory service is needed to provide farmers with technical advice and farm management skills, and to assist in organization of water user associations and marketing cooperatives.

The experience in the Czech Republic was described by **Tomas Ratinger**. There has been a certain contraction of farm size, although very large farms continue to exist. Labor productivity has improved, particularly on family farms of less than 100 hectare. Farms larger than this, especially cooperatives, show lower labor productivity, but this is partly due to the social consideration of not laying off more workers. However, for most commodities, no overall efficiency differences have been observed among the different farm types. Thus, settlement of property rights has been more important to structural change in farms than efficiency considerations. In 2005 under the EU, competitiveness of some traditional commodities, such as cereals, rapeseed, sugar, and livestock could be maintained but only if costs were reduced substantially.

The farm restructuring experience of Slovenia was presented by **Stjepan Tanic**. Early on, farm structure was recognized as the most important factor in determining efficiency. The structural changes have been geared toward the enlargement of the very small family farms, as opposed to other CEE countries, where the policies aimed to decrease the average farm size. The main constraint to further farm adjustment is the incomplete land market. However, agricultural activity is not a very important source of household income in rural areas, and an overall shift toward part-time farming is observed.

Session 2: Land Laws and Related Legal Institutions to Support Development of Land Markets and Farm Restructuring

The importance of well-functioning land markets was clearly identified by the presenters in Session 1, and Session 2 explored this issue in more detail. Land transactions are much easier to conduct in the EU than in transition economies, and consequently there is much greater turnover of land in the EU. Yet the transition countries have a great need for land transaction in order to move toward optimal farm sizes ensuring improved productivity, efficiency, and profitability. As the CEE countries approach EU accession, governments must have clear policies to accelerate the development of active land markets in which market forces will determine the best farm structures.

The session was opened by **Leonard Rolfes**, who reviewed the legal basis for agricultural land markets with special emphasis on Lithuania, Poland, and Romania. The legal framework for land markets encompasses several dimensions, which include private ownership of agricultural land, full owner control over use and disposition of land, land use regulations, the transaction regime, land mortgage, land registration, and taxation of land and land transactions. The country case studies for Lithuania, Poland, and Romania show that the three countries are reasonably advanced in all relevant dimensions, although some delays are observed in the areas of transition to private land ownership (privatization and restitution of land) and land mortgage legislation.

Richard Baldwin and **Peter Dale** presented a paper on emerging land markets in CEE, providing a set of indicators for comparative cross-country assessments. Their study, supported by the EU's ACE program, involved detailed investigations of rural land markets in the Czech Republic, Hungary, Latvia, Poland, Slovakia, and Slovenia. Land market development involves three main components: 1) land registration and cadastre (ensuring secure title and rights); 2) land valuation (by market forces); and 3) financial services (providing capital and credit). Each pillar consists of a number of elements that get a higher score as they advance toward an efficiently functioning land market. Taking the status of these components in the EU as 100, the case countries scored between 20 and 45, indicating that substantial progress still must be made prior to harmonization to EU standards. Specific action recommendations were made to achieve further progress.

Jim Riddell elaborated on the option of leasing land as a method for increasing farm sizes. The creation of formal land tenure institutions, such as modern cadastres and land registries, is just as relevant for the lease market as for the market in land sales. The basic characteristics of good land leases worldwide are i) simplicity; ii) minimum cost (if it is too expensive, the informal market prevails); iii) certainty and security; iv) sustainability; v) equity and fairness; vi) transparency (critical requirement to attract outside capital); vii) preservation of legal interest in property; viii) flexibility in markets, especially in view of unknown future; and ix) a minimum of government regulation and intervention. In general, leases should be short-term, to allow both parties some flexibility as market or other conditions change.

Country Case Studies on Land Markets: Hungary, Lithuania, Poland, Romania

Session 2 concluded with four country case studies describing the development status of legal institutions and land laws in Hungary, Lithuania, Poland, and Romania. The four countries have followed different land privatization strategies, which have produced different farm structures during transition. Yet the case studies show that all these countries, through their laws and related legal institutions, have a solid base for the development of an active land market. The lease market is already fairly developed in all countries, and although land sale markets are not yet very active, this is changing and the frequency of buy-and-sell transactions will increase as the countries move closer to EU accession. The development of land markets is highly important for adjustment of farm sizes to more efficient operation, because small farms are usually regarded in these countries as an inadequate source of household income, and farmers must have ways and means to increase the size of their holdings.

Session 3: Farm Services to Support Improved Competitiveness of CEECs' New Farming Structures

Market-oriented farm services from outside providers are no less important for agricultural competitiveness than farm structure and farm management. The third session of the workshop accordingly focused on the need for improving agricultural support services. In addition to more general discussions on this topic, two examples were presented of integrated food processing chains.

David Gisselquist reviewed the changes in agribusiness and processing during transition, based on a survey of chambers of commerce and other business organizations in the pre-accession countries. The surveys found a working business community everywhere, even at the village level, where many "chambers of commerce" are active and a strong private sector of small agricultural entrepreneurs is emerging. The surveys did not find corruption or law enforcement to be much of a problem. An unfair tax system penalizes smaller processors or farmers and thus puts them at a significant competitive disadvantage compared to larger firms. This clearly is a deterrent to the establishment of a fair formal market for agricultural goods.

Jean Cordier discussed the changing nature of European agribusiness, with an emphasis on the increasing need for fully integrated food chains. Because of the new emphasis on quality, consumers no longer trust an individual food firm, and instead look for quality from the entire chain that delivers the final food product. The best way for farmers and processors to compete in this new environment is by assuring quality at each level of the food production system through extensive coordination among the various agents in the system. An example of a dairy processing chain in France showed that a strong competitive position could be developed by creating a system for product tracking and monitoring from the dairy farmer to the final processor.

Simon Barry discussed the possibilities of integrated production chains in the presentation on Farmer Controlled Businesses (FCBs) in Scotland. Similar to farmers' service cooperatives but with a strong profit orientation, FCBs achieve economies of scale not available to

individuals. They constitute an effective organizational form for meeting the challenges of a competitive market, while maintaining farmers' control of production and supporting a vibrant rural economy. Highland Grain Limited, the FCB given as an example, processes, quality-tests, and markets malting barley on behalf of 75 member-farmers, while also maintaining a large machinery ring, a rural training agency, and an input supply service. This integrated chain helps member-farmer control their costs for better competitiveness. The FCB also acts to find new market niches and develop new value-added products, a task that is essential for improving profitability and is yet beyond the means of individual farmers.

Anna Georgieva presented the results of a survey of farm services conducted among farmers, agribusinesses, and farm machinery owners in Bulgaria. While farm services are generally available in rural areas, lack of demand due to declining purchasing power and unavailability of credit is identified as a major problem. The tax system and the registration requirements are judged cumbersome and not entirely fair. Excessive fragmentation of land holdings is identified as one of the factors responsible for limited use of farm machinery and high cost of machinery services.

Kalim Qamar presented a paper by **Geoffrey Adams** and **Keith Brent** on the role of research and extension in farm competitiveness. Technology transfer needs to change from the centralized, government-run methodology of the past to a methodology that emphasizes private sector involvement, and appropriate policies must be in place to allow this to happen. A large share of financing the research and extension system must continue to come from the government budget, but private sector providers of these services should also have an opportunity to emerge. The research and extension system needs to play a strong role to ensure that farmers hear about the most appropriate technologies and market opportunities and learn to judge for themselves what activities best suit their interests. After a few years of adjusting to the open market, CEE farmers will be quite competitive with western Europe, because they will have learned the harder lessons of farming without the EU's high levels of protection.

Olav Kreen reviewed the experience with the restructuring of the extension and advisory service in Estonia. The "bottom-up" Soviet system with extension experts in each farm enterprise served the needs of the large collective and state farms. Since independence, it has become clear that the needs of small farmers are not being met, and Estonia has been working to transform the extension system in three main ways: i) by creating new institutions for provision of extension and advisory services; ii) by focusing on creation of a client-oriented system; and iii) by initiating a "free market" for advisory services. The new extension service is still not oriented enough to the needs of the rural society, or to finding innovative solutions to problems. These deficiencies should be corrected in the nearest future. The government has to be more proactive in disseminating information that affects the lower levels in the system, particularly with reference to decisions related to EU accession.

SUMMARY SESSION AND CONCLUSIONS

In the summary session, the country teams were given an opportunity to make an assessment of the proceedings and to speak on any topic important to them which may not have been covered by previous speakers. One of the more contentious issues in all countries is that of allowing foreign ownership of agricultural land, and many representatives emphasized that this option was not acceptable to their governments. There is a concern that the low prices for agricultural land associated with generally low farm profitability will allow foreign buyers to "grab" the most fertile land for speculative purposes. This land would then not be available to local farmers when their profitability and earnings recover in the future. This issue has implications for EU accession due to the EU requirements that prohibit discrimination among citizens of member nations. Responding to the concerns of the country representatives, **John Nash** from the World Bank pointed out that as productivity and profits increase in the future, land prices will also rise, and countries should not worry so much about ownership changing into foreign hands for speculative reasons.

Another issue of concern to many representatives involved compensation payments to farmers under an EU accession scenario. Representatives stressed the need for subsidies to ensure that farms in CEE countries earn higher returns to land. **Angel Carro-Castrillo**, speaking for the European Commission, responded that the countries should focus on competing for market share, and not for subsidy shares. The subsidies will be gone, or certainly diminished over time, and maintaining competitiveness to protect market share is vitally important. Subsidies from the EU should only be used to eliminate bottlenecks to better market function, and to strengthen market systems. Unfortunately, most of the subsidies requested are not of this type.

Representatives from **Bulgaria** noted that government policy should not be designed to support any particular farm structure, but rather allow easy access to factor markets. Competitiveness can be achieved only if farmers get the best advice from the research and extension system, and the government has a very important role in ensuring that high-quality advice reaches every farmer. Another important aspect of competitiveness is creation of formal associations by farmers to increase their bargaining and political power.

Representatives from the **Czech Republic** discussed the importance of farm size to success, noting that in their country larger farms had performed best. However, the large joint stock companies and cooperatives employ an excess of labor and capital, and must release some of these resources to become truly competitive. Government policy should focus on removing the barriers in factor markets to allow these adjustments to occur.

Representatives from **Estonia** noted that they had had a free market for quite a long time, and to some extent competition had been bad for farmers. A new focus needs to placed on orienting agriculture to consumers, and finding off-farm opportunities for people displaced from their farms. The country needs more knowledge sharing, possibly through twinning arrangements with the EU.

Representatives from **Lithuania** voiced some concern about whether their country's agriculture could be competitive in world markets without further privatization of land and restructuring of industry. There is also a need for further change in the production structure and techniques to modernize the sector. Agriculture still suffers from redundant labor, and government policies must assist with the development of off-farm employment.

Representatives from **Poland** indicated that farmers must realize that in the new environment they are not simply agriculturists, but also managers, marketers, and salesmen. While government appears to be shifting its priorities away from agriculture, this sector has shown about the same rate of growth as the economy overall. Polish agriculture is fairly efficient relative to other sectors, and incentives to agriculture will not have any negative effect on the rest of the economy.

In **Romania**, land regulations are still a problem, and some of the solutions proposed in the workshop could assist in refining them. The farm size appears to depend on the manager's ability to attract capital, and the most appropriate farm sizes will be sorted out naturally by the market. Romania lacks a strategy for restructuring the agricultural research system. There is a need for a more comprehensive public policy on rural development.

Slovakia's agriculture is characterized by a seemingly permanent liquidity crisis, adverse terms of trade, and outflow of capital from agriculture. However, agriculture is only a small part of the national economy, and its difficulties are reflections of the overall economic situation. Competitive private structures in agriculture cannot develop without access to land through functioning markets. While numerous private input suppliers exist in Slovakia, there is no transparency in the system, and farmers cannot get price lists to compare different suppliers. Slovakia has inherited a good research and extension system, but it is seriously underfunded. The challenge is to re-orient the system so that it serves farmers, and not the extension agents.

Slovenia is different from the other CEE countries in that 90% of the farms are part-time, and overall rural development policies are therefore more important than strictly agricultural policies. There is an immediate need for better education and further restructuring of the sector, to create off-farm employment possibilities for the many rural residents who cannot rely on the farm for their livelihood.

The workshop concluded with remarks by **Kevin Cleaver** of the World Bank. With the inevitable further integration of CEE agriculture into the world market, it will be difficult, or impossible, to protect the agricultural sector from competitive pressures. Self-sufficiency is not realistic; instead, full integration into the world market should be the goal. Although the World Bank favors fully open markets for land, in most countries, other objectives, particularly regarding social protection, prevent this from being possible. Fully open land markets are also prevented due to distortions in other markets, most notably credit. With regard to the controversy over foreign ownership of agricultural land, we should note there is a continuing evolution in the world market for agricultural products. In order for countries to be competitive in this evolving market, much new entry into the system is needed, and public policy should facilitate this new entry, including foreign businesses. The workshop heard an argument against foreign ownership,

especially as it affects the non-economic objectives in country policies. However, a restrictive regulatory environment will diminish any country's ability to be competitive.

In keeping with the Budapest precedent, the participants discussed the topic and the venue for the third EU Accession Workshop to be held in June 2000. It was agreed that next workshop would deal with comprehensive rural development strategies for transition countries and would be held in Sofia, Bulgaria.

Part One

Evolving Farm Structures and Competitiveness of Agriculture

Status of Land Reform and Farm Restructuring in Central and Eastern Europe: A Regional Overview

Zvi Lerman

Agriculture has been at the center of attention of politicians and policy makers in Central Eastern Europe (CEE) since the beginning of transition. This is attributable, at least in part, to the relatively high importance of the agricultural sector in this region as measured both by its share in GDP and, perhaps most significantly, by its share in total employment. Thus, during the 1980s, the last decade before transition, agriculture contributed nearly 20% of GDP and employed more than 20% of the labor force in most CEE countries. Czechoslovakia and Slovenia were the only exceptions, but even in these "non-agrarian" countries the agriculture's share was around 10% of GDP and total employment. To put these numbers in perspective, they should be compared with the 15 EU countries, where the share of agriculture during the same decade was around 4% of GDP and 8% of employment. And yet the lobbying power of EU farmers is such that agricultural policy is always in the limelight of EU politics. Because of the special role of agriculture in CEE and the political prominence of this sector in the EU, it is appropriate to carry out an assessment of the changes in the structure of the farm sector in transition countries.

Because of agriculture's large share in the economy and especially in rural employment, improvements in agricultural productivity through market-oriented reforms were originally expected to act as an engine of change and growth for all sectors in the CEE countries. The transition of agriculture from plan to market is a complex multidimensional process. Land reform and restructuring of large socialized farms – the topic of our paper – are perhaps the most visible and widely discussed components of this process. Yet agricultural transition includes other essential dimensions, such as development of functioning market services (both upstream for input supply and downstream for product marketing and processing), reduction of government intervention, emergence of rural credit institutions, technological improvement, new capital investment patterns, agricultural labor adjustment. These dimensions of change are both affected by, and impact on, the process of land reform and farm restructuring. They are moreover interrelated with political forces, democratization of society, and other profound adjustments that accompany the transition from the pre-1990 reality to the world of the 21st century. Many of these dimensions are discussed by other authors in this volume. The present paper provides a status report of land reform and farm restructuring in ten CEE countries that are candidates for accession to the EU in the near future and, at the end, briefly examines the intriguing interrelationships between land reform, growth, and political factors.

THE INHERITED SYSTEM

The CEE countries embarked in 1989 on a program of land reform and farm restructuring as a part of an overall strategy of transition to the market. **Table 1** lists the main features of the inherited socialist system in agriculture, which set it apart from market-oriented agriculture and were responsible for its chronic inefficiency. **Figure 1** illustrates the structure of land holdings in the socialist farm sector, clearly highlighting the dominance of collective and state farms and the low share of individual farming (except in Poland). The CEE farming structure on the eve of transition sharply deviated from that observed in market economies, where individual farms dominate and corporate farms are substantially smaller than the socialist collectives. Thus, in the USA, individual or family farms control 80% of agricultural land. Moreover, 90% of corporate farms are classified as family-held corporations, i.e., extensions of family farms incorporated mainly for tax reasons. The average farm size in the USA is less than 200 hectare, and the corporate farms (about 5% of all farming units) average about 600 hectare. The farm sizes in the EU are much smaller, with farms in the UK (the EU country with by far the largest farms) averaging 70 hectare.

Table 1. Inherited Features of Socialist Agriculture

Attribute	Shortcomings
Confused ownership of land	Private ownership without real property rights; dominant state and cooperative ownership
Collective organization of production	inefficient due to free riding, moral hazard, lack of individual incentives
Large farms (2,000 ha, 500 workers)	Inefficient due to high monitoring costs, anonymity, lack of transparency
Lifetime employment policy for farm members	Inefficient due to inability to control costs by adjusting labor
Centrally prescribed production targets	Inefficient due to lack of consumer orientation, insensitivity to market signals
Soft budget constraints	Inefficient due to lack of profit orientation, reliance on writeoffs and subsidies

The structure and organization of socialist agriculture were thus basically incompatible with a market-oriented economy. The main economic goal was to transform the agricultural sector from a centrally planned command system to a more efficient market-oriented system. This involved the need for macroeconomic and sectoral adjustments including elimination of central controls and introduction of hard budget constraints, as well as privatization of land ownership, a shift from collective to individual agriculture, and general downsizing of farms in line with the evidence of farm organization and farm sizes in market economies.

In fact, the reform program was driven by a mixture of economic and political objectives. The purely economic goal of efficiency improvement was augmented by a set of political objectives, which were motivated by the desire to break with the Soviet-dominated past and do justice to the former owners, who lost their property rights after World War II. Both sets of objectives predicated a transition from collective agriculture managed through central planning to agriculture based on private property, where producers control their farming decisions in response to market incentives. The economic objectives focused on restructuring of the

traditional large farms. The political objectives, in addition to justifying the elimination of collective and state farms, tilted the land privatization strategy toward restitution to former owners (rather than distribution to workers). The CEE land reform program thus involved two intertwined strands of privatization and farm restructuring, which were expected to improve the efficiency and productivity of agriculture and at the same time wipe out the main features of a politically undesirable heritage.

PRIVATIZATION OF LAND

Private land ownership did not cease in most CEE countries after World War II. The only exceptions were the three Baltic states, where land was fully nationalized when Estonia, Latvia, and Lithuania were absorbed in the Soviet Union. (Albania also nationalized the land by its 1952 constitution, but this country remains outside the scope of our discussion.) Yet even in countries outside the Baltic states, the land was predominantly cultivated by cooperatives and state farms all through the socialist era (see **Figure 1**). Despite collective cultivation, much of the land (outside the Baltics) remained nominally in private ownership, and the owners' property was actually registered in the old cadastre, which survived the war and the socialist takeover. Some of the land reverted to cooperative ownership as former owners or their heirs left the cooperative and moved to the city (this phenomenon was particularly common in Hungary). Some of the land – primarily the land controlled by state farms – was nationalized through expropriation from large estates, the Church, Nazi collaborators, or other politically suspect individuals.

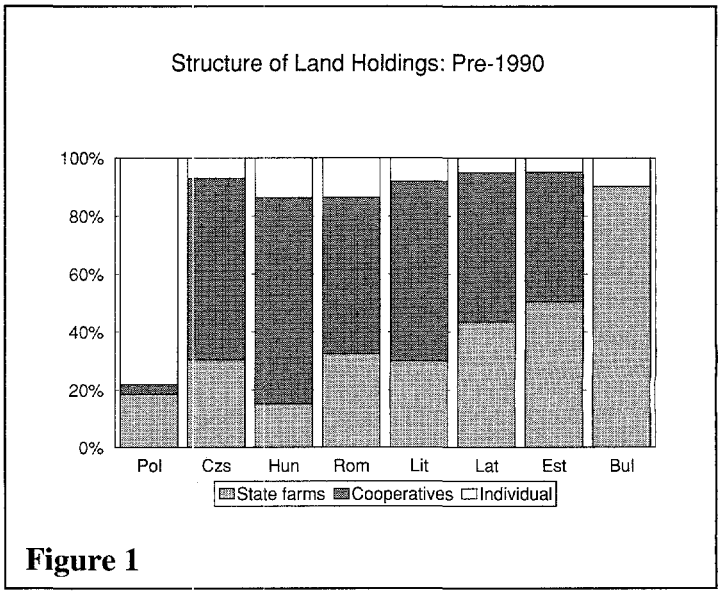


Figure 1

Privatization of land was one of the first items on the reform agenda of all CEE governments after 1989. Who may own agricultural land in CEE? All countries allow private ownership of land by individuals, i.e., physical persons who are nationals of the country in question. Some CEE countries (Estonia, Lithuania, Hungary) prohibit land ownership by legal entities. Cooperatives, corporations, and other private companies may own non-land assets, but must lease their land resources from individual land owners or the state. Finally, most countries prohibit ownership of agricultural land by foreign residents, or severely restrict the ownership rights of foreigners. This restriction of foreign ownership is a serious obstacle in the process of EU accession, as EU laws require that there can be no discrimination in land ownership rights for all nationals of member states.

The CEE countries chose to privatize land mainly by restitution to former owners. Poland is an exception to the restitution strategy, as the previous post-World War II land reform in this country distributed most of the estate lands to smallholders. Any demand for the Polish smallholders to give up their allotments in favor of former large estate owners would be politically and socially untenable, and the state accordingly focused on privatizing, through auctions and sale, the 20% of land that had been nationalized and transferred to state farms. For similar social reasons, the CEE countries did not extend their restitution programs to ownership rights before World War II and accepted the outcomes of the land reform that was implemented immediately following the liberation from Nazi occupation after World War II. Among the CEE countries with a restitution agenda, only Hungary and Romania recognized the rights of the current tiller who was not a former land owner and thus was not eligible to restitution: in the interest of social equity, land from cooperative and state reserves was also distributed without payment to agricultural workers in these two countries. In all other CEE countries, the current tillers had to pay for land, although they received "first-refusal" rights to the land that they were cultivating at the time.

Restitution affected land that had shifted after World War II to cooperative or state ownership. It did not affect land that had always remained in private ownership. The actual restitution strategies differed among countries, ranging from flexible restitution in the form of transferrable value-denominated certificates in Hungary to rigid restitution of the original physical plots in Estonia. Yet in all countries the restitution process ran into considerable delays due to technical difficulties of identifying the claims, registering the privatized plots, and issuing titles to beneficiaries. Political indecisiveness and frequent course changes in some of the countries were not conducive to smooth progress of restitution either. At the end of the decade, the restitution process has been largely completed in practice, although final ownership titles have been issued to a relatively small proportion of claimants. In some cases, much of the state-owned land have not been claimed by former owners, and governments have targets for further reduction of state land reserves through continuing privatization (**Table 2**). Even in Poland, where more than three-quarters of land remained privately owned after World War II and only about 20% in total had to be privatized, the progress with privatization has been less than satisfactory and the state still owns 15% of land.

Table 2. Privatization of Agricultural Land in Selected CEE Countries (1997-1998 status)

	Privatized (final title)	State-owned
Lithuania	37%	63%
Estonia	57%	43% (target 36%)
Romania	71%	29%
Czech Rep.	81%	19% (target 9%)
Poland	85%	15%

Despite the lack of formal titles and deficiencies in registration of ownership, all countries have procedures that allow users to lease plots from the large pool of state-owned land. Many corporations take advantage of this option by leasing land from the state. Many individuals use land that they have received through the restitution process although they still do not have a final title to this land and it is not counted as privatized in the official statistics. The available figures for privatization of agricultural land (**Table 2**) therefore understate the actual use of land

by private producers. It is quite clear that, at present, state-owned land is not cultivated by the state. Most of the land still registered as state-owned is in fact cultivated by private individuals and private corporate farms (companies), because the formerly powerful state farms have been dismantled or transformed into private organizations.

INDIVIDUALIZATION OF AGRICULTURE

There is a sharp distinction between ownership of land and tenure or use of land. This distinction applies everywhere in the world, but especially in the context of transition, where land privatization suffers from technical and political delays, while use of land continues. To differentiate between the processes associated with these two distinct concepts in transition economies we use two terms, "privatization of land" to describe transfer of land into private (as opposed to state or collective) ownership, regardless of its use, and "individualization of farming" to describe transition to individual (as opposed to collective) cultivation, regardless of the ownership of cultivated land. Farming companies and corporate farms, even if run as private businesses with private ownership of land and assets, are not regarded as individual farms, primarily because of their management and share-ownership structure.

Individual agriculture is possible without land privatization, and land privatization does not necessarily create individual farmers. Restitution usually involves allocation of physical land plots to beneficiaries (heirs of original owners), either through direct assignment or ultimately through auction mechanisms. Yet whether or not the physical allocation of plots leads to individualization of farming depends on what the owners decide to do with their newly recovered land. Some land owners – mainly rural residents – may take possession of their land and switch from collective to individual farming. Other individuals may lease their land to large corporate farms or enterprising farmers. Different motivations are possible for the mutually exclusive decisions to cultivate privately owned land individually or lease it out. Individual risk preferences provide one explanation: some land owners prefer the safety of the collective or corporate umbrella, with its professional management, to the unfamiliar risks of individual farming. Another explanation is that many beneficiaries left farming long ago and now have jobs and property in urban areas. Some restitution claimants may even have left the country: Hungary, for instance, recognizes the rights of heir of former owners who live abroad. All these individuals have no immediate personal use for their restituted land, and entrusting it to a larger corporation or cooperative makes good economic sense. These new land owners, of course, also have the option of leasing their land to other individuals who are actively engaged in farming and seek to increase their holdings. Leasing to private individuals, however, may look more risky than leasing to a large organization, which is regarded as a more reliable source of lease payments.

Individually cultivated land has increased dramatically in all countries of the region since the beginning of transition (**Figure 2**). In Slovenia, Poland, and Latvia practically all land is in individual tenure and there are no large collective or corporate farms. The change has been particularly striking in Latvia, where, prior to 1990, less than 5% of agricultural land was in individual tenure (Slovenia and Poland never had a large collective farm sector). In most other CEE countries, the share of individually cultivated land is around 50%-60%, up from 5%-10%

before 1990 (only the two components of former Czechoslovakia lag in this respect). Overall, the available data show that 65% of agricultural land across the CEE countries is in individual tenure (as of 1997).

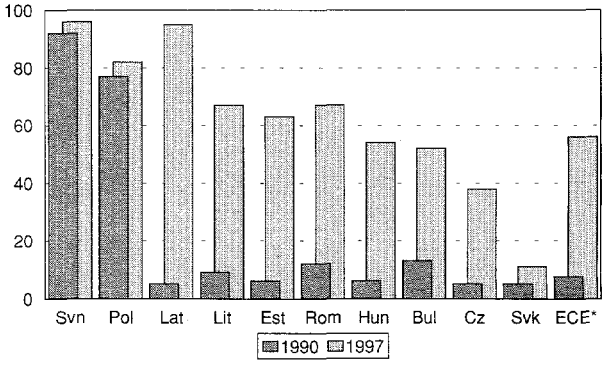


Figure 2

Our emphasis on the distinction between individualization and privatization is attributable to two main sets of factors. First, individual farming is the dominant organizational form in market economies. As long as production is managed collectively or cooperatively, the organization is exposed to the dangers of moral hazard, shirking, and free-riding that may severely impair its economic performance. This is the standard argument against production cooperatives and collectives, which are seldom observed in market economies. Private companies and corporations, even when not organized as cooperatives, suffer from transaction costs associated with principal agent arrangements and labor monitoring difficulties, and their spread in market agricultures is also limited due to elusiveness of scale economies in farming. As noted previously, corporate farms control not more than 20% of agricultural land in USA, and only about one-tenth of these farms are true investor-owned corporations; the rest are basically family farms that incorporated for a variety of tax reasons.

Second, farms in market economies are not restricted to operator's own land, and farmers increasingly rely on land that they lease in from others. Thus, in Belgium, France, and Germany, over 60% of land in farms is leased, and not owned by the farmer. On average across the 15 countries of the EU, farmers lease in 40% of land that they cultivate. In the USA, only one-third of farm land is fully owned by the operator, and this percentage has been declining steadily since 1950, while the percentage of leased land in farms has been increasing. Analysis of the EU data shows that individual farms using a higher percentage of leased land are on average larger: farms using more than 30% of leased land average 39 hectare across the 15 EU countries, while farms using less than 30% of leased land average only 18 hectare. In the USA, farms in which land is fully owned by the operator average about 100 hectare, while farms in which owned land is augmented by leased land are more than three times as large (340 hectare on average). Surveys conducted by the World Bank and Phare/ACE in some CEE countries also show that individual farms with leased land are significantly larger than farms using own land only. Thus, in Hungary individual farms that lease land average 20 hectare compared with 3 hectare for farms without leased land, in Bulgaria 5 hectare compared with 1 hectare, and in Romania 4 hectare compared with 3 hectare. The frequency of land leasing among individual farms in CEE countries, however, is still very low, much lower than the frequency of leasing among farms in EU and USA.

Leasing, and not land ownership, appears to be the important mechanism for increasing farm sizes in market economies. Farms need not be constrained by the limited availability of own land: farm sizes can adjust through land leasing as long as farmers are guaranteed secure tenure and market institutions are available for reasonably smooth transfer of land use rights. Thus, there is no reason to be concerned about excessive fragmentation of land produced by various land reform strategies. Initial fragmentation that may arise through certain allocation and distribution procedures will be quickly corrected by market mechanisms if land markets are indeed allowed to function.

RESTRUCTURING OF FARMS

Prior to 1990, collective and state farms cultivated around 90% of agricultural land in the CEE countries (except Poland and Slovenia). After a decade of transition the share of large farms that succeeded the traditional socialized farm is down to 40% of agricultural land (**Figure 3**). The decline in the share of land controlled by large farms has been accompanied by significant reorganization and restructuring of the sector. In addition to the significant increase in the amount of individually cultivated land, the process has led to virtual elimination of state farms, drastic reduction in the importance of cooperatives, and creation of a new category of private corporate farms (companies). The farms in all organizational categories are now substantially smaller than the former cooperatives and state farms. The individual farms, on the other hand, are larger (see **Table 3** below).

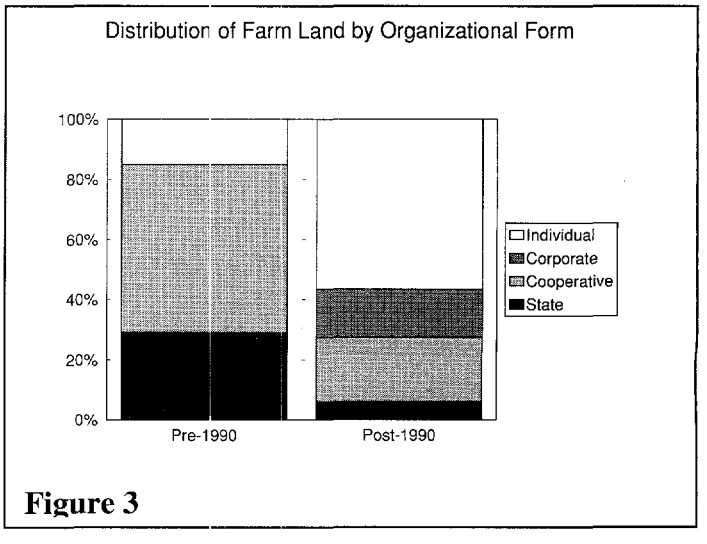


Figure 3

As the share of traditional collective and state farms declined through restitution and restructuring, new corporate farm structures began to emerge in the CEE countries. Unfortunately, no comprehensive data are available on the operation and management of these new entities, but case studies suggest that in Hungary, the Czech Republic, and Estonia many of the large farms have transformed into market-driven corporations. In Romania, at least some of the large farms are new associations or cooperatives created voluntarily by individual landowners after the completion of land privatization. The large corporate or cooperative farms in CEE are now often forced to operate under hard budget constraints, with a real threat of bankruptcy proceedings in case of default.

Figure 4 is a schematic diagram of farm restructuring in CEE, illustrating the processes that have led to the growth of the individual sector and the reorganization of the socialized farm sector. The changes in farm structure are driven primarily by three processes: restitution of land ownership, privatization of state property, and reorganization of cooperatives into new private companies. Restitution is the main channel for the growth of the individual sector, as it shifts land resources from former cooperatives and state farms to new individual owners. Land not claimed by individuals remains in state ownership. Privatization of non-land assets of state farms through open auction and sale mechanisms (i.e., through channels other than restitution to former owners) leads to creation of new corporations or companies, which may be classified as state-controlled (with minority private interests) or private (with majority private shareholders). Finally, cooperatives may reorganize creating new private corporations or new, sometimes smaller cooperatives. In some countries (Estonia, Lithuania, Hungary), the various corporate forms ("legal bodies") cannot own land: they lease their land resources from physical persons.

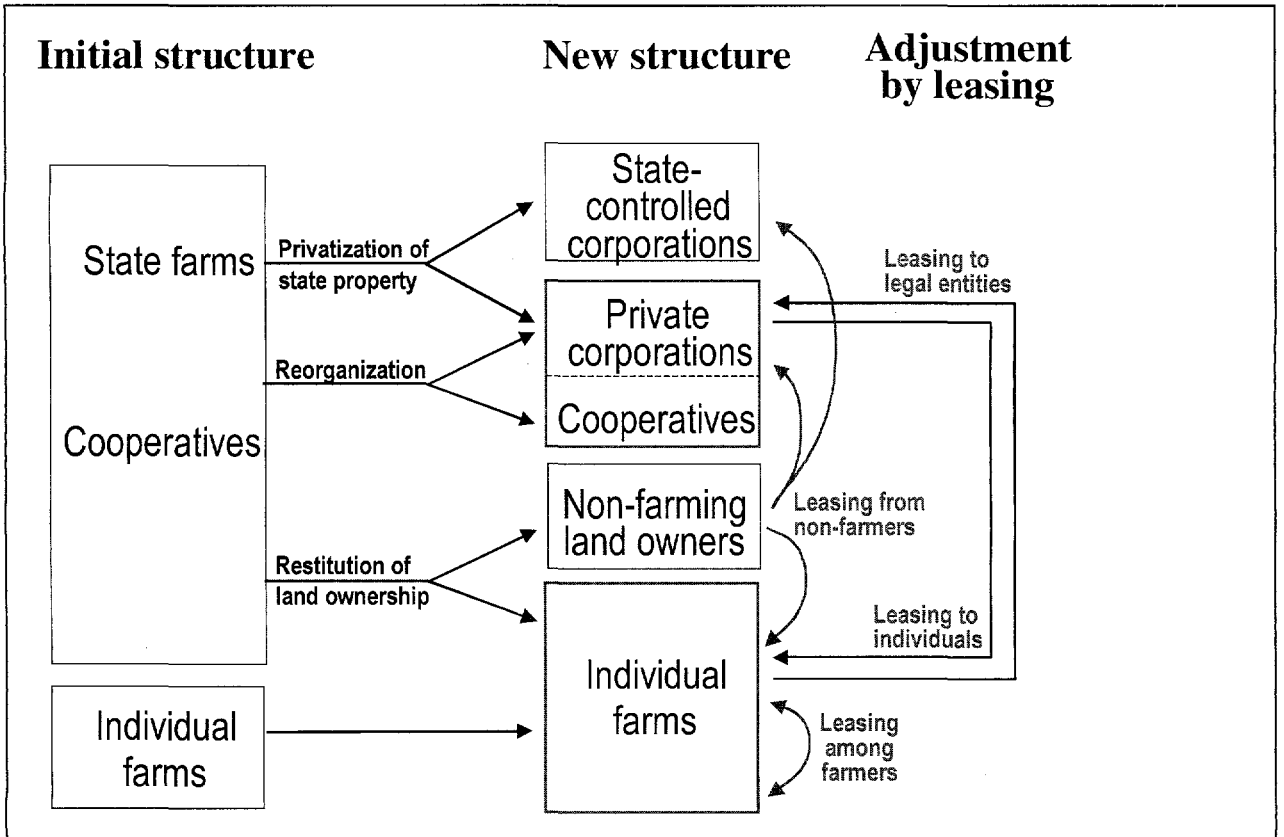


Figure 4. Schematic Representation of the Farm Restructuring Process in CEE

The transition from the initial inherited structure to a new structure is just the first stage in the overall process. The changes in farm structure continue as a dynamic adjustment of farm sizes through land transactions. These are mainly leasing transactions, as buying and selling of land is reported fairly seldom. Individual recipients of restituted land who are not interested in farming may lease their allotments to corporations or other individuals. On the other hand, enterprising individuals may seek to increase their holdings by leasing surplus land from

cooperatives and corporations (in countries where corporate land ownership is allowed). Land markets thus sustain transfer of land resources to more active and more efficient producers, leading to gradual optimization of the farm sector through restructuring.

EMERGING FARM STRUCTURE

Large-scale collective or corporate farms continue to play an important role in agriculture in CEE outside Latvia, Poland, and Slovenia. In seven CEE countries (Hungary, Bulgaria, Romania, Czech Republic, Slovakia, Estonia, and Lithuania) about 40% of agricultural land is in large-scale non-individual farms. However, the diversity of large farm structures today is much greater than prior to 1990, when the Soviet-style cooperative and state farm were the only two organizational forms in socialist agriculture. While traditional cooperatives and state farms persist (in greatly reduced numbers), new corporate farming structures are registering as joint-stock societies, limited-liability partnerships, and private companies. The new large farms in some CEE countries, certainly those in Hungary and the Czech Republic, are profit-motivated business corporations with freedom to adjust their labor force to operating needs and to reward labor according to performance. Moreover, these farms operate under hard budget constraints that impose strict financial discipline and rule out reliance on government bailouts.

Table 3. Average Farm Sizes by Organizational Form in CEE Countries (in hectares)

	Collective/cooperative farms		State farms		New corporate forms	Individual farms	
	Pre-1990	Current	Pre-1990	Current	Current	Pre-1990	Current
Bulgaria	4,000	637	1,615	735	–	0.4	1.4
Czech Rep.	2,578	1,447	9,443	521	690	5.0	34.0
Slovakia	2,667	1,509	5,186	3,056	1,191	0.3	7.7
Hungary	4,179	833	7,138	7,779	204	0.3	3.0
Poland	335	222	3,140	620	333	6.6	7.0
Romania	2,374	451	5,001	3,657	–	0.5	2.7
Estonia	4,060	–	4,206	–	449	0.2	19.8
Latvia	5,980	–	6,532	340	309	0.4	23.6
Lithuania #	2,380	–	1,880	–	310	0.5	7.6
Slovenia	–	–	470	371	–	3.2	4.8

Average size of collective, state, and corporate farms in Lithuania is based on unpublished OECD data.
Source: *Agricultural Situation and Prospects in the Central and Eastern European Countries: Summary Report*, European Commission, Directorate-General for Agriculture (DG VI), Brussels, 1998.

Changes are also observed in the average farm size in CEE countries. We have noted previously that the socialized agriculture was characterized by substantially larger farms than the market economies. Although large farms continue to dominate the agriculture in most transition economies, a definite downsizing is observed since 1990. Large collectives, cooperatives, and state farms have been losing land through restitution and privatization. Internal restructuring of large farms in an attempt to achieve better market orientation has often led to division of the original enterprise into two or three smaller units. As a result of these processes, cooperatives and state farms in CEE are now substantially smaller than in the pre-1990 period (**Table 3**). The new corporate farms created in the process of farm transformation in CEE countries are also smaller

on average than the traditional cooperatives and state farms, although they are still large by the standards of market economy (**Figure 5**). Unfortunately, the available data make it impossible to determine if the downsizing of large farms is a continuing dynamic phenomenon, or if it was a one-time adjustment. Experience in market economies definitely suggests that further downsizing of large farm enterprises in CEE is desirable.

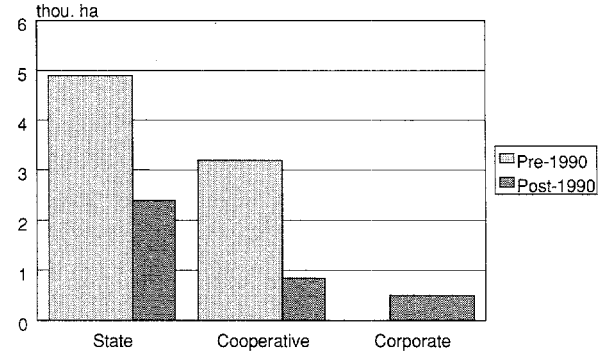


Figure 5

While the very large socialist farms have become smaller, the average size of individual holdings, be it household plots or other family farms, has increased substantially across the region. The increase of individual farms in CEE is clearly shown in **Table 3**. There is some evidence that the individual farms in CEE are gradually differentiating into two distinct groups: very small units cultivated by part-time farmers (successors of the subsistence-oriented household plots from the pre-1990 era) and larger commercially oriented full-time individual farms, which are in fact responsible for the observed increase of the average farm size in the individual sector in CEE. As a result of the opposing processes that reduce the size of collectives and augment the individual holdings, while creating a new intermediate layer of larger individual farms, the agriculture in transition economies may be gradually losing the sharply bimodal structure that traditionally characterized the farms in the socialist era. This in itself will be a change in the direction of greater compatibility with farm structures observed in market economies.

To examine the extent of the adjustment in farm structures during transition, it is useful to compare the farm size distribution in CEE with that observed in market economies. In **Figure 5**, panel (a) shows the aggregated land concentration curve for farms in the 15 countries of the European Union (EU15), constructed from Eurostat data. Land concentration is presented by a standard "Lorenz inequality curve" in which the vertical axis gives the cumulative percentage of land used in farms and the horizontal axis gives the cumulative percentage of farms of all types, ranked by size. The straight diagonal line represents the situation of "ideal equality," when land is uniformly distributed over all farms so that 50% of farms, say, account for 50% of land. The downward-bulging curve reflects the actual farm structure in the EU, with land use distributed nonuniformly over small and large farms. From this curve, the bottom 50% of EU farms (the smallest farms by size) account for 10% of land use, while the top 10% of EU farms (the largest farms by size) account for 40% of land use. The land concentration curves for USA and Canada are virtually identical with the EU curve in **Figure 6**; this pattern of land concentration therefore may be accepted as representative of market economies.

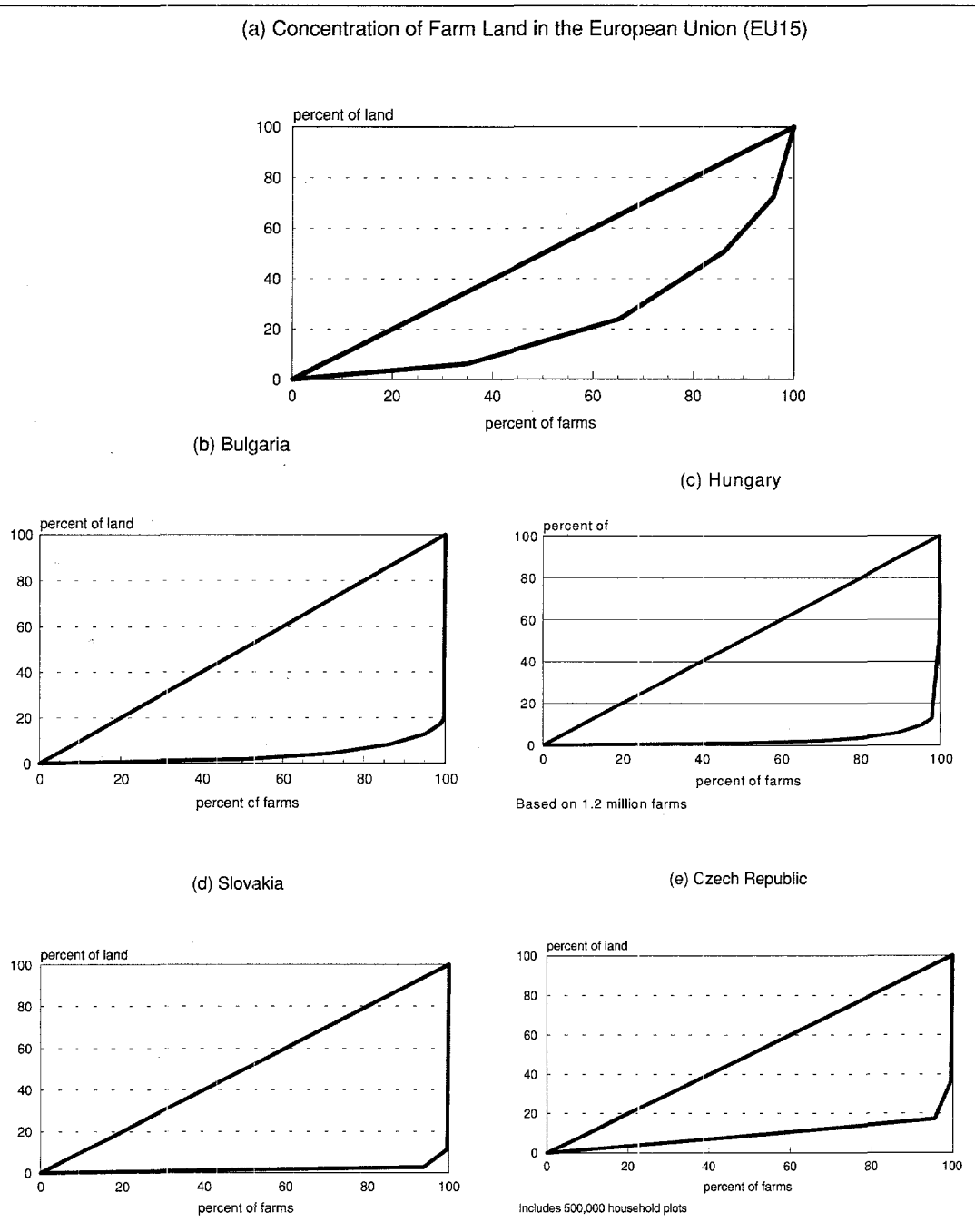


Figure 6. Concentration of farm land in 15 countries of the European Union (panel a) and in ten CEE countries (panels b-k).

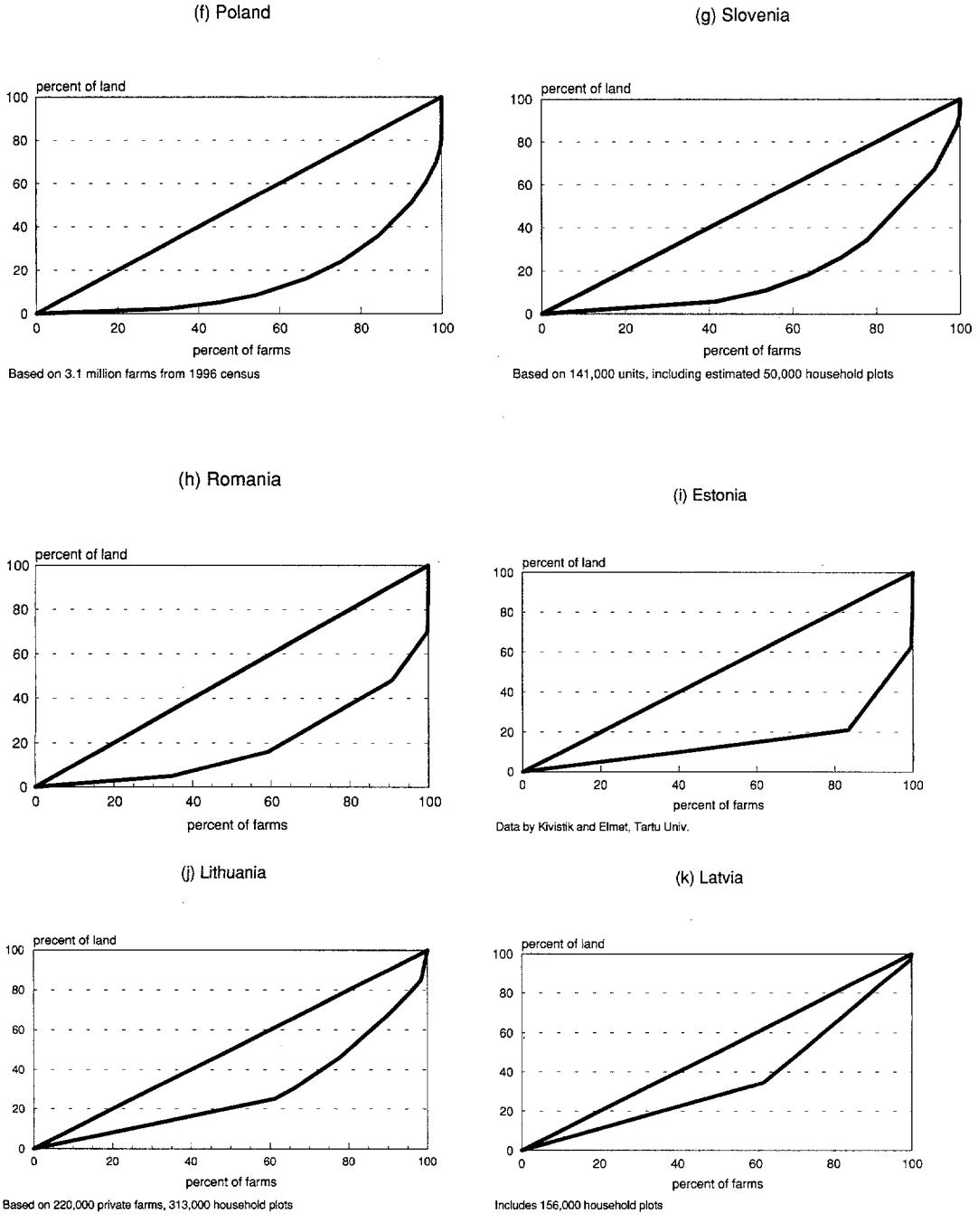


Figure 6 con't. Concentration of farm land in 15 countries of the European Union (panel a) and in ten CEE countries (panels b-k).

Other panels in **Figure 6** present land concentration curves of the ten CEE countries. The CEE land concentration curves are based on available official statistical data on farm size distribution, which are unfortunately weak. In constructing these curves, we always tried to estimate the number of farming units that control all agricultural land in each country. In this way, the distribution curves include household plots, semi-commercial and commercial family farms, and the larger corporate structures. The land concentration curves are based on the actual use of land, and are not directly related to land ownership. We should stress that the land concentration curves define "small" and "large" in strictly relative, and not absolute, terms; nor do they provide an indication of average farm sizes in different countries. The absolute size of farms varies across countries depending on the available land resources and the number of beneficiaries (i.e., the rural population). Land concentration curves abstract from these factors and only present the relative pattern of distribution of farm sizes.

Table 4. Concentration of Land: Percentage of Agricultural Land in Top 10% of Largest Farms

Country	Percentage of farm land	Characterization of farm structure
Latvia	20	over-fragmented
Lithuania	30	
USA	**35**	
Canada	**38**	
EU15	**40**	
Slovenia	40	"normal"
Poland	50	
Romania	55	
Estonia	60	
Czech Republic	82	sharply dual
Bulgaria	90	
Hungary	92	
Slovakia	97	

The land concentration curves in **Figure 6** demonstrate the three main farm structure patterns observed in CEE transition economies. Four countries – Bulgaria, Hungary, Czech Republic, and Slovakia – sharply deviates from the market pattern. Here 90% of farming units (the small household plots and family farms) control less than 10% of land, and the top 10% of farming units – the largest collective and corporate farms – control about 90% of land. This pattern is a manifestation of a sharply dual farm structure, with millions or hundreds of thousands of very small farms at the bottom end of the size scale and thousands or merely hundreds of very large farms at the top end. The sharply dual farm structure was a dominant feature of the Soviet model of agriculture in the pre-transition era, with an even more dramatic concentration of land than what we observe today: 98% of Soviet farms (the millions of small household plots in the individual sector) controlled less than 2% of land, while 2% of the largest farm enterprises controlled 98% of land. The encouraging changes in farm structures discussed in previous paragraphs have measurably shifted the land concentration curves for the CEE countries, but they have been insufficient so far to produce a significant change in the sharply dual structure of traditional socialist agriculture in the four countries of the first group.

Romania and Estonia and representatives of the second group of land concentration patterns. These two countries, starting with a sharply dual Soviet pattern, have developed in the process of transition farm structures that are close to the market pattern of land concentration. Slovenia and Poland are also characterized by "normal" land concentration curves, although this probably is not a result of transition-related adjustment: the farm structure in these countries has always been characterized by predominance of small and medium-size farms and has not changed much since 1990. Latvia and Lithuania, on the other hand, seem to have overshot in the process of adjustment, and their farm structures today are over-fragmented compared with market economies.

Table 4 summarizes the differences in farm structures across CEE by presenting our land concentration measure – the percentage of agricultural land controlled by the top 10% of largest farms in each country. If we accept the market pattern in **Figure 6(a)** as an efficiency-optimizing equilibrium farm structure, then countries with sharply dual farm structures – Bulgaria, Hungary, Czech Republic, Slovakia – can be expected to undergo further downsizing of large farm enterprises and simultaneous consolidation of the very small farming units. Countries with over-fragmented farm structure – Latvia, Lithuania – can be expected to go through a phase of farm consolidation, as very small farms adjust their holdings to operationally more efficient sizes and a certain proportion of new large farms are re-created under suitable conditions. In countries in the "normal" group the process of adjustment will probably continue as well, although less dramatically. These countries will probably gradually move toward stronger presence of mid-sized farms through consolidation of the smallest holdings and further fragmentation of the large successors of state farms and cooperatives.

SECTORAL CHANGES DURING TRANSITION

We started by reminding the audience of the relatively high importance of agriculture in CEE countries in the pre-transition era. During the last decade the situation has changed, and the CEE agriculture is undergoing a process of "marginalization," similar to that observed in the EU. Alternative sectors – especially services – are gaining prominence, and the share of agriculture in the economy is dropping, especially in GDP, less so in labor (**Figure 7**). Yet despite these trends, agriculture remains a much more important sector in CEE than in the EU. It continues to be a major source of employment in rural areas, employing over

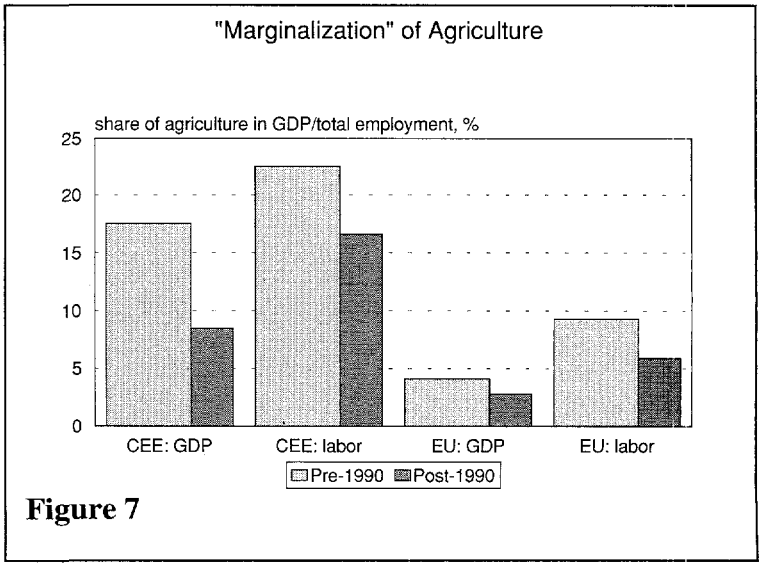


Figure 7

15% of the total labor force (compared to 5%-6% in the EU). The rural population is particularly dependent on agriculture in Bulgaria, Poland, Romania, Latvia, and Lithuania: in each of these countries the share of agriculturally employed is over 20%.

Transition initially produced enormous dislocations and shocks in the economy in general and in agriculture in particular. The elimination of central planning, price liberalization, introduction of hard budget constraints – these were entirely novel rules of the game and the countries needed time to adjust. Both GDP and agricultural production declined dramatically during the first years of transition, between 1989 and 1992-93. But as of 1993 we are witnessing a clear stabilization of both indices. There are, of course, variations across countries, but as a regional average the GDP index is actually growing again, and the agricultural product index has definitely stopped declining (**Figure 8**).

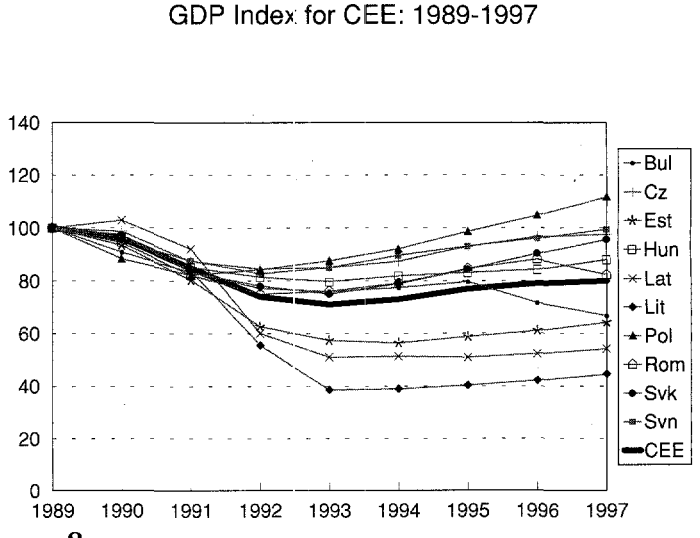


Figure 8

The stabilization of agricultural production has not been accompanied by dramatic changes in product mix or in yields. Only the three Baltic states, and to a lesser extent Hungary, have significantly reduced the share of livestock in their output (**Figure 9**) and today livestock production in CEE countries is on a par with the rest of the EU (about half the total agricultural product).Wheat and milk yields in CEE hardly changed during the last decade, and they continue to be substantially lower than in the EU, where technological progress is continuously driving the yields up (**Figure 10**).

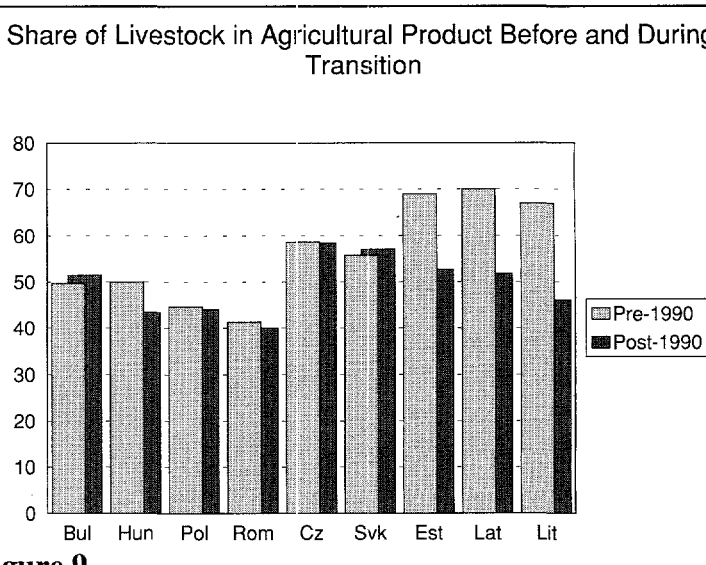


Figure 9

The decreasing role of agriculture in the CEE economy is reflected also in the decrease of absolute levels of agricultural employment. Five of the ten CEE countries (Hungary, Latvia, Slovakia, Czech Republic, and Estonia) registered sharp declines in agricultural employment since 1992 (**Figure 11**). In Lithuania and Slovenia the level of agricultural employment remained unchanged, and only Romania, Bulgaria, and Poland show significant increases in agricultural employment.

Changes in gross agricultural output and agricultural employment lead to changes in productivity of labor in agriculture. Generally the decrease in agricultural employment more than offset the decrease in GAO, and the productivity of labor tended to grow. Five countries (Estonia, Czech Republic, Slovakia, Hungary, and Slovenia) register pronounced increases in productivity of labor in agriculture, and these are clearly attributable to the decline in agricultural employment (**Table 5**). In Bulgaria, Poland, and Romania, where agricultural employment actually increased, the productivity of labor has not declined because of matching growth in agricultural product. Only two countries, Latvia and Lithuania, show a decrease in the productivity of labor since 1992, mainly due to sharp decreases in GAO.

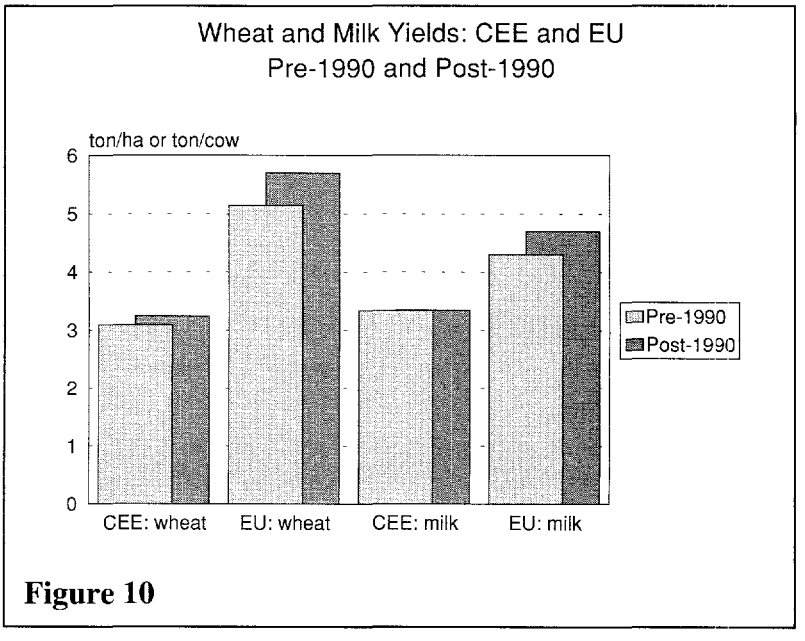


Figure 10

Figure 11

Since physical yields have not changed significantly during the last decade and unfortunately reliable information is not available on the capital asset base in agriculture, changes in productivity of agricultural labor provide a good proxy to changes in the efficiency of agriculture in CEE countries. We may thus tentatively conclude that, during the last decade, the efficiency of agriculture has increased in the Czech Republic, Slovakia, Estonia, Hungary, and Slovenia (primarily due to decline in agricultural employment) and has not

improved in Romania, Bulgaria, and Poland (where agricultural employment increased). Lithuania and Latvia still have not recovered from the negative shocks to production and output, and it is premature to evaluate the efficiency of their agricultural sector.

Table 5. Changes in Productivity of Agricultural Labor and Their Relationship to Reform Policy Index*

State	Change in gross agricultural product	Change in agricultural employment	Change in productivity of agricultural labor	Synthetic policy index	
				country values	group averages
Czech Rep.	-2.19	-10.9	9.78	7.74	7.5
Slovakia	0.54	-6.34	7.35	6.82	
Estonia	-7.74	-13	6.05	6.89	
Hungary	0.17	-3.91	4.25	7.92	
Slovenia	4.89	0	3.76	7.88	
Romania	4.1	4.27	-0.15	5.55	6.3
Poland	1.44	2.24	-0.78	7.49	
Bulgaria	1.49	2.37	-0.86	5.50	
Lithuania	-3.18	0	-3.18	6.45	
Latvia	-11.49	-4	-11.49	6.47	

* The changes are annual rates of change for 1992-97 calculated, in percent, from semi-logarithmic growth regression. The synthetic policy index is on a scale of 1 to 10, with higher values corresponding to greater progress toward market environment.

In addition to changes in GAO, changes in agricultural employment, and the resulting changes in productivity and efficiency of agriculture, Table 5 gives a synthetic policy index, which represents the cumulative progress of overall reforms in each country. Our synthetic policy index is the average of five policy indices available from international sources. It combines three World Bank indices (the Country Policy and Institutional Assessment (CPIA) Index, the Liberalization Index, and the Environmentally and Socially Sustainable Development ECA Index), the Euromoney Creditworthiness Index, and the Freedom House Freedom Index. The CPIA Index is based on four groups of policy variables that are not directly related to agriculture: macroeconomic management and sustainability reforms; policies for sustainable and equitable growth; policies for reducing inequalities; and public sector management. The 20 variables collected in these four groups are assessed by a mixture of expert judgments and quantitative techniques to arrive at a measure of progress in economic policy and institutional reforms. The ECA index is specifically geared to agricultural reforms in transition economies: it includes assessments (based on expert judgments) of the achieved progress in several areas, such as price and market liberalization, privatization of agro-processing and input supply, rural financial systems, development of market-oriented institutional frameworks, and of course land reform. The three other indices, in addition to economic and financial dimensions, incorporate various measures of political freedoms and democratization that are an inevitable part of the transition to the market. For all indices, higher values correspond to greater progress toward a market environment.

We see from **Table 5** that, on a scale of 1 to 10, the countries showing an increase in the efficiency of agriculture have an average index value of 7.5, while the other countries, where the efficiency of agriculture has not improved, have a significantly lower average index value of 6.3. It thus seems that greater progress with general reforms, including macroeconomic policies,

financial institutions, and democratization, is conducive to greater progress in agriculture, leading to noticeable changes in efficiency. Privatization and individualization of agriculture and changes in farm structures are necessary conditions for the recovery of agriculture. And yet they are probably not sufficient without an overall reform-minded environment and general reform-oriented policies and attitudes in government and society.

WHERE TO FROM HERE?

The course of transition during the last decade has displayed at least two surprising features. First, the process has been much slower than originally anticipated. And second, the actual outcomes meet neither the optimistic expectations of market liberals nor the dire predictions of conservatives.

The transition from command economy to market has been a long-drawn process because of its intrinsic complexity, which was not fully appreciated at the start. Yet it is clear that, despite difficulties and delays, all CEE countries are moving steadily toward a market-oriented environment. The policy achievements vary across the region, largely depending on political and social forces, but as we see from **Table 5** all countries have passed the half-way mark of 5.0 in their transition from command economy to market.

The one attribute of the former system that has been totally and irrevocably abolished is central planning. This is probably the one attribute that has made the former economic and social structure possible. Now that it has been eliminated, many of the traditional accepted patterns of behavior and operation in agriculture and other sectors are unsustainable. There is no choice but to move forward with market reforms.

The agricultural sector in CEE definitely has not embraced the family farm as the dominant farming structure. This is contrary to the original expectations of Western experts, who anticipated a quick and sweeping transition to individual farming as in market economies. Yet the individual sector has grown dramatically and it controls today 60% of agricultural land in CEE countries. Despite this strengthening of the smallholder sector at the expense of the large farms, agriculture did not collapse because of fragmentation and privatization, as predicted by conservative doomsayers.

Farm structures in CEE today cover a spectrum of forms, which include small subsistence-oriented household plots, medium-sized commercial family farms, and large corporations. The amount of land controlled by the individual sector is unlikely to shrink in the future. Yet market forces will probably continue to produce significant internal restructuring in the individual sector, encouraging consolidation through transfer of land resources from very small units to more efficient mid-sized farms with commercial orientation and greater earning potential. The large corporate farms are also there to stay, yet market forces and efficiency considerations will probably sustain the downsizing trend that has been generally observed so far. Consolidation of mid-sized family farms and downsizing of very large corporations will ensure that the CEE farm structure continues to move toward the market distribution pattern.

Finally, agriculture does not seem to act as an engine of growth in the CEE countries. The available evidence suggests a reverse causality: it is the general macroeconomic recovery stimulated by a progressive policy environment that encourages agricultural growth. Yet agriculture remains important for the rural population: empirical evidence clearly suggests that the welfare of rural families increases with the increase in their land endowment. However, the future of the rural population must be considered in a broader context of rural development, including creation of alternative jobs in rural areas that will facilitate the exit of surplus agricultural labor without involving the undesirable option of rural-to-urban migration. The countries should take advantage of the adjustments required for EU accession to broaden the scope of reform and to include rural development issues in their agenda in addition to the traditional agricultural topics of land privatization and farm restructuring.

A NOTE ON SOURCES OF DATA

The most recent and up-to-date country-level information was obtained by direct correspondence with national research institutes and statistical organs in the ten countries participating in the conference. The willing and friendly cooperation of many individuals in these institutions is gratefully acknowledged. Without them, much of the latest data on agricultural transition would have remained unavailable.

In addition to these direct contacts, we have used the data from a series of country studies commissioned by FAO for this workshop and by OECD for the Forum on Agricultural Policies in Non-Member Countries held in Paris in April 1999.

Important data were obtained from the Directorate-General for Agriculture (DG VI), European Commission, Brussels. Specifically, we have made extensive use of the series of country and summary working documents published in 1998 under the general title of *Agricultural Situation and Prospects in the Central and Eastern European Countries.*

Pre-1990 data for former Comecon member-countries were obtained from *Statistical Yearbook of Member-States of the Council for Economic Mutual Assistance*, regularly published in Russian in Moscow up to 1990. The pre-1990 data for the Baltic states were collected from Soviet statistical yearbooks.

Comparative data for market economies were obtained from Eurostat yearbooks (for EU countries) and from the 1997 USDA Census of Agriculture (for USA).

Major Features of the New Farming Structures in Central and Eastern Europe

Erik Mathijs
Johan F.M. Swinnen

FARM RESTRUCTURING

A wide variety of farm organizations, such as (private) cooperatives, joint stock companies, limited liability companies, partnerships and individual farms have emerged during transition in Central and Eastern European countries (CEECs). **Table 1** distinguishes between four production organizations: state farms, cooperatives, companies, and individual farms. Cooperatives and companies still use more than a quarter of total agricultural land (TAL) in Hungary, the Czech Republic, and Bulgaria. In Slovakia, they use more than half of TAL. Companies are most important in Slovakia (25%), Estonia (37%) and the Czech Republic (41%).

The dynamics of farm restructuring is illustrated by the case of Hungary in **Figure 1**, which shows that the share of companies was fairly stable over the period 1989-1996, while the share of cooperatives consistently declined, especially in the period 1991-1995. The relatively constant share of companies hides significant restructuring efforts among the farms in this category, but **Figure 1** clearly suggests that the importance of cooperatives as an organizational form of agricultural production is declining.

Table 1. Share of different farm types in total agricultural land (in %)

	Individual farms	Companies	Cooperatives	State farms
Poland (1996)	82	8	3	7
Hungary (1996)	28	14	28	4
Czech Rep. (1998)	24	41	34	1
Slovenia (1997)	96	-	-	4
Estonia (1997)	63	37	-	-
Romania (1998)	65	-	18	17
Bulgaria (1995/6)	52	-	42	6
Slovakia (1998)	8	25	54	1
Lithuania (1996)	67	-	-	33
Latvia (1997)	95	4	-	1

Source: European Commission (1998) and national institutes of agricultural economics in the Czech Republic, Slovakia, and Romania

INDIVIDUALIZATION OF CEE FARMING

The share of individual farming has increased continuously since the beginning of transition, and this increasing "individualization of farming" is a common pattern in all CEECs (**Figure 2**). The available data do not indicate any reversal of this trend so far.

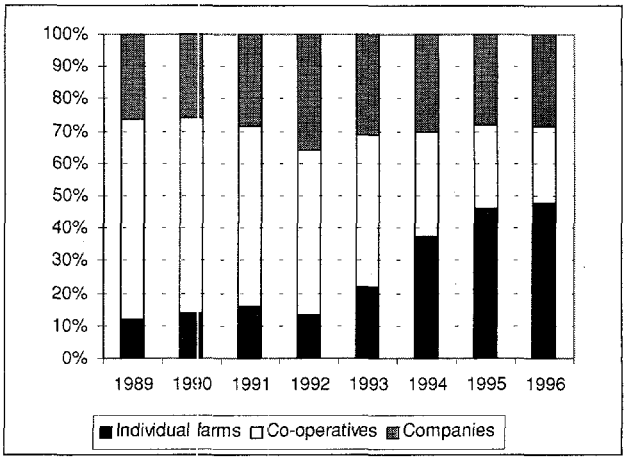


Figure 1. Share of land use by different farm types in Hungary: 1989-1996 (% of total agricultural land)

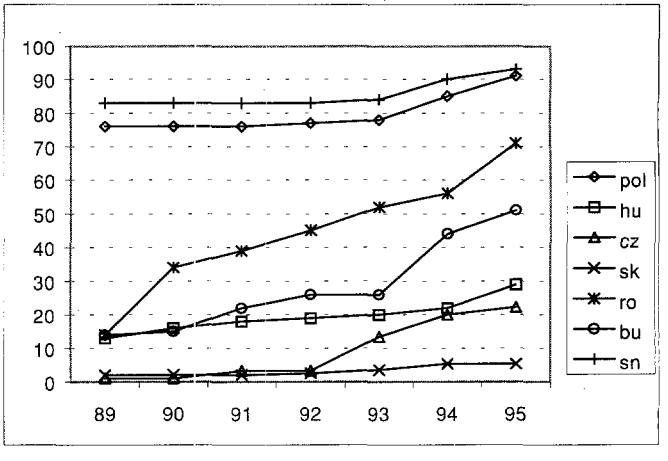


Figure 2. Share of land use by individual farms: 1989-1995 (% of total agricultural land)
Legend: Poland (pol), Hungary (hu), Czech Republic (cz), Slovakia (sk), Romania (ro), Bulgaria (bu), Slovenia (sn)

Despite the similar trend in all countries, the differences in the importance of individual farming among CEECs are enormous. **Table 2** presents our calculations of the farm individualization index (FII), based on the percentage of agricultural land used by individual farms adjusted for the initial situation. FII varies between 3% and 95%. FII is low in countries where large-scale successor organizations to the former state and collective farms still dominate, such as Slovakia (3%) and the Czech Republic (24%). FII is highest in Albania and Latvia (95%) where a massive break-up of the collective farms resulted in dominance of small-scale production units.

While the break-up of state and collective farms into individual farms is often associated with farm fragmentation, this is not always the case. Some individual farms in CEECs cover 100 hectares and more. An important factor explaining farm fragmentation is the size of the rural work force: there is an almost perfect linear correlation (regression $R^2 = 0.92$) between the share of TAL in farms less than 5 hectare, as a measure for fragmentation, and the share of agriculture in the economy (Mathijs and Swinnen 1998).

Table 2. Farm Individualization Index (FII)

Country	FII	Year
Latvia	94.7	1997
Albania	94.2	1995
Lithuania	60.4	1996
Romania	60.2	1998
Hungary	51.1	1996
Slovenia	50.0	1997
Bulgaria	44.8	1995/6
Czech Republic	24.0	1998
Ukraine	14.1	1995
Russia	12.1	1995
Slovakia	3.2	1998

* The FII is calculated by dividing the difference between the share of individual farms in total agricultural land in the most recent year (IND9X) and in 1989 (IND89) by 100 minus the share of individual farms in total agricultural land in 1989: FII=(IND9X-IND89)/(100-IND89). Data on land use are derived from European Commission (1998) and Mathijs and Swinnen (1998).

FACTORS AFFECTING FARM RESTRUCTURING

Farm restructuring depends on the pre-reform farm structure, on the design of the privatization and transformation policies (itself influenced by political economy factors), on the implementation of the policies, and on a series of factors, including the economic and social environment, all of which affect the restructuring process.

Macro Evidence

Based on a comparison of countries, Mathijs and Swinnen (1998) conclude that the shift to individual tenures is stronger where: (a) more of the land was distributed to farm workers instead of being restituted to former owners; (b) the share of agriculture in employment is high; and (c) the costs involved in withdrawing assets from collective farms and starting up an individual farm (so-called "exit costs") are low. It is remarkable to see how the two countries at the extremes of the spectrum are exactly opposite by these three factors. Albania, where FII is highest, distributed all the land to farm workers, and has a high share of agriculture in employment (around 50%), and low exit costs. Slovakia, where FII is lowest, restituted land to former owners, has a low share of agriculture in employment (around 8 %), and the exit costs are high. Additional factors have stimulated decollectivization in the Baltic countries, and especially in Latvia, where decollectivization was part of the independence strategy.

Micro-Survey Evidence

Based on 1996 household and farm survey data from Romania (Rizov et al. 1999) and 1998 survey data from Hungary (Rizov and Swinnen 1999), several conclusions can be drawn on the determinants of the shift to individual farming. In general, the process is affected by human capital and physical capital endowments of the household, reflected in factors such as age,

education, and experience, by regional social and economic conditions, and by the market structure. Some details of these findings are given below.

1. *Education and age* of the household members have a non-linear impact on the likelihood to start an individual farm. In Romania, younger people are more likely to start individual farming, while in Hungary there is a positive impact of age on individual farming up to the age of around 50 years, after which the relationship becomes also negative. In both countries, education is positively related with individual farming, but in Romania only up to a certain point (8-10 years of education). More education than 8-10 years tends to induce individuals to leave agriculture, and continue at most part-time farming.

2. *Experience in farming*, but also previous experience in non-farming activities (e.g., working in urban areas), has a positive impact on households using their land for individual farming.

3. *Access to capital* forms a major constraint to start up an individual farm. The results show that direct access to capital inputs, such as agricultural machinery, buildings, and livestock, has a positive impact on individual farming. Furthermore, access to capital in the form of alternative sources of income, such as pensions or wages, also positively affects individual farming. Potential individual farmers find it difficult to secure external finance given market imperfections, and direct access to either capital inputs or alternative income sources stimulates the shift to individual farming.

4. *Security of land tenure* has a positive impact on the development of individual farms: households will not invest in individual farming unless they feel secure that they can reap the results from their investments.

FARM RESTRUCTURING AND EFFICIENCY: THEORY AND HYPOTHESES

A key question is which farm organization is most efficient. In other words, can we say that in a liberalized economic environment individual farms (or small partnerships of family farms) are more efficient than former collective and state farms that have been transformed into private cooperatives or companies? We refer to cooperatives and companies jointly as "large-scale successor organizations" (LSOs).

We distinguish between two concepts of efficiency, *technical efficiency* and *scale efficiency*. A farm is technically efficient if it produces on the boundary of the production possibilities set, that is, if it maximizes output with given inputs after having chosen a specific production technology. A farm is scale efficient if it is technically efficient and moreover produces at constant returns to scale, i.e., its input-output combination corresponds to the combination that would arise from a zero profit long-run competitive equilibrium situation (Färe, Grosskopf, and Lovell 1985; Chavas and Aliber 1993).

From the literature, one can summarize five hypotheses on technical and scale efficiency differences between farm organizations in transition countries.

1. *Family farms are expected to have higher technical efficiency than LSOs.* Family farms are expected to display higher levels of technical efficiency than LSOs because of the LSOs' inherent problems in solving principal-agent problems in labor contracting due to difficulties of linking effort in agricultural production to income (Schmitt 1991, 1993; Pollak 1985). Metering effort in production is particularly difficult in agriculture because of its biological and sequential nature and spatial dimensions (Brewster 1950; Binswanger and Rosenzweig 1986). Family farms are argued to be more efficient than LSOs in this regard because family members maximize family welfare rather than individual welfare; consequently, they have no incentive to free-ride, and the costs of monitoring and controlling effort accordingly lower (Carter 1984).

2. *The technical efficiency gap between family farms and LSOs depends on the specialization and the technology level.* Problems of governance and worker supervision are less if activities can be monitored easily in terms of inputs or outputs: for example, if work gangs can be organized and supervised directly, or if output can be measured directly, so that workers can be paid on a piece-rate basis, e.g., as in harvesting (Pollak 1985). Furthermore, more labor intensive activities are more sensitive to problems with labor incentives and monitoring, ceteris paribus. Technological innovations (such as greenhouses and improved crop control techniques) may mitigate these problems by attenuating the stochastic factors and thus reducing the superiority of family farms as a transaction-cost-minimizing institution (Allen and Lueck 1998).

3. *Companies are expected to have higher technical efficiency than cooperatives.* In cooperatives, the management's capacity to make and enforce efficient decisions is restricted by the members' right of co-determination. As a result, transaction costs in companies, where the management has more autonomy in making decisions, are lower than those in producer cooperatives, mainly because of the organizational advantages of hierarchical versus democratic decision-making in firms (Schmitt 1993).

4. *The efficiency gap between family farms and LSOs is expected to decline during transition.* State and collective farms performed poorly not only because of the intrinsic problems with organization and management, but also because of extrinsic problems, such as bureaucratic controls and an extractive external environment (Putterman 1985; Lin 1990; Brada and King 1993). With the progress of transition, as these controls are removed and the environment is liberalized, the efficiency of the LSOs can be expected to improve. For example, LSOs will be able to solve their agency problems by setting up the right labor contract structure. The difficulty of monitoring in an agricultural production cooperative can be reduced by a self-enforcing contract, in which each member promises to discipline himself (Lin 1990). Such a self-enforcing contract can only be sustained in a free, voluntary cooperative, where each member has the right to exit and is thus committed to provide maximum effort as long as the decision is to remain in the cooperative. It is therefore more likely to be effective in a restructured organization operating in a liberalized environment.

5. *There are no scale economies in agriculture, except for the very small family farms which have a lower scale efficiency.* Scale economies would favor the largest organizations. However, many studies suggest that there are no increasing returns to size in agricultural production beyond a certain minimum size, which can be captured by (larger) family farms, both in developing countries (Berry and Cline 1979; Hayami and Ruttan 1985) and in developed countries (Kislev and Peterson 1991; Peterson 1997).

FARM RESTRUCTURING AND EFFICIENCY: EMPIRICAL EVIDENCE

Empirical evidence on the relative efficiency of different farm organizations in CEECs is only now beginning to emerge. In this section, we review empirical results based on four studies, all using nonparametric Data Envelopment Analysis (DEA) to calculate technical and scale efficiency of farm organizations (for more methodological details see Färe, Grosskopf, and Lovell 1985; Chavas and Aliber 1993).

The Dynamics of Farm Efficiency during Transition: Evidence from East Germany

Analysis of the efficiency of East German farms during 1991-1995 (Mathijs and Swinnen 1997) shows that, consistently with the theoretical hypotheses, family farms were technically more efficient than LSOs, but only in certain specializations (i.e., livestock) and only in the beginning of transition. With progress in institutional reform, organizational restructuring, and liberalization of the external environment during transition, the gap in average efficiency of family farms and LSOs has disappeared. (The East German data do not allow to distinguish between cooperatives and companies; one should be careful interpreting the results – see further.)

The improvements in technical efficiency and governance of the LSOs are also reflected by the labor adjustments in LSOs. Employment was substantially reduced on all LSOs, but especially on livestock LSOs, where average employment decreased by 45% over the 1991-1995 period.

Family farms have, on average, significantly lower scale efficiency than both partnerships and LSOs. In livestock production there is no difference in scale efficiency between partnerships and LSOs, while in crop production the largest farms (LSOs) have lower scale efficiency than partnerships. These results are consistent with hypothesis 5 that there are no positive scale effects beyond a certain minimum size. The results indicate that, on average, family farms are below this minimum size and that partnerships are at or above this minimum size. Furthermore, LSOs in crop production seem to be too large, i.e., they display negative scale effects.

Partnerships were, on average, the most efficient organizational form in former East German agriculture during transition. Partnerships combine high levels of technical efficiency due to good management of labor, which is often family related and small in number, and full economies of scale by operating at larger farm sizes than average family farms.

The Distribution of Farm Efficiency: Evidence from Survey Data for Hungary, Bulgaria and the Czech Republic

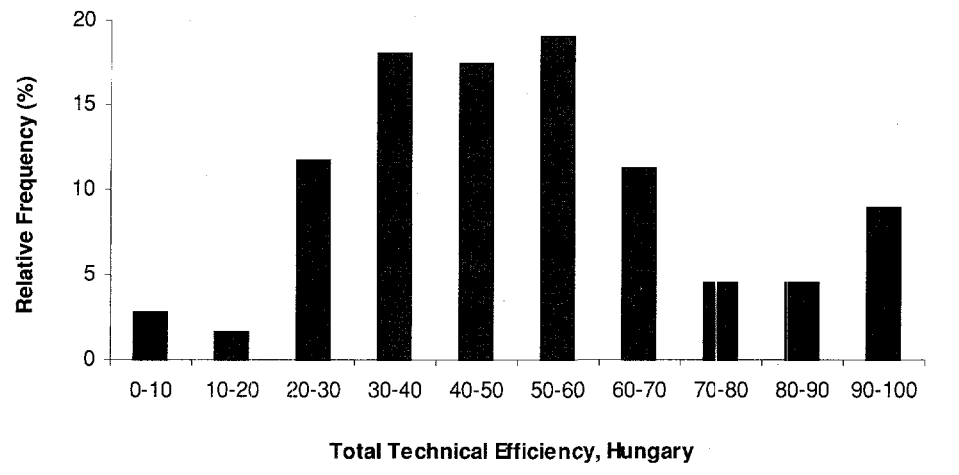
We summarize here some key results from farm efficiency studies in three CEECs (the Czech Republic, Bulgaria, and Hungary), based on representative farm surveys comprising about 1,500 agricultural households and 400 LSOs (cooperatives and companies) in each country. For more details, we refer to Mathijs et al. (1998) and Mathijs and Vranken (1999). For reasons of comparability we only present and discuss results for crop farms.

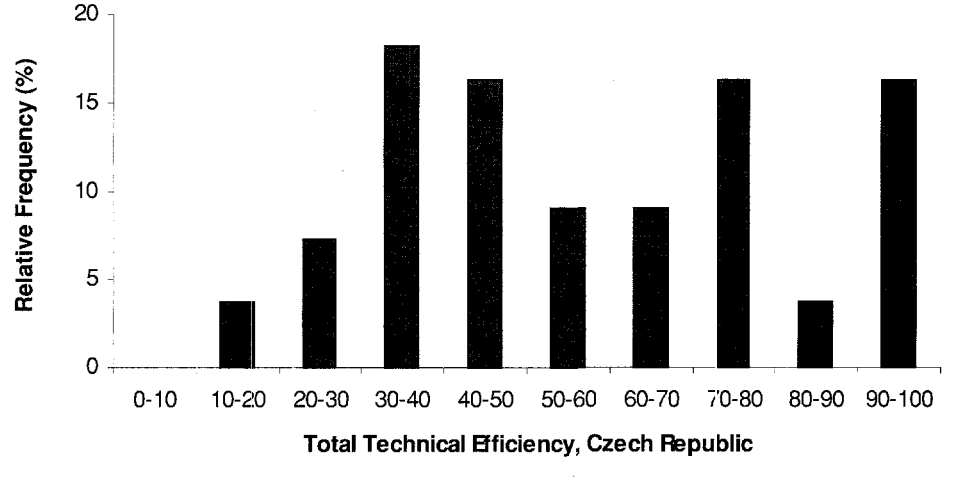
Figure 3 shows the frequency distribution of the total technical efficiency scores of all sample crop farms (regardless of organizational form) for the three countries (178 farms in Hungary, 93 farms in Bulgaria, 55 farms in the Czech Republic). For comparison, **Figure 4** is an example of a frequency distribution of technical efficiency scores of a sector in a well-developed market economy functioning with much less government intervention than in CEECs (potato farms in the UK represent a sector relatively unaffected by subsidies under the CAP). Contrary to the distributions in **Figure 3**, the distribution of UK potato farms in **Figure 4** is strongly skewed toward the efficiency frontier (technical efficiency score of 100%). The reason is that, in a competitive and well-functioning market, inefficient farms cannot compete and go bankrupt. Inefficient farms can only survive in the presence of various market imperfections or with the aid of farm subsidies. Reform measures to liberalize prices, to abolish subsidies, and to create competitive markets should increase the competitive pressures in agriculture and push farms to the efficiency frontier or alternatively drive them out of business (Sotnikov 1998). Hence, one should expect a gradual shift to a distribution as in **Figure 4**, unless government subsidies or market imperfections continue to shelter the inefficient farms from competitive pressures.

At the present time, the technical efficiency distributions of the CEEC farms of Figure 3 are still far from the market-environment distribution of Figure 4. Figure 3 suggests a double-peaked distribution: in Hungary and the Czech Republic many farms are situated around 40%-50% of the highest observed efficiency level, and another peak is observed close to the frontier. In Bulgaria, most farms are situated around 20%-30% of the highest observed efficiency level, which suggests that Bulgarian crop farms are characterized by greater inefficiencies than their Hungarian and Czech counterparts. Another way of interpreting these figures is that there is still substantial room for improving the average efficiency of farms in CEECs.

Impact of Organization on Efficiency

The results of efficiency calculations by organizational form are presented in **Table 3**. Cooperatives (worker-controlled farms) have the lowest technical efficiency levels in all three countries. Companies (manager-controlled farms) are more efficient than production cooperatives. This is consistent with the theoretical hypotheses listed above and also with recent findings for insider-controlled firms, where manager-owned firms were observed to perform better than worker-owned firms (Jones 1997).





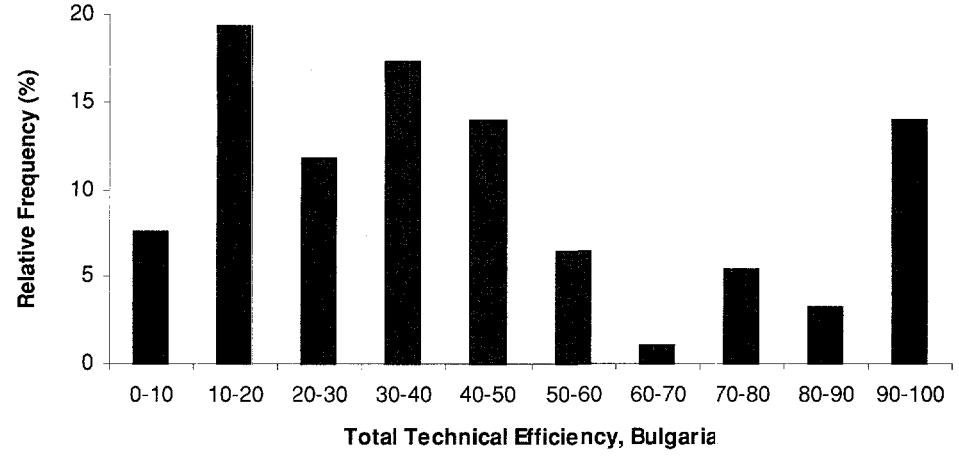


Figure 3. Frequency distribution of (total) technical efficiency measures from farm surveys in Hungary, the Czech Republic, and Bulgaria

Table 3. Summary Statistics and Average Total Efficiency Scores for Crop farms

	Cooperatives[a]	Companies[a]	Individual farms
Hungary			
Output ('000 HUF)	106,583	86,876	1,605
Land (ha)	1,645	1,282	26
Labor (AWU)	58	26	1.2
Capital ('000 HUF)	93,841	48,760	2,600
Intermediates (000 HUF)	69,506	57,490	123
Technical efficiency[b]	44	50	58
Observations	63	40	75
Czech Republic			
Output ('000 CZK)	15,513		1,451
Land (ha)	1,037		91
Labor (AWU)	48		2
Capital ('000 CZK)	29,217		2,143
Technical efficiency[b]	57		62
Observations	6		49
Bulgaria			
Output ('000 BUL)	400,172		4,871
Land (ha)	774		6
Labour (AWU)	38		1.2
Capital ('000 BUL)	370,531		17,996
Intermediates ('000 BUL)	48,306		651
Technical efficiency[b]	44		44
Observations	54		39

[a]For Czech Republic and Bulgaria, averages are given for the pooled sample of cooperatives and companies because of the small number of observations.

[b]In Hungary, family farms are more efficient than cooperatives (at 1% level of significance) and companies (at 10% level of significance), while cooperatives and companies do not differ significantly by technical efficiency. For Bulgaria and the Czech Republic, the differences in technical efficiency between individual farms and cooperatives/companies are not statistically significant by the t-test.

Source: Mathijs et al. (1998) and Mathijs and Vranken (1999)

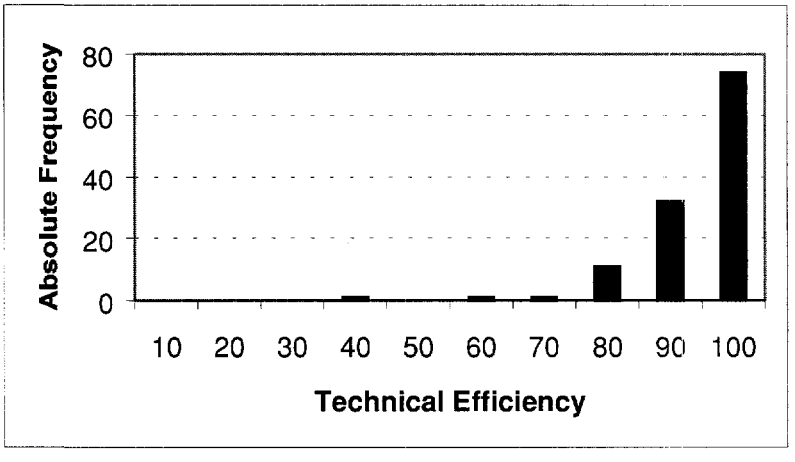


Figure 4. Frequency distribution of predicted technical efficiencies of UK potato farms in 1992 (Wilson et al. 1998)

The comparison between family farms and companies does not produce conclusive results: in Hungary, family farms have higher technical efficiency levels than companies; in the Czech Republic there is no significant difference; and in Bulgaria family farms have lower technical efficiency than companies. The latter may be due to the heterogeneity of family farms participating in the survey. This category includes both small (part-time) farms, which are less efficient, and relatively large family farms, which are more efficient. Evidence from the Czech Republic based on profitability measures is consistent with this supposition. The data in **Table 4** show that large individual farms are the most profitable, followed by companies, and then small individual farms. The

Czech profitability data also confirm that cooperatives fall at the bottom of the ranking. In general, the survey results are consistent with the findings for East Germany, namely that the most efficient farms are those with a small number of workers, preferably family related, operating at a size that captures the most important scale economies.

Table 4. Average profit for farms of different organizational form and size in the Czech Republic: 1996/97

	Cooperatives	Companies	Individual farms 10-50 ha	Individual farms 51-200 ha	Individual farms >200 ha
Profit/loss, CZK/ha	-717	-185	-334	205	309
Average size, ha	1897	1352	30	101	421

Source: Doucha (1999)

Farm Restructuring and Agricultural Productivity Growth

In the previous section we have analyzed the relative efficiency of the various farm structures. However, concluding that organization Y is most efficient in country A does not necessarily say much about the overall efficiency of the agricultural system. For example, while cooperatives and companies continue to dominate Czech and Slovak agriculture, agricultural labor productivity (ALP) increased by about 40% between 1989 and 1995 in the Czech Republic, Slovakia, and Hungary (CSH), while it declined in most other CEECs. In CSH, a strong decline in output coincided with an even stronger decline in agricultural labor inputs (Macours and Swinnen 1999).

This suggests that there is no simple relationship between the shift to individual tenure and productivity growth. Instead, the optimal reform and adjustment path differs among CEECs because it depends on the structure and the technology of the agricultural system and on the overall economic development.

The impact of the shift to individual tenure depends on the factor input and technology of the farms. In capital-intensive production systems, such as CSH, the costs from disrupting the capital stock and breaking up the large-scale technology may outweigh the benefits from improved supervision and labor effort on individual farms. In contrast, in labor-intensive agriculture, as in Albania, the incentive problems are likely to outweigh the costs of technology disruption with the break-up of large-scale farms. Therefore, in labor-intensive production systems, productivity growth is more likely to come from the shift to individual farming, while in capital-intensive systems, productivity improvements could also come from improved LSO management.

Improved management requires effective organizational reforms, including hard budget constraints. In those CEECs where LSOs seem to function relatively efficiently, they have undergone substantial effective restructuring, including both management reform and operation adjustments. In contrast, Lerman and Csaki (1997) and Sedik (1996, 1997) report that, despite some downsizing in restructured farms, internal reorganization has not produced deep results in countries such as Russia and Ukraine, where the collective framework has preserved most of its

traditional functions. According to recent World Bank surveys in Ukraine and Russia, about half the employees of farm enterprises report that no real change has taken place so far in the 'reorganized' farms. These surveys confirm the intuitive insight that changes in large farms in Russia and Ukraine have been mostly superficial. Also, most managers in these countries report that their farm enterprises continue to be committed to a lifetime employment policy for their members, and they do not acknowledge disguised unemployment on their farms. The only real change is the abolition of externally imposed production plans. However, because of informal dependency between large farms and local authorities, production plans continue to be influenced by district government. Managers cannot ignore the goals and objectives of district authorities, and, in this sense, they are not free to adjust their product mix completely in response to market signals (Lerman 1997). Because of this lack of meaningful restructuring, Sedik, Trueblood, and Arnade (1997) actually measured a decline in farm efficiency during transition in Russia.

The Institutional Environment

To achieve improvements in overall productivity, farm restructuring needs to be complemented by other institutional reforms that improve access to land, credit, technology, and information, and allow improved allocation of labor. Therefore, one needs to focus on more general measures and the rest of the economy to improve labor productivity of the farms. Agricultural employment has been influenced by price and trade liberalization, as well as by general reform policies that liberalized factor markets, privatized productive assets, and removed obstacles for improved factor allocation and mobility throughout the economy (Swinnen, Macours, and Dries 1999). Increased factor mobility and improved incentives stimulated the outflow of surplus labor from agriculture, contributing to an increase in APL.

Credit constraints have been severe for all farms. In addition to 'normal' imperfections associated with asymmetric and costly information in all agricultural credit markets (Stiglitz 1993), a series of specific transition-related problems have constrained the financing of agriculture in CEECs since 1989. These transition-specific problems have to do with the role of credit in the economy, the institutional reforms occurring within the financial system, the low profitability in agriculture, accumulated debts, high inflation, risk and uncertainty, and collateral problems (Calomiris 1993; Swinnen and Gow 1999). The rural finance situation is improving in some CEECs due primarily to two factors: (a) improved profitability in agriculture since 1995; and (b) the emergence of institutional innovations, such as credit cooperatives, leasing, and various forms of contracting between farms and the upstream and downstream sectors. The contracts can take various forms, e.g., equipment leasing, forward contracting of output deliveries in return for inputs and working capital, producer loan guarantees backed by processing companies with delivery contracts, provision of commodity loans to contracted farms by processors and input suppliers, warehouse receipts, etc. All these contractual arrangements address the loan collateral problem and strengthen the credibility of future cash flows for loan repayment. They thus play an important role in improving access to credit for farms.

Foreign direct investment (FDI) in upstream and downstream sectors has also contributed to solving credit and contract enforcement problems at the farm level. In some cases FDI has

induced dramatic increases in productivity, as it simultaneously tends to solve problems of access to credit, information, management advice, and technology (Gow and Swinnen 1998). Furthermore, once one company successfully introduces such institutional innovations, there is an important spillover effect to other enterprises and even other sectors.

Complementary institutional reforms are necessary to facilitate access to credit, information, technology, and land for farms, which is a prerequisite for sustainable productivity growth. The form of the institutional solutions – such as the role of leasing or of cooperatives for purchasing inputs, credit supply, and marketing – will differ for the large-scale farms in CSH, the small fragmented holdings in Albania and Romania, and the part-time family farms in Poland and Slovenia. Not surprisingly, in those CEECs where ALP has increased most complementary institutional reforms and innovations, such as leasing of land and equipment, forward contracting, etc., and also the inflow of FDI, have progressed most.

The Impact of Land Reforms and Land Markets

A key condition for growth is that land reform allocates strong and clear property rights in land to individuals. Furthermore, the nature of property rights is more important than their distribution, even in transition countries (Swinnen 1999). In fact, ALP growth is strongest in those countries where an important share of the land is allocated to individuals not active in agriculture.

Sales markets of land are unlikely to provide an efficient solution to the demand for land exchange in CEECs. They generally work imperfectly (Platteau 1992) and in transition countries land sales are further restricted or absent due to missing legislation or the unwillingness of many owners to part with their newly acquired land.

However, improved resource allocation can be achieved through land tenancy contracts even when other markets are incomplete. Although land rental markets cannot completely eliminate structural impediments and produce a fully efficient allocation of land in an economy, they can go a long way toward bringing the operational distribution of holdings closer to optimum (Deininger and Feder 1999). Land leasing is a widespread phenomenon in Western market economies, and it is extensively used by the highly efficient farms in Europe and the United States (Swinnen 1998; USDA/ERS 1998).

The main benefits of land ownership vis-à-vis land renting are 'the privileges of wealth' and improved access to credit with the use of land as collateral (Sadoulet, Murgai, and de Janvry 1998). However, recent studies on land use and investment incentives in Asia and Africa indicate that secure land-use rights are sufficient conditions for efficient land use and optimal investment by farmers (Brasselle, Gaspart, and Platteau 1998; Feder and Feeny 1991; Rozelle, Li, and Brandt 1998). Furthermore, in developed market economies the importance of land as collateral to get access to credit is limited by the availability of other assets and diverse institutional arrangements to secure loan repayment. During transition, land collateral has not played a significant role because land sales markets were thin, if functioning at all, making it

unattractive for banks to accept land as collateral, and because land typically cannot be used as collateral for working capital and medium-term investment loans, which were the main financing objectives during transition (Swinnen and Gow 1999).

Therefore, a key policy focus should be on land leasing and on how to regulate and enforce leasing contracts so that they provide sufficient security to tenants for making farm investments and sufficient incentives for land owners to lease their land to the best user.

Survey Evidence from Hungary

In Hungary, the land reform of 1991-92 allocated land to citizens in two main ways: land was restituted to former owners either directly or through a process called compensation; and land was granted to former collective farm workers who had not owned land in the past. Households also have access to "land owned before 1992." This is mainly their pre-reform private plots and gardens, which accounted for approximately 15% of total agricultural land in the pre-transition period.

Results from the 1998 Phare/ACE farm survey in Hungary indicate that, on average for all households in the sample, land owned before 1992 is still the most important source of land for family farms (**Table 4**). Almost 60% of the respondents cultivate land that they owned before 1992, and this land represents 45% of all holdings by family farms in the sample. Restituted land makes up 26% of their holdings, about one-half from direct restitution and one-half through compensation. Family farms primarily use own land, and leased land accounts for about 6% of holdings.

Table 5. Sources of Land Used by Hungarian Farms: 1998 Survey

Source	Family farms	Enterprises
Owned	**94.2**	**6.3**
Owned before 1992	45.4	
Restituted directly	13.2	
Restituted through compensation	12.6	
Purchased	13.1	
Inherited	10.1	
Granted	1.0	
Leased	**5.8**	**93.7**
from the state		8.8
from partners/members		54.8
from outsiders		30.3
Total	**100.0**	**100.0**

Source: Phare ACE Survey (1999)

Table 6. Constraints Identified as Important Obstacles to Expanding Income Opportunities (in % of respondents)

	Family farms	Enterprises
Agriculture is not profitable	82.9	89.7
Producer costs are too high	78.5	89.9
Producer prices are too low	68.3	71.9
Cannot sell product	35.4	-
Policy problems	30.7	47.7
Cannot obtain loan	27.3	24.3
Delayed payments	24.2	19.5
Problems with cooperative	17.1	-
Cannot find labour	15.1	4.1
Cannot obtain land	13.0	70.9

Source: Phare ACE Survey (1999)

Farm enterprises do not own land. Their land is leased, mainly from the members (or partners, in the case of companies). Over 80% of all farm enterprises report that they cultivate land leased from members or partners, and this source represents about 55% of all land used by enterprises surveyed (**Table 5**). On average, enterprises lease 30% of their land from outside land owners and another 9% from the state.

The data suggest that the market for land leasing has been quite dynamic and important over the past years. Among farm households in the survey, 16% lease out land to others and 8% lease in land from others. But land transactions in Hungary are not limited to leasing: 16% of all farm households surveyed actually report land purchases, and purchased land accounts for 13% of total holdings (**Table 5**).

Despite these developments, land seems to remain an important constraint for Hungarian farms. While fully 78% of farm enterprises surveyed were planning to lease more land, 71% considered land a serious constraint (**Table 6**), and only 7% found it easier to lease land now than 5 years ago. In contrast, only 5% of family farms indicated that they intended to increase their land holdings in 1998, and 13% viewed land as a serious constraint. These differences in attitude to may reflect the fact that farm enterprises, unlike family farms, still have considerable slacks in capital and/or labor.

CONCLUSION

Significant restructuring of farms has taken place since 1989 in most CEECs, where the former large-scale collectives and state farms are undergoing substantive change. Farm restructuring differs widely among CEECs and among regions and sub-sectors within CEECs. Thus, large companies and cooperatives continue to dominate in Slovakia and the Czech Republic, while they have virtually disappeared in Latvia and Albania. Individual farming is growing and cooperatives continue to decline in all CEECs.

The development of individual farming is affected by the characteristics of the existing farms, such as technology and productivity, by government policies, such as land reforms, and by

characteristics of the farm households. Individual farming is more likely for individuals who are younger, but still have some farming experience, are better educated (up to a certain point), have access to land and capital inputs, and where the household has off-farm income sources. Farm surveys indicate a much more dynamic land market than is generally argued. For example, in Hungary, large individual farms and companies rent large shares of the land they use and have purchased a significant part of their land.

The most efficient among the emerging farm organizations are farms with a small numbers of workers, preferably family related, operating on a scale that captures the most important scale economies. This group includes the larger family farms and some farming companies. Cooperatives are the least efficient among farm organizations.

There is no simple relationship between the shift to individual farms and overall productivity growth in agriculture. The optimal reform and adjustment path differs among CEECs because it depends on the structure and the technology of the agricultural system and on the overall economic development. To achieve overall productivity gains, farm restructuring needs to be complemented by other institutional reforms that improve access to land, credit, technology, and information, and allow better allocation of labor. General reform policies liberalizing factor markets and removing obstacles for improved factor allocation are necessary to encourage outflow of surplus labor from agriculture and to stimulate inflow of external investment into the sector.

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Competitiveness of Farming in Countries Associated with the EU under the Common Agricultural Policy

Klaus Frohberg

The Central and Eastern European countries having association agreements with the EU (CEAs) will enter the union in the near future. How will agriculture and the food sector be affected by this important event? This paper tries to provide insight into this very complex issue. It assesses farming conditions in the acceding countries after entering the EU. A better understanding of how agriculture and the food industry will perform once they are part of the EU is of great importance for implementing pre-accession but also post-accession policies.

Preparation for accession is currently already under way. The CEAs implement agricultural and food policies which more and more resemble those pursued by the EU in terms of instruments used and their levels as its Common Agricultural Policy (CAP). In addition, applicant countries have to gradually introduce the acquis communautaire. This is to ensure that after accession they will be able to administer the CAP and their products adhere to EU standards.

However, the CAP as specified in the Agenda 2000 is likely to change due to external and internal pressure before enlargement takes place. To the former belong the Millennium Round of the WTO which is likely to put pressure on the CAP asking to abolish the compensation payments. Internal pressure arise for the same reason. The internal pressure rests largely on the view that the compensation payments would be extended to the accession countries at the time of accession. This is a rather realistic assumption. Many arguments can be forwarded in support of it. The budgetary consequences for the current EU members are quite substantial. It, therefore, is rather likely that the CAP should be re-designed to align its instruments and their levels more with the policies currently found in the CEAs. This makes it interesting to also look into the question of how the CEAs' food industry and agriculture would perform under those conditions. Therefore, current competitiveness is also investigated.

What is meant by competitiveness is not uniquely defined. In this paper, competitiveness is understood as referring to the ability to supply goods and services at the time, place and form sought by buyers at prices as good or better than those of other potential suppliers while earning at least the opportunity cost of returns on resources employed.

Many factors influence competitiveness. Clearly, they will be different when accession takes place. By how much they will vary in relation to conditions without joining the EU depends on what the CAP will look like then and the countries' pre-accession policies.

DETERMINANTS OF COMPETITIVENESS AND THEIR DEVELOPMENT

Macroeconomic Policies and Institutions

Agriculture is influenced by the performance of the macroeconomy and the policies used to steer it. As far as agriculture in transition countries is concerned, exchange rate and monetary policies are quite important.

All CEAs peg their nominal exchange rates to a basket of western currencies or to just a single one. Although this policy might be justified from the macroeconomic point of view it may have substantial effects on the real exchange rate. While the nominal exchange rate is the relative price of two currencies, the real exchange rate is defined as the ratio of two price indexes, the price index for tradable goods and that for nontradables. The real exchange rate is a good indicator of competitiveness, as it can be interpreted as reflecting the cost of producing tradables in the domestic economy. Statistics do not offer sufficient data for calculating the real exchange rate in the precise way defined above. One alternative is to rely on the purchasing power parity (PPP). The PPP exchange rate is the nominal exchange rate times the ratio of foreign to domestic prices. Frohberg and Hartmann (1997a) used the consumer price index (CPI) for the respective CEA as the domestic price, and the one for Germany as the foreign price. Their results reveal that nominal devaluation in the CEAs had not been strong enough to fully compensate for different developments in the inflation rates between the respective CEA and Germany (which reflects the same exchange rate changes as most EU members), thus leading to a real appreciation in all countries during the period 1990 to 1997. This implicit appreciation of the CEA currency in the past years of transition has made it more difficult for all export industries in these countries to compete on the world market. Though exchange rate stability helped considerably to reduce inflation. If there is no change in this policies a serious impediment to agricultural growth might occur. This also reveals the paramount importance of the nominal exchange rate of these countries with the euro at the time of entering the EU.

Domestic utilization of agricultural output depends not only on price changes and adjustments in habit, but to a large extent also on income growth. The development of the entire economy is, therefore, quite important for food consumption. In all CEAs economic growth occurs but at considerable different rates. Macroeconomic policies should further stabilize the economy and put it on a steady upward path.

As income grows, food consumption may not change considerably in terms of more caloric intake, but rather in terms of quality and type. A shift toward higher quality food requires more refined processing. This will offer the processing industries in these countries the chance to develop. However, it should be noted that further restructuring of this sector will be essential in order to take advantage of this growth potential and not to lose it to foreign competitors.

Some changes in consumer preference can also be expected. The demonstration effect is important in this respect. The increase in trade of the CEAs with western countries, the rising relevance of foreign direct investments in food processing and distribution of the countries, and the booming travelling abroad all strengthen this effect and is very likely to induce convergence of food consumption patterns between the CEAs and western countries (Elsner and Hartmann, 1997).

Market liberalization was done rather swiftly after the beginning of transition. Trade was also conducted in a rather liberal spirit. However, other areas like social policies were neglected completed policies. In many CEAs, institution building did also not progress as needed. This has led to severe economic and social problems. While new owners of food processing and distribution companies with large market power gained influence and realized large profits unemployment has risen and poverty became a problem. High inflation rates in the first half of the nineties often eroded the savings of large parts of the population dramatically. This is indicative of further need to improve economic conditions in these countries for smoothening accession.

Agricultural Policies and Privatization

Policies in agriculture and the food market differ somewhat between the various CEAs. All of them implemented measures to stabilize domestic markets and enhance exports for agricultural and food products. The types of policy instruments used vary largely. They include market interventions, export subsidies and import tariffs. In cases where domestic supply was severely interrupted, some of these countries also make use of export quotas to assure sufficient supplies for domestic consumers. Protection was generally reduced immediately after the collapse of the communist system.

In most of these countries, import protection has increased over recent years. Together with export subsidies granted, this should have led to a positive impact on agricultural trade balances, but exactly the reverse has happened. Other factors such as the appreciation of real exchange rate mentioned above, lack of quality and insufficient sanitary and phytosanitary standards, as well as inefficiencies in the food industry have obviously overcompensated these effects (see also Frohberg and Hartmann 1997a). Except for Bulgaria and Hungary, all CEAs run trade deficits in agricultural and food products in 1997.

All associated countries joined free trade areas. Estonia, Latvia and Lithuania created the Baltic Free Trade Area (BFTA) which has a special component for agriculture (BAFTA). The remaining CEAs belong to the Central European Free Trade Area (CEFTA). Both have problems especially with regard to trade in agricultural products. This shows that the agreements do not cover sufficiently issues arising from the differences in competitiveness among their members. From the point of view of accession the advantage of these free trade areas is that policies among their members are harmonized, at least to some extent. Hence, joining countries will have less difference in their agricultural policies, making integration easier.

Privatization is well advanced in all CEAs. Farms are privatized in almost all of them. Only in Estonia and Poland, some larger share of land is still owned by the government. In the former, some of the land is not farmed at all because of lack of profitability. In the latter, land of large scale enterprises is leased to private farmers.

Privatization of the food industry has not been advanced as much as of the farm sector. Romania and Bulgaria began to privatize only in recent years while in Hungary this is almost completed (Hartmann and Wandel 1999). In some countries, certain sectors still lack privatization like

the sugar industry in Poland. More important than the stage of privatization is the form of privatization chosen. For those food sectors which are primary processors preference in ownership was often given to farmers. This has led to shortages in investments in these companies.

Environmental problems related to farming are often neglected in the discussion on agricultural policies in the CEAs. This might be due to the fact that application of chemical inputs is rather low in these countries, and thus there is hardly any problem with regard to non-point source pollution. However, storage capacities of manure are often insufficient with regard to quantity and quality so that pollution can occur from this source. Lack of investment funds makes it difficult for farmers to improve this situation. In addition, governments will have to provide incentives to reduce soil erosion in relatively large areas of these countries. Soil compaction is also a problem in some areas. Farmers will generally have to adopt different cropping patterns and farming methods to reduce these environmental problems. This holds especially since environmental standards are expected to become more stringent in the future.

Farming Conditions

The current low labor costs impact positively on competitiveness of agriculture in the CEAs. However, wage rates are expected to rise relative to other input costs and output prices. This will increase costs of agricultural production and reduce profit margins and at the same time require investments, mainly in machinery, to substitute for labor.

Yield levels in the CEAs are lower than they used to be under socialism and compared to the EU. Though differences among the CEAs are enormous with regard to the EU, they have reached about 80%. It is doubtful, however, whether these countries will reach yields in the medium term which are as high as in the EU, even if natural conditions would permit such yields. Because this would require considerable investment in human capital, new breeds and seed varieties. But financial funds will remain scarce for agriculture for some time to come. In addition, environmental standards will also become more stringent in the future making it more difficult to reach yield increases similar to those achieved by EU farmers in the past.

Yield levels provide some indication on how productive land or animals are. However, not too much should be read into these figures. Yields depend on many inputs not just a single one. Low yields might therefore be a sign of that it does not pay to apply other inputs very intensively. It is important that farmers use inputs efficiently; both from the technical point of view as well as that of prices.

Farmers in CEAs are not used to risks. Necessary institutions are not yet established to a degree necessary to enable efficient risk spreading. In most of these countries, futures markets do not exist, forward contracting is also not well developed and it is not possible to insure against crop failure or animal diseases. In addition, farmers face risks due to insufficient possibilities of contract enforcement by the government. Delayed payments is a rather widespread phenomena in CEAs. All farmers can do is to adapt their farming practices to reduce risk to an optimal level. Off-farm risk reduction measures, though, would often be more efficient.

Determinants Affecting Changes in Farm Size

Competitiveness is crucially affected by farm size. Production costs are lowest only if an optimal farm size has been reached. Experiences from western countries show that farm sizes are consistently adjusted; usually increasing in size. In some of the CEAs still very large farms exist. It is conceivable that they might decline.

Factors determining the scale of operation vary substantially within a country. Therefore, many different structures of farms can be found. Moreover, these factors are shaped by forces changing over time and, hence, are quite dynamic. Consequently, farmers are in need of adjusting continuously their scale of operation. In the following these dynamic factors will be briefly discussed.

In the CEAs, type and procedure of privatization had a strong influence on farm size. However, privatization was a one-time event. Natural conditions impact on the scale of operation but also do not change over time. Therefore, both of these factors do not get further attention. The order of listing these factors changing in the future does not resemble in any way their importance.

Price Structure

The relation among all prices determines farm types and their product mix as well as intensity of input use. In turn, allocation of land and other quasi-fixed factors is affected. As adjustments in the agricultural terms of trade are likely to occur with entry into EU, farm sizes have to be changed accordingly. This also is likely to affect farm labor. Experience from western countries shows that employment in agriculture is going to decline absolutely and relatively to the total work force.

Endowment with Fixed Factors

With the growth of the economy income obtained from off-farm work is usually rising. This leads to higher opportunity costs of farm labor. Returns to labor employed in agriculture is under continuous pressure to rise in order to maintain income parity. In turn, (marginal) labor productivity must go up. Farmers respond either by producing more or reducing employment. They seek to expand their activities by cultivating more land, increase livestock husbandry or intensify production through other ways. The latter, of course, assumes that there is sufficient capacity available in form of buildings and equipment.

Small-scale farms especially need to make sure that fixed labor is fully employed throughout the year. Size of operation as well as production structures are to be determined to avoid peaks in labor use. Rather, smooth employment over the entire year should be reached. Among others, this explains why small farms are usually more diversified than large ones. They produce more labor intensive goods because endowment with capital is also relatively low. Large-scale farms can better cope with the problem of utilizing indivisible factors throughout the year such as labor and capital items like tractors, combines and buildings.

Land Market

In general, land markets are still to improve in the applicant countries. The problem with land is that it is physically immobile and hence can only be 'moving' between farms located in a certain region. In addition, an increase in the operation of a farm through enlarging acreage leads always to more transportation within the farm and, hence, pushes marginal costs up.

Due to the outstanding role of land in agricultural production a properly functioning land market is of very high importance for competitiveness. If this market works perfectly land will always go to that farmer who makes the most efficient use of it. Leading to a Pareto-optimal situation. Properly functioning land markets are especially needed in the CEAs (and other transition countries as well) because the way privatization was carried out. Most of them used restitution as a way for privatizing land. The only exceptions were Hungary and Romania which also distributed land to farm workers free of charge (Lerman 1999). It is impossible that these procedures of privatization led to a farm structure which was optimal. Privatization cannot be expected to have led to the most efficient 'initial' distribution of land. Hence, re-allocation of land is necessary to improve farm sizes from the viewpoint of efficiency which requires competitive markets.

However, many impediments can be found in the CEAs making their land sales and lease markets deviate considerably from the ideal situation. The most important ones are legal constraints. Also relatively high transaction costs can restrict selling or leasing land. A third group of factors hampering transactions of land are missing markets of other production factors; especially of credits (Mathijs and Swinnen 1999).

Labor, Capital, Input and Output Markets

Not only a functioning land market is a prerequisite for changes in farm size according to economic conditions. Labor and capital markets, as well as markets for farm inputs and outputs are also essential for farm size adjustment.

Agricultural labor can adjust in two ways. It may quit working in agriculture or seek part-time off-farm jobs. In particular, the latter way requires work alternatives in close distance to farms. It is therefore paramount that alternative industries and services will be able to absorb labor released by agriculture. This is especially important in those areas in which restructuring of farms is very much needed due to small farm operations.

Experience from western countries shows that farm labor adjusts gradually to changing economic conditions. Especially for small farms one should not assess labor allocations without addressing the issue of how a farm household organizes the entire labor capacity it has to offer. Such a farm household might be considered as a unit which offers labor both on-farm and off-farm.

Privatization and restructuring of banks was very much needed for the establishment of capital markets. This has progressed considerably in most applicant countries. Capital markets for agriculture are not yet functioning as well as they should. As with land markets, this statement refers more to total

turnover rather than government regulations. Especially rural areas still suffer in some of these countries from insufficient developments of the banking system. For example, in Latvia, there is only one bank which provides loans to farmers and agricultural companies (Frohberg and Winter 1999). Credit unions are established in Lithuania. They must have at least 50 members. The capital share of them should exceed 15000 litas. More than a dozen credit unions had been established in different regions by the end of 1997 in this country. In Romania, bank organizations and operations are to be improved. "At the level of the financial intermediaries, the re-engineering of the organization, the management and the adoption of innovative financial instruments are pertinent to increase the efficiency of financial intermediation" (Heidhues and Schrieder 1998, p. 171). In Poland, on the other hand, rural lending is handled by only few banks which operate a subsidiary in almost each village.

For many farmers the problem of receiving loans is compounded by lack of collateral due to their high share of leased land. Some countries like Hungary established credit guaranty funds which overcome this worry. A third reason for the low turn over in rural capital markets is the relatively low internal rate of return making it difficult for agriculture to compete for credit with other sectors of the economy. Finally, the amount of savings in the countryside is low because of the small income earned by the people living there.

During the socialist era, inputs were provided by the cooperatives or state farms. With the transition, these services were taken over by private companies. Farmers had to establish new business relations for buying inputs. In some countries not all of these services are well established hampering the development of family farms in particular. Input industry is not yet producing efficiently in all CEAs, which leads to high prices. A more competitive input industry would avoid the disadvantage due to imperfect market structure.

Problems with selling farm products are similar to those with buying inputs. New market channels had to be established. Especially, for those family farms which had small quantities for sale this created problems. Wholesale markets were founded only with substantial time delay and often are not yet functioning properly. For some products like vegetables and fruits finding a buyer requires still today substantial effort. Large-scale farms are much better off in this respect, especially if they could retain their relations with food processors.

Economies of Scale

Replacement of machinery and equipment usually shifts their optimal use outward, resulting in technical economies of scale. This explains why the optimal scale of operation of farms is to be adjusted, generally leading to an expansion of farm operations. New capital also substitutes for (some) labor. If that part of labor does not find off-farm employment, farm production has the capacity to increase, putting additional pressure on enlarging the farm size. Small-scale farms have often difficulties in exploiting the advantages of mechanical technical progress. Possibilities to overcome this are offered by sharing machines among several farmers or by hiring customs service. But even in those cases the need arises to expand production if labor cannot adjust.

Another form of technical economies of scale is associated with improvement in genetic resources (biological technical progress), which usually leads to higher yields or more efficient use of inputs. Large-scale farms are in a better position to take advantage of this type of technical progress because of better managerial skills.

The organization of markets at which farmers are buyers and sellers is also relevant for restructuring farms, leading to so-called market economies of scale. The more the buyers of agricultural products and sellers of farm inputs have market power, the more difficult it is for small farmers to be able to enforce their economic interests. Large farms have an advantage under these circumstances. This is due to the higher quantities of equal quality these farms can offer. For reaching equal market conditions small farms have to cooperate in marketing their produce.

Exploiting more market power results especially in better prices. In some cases, like at financial markets it may even be the only way to obtain a loan. Small farmers require only relatively small loans. High transaction costs accruing to the lender make these credits expensive. This often pushes total costs of the loan beyond the limit what the farmer can afford to pay.

The farm size also affects possibilities to hedge against risks. Various forms exist to carry out these activities which is easier for larger farms than smaller ones. It was mentioned above that on-farm possibilities their optimal use to insure against various forms of risks but few off-farm ones exist.

Economies of Scope

Economies of scope usually arise if experience and skills gained in producing one good can be used in the production process of another one; an observation quite often found in agriculture. This positive effect gets re-enforced by the need of agriculture to diversify production in order to spread yield risks due to unforeseen natural events like hails, infestation etc. If economies of scope prevail the farmer is forced to produce many commodities for efficiency reasons. Hence, a certain size of operation is required to simultaneously exploit economies of scale. Inter-seasonal labor use has been mentioned above as another factor which makes especially small farms to produce relatively large number of commodities.

Transaction Costs

Transaction costs are those costs which arise due to the coordinating the interactions of human beings. They can be observed at various processes of economic and political decision making: the firm, the market and the political level. At the firm level, these are those costs related to controlling and measuring the work of labor (principal–agent problem) and to setting up contracts; i.e., to searching for partners and controlling and enforcing the contracts.

Transaction costs gain in importance relative to those of production. It is obvious, that transaction costs related to labor hardly accrue to family farms because they do not employ hired labor at all or only to a small extent. However, these farms are likely to also face transaction costs associated

with contracts for selling and buying activities and the like but these accrue to large scale operations as well.

Williamson (1985) describes different ways of efficiently organizing the work of labor at a firm. He considers three determinants: a) the ease with which controlling and measuring can be achieved; b) the skill a certain task requires; and c) the frequency with which this task is to be done in the firm. For example, a task which is rarely to be carried out and requires very specific skills (high investments into human capital) should be done by specialists hired from outside the firm. Those jobs, however, which lead to measurement problems, do require many skills and are to be carried out relatively seldom might be better done by the farmer himself.

Firm level transaction costs related to labor increase more than proportionate with the share of hired in total labor employed on a farm. This makes these transaction costs increase with farm size. On the other hand, it was shown above that larger farms have advantages in exploiting economies of scale.

Managerial Skills

Managerial skills are another if not the most decisive factor with respect to farm size and farm organization. Failure of farms are also occurring due to lack of managerial skills. It is not only the economic knowledge required for an optimal farm organization. The capability of inspiring farm workers to engage successfully in farm work is equally important.

In summary, the optimal size and organization of a farm strongly depends on how all the determinants mentioned above play together. It is a very complicated and complex interaction. This can be also seen from the fact that farms in a country vary considerably in terms of size and organization at a given point in time. Any prediction of future developments is made difficult by the uncertainty involved in foreseeing what path each of these determinants will follow. Nevertheless, both size and organization of farms will have to adapt in order to remain efficient. This process of adjustment is not unique for all farms. In the CEAs, many farms established in the early stages of transition will have to increase.

Food Processing and Distribution

Processing and distribution of food, i.e., the food chain affects agriculture's competitiveness through the type and quality of products it buys from farmers and prices paid. In turn, agriculture impacts on the competitiveness of the food chain by supplying these goods at those prices. Competitiveness of the food processing and distribution industry is influenced by a number of additional factors. Only the most important can be mentioned in this section. These are the level of institution building, the progress with respect to privatization, links in the food chain, management and marketing capabilities, and external factors (for a detailed analysis see Eiteljörge and Hartmann 1999).

The implementation and enforcement of a bankruptcy law introduces full liability as an important constitutional principle of a market economy. Entrepreneurs are fully responsible for their

activities and the government no longer covers or capitalizes debts, as it did in the centrally planned economy. Loss-making enterprises have to go out of business and resources freed to be allocated to those companies who can make better use of them. All CEAs implemented a bankruptcy law. Enforcement is not as rigorous as needed. For fear of high social costs, however, governments in some countries are reluctant to let enterprises of the food sector go bankrupt.

Given the inherited monopsonistic and monopolistic structures in food processing and agro-service enterprises, antitrust regulations play an important role in enhancing competition. Most CEAs implemented appropriate anti-trust legislation, to which all companies, including those of the agro-food sector, are subjected. Anti-monopoly committees were established in some countries to monitor the situation in the commodity as well as service markets and to enforce the anti-trust law. In recent years, competition has become stiffer, due to both the legal framework and the emergence of many small-scale private enterprises. Opening up international trade also helps to stimulate competition.

Establishing an appropriate market information system is very important for improving efficiency in agriculture and food processing. During the course of the transition to a market economy a large number of small-scale agricultural producers as well as of new private companies in the up- and downstream sectors started their business. They need information about market conditions for an efficient response to market signals. Though systems for reporting regularly about markets were established deficiencies still exist in most CEAs.

One major problem of the food industry in CEAs is poor quality of its products. In order to enhance competitiveness of the CEAs in food products quality standards and sanitary controls must be strengthened since they are not yet adequate at all levels in the food chain required for exporting to western countries. All CEAs are in the process of harmonizing their regulations with those of the EU. But this process still takes time till it is completed.

As mentioned above, the banking sector had to be privatized and emerging local banks often lacked the competence and facilities to fulfil the tasks of money lending to entrepreneurs. The food industry has to compete with other borrowers for capital but it seems to be in a better position than the farm sector is in.

The methods of privatization applied in the food industry differ between CEAs. However, it is possible to identify some common features. In general, small enterprises have usually been privatized by being sold directly or auctioned to the highest bidder. Large enterprises have mostly been turned into joint stock companies, with a subsequent transfer of shares to various owners. In this case, preference has quite often been given to agricultural producers and/or to enterprise employees and managers. The former holds especially for the first stage food processing branches such as the dairy, milling and meat industries. The aim of granting preferential treatment to agricultural producers is to dilute monopsonistic power in the downstream sector and to guarantee the supply of processors with agricultural raw materials. This method has been used predominantly in the Baltic States, but also in Slovenia and Hungary.

The degree of privatization achieved in the food industry differs between countries. In general it has often proven difficult to find suitable investors. Privatization of the food processing sector is most

advanced in countries such as the Czech and Slovak Republics, Hungary, Poland and the Baltic States, although even these countries are experiencing problems in reducing excess capacities and privatizing the primary processing of agricultural products (e.g. mills, slaughterhouses and dairies). By the end of 1998, 85% of the food industry were planned to be privatized in Bulgaria, while Romania intended to have the privatization of this sector completed by that time (Agra-Europe 1998, p. 29).

Among the CEAs Slovenia provides an exception since two property forms differing from the other CEAs are known: cooperative and so-called "corporate" property. The cooperatives are comparable to those common in the West, and a privatization is thus superfluous. The privatization of the processing plants in "corporate" ownership only started in 1994. At present privatization has been completed in about two thirds of the enterprises. In some sectors, however, it is just starting (wine, dairy, and vegetable oils).

The degree of privatization differs not only between countries but also between sectors. While the privatization of some sectors of the food industry has been fully or nearly completed, in others progress has been slow. In general, sectors producing high-value finished products, such as vegetable oils, confectionery, tobacco and beer, were privatized quickly, often with foreign and multinational participation. Other product areas such as meats and dairy products have proved more difficult.

A major obstacle for privatizing enterprises predominantly involved in primary processing activities might be the preferences given to agricultural producers in the acquisition of downstream industries. In Lithuania, for example, agricultural producers possessed in 1997 32% of the shares in the meat processing industry and 31% in the milk processing industry (EU Commission 1998, Lithuania, p. 35). It is by no means for sure that agricultural producers, who are generally having great difficulty surviving as viable primary producers and financing their own development, could take on the task of developing and running a successful processing enterprise. At best there would be a conflict of interests as regards the pricing of the raw materials supplied by the producers to the processing enterprise. They might be tempted to increase producer returns, leaving capital without adequate reward.

Also, where enterprises are dominated by employees, this could lead to a policy of maximizing employee benefits, thus awarding wages and salaries that are not related to productivity, and giving excessive preference to job security.

Increasing horizontal integration in the food industry could be observed in recent years, as small-scale food processing enterprises merged into bigger units. At the same time badly performing enterprises go out of business, mainly because of their inability to meet the requirements of the changed laws on product quality and standardization as well as phytosanitary and sanitary regulations.

LINKAGES BETWEEN AGRICULTURE AND OTHER RURAL INDUSTRIES AND SERVICES

The development of rural regions in applicant countries is hampered by many problems. During socialist time, no special policies existed to support rural areas. Any assistance provided to these regions was part of farm policies. With the transition, support of agriculture drastically declined and,

hence, also of rural areas. Policies aiming at fostering development of these regions were not implemented for quite until recently. They are being established only now and even this is rather vaguely done. Urban development received considerably more attention in the CEAs. As a consequence, a decline of rural areas relative to urban ones occurred in all of these countries.

The economies of these rural areas include various types of other industries and services of which agriculture is still the most important one in many regions of the CEAs. Besides its direct impact, agriculture also affects indirectly the development of the local economy. This occurs through the linkage which exist to its upstream industry providing inputs into agriculture and to its downstream sectors such as processing and distribution of agricultural output. In addition, the entire agro-food sector is linked to adjacent industries and services. Some of the latter connect again with agriculture. Therefore, forward and backward linkages exist between agriculture and the remaining local economy. Hence, agricultural and food policies still have an important bearing on rural economies even if it is reduced. The multiplier effects should also not be overlooked.

Many functions for which formerly collective or state farms were responsible now are carried out by other industries. This also holds for construction work but also for organizing main social tasks like kindergartens and nurseries as well as medical and cultural services. They were provided in special, purpose-built facilities on state and collective farms which the village community has or had to take over. Some of the services also ceased to be provided. This is indicative of the substantial economic restructuring required in rural areas which takes time and needs many initiatives. On the other hand, it offers the chance of, at least partly, revitalizing the rural economies. Especially, processing industries could be established as well as marketing facilities and other services for agriculture in these regions.

Development of rural economies might be enhanced by reallocating parts of the up stream but especially the down stream industry into the countryside. This can be accomplished simultaneously with restructuring these industries. Whether this will happen strongly depends on the quantity and type of raw material supplied by local or nearby agriculture. Some raw material cannot be hauled over too a large distance making factories which process these goods very dependent on sufficient local supply. Milk, live animals, fruits and vegetables belong to this group. Grain, however, is easily hauled over long distances making milling companies and bakeries independent of local and even domestic supply.

In addition, the intensity of processing differs among farm commodities. Slaughterhouses and meat-packing and canning of fruits and vegetables require more inputs than milling. This also indicates that how agriculture develops can have varying impacts on supporting local economies. There are other examples showing that agriculture can enhance many economic activities in rural areas. Selling farm products or small scale processing is better organized if demand for the products is in close distance. On the other hand, development of farming also depends on industries not directly related to agriculture. Farmers often work only part time on their enterprise and earn a substantial part of their income from other industries and services.

The problems in rural development may be seen in migration to and from urban areas. Though total net migration from rural to urban regions is relatively small the structure of these processes is more revealing. Young people move to cities and the elderly remain at or go to the countryside.

Examples also exist that this process is reversible and young people return. New suggestions for development of rural communities are needed. More financial support may be helpful. But without any sustainable development the money given may be wasted.

Physical Infrastructure in Rural Areas

Upgrading the physical infrastructure and especially the road and railway systems seem to be unavoidable for keeping rural areas populated. This facilitates trade between regions and taking advantage of the particular amenities rural as well as urban areas offer. There are different ways to accomplish this. However, modern transportation systems just connecting large cities without stopping in the countryside are not facilitating this process. This holds for road, railway and air traffic. On the other hand, modern electronic networks also favor rural regions.

Integrating the applicant countries into the EU puts additional need for improving transportation. The benefits from enlargement can only be obtained if no artificial barriers like insufficient transport infrastructure hampering trade exists.

The EU Commission recognizes the crucial role of infrastructure in rural development and emphasizes the upgrading of transport infrastructure including border crossing facilities (EU Commission 1997). The Rural Support Fund of Agenda 2000 has special programs targeted to diversification of the rural economy and the creation of additional and alternative jobs (EU Commission 1998). No agreement has yet been reached with regard to how the agricultural and structural policies of the EU will be implemented in applicant countries. As a matter of fact, opinions in this respect are still rather far apart the dividing line running between current and new members.

Structural policies in applicant countries supporting agriculture and rural development are still undergoing adjustments. For instance, in Slovenia they are likely to be altered towards measures which improve structural changes in ownership as well as in production, use of technology and setting up of marketing organizations. The development of a more market-oriented structure of agriculture is seen as a prerequisite to a successful adjustment of this sector. This applies not only to expansion of farm size and yields, but also to the identification of not yet discovered "niche" markets and complementary income sources. A more efficient marketing and organization of producers are also needed. The state can play a key role in supporting market-oriented organizations – cooperatives for selling and/or buying, chambers of agriculture, sales points, marketing chains – and encouraging mergers. In some of the applicant countries, investment subsidies are available for less favorable areas (mainly for animal production on alpine pastures).

Similar structural policies are implemented in other applicant countries as well. They can also be used to encourage the application of environmentally friendly production techniques. Where needed the use of pesticides and fertilizer as well as the livestock density can be reduced. Support may be directed toward organic farming and integrated food production systems.

QUANTITATIVE INDICATORS OF COMPETITIVENESS

Results of several recent studies, most of which were financially supported by the EU Commission, are used in this paper for assessing competitiveness of the CEAs under the CAP. Each study analyzed the effects of the EU East-Enlargement on the CEAs by using a host of different indicators. Jointly, the studies probably exhaust the current possibilities for measuring both quantitatively and qualitatively competitiveness of a sector and industry.

The various indicators and the specific studies are listed in **Appendix I**. This overview provides an interesting insight into which of the measures were mostly preferred by the research teams. Many of these indicators can only be used for indicating past competitiveness. They are calculated based on statistics representing sector averages or farm level information. Just a few of the indicators measure development of competitiveness in the future or at a certain future date. But the latter characteristic and not the former is required for an assessment of how agriculture and the food industry in the CEAs may be able to hold on to or expand market shares after these countries joined the EU. Answers to this question are provided by using the domestic resource costs indicator (DRC) in some instances. Most often simulations with some kind of sector or national models are carried out for this purpose.

The measures used vary also with regard to ease of calculation and their ability of depicting competitiveness. For example, factor endowment is not as good an indicator as is the DRC. As might be expected, there is a negative correlation between ease of calculation and data availability on the one hand and ability to indicate the degree of competitiveness on the other. Those to be computed with little problems often do not have the strongest predictive capacity.

Panel A1 in **Appendix I** reveals that just a few measures regarding agriculture are used for all countries. These are the market share indicators and real exchange rates. The latter has special characteristics; it is an indicator calculated – at least in the studies analyzed for this overview - for the national level and not specific commodities or crops. Besides these two indicators the DRC is also employed for almost all countries. All other measures find only scattered application.

Panel A2 lists quantitative indicators that have been employed for analyzing competitiveness of the food industry. Interestingly, they are fewer in number than those used for the agricultural sector. With the exception of market share indicators and protection levels they are not employed to assess competitiveness. This is likely caused by lack of data availability rather than suitability. The DRC or gross margin can equally well be used for indicating competitiveness of the food industry as for agriculture. In terms of model simulations, the food sector has quite a different market structure making it more difficult to depict it in a mathematical system. Lack of data may be another reason why so few models exist for the food industry.

Besides quantitative also qualitative indicators are used for assessing competitiveness. Those employed in the studies considered in this evaluation are listed in **panel A3** in **Appendix I**. All of them are rather difficult to compute and, therefore, might not have been calculated. Some of them such as foreign direct investment and effective protection could, however, have been filled with numbers. Nevertheless, they are not easy to interpret from the point of view of competitiveness. This holds for foreign direct investment especially since they occur due to a host of factors not all of which are closely

linked to competitiveness. On the other hand, if used these two measures are employed for almost all countries.

One aspect is worth mentioning. All studies investigate separately competitiveness of agriculture from that of the food industry. An analysis of the entire food chain, i.e. from stable to table would be advantageous. Investigating competitiveness only for the farm sector leaves important aspects of the downstream sector out, even if the product is not further processed by the domestic industry. Transportation and marketing activities are not included which might turn the final verdict on competitiveness into opposition direction. On the other hand, including raw material into the analysis of the food processing industry's capacity to compete allows a more comprehensive investigation than without.

Considering first ex post competitiveness, the exchange rate was (and still is) an important determinant of trade for the CEAs. Immediately after transition began all CEAs devalued their currencies against those of western countries. Thereafter, they tried to keep them constant with more or less success. Some of these exchange rates are fixed against one or several western currencies. For example, since the early period of transition Estonia ties its currency to the German mark. On the other hand, the inflation rates differ between transition and western countries. For some of the CEAs, the policy of keeping the nominal exchange rates rather fixed while differences in inflation rates were considerable led to rather strong changes in their real effective exchange rates.

Figure 1 shows the development of this indicator between 1995 and 1998 for nearly all of the CEAs. Earlier years are excluded because of substantial structural adjustments which took place in these countries. However, as this figure depicts even over more recent years changes in the real effective exchange rate were still rather strong. The Baltic countries experienced the largest appreciation during this period. This holds regardless whether all trading partners are considered in the calculation, Russia and other European countries of the Commonwealth of Independent States (CIS) are excluded, or only the EU is included. It is interesting to notice that for most CEAs the appreciation of the real effective exchange rate is strongest towards

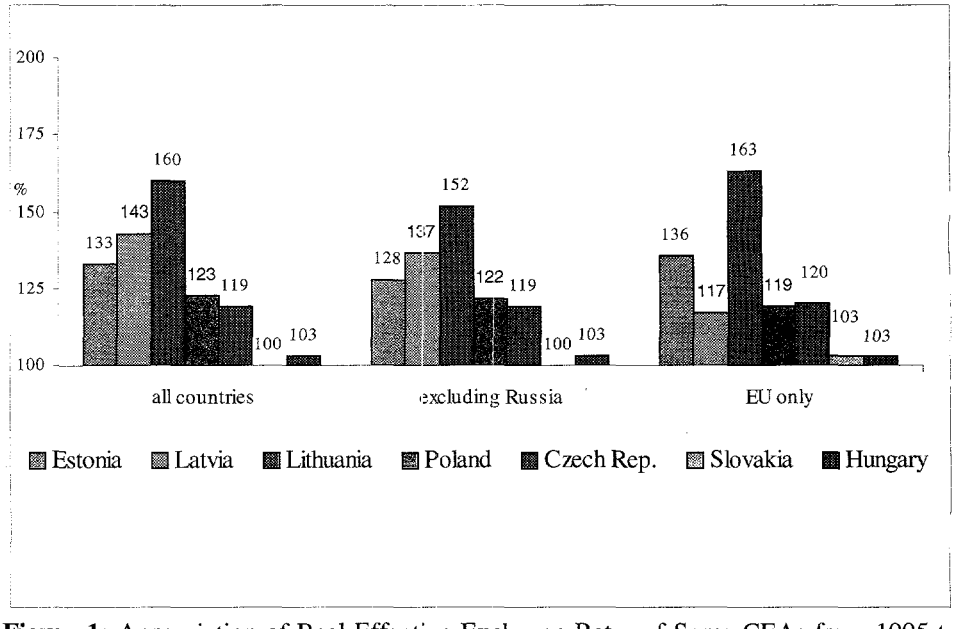


Figure 1: Appreciation of Real Effective Exchange Rates of Some CEAs from 1995 to 1998 (1995 = 100). Calculations carried out by W.-R. Poganietz in three alternative scenarios: considering all trading countries, excluding Russia, and including only the EU. No data for Bulgaria, Romania, and Slovenia.

the EU and smallest when Russia and other European countries of the CIS are excluded in the calculations. This means that real effective appreciation of the currencies of CEAs was lowest towards the latter countries. In some cases even a depreciation occurred. Since the CEAs trade only a small percentage of their goods with the CIS, changes in their bilateral exchange rates enter the calculation of the real effective exchange rate with relatively low weights. Hence, strong adjustments in these exchange rates have almost no impact.

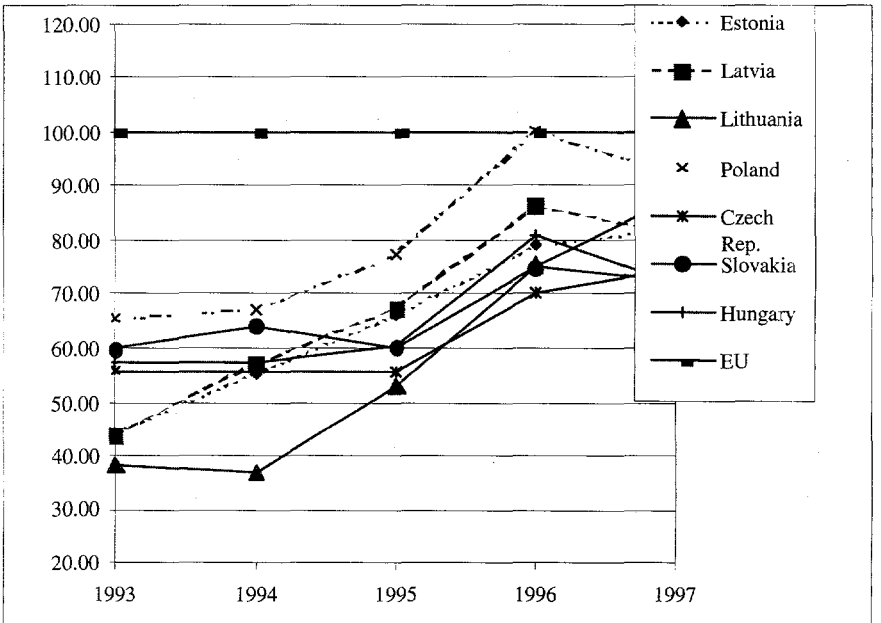
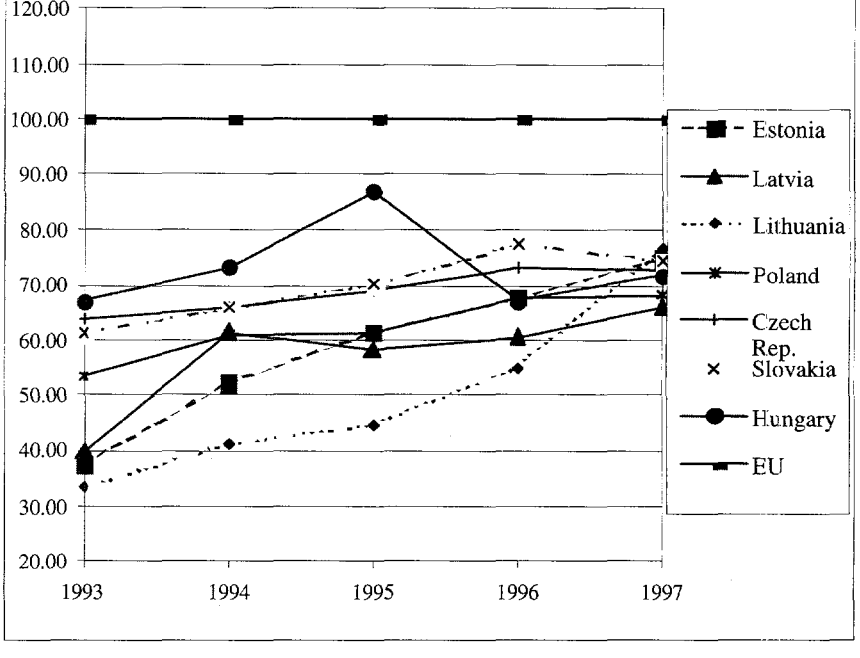


Figure 2: Aggregate Producer Price of Crop Products in Selected CEAs Relative to the EU (EU=100).

The lowest appreciation of the real effective exchange rate took place in Slovakia and Hungary. The appreciation in Poland and the Czech Republic is somewhat higher but still considerably less than the appreciation in the Baltics. Nevertheless, real appreciation of 20% over a period of only three years is fairly strong and constitutes a considerable deterrence to export. At the same time, it improves import conditions. Both effects put domestic production under severe pressure of adjustment since the share of imported inputs is relatively small.

Figure 3: Aggregate Producer Price of Livestock Products in selected CEAs relative to the EU (EU=100)



Future developments of exchange rate policies in the CEAs are likely to lead to different developments which are expected to be more conducive for exports. Therefore, these policies will strengthen outward orientation of agriculture and the food industry in the CEAs by strengthening their competitiveness.

Other important determinants of competitiveness are producer prices. At the beginning of transition they were considerably lower in the CEAs than those prevailing in the EU. Aggregate producer prices of crops and of livestock increased during the transition period relative to those of the EU in all those CEAs shown in **Figures 2** and **3**. This holds for crops as well as for livestock products. In 1997, the difference of the aggregate prices of crops varied between 8% for Poland and 28% for Hungary. The price gap for animal products is, in general, somewhat larger. It ranges from 24% for Lithuania to 34% for Latvia. Besides the narrowing of the price gap between the EU and the CEAs it also is remarkable how close these aggregate prices became among the associated countries themselves. This is likely to be due to several factors among which the creation of free trade areas (CEFTA and BFTA) are quite important. It also makes the enlargement of the EU easier since prices are harmonized among the acceding countries to a considerable degree though at a different niveau than that of the EU.

The aggregation of producer prices of livestock products disguises an important fact. Beef and milk prices were all substantially lower in all years than the aggregate one while those for pork, poultry and eggs were above. This pattern is observable for all CEAs. In 1997, producer prices of ruminant products were about 50% below those in the EU. The other ones were at equal level or somewhat above. In some of these countries, the pork price exceeded that of the EU by 20% in that year.

Agenda 2000 is likely to lead to lower prices for some agricultural products than those which prevailed in 1997 narrowing the price gap between the EU and the CEAs even more. Hence, at the time the associate countries will join the EU only a small price effect – if any – can be expected. As a consequence, competitiveness of agriculture in the CEAs will only be modestly strengthened due to increases in producer prices after accession.

However, input costs matter as well. Prices of tradable inputs can be expected to adjust to EU level. In general, this will lead to an increase with a magnitude comparable to changes in producer prices. Costs of the nontradable production factors land and labor remain to be considered. Land is the residual claimer and gets that remuneration of what the other inputs do not claim. Only labor remains to be explained as a cost factor. Competitiveness of agriculture in the CEAs could considerably weaken if labor costs in these countries adjust to those prevailing in the EU. **Figure 4** depicts the hourly wage rate to be paid for agricultural labor in the CEAs relative to that of the EU. As can be seen from this figure the difference in wages

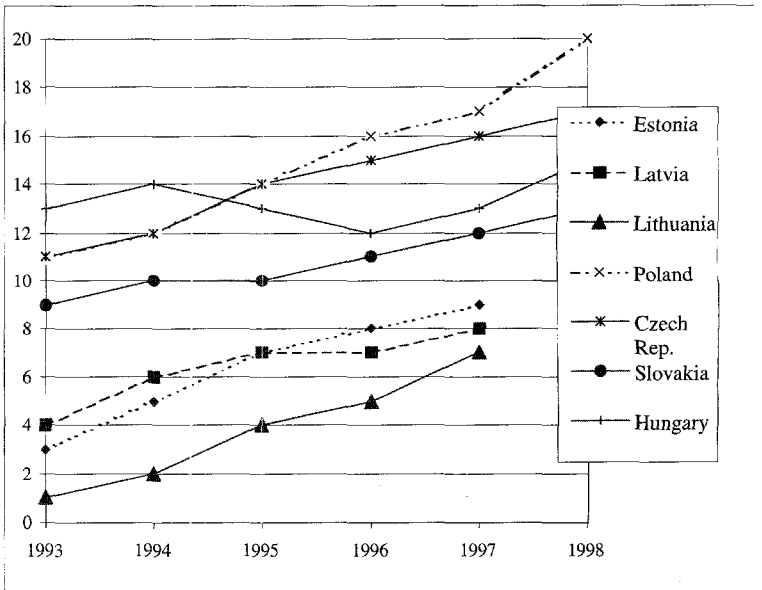


Figure 4: Hourly Wage Rate in Agriculture in Selected CEAs Relative to the EU (EU=100).

is still rather large though the gap is also narrowing. In Poland, Czech Republic and Hungary the difference was 80% in 1997 and in the Baltic countries 90%.

An important question is whether wage rates increased more than producer prices in the CEAs compared to the EU. **Figures 5** and **6** combine the information contained in **Figures 2** and **3** respectively with that of **Figure 4**. They depict ratios of a relative price in the corresponding CEA to that in the EU. The relative price is the aggregate crop price (or livestock price) normalized using the hourly wage rate. The graphs in **Figures 5** and **6** reveal two aspects. First, the normalized producer prices are considerably higher in the CEAs than in the EU. In 1997, the range run between 12 times in Lithuania and 5 in the Czech Republic for the aggregate crop price and between 10 times in Lithuania and 4 in Poland for the aggregate livestock price. Second, for all associated countries considered but Hungary this ratio of the two normalized aggregate producer prices declined over time. The level of reduction is in general not very strong. Lithuania and Estonia, however, show a considerable decrease. This change implies that producer prices relative to the wage rate increased less in the CEAs than in the EU. Hungary is the only country for which this ratio increased from 1993 to 1997 indicating an improvement in relative producer prices as compared to the EU.

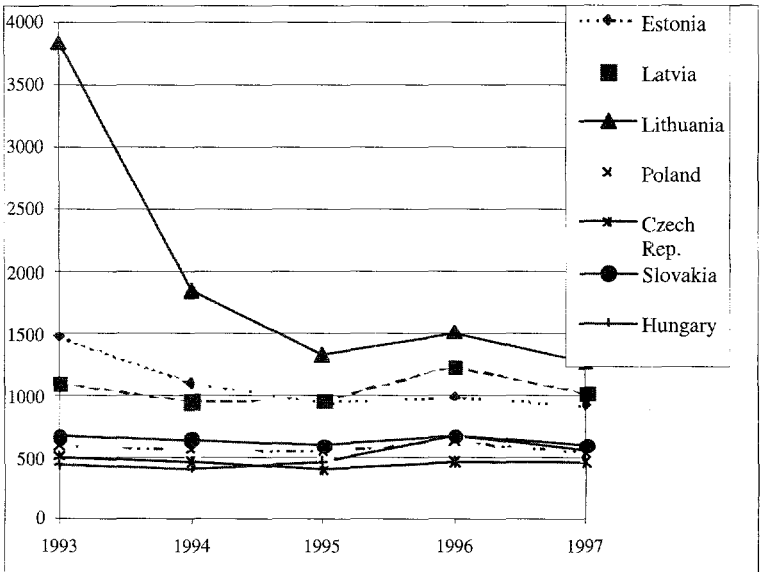


Figure 5: Ratio of Aggregate Crop Price to Wage Rate for Selected CEAs Relative to the EU (EU=100).

This competitive advantage based on relative prices has to be turned into one which considers costs. Low wage rates do not imply small labor costs because the level of labor productivity is usually reduced too. Since the two are closely related it is very likely that with increasing wage rates labor productivity will also go up. That means that labor costs may increase after the CEAs joined the EU but less than wage rates.

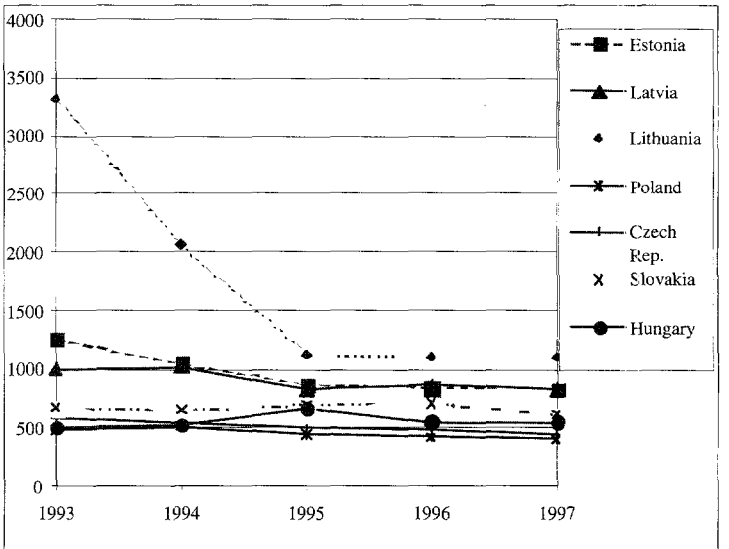


Figure 6: Ratio of Aggregate Livestock Price to Wage Rate for Selected CEAs Relative to the EU (EU=100).

Many of the indicators employed need a large set of data, are based on past information and used for ex post analyses. Only a few methods exist which can be engaged for ex ante

assessments (Frohberg and Hartmann 1997b). Models belong to the latter group. Some measures of the ex post type like DRC are now also taken to condense the information provided by rather broadly scoped models such as general or partial equilibrium ones to a single indicator. The advantage of doing this is obvious; it is easily seen whether a competitive advantage exists and to what degree.

The discussion on competitiveness focuses first on ex post analyses. Ex ante evaluations will follow thereafter. As an important determinant of competitiveness, production costs are explicitly considered in several indicators; e.g. in the calculation of gross margins. However, the results of these calculations are rather depend on the underlying assumptions and data used. It is not unusual to see rather diverging statements or even conflicting results. Commonly, gross margins are calculated only at farm level. This hampers somewhat their use for international comparisons since important determinants like transportation and marketing costs are not explicitly taken into account in case if raw materials and, in addition, processing costs if food products are considered.

Gross margins are shown for the Baltic countries, Poland, Hungary, and Romania in **Table 1**. For comparison, gross margins are also depicted for two Scandinavian EU member states, Finland and Sweden. Quite large differences in those figures can be observed. For all Baltic countries only pork can be claimed competitive if compared to Sweden. The situation is quite different if evaluated relative to Finland since gross margins of the latter are substantially lower than those in Sweden (because, among other factors, direct transfers are not treated as revenue in Finland). Gross margins of farms in Poland and Hungary are indicative of a stronger competitiveness while those of Romania are generally low.

Table 1. Gross Margins[a] for the Baltic Countries, Finland, and Sweden in 1996 (in euro per hectare or per animal)

	Estonia	Latvia	Lithuania	Poland [b),c)]	Hungary [c)]	Romania [c)]	Finland	Sweden
Wheat	359	41	-19	139	46	39	280	445
Barley	113	-69	18	n.a.	n.a.	-152	-49	139
Sugar	29	138	48	219	100	-54	-349	102
Milk	359	-117	-19	501	667	n.a.	280	445
Beef	29	3	48	n.a.	n.a.	n.a.	-349	102
Pork	8	-62	32	n.a.	n.a.	n.a.	-23	-10

[a] Gross margins defined as revenue minus costs of variable inputs and labor.; [b] Gross margins of small farms; [c] Data for 1995
Source: Frohberg and Winter (1999) for the Baltics and Scandinavian countries, Schuele (1999) for the rest.

These margins were calculated for the mid-90s. Their small levels are often caused by low producer prices rather than high production costs. Increasing producer prices (as has actually happened since then) could have lead to considerable improvements in competitiveness if prices of variable inputs increased less and/or productivity grew especially strong. As shown above wage rates tend to increase faster than other prices. This will erode the cost advantage these countries still have if productivity is not raised.

Table 2 provides a summary assessment of various competitiveness indicators calculated in studies financially supported by the EU. The light shaded cells include commodities for which the results show competitiveness. The dark shaded cell point toward products that lack competitiveness. For cells not shaded and cells with a plus/minus sign no conclusion could be reached. The latter is the one most often occurring. Obviously, different indicators used for the same commodity often show

conflicting results.

The table depicts two sets of indicators, ex post and ex ante. The former are based on observations made in the past while the latter assess competitiveness assuming conditions which are likely to prevail after accession to the EU. The ex post indicators include gross margins, DRC, private cost ratios (PCR), and two revealed comparative advantage measures, the relative export advantage index (RXA) and the relative trade advantage index (RTA). Ex ante indicators are results of simulations carried out with models. Berg et al. (1999) use farm level Linear Programming models, while Weber et al. (1999) employ econometric type sector models.

The relative export advantage index, RXA, is defined as the ratio of a country's export share of a certain product in the world market to the same country's share in world export of all other commodities. The special feature of this measure is that the world "total" is always taken as the sum across all countries except the one studied. This avoids counting countries and commodities in both the numerator and the denominator. This aspect is especially relevant if a country is important in international trade, and/or if the commodity considered is important in total trade. In these cases, double counting would lead to biased index values. RXA values above unity suggest that the country reveals a competitive advantage in the considered product category whereas values below point to a competitive disadvantage.

The relative trade advantage index, RTA, is the difference of two similar measures, the relative export advantage index, RXA, and the relative import penetration index, RMP. RMP is defined similarly to RXA using imports instead of exports. The competitive advantage revealed by RTA is implicitly weighted by the importance of the relative export and import advantages. Hence, it is not dominated by extremely small export or import values of the commodity considered. A positive RTA value indicates a competitive advantage, and a negative one a competitive disadvantage.

The RTA and RXA measures go beyond those discussed so far in this section. They also include processed food. Hence, results of these two revealed comparative advantage measures are summarized which were obtained for several processing levels of each commodity. According to these indicators, Hungary seems to have competitive advantage. Similarly Estonia shows generally positive signs, especially for oilseeds and sugar beet, but not for meat products; the outcomes for milk are conflicting. Most CEAs do not have a strong advantage according to numbers based on trade figures.

For Hungary and Slovenia DRC and PCR were also calculated. As can be seen from **Table 2**, they are not always in agreement with the picture provided by the RTA and RXA measures. For Hungary, no differences can be discerned for wheat and oilseeds – all indicators show competitiveness, but for animal products they are substantial. Both DRC and PCR point to difficulties in being able to compete in milk and beef which the other two indicators assess to be rather the opposite. One explanation for this divergence is whether processed or unprocessed goods are considered. As mentioned above, this can be decisive for the outcome. A similar picture emerges when the DRC and PCR figures of Slovenia are compared with the ones representing revealed comparative advantage. Again, only for wheat and oilseeds is there an agreement in the message. These two products are competitive. For all other products the measures produce conflicting results.

Table 2. A Summary Assessment of Competitiveness for CEAs*

Study	Method/ Indicator[1)]	Year	wheat	oilseeds	sugarbeet	milk	beef	pork
				Estonia				
				ex post				
Eiteljörge and Hartmann	RTA and RXA	1995	+-	+	+	+	+-	+-
		1996	+-	+	+	+	+-	+-
		1997	+-	+	+	+	+-	+-
				ex ante				
Weber et al.	Sector model	2007	-	+	+-	+	+	-
				Latvia				
				ex post				
Eiteljörge and Hartmann	RTA and RXA	1995	+-	+-	+-	+	+-	+-
		1996	-	+-	+-	+	+-	+-
		1997	+-	+-	-	+	+-	-
				ex ante				
Weber et al.	Sector model	2007	+-	+-	-	+	+	-
				Lithuania				
				ex post				
Eiteljörge and Hartmann	RTA and RXA	1995	+-	+	+-	+-	+-	+-
		1996	+-	+	+-	+	+-	+-
		1997	+	+	+	+	+-	+
				ex ante				
Weber et al.	Sector model	2007	+	+-	-	+	+	-
				Poland				
				ex post				
Eiteljörge and Hartmann	RTA and RXA	1995	-	+	+-	+-	+	+-
		1996	-	-	+-	+-	+	+-
		1997	+-	-	+-	+	+	+-
				ex ante				
Berg et al.	LP model	2007	-	-		+-		+
Weber et al.	Sector model	2007	-	+-	-	-	-	+
				Czech Republic				
				ex post				
Eiteljörge and Hartmann	RTA and RXA	1995	+	+	+-	+-	+	+-
		1996	+-	+	+	+-	+	+-
		1997	+-	+	+-	+-	+	+
				ex ante				
Weber et al.	Sector model	2007	-	-	+	+	+	+

*) The + sign stands for competitive, +- for indecisive, and - for non-competitive.

[1]) DRC = domestic resource cost, PCR = private cost ratio, RXA = relative export advantage index, RTA = relative trad advantage index.

Table 2 Continued

Study	Method/ Indicator[1)]	Year	wheat	oilseeds	sugarbeet	milk	beef	pork
Slovakia								
			ex post					
Eiteljörge and Hartmann	RTA and RXA	1995	+	-	+-	+-	+	+-
		1996	+-	+	+-	+-	+	+-
		1997	+-	+	+-	+-	+	+-
			ex ante					
Berg et al.	LP model	2007	-	-				
Weber et al.	Sector model	2007	-	-	+	-	+	+
Hungary								
			ex post					
Banse et al.	DRC	1994	+	+		-	-	-
		1995	+	+		-		+
		1996	+	-		-	-	-
	PCR	1994	+	+		-	-	+
		1995	+	-		-	-	+
		1996	+	-		-	-	-
Eiteljörge and Hartmann	RTA and RXA	1995	+	+	+	+-	+	+-
		1996	+	+	+	+	+	+
		1997	+	-	+	+	+	+
			ex ante					
Berg et al.	LP model	2007	-	-		-		+
Weber et al.	Sector model	2007	-	-	-	+-	+	-
Slovenia								
			ex post					
Bojnec	DRC	1995	-	-	-		-	+
	PCR	1995	-	+	+	-	-	+
Eiteljörge and Hartmann	RTA and RXA	1995	+-	+-	-	+	-	-
		1996	+-	+-	-	+	+-	+-
		1997	+-	+-	+-	+	+-	-
			ex ante					
Weber et al.	Sector model	2007	+-	+-	-	+-	+	-
Bulgaria								
			ex post					
Eiteljörge and Hartmann	RTA and RXA	1995	+	+-	+-	+-	+-	+-
		1996	-	+-	+	+-	+-	+-
		1997	-	+-	+-	+-	+-	+-
			ex ante					
Weber et al.	Sector model	2007	-	+	+-	+	+-	+

Hungary, Estonia and Slovenia are the countries for which the outcome of various analyses conducted with regard to assessing the impact of accession are more in agreement than for the other CEAs. No results could be found for Romania. Evaluations for Hungary show that crops are competitive but milk and beef not. Though in some years domestic resource costs point toward a lack of competitiveness for pork revealed comparative advantage indicators show mixed results or the opposite. It is remarkable that oilseeds and sugarbeet in Estonia are measured to be competitive while milk is not and for beef opposite outcomes were found.

Continuing with the discussion of ex ante indicators, Münch (1999) and Weber et al. (1999) provide estimates of production changes in the first round countries (Estonia, Poland, Czech Republic, Hungary and Slovenia) under different assumptions with regard to what kind of CAP might be adopted. The results indicate that besides changes in domestic prices also productivity changes such as yield levels play an important role in the responses simulated.

In a scenario which excludes extension of compensation payments to acceding countries the studies find that price increases are sufficient to lead to expansion in cereal production in those countries and coarse grain exports will increase. Oilseed production will decrease as prices in the first round countries fall to EU levels. In the case direct payments for arable crops are granted for them, oilseed production decreases less as relatively more area is allocated to these crops in the analysis done by Münch (1999). Weber et al. (1999) find that oilseed output will decline more if no compensation is paid than with.

In the livestock sector two types of development take place. For pork, poultry and eggs prices in the first round countries are at or above those of the EU. Hence, joining the EU leads to a decline in output of these commodities and an increase in consumption. As a consequence, these countries become net importers of those products.

Developments for milk and beef are quite different. For these commodities, the first round countries have prices substantially below EU levels. Hence, price increases are expected to occur with accession. Production will, therefore, increase, demand be reduced and net exports rise. Compensation will make production increases of beef even stronger but not milk since these countries will also be allocated a milk quota. This is expected to be binding already in the scenario without compensation.

As mentioned above, efficiency of the food industry is crucial for the development of agriculture. **Table 3** provides concentration ratios of the four largest firms for some food processing sectors in associated countries and EU member states. The latter are added for comparison. Hungary, Lithuania and Slovenia indicate relatively high concentration ratios for the entire food industry. Estonia and Latvia show them for the dairy industry. In Poland, Czech Republic and Romania they are relatively low in general. Bulgaria provides a rather mixed picture. Though concentration in the food industry seems not anymore the most pressing problem in these countries, implementation and enforcement of appropriate antitrust rules is necessary to prevent a new occurrence of concentration (Hartmann and Wandel 1999).

Table 3. Concentration Ratios of the Four Largest Firms for Some Food Processing Sectors in Selected Accession Countries and Some EU Member States in 1996 (in %)

	Flour	Bread	Processed pork and beef	Milk
Estonia	n.a.	n.a.	n.a.	57[3)]
Latvia	n.a.	n.a.	n.a.	46[3)]
Lithuania	43.2[1)]	43.2[1)]	40.6	31[3)]
Poland	20.0	10.7	11.5	19.3
Czech Republic	18.0	n.a.	15.7	26.7
Hungary	30.0	23.0	40.0[2)]	35.0
Slovenia	100.0	45.5	55.6	76.0
Romania	8.5	9.1	11.6	31.2
Bulgaria	47.6	6.9	15.1[2)]	35.2[4)]
France	29.0	4.5	23.0	n.a.
Germany	38.0	7.0	22.0	n.a.
Italy	6.7	4.0	11.0	n.a.
United Kingdom	76.0	58.0	n.a.	n.a.

[1)] grain processing; [2)] pork only; [3)] dairy sector; [4)] for 1995
Source: Adapted from Gorton et al. (1999) and Hartmann and Wandel (1999).

Another indication of how competitive the food sector is can be obtained from the price spread between farm and retail level. Farm gate prices as a percentage of retail prices are rather low in some of the first round countries such as the Czech Republic, Poland and Slovenia for wheat (**Table 4**). Hungary's farmers receive a much higher share of the retail price for bread than their colleagues in other first round countries. In the second round countries listed in that table, Bulgaria and Romania, this share is even higher. Large variations also exist for the farm gate to retail price ratios of other commodities and for prices of processed goods.

Table 4. Ratios of Prices at Farm gate and Different Processing Levels to Retail Prices in 1996 (in %)

	Bulgaria	Czech Rep.	Hungary	Poland	Romania	Slovenia
Wheat/Flour/Bread						
Farm gate	36	13	32	13	37	19
Milling	54	21	49	39	81	29
Bakery	81	88	86	44	94	88
Milk						
Farm gate	50	63	64	30	72	55
Processing	78	82	84	39	83	86
Beef						
Farm gate	33	26	38	n.a.	67	37
Processing	74	82	72	n.a.	90	47
Pork						
Farm gate	28	27	38	32	57	27
Processor	53	39	72	77	82	31
Chicken						
Farm gate	32	40	45	56	50	33
Processing	57	83	92	n.a.	68	72

Source: Adapted from Table 5 of Gorton et al. (1999).

Both processing and retailing receive direct or indirect support in some countries (Gorton et al. 1999). If this is going to be phased out after accession to the EU some sectors of the food industry might face profitability problems unless they cut costs. Considerably less information on

competitiveness exists for the second round countries. This is due to the fact that at they were not as intensively studied as those in the first round. It holds less for Slovakia, Latvia and Lithuania but more for Bulgaria and especially for Romania. The latter received least attention in this respect.

CONCLUSIONS

The overview of farming conditions under EU economic and especially agricultural policies reveals that agriculture is likely to benefit from accession to the EU. However, the extent of this improvement is open to considerable variation. It depends on many determinants of which the development is quite uncertain and also can be influenced to a large degree by the accession countries themselves. Altogether, it is fair to say that production will strengthen but demand as well. The net trade position in agricultural and food products of the accession countries is expected to improve as well. Crucial to these outcomes are also factors which are shaped outside the EU and the joining countries. Among those, developments at the world markets for agricultural products are very important.

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APPENDIX I: Availability of Competitiveness Indicators for CEAs in EU studies*

A1. Quantitative indicators used for assessing the competitiveness of agriculture

	Estonia	Latvia	Lithuania	Poland	Czech Rep.	Slovakia	Hungary	Slovenia	Romania	Bulgaria
Factor endowment	X	X	X							
Gross margins	X	X	X							
Total factor productivity					X	X	X			
Farm income				X						
Private cost ratio(PCR)							X	X		
Domestic resource costs (DRC)					X		X	X		
Market share indicators (RXA,RTA)	X	X	X	X	X	X	X	X	X	X
Model simulations	X	X	X	X	X	X	X	X		
Agricultural gross output (GOA)				X	X	X	X			
Real exchange rates	X	X	X	X	X	X	X	X	X	X
Nominal protection rates (NPR)	X	X	X	X	X	X	X	X		
Producer subsidy equivalents (PSE)				X	X		X	X	X	X
Price and income response				X	X		X			X

A2. Quantitative indicators used for assessing the competitiveness of food processing industry

	Estonia	Latvia	Lithuania	Poland	Czech Rep.	Slovakia	Hungary	Slovenia	Romania	Bulgaria
Concentration ratios	X	X	X	X	X		X	X	X	X
Foreign direct investment	X	X	X	X	X	X	X	X	X	X
Market share indicators (RXA,RTA)	X	X	X	X	X	X	X	X	X	X
Price margins in food chain				X	X		X	X	X	X
Firms with export license				X	X		X	X	X	X
Firms with retail outlets				X	X		X			X
Producer subsidy equivalents (PSE)				X	X		X	X	X	X

A3. Qualitative indicators used for assessing the competitiveness of agriculture and food processing

	Estonia	Latvia	Lithuania	Poland	Czech Rep.	Slovakia	Hungary	Slovenia	Romania	Bulgaria
Farm structure	X	X	X	X	X	X	X			
Human capital	X	X	X	X	X	X	X	X	X	X
Credit markets	X	X	X	X	X	X	X		X	X
Land markets	X	X	X				X			
Downstream sectors	X	X	X	X	X		X	X	X	X
Effective protection				X	X		X	X	X	X
Instability of agricultural policies	X	X	X							

*The indicators marked with **X** are available in the following studies funded by the EU Commission:

1. EU Integration Impacts on the Financial Situation of Farms in Selected Existing and Future Member States; Coordinator: E. Majewski (ACE P 95-2180-R)
2. Agriculture and East-West European Integration; Coordinator: Johan Swinnen (ACE P 95- 2022 -R)
3. Analysing Agricultural Policy Options Under Transition in View of Future Accession to the EU; Coordinator: George Mergos (ACE P 96-6107)
4. Farm Restructuring in Central and Eastern Europe: Causes, Efficiency and Policy Implications; Coordinator: Johan Swinnen (ACE P 96- 6090- R)
5. Agriculture Implications of CEEC Accession to the EU; Coordinator: Stefan Tangerman (FAIR 1 CT 95- 0029)
6. Competitiveness of the Baltic Agricultural and Food Sectors after Accession to the EU; Coordinator: Klaus Frohberg (P 95 2198 R)
7. Inefficiencies in the Food Industries of the Baltic States; Coordinator: Monika Hartmann (P 96 6055 R)

Impact of Foreign Direct Investment on Agriculture and Agro-Industry in Transition Economies

Hamish R. Gow
Johan F. M. Swinnen

Total flows of foreign direct investment (FDI) into transition countries increased significantly during the early 1990. FDI has a positive impact on the industry in transition countries because it provides capital essential for restructuring and modernization, as well as bringing managerial and technological skills, which are in short supply within the region (OECD 1998). FDI in the agro-food sector accounted for a substantial share of total FDI. The bulk of agro-food FDI has been directed to the agro-industry, and not to primary agriculture. However, despite the fact that very little FDI has gone to the farm level, FDI is having a major positive impact on primary agriculture.

Agricultural transition has been characterized by declining output and decapitalization of the production system. One of the contributing factors to these negative development has been the break-up of the pre-reform system of contracting and contract enforcement in the agro-food chain, which formerly was strongly vertically integrated and centrally planned. With imperfectly developed market and legal institutions, enforcement problems within the agro-food sector have caused contractual disruptions. In the absence of credible and enforceable contractual arrangements, the opportunity exists for one of the parties involved in the contract to attempt to extract the appropriable quasi-rents accruing to the relationship-specific investment by renegotiating the contractual terms *ex post*, that is "holding up the transaction" (Williamson 1985). Hold-up is defined as "the general business problem in which each party to a contract worries about being forced to accept disadvantageous terms later, after it has sunk an investment, or worries that its investment may be devalued by others...." (Milgrom and Roberts 1992, p.136). These hold-up problems cause under-investment in relationship-specific assets (Klein et al. 1978). In transition agriculture, hold-ups are usually observed in the form of delayed payments, due to a combination of agriculture-specific characteristics and transition-specific problems (Gow and Swinnen 1998).

Empirical observations suggest that FDI in upstream and/or downstream industries in transition countries has provided a solution to the contracting problems and has facilitated access to inputs for farms through private contract enforcement mechanisms induced by innovative vertical contracting. Our discussion of the impact of FDI in transition countries focuses specifically on opportunities for private contract enforcement and contractual convergence across

sectors, going beyond the traditional FDI-induced effects (Bende-Nabende and Ford 1998, Borensztein et al. 1998, Brenton and di Mauro 1999) and spillover to other sectors (Lall 1980, Watanabe 1983, Blomstrom and Kokko 1997).

To explain the impact of FDI in transition countries, we use a new institutional contracting model based on Klein's (1996) model of contract enforcement and hold-ups. We show why the reforms have induced massive contract disruptions and how FDI-induced vertical contracting has been successful in providing private enforcement of contracts during the transition period. Empirical evidence is presented on FDI-induced vertical contracting, including a case study. The case study illustrates a potential aggregate impact of FDI, including horizontal and vertical spillovers, on investments, productivity, output, and trade, both for the processed product and for the raw material.

FDI IN TRANSITION COUNTRIES

Between 1991 and 1996, the amount of FDI into transition countries more than quintupled. The main beneficiary countries of foreign investments have been the Czech Republic, Hungary, Poland and Russia. These four countries together accounted for about 80% of total FDI flows to the region in 1996. The vast majority of investors are from OECD countries, with geographic proximity being a major determinant of investment. For example, German companies have been important investors in the Czech Republic and Poland, Scandinavian firms in the Baltic states, and Greek investors in Bulgaria (OECD 1998).

The share of total FDI going to the agro-food sector ranged from 7% in Croatia to about 25% in Bulgaria (**Table 1**). On a per-capita basis, the Czech Republic, Hungary and Poland stand out as the recipient countries with the highest agro-food FDI. The bulk of agro-food FDI has been directed to agro-industry, and not to primary agriculture. In Romania and Ukraine, for instance, at most 2%-3% of total FDI has been directed to primary agriculture. Within agro-industry, most FDI has been directed into the sugar and confectionery, the tobacco, and the soft drink subsectors. Alcoholic beverages and milk and dairy production have also attracted substantial FDI. Meat processing, on the other hand, has received relatively little investment from foreign firms.

The Impact of FDI: Direct Effects and Spillovers

FDI provides much of the capital and managerial and technological skills needed for the restructuring and modernization of agro-industries in transition countries. Also tacit know-how can often be more easily transferred by foreign managers than local managers who are not as familiar yet with the workings of private enterprise (Teece 1986).

FDI not only has benefits for the recipient company, but can also have positive effects on the behavior and performance of companies with whom the recipient company competes – so-called horizontal spillovers – or with whom it exchanges products as supplier or purchaser. For

example, foreign-owned firms force local competitors to improve their operations, increase their managerial efforts, or adopt some of the marketing and contracting techniques, thus providing role models for the behavior of companies in other industries. The demonstration of new technologies increases know-how of local firms and, in combination with increased competition, forces them to operate more efficiently (Blomstrom and Kokko 1997).

Table 1. Cumulative FDI Inflows for Food-Processing Industry and Selected Sub-Industries in Transition Countries, 1990-97 (millions US $)

	Sugar, confec-tionery	Alcoholic beverages	Soft drinks	Tobacco	Total food processing	Per capita, US$	Share of agro-food FDI in total FDI, %
Albania[1]	-	-	10.0	-	14.0	4.0	-
Bulgaria[1]	-18.6	37.0	40.9	0.9	191.0	22.7	25
Croatia	-	33.0	31.2	-	68.0	15.1	7
Czech Rep.	23.0	157.0	237.0	420.0	997.0	96.8	8
Estonia	-	16.0	15.0	17.0	85.0	57.4	11
Hungary[1]	173.0	123.9	21.8	32.0	832.2	80.8	-
Lithuania	23.0	25.0	-	64.7	150.0	40.4	16
Poland	765.9	226.6	454.2	730.0	2,915.0	75.7	14
Romania[1]	42.4	166.0	321.0	-	239.9	10.6	18
Russia	692.7	121.9	294.2	90.0	1,459.4	9.9	14
Ukraine[1]	42.5	6.8	116.0	-	361.2	7.1	22
Total	1,781.1	913.2	1,251.3	1,354.6	7,312.8	24.2	-

[1] Estimates
Source: OECD (1998)

Some of the spillovers from FDI result from cooperation between the foreign affiliates of multi-national corporations (MNCs) and local firms, or from linkages between the affiliate and local suppliers, as suppliers are forced to meet the higher standards of quality, reliability, and speed of delivery (Watanabe 1983). Spillovers also occur when local firms benefit from the MNC affiliate's superior knowledge of product or process technologies or markets, without incurring the initial setup and development costs that may exhaust the gains from the improvement. MNCs can affect the economic welfare of input suppliers in three ways: (a) the quality of goods and services that they buy; (b) the influence they may exert on the terms of procurement; and (c) the impact they may have on the technological capability, managerial initiative, and organizational competence of their suppliers (Dunning 1993). Direct spillover effects come from MNCs who contribute to raising productivity and efficiency in local suppliers as they help prospective suppliers set up their production, provide technical assistance or information to raise the quality of suppliers' products or to facilitate innovations, provide or assist in purchasing of raw materials and intermediaries, provide training and help in management and organization, and assist suppliers diversifying by finding additional customers (Lall 1980).

Empirical observations suggest that spillover effects are very important in transition countries. For example, whilst the bulk of agro-food FDI has been directed to the agro-industry levels of the supply chain, rather than to primary agricultural production level, FDI has nevertheless had a major positive impact on growth and efficiency at the farm level. The beneficial impact of FDI has resulted from vertical contracting between farmers and the foreign affiliates in the upstream and downstream industries. The inflow of FDI into the agro-food chain,

when accompanied by innovative vertical contracting and financing, has successfully reduced the financial constraints and stimulated investment and technology adoption at the farm level, resulting in substantial quality and yield improvements for contract producers (Gow and Swinnen 1998). Additionally, FDI spillovers have occurred through changing management and contracting practices both within the initially affected sector as well as across adjacent sectors. Firms have been observed imitating these contractual relationships as they compete for the same primary producers and their fixed factor resources, i.e., land.

TRANSITION AND CONTRACT DISRUPTIONS

Contracts are naturally incomplete, because agents find it difficult and expensive to foresee and plan for all possible contingencies, as well as enforce these contracts, especially when outcomes are unobservable or non-verifiable by a third party (Hart 1995). Contractual incompleteness often results in parties exposing themselves to *ex-post* costs and hazards related to their sunk investments in relationship-specific assets, that is the occurrence of hold-ups.

There are two mechanisms to reduce the likelihood of a hold-up: private sanctions and legal (court) enforcement. Private sanctions include both the losses that result from termination or nonrenewal of the contract or relationship (i.e., the future quasi-rents of the relationship-specific investments) and the damage to the reputation of the party holding up the transaction. Because of damaged reputation, future transacting parties may impose an increased cost of doing business on the reneging party by demanding more explicit and/or favorable contractual terms and preferring written contracts to verbal promises.

Traditional contract theory usually considers that court enforcement and private enforcement are alternatives. However, Klein (1996) emphasizes a fundamental complementarity between the two enforcement mechanisms. Contractual terms are used "to economize on the amount of private enforcement capital necessary to make a contractual relationship self-enforcing by merely 'getting close' to the desired performance in a wide variety of circumstances (without creating undue rigidity) and to let the threat of private enforcement move performance the remainder of the way to the desired level" (pp. 455-456). It is sometimes not viable to use legal dispute mechanisms due to a combination of litigation costs, ineffective contract law, poor third party verifiability, and the potential loss of the only suitable trading partner for that commodity. This is especially true in transition economies. For example, the agricultural processing sector is often characterized by geographical monopsonies. Therefore, the potential loss of their sole trading partner can impose high costs upon a production enterprise, especially when the relationship-specific investment has already been sunk. Further, the legal and judicial systems are still in their embryonic stages of development, hence outcomes of any court decision are highly uncertain and non-transparent.

Firms may actually prefer incomplete contracts. Strict specification of the contractual terms may produce unwanted rigidity. For example, once contractual terms are written down, one of the parties may decide to hold up the transaction by enforcing the literal terms even if these run against the initial intentions of the contract (Klein et al. 1978, Klein 1996). With incomplete

contracts, parties gain greater flexibility to opt out of the contractual arrangements if future market conditions deviate substantially from expectations. To avoid the danger of being locked into an adverse situation, transacting parties may intentionally elect to leave detailed specifications out of the contract, and opt to use private sanctions to enforce the contractual arrangements instead of the courts.

When Do Hold-Ups Occur?

At each point in time, both parties to a contract consider the costs and benefits of holding up the contract. A hold-up will occur when its benefits are greater than the costs to one party. Klein (1996) argues that transacting parties will only engage in a transaction if they expect that both parties will honor the (implicit) contract, i.e., if for both parties the cost of breaking the contract is larger than the benefits. The main reason for hold-ups occurring is when *unanticipated* changes in the external environment affect the cost/benefit ratio sufficiently to make it optimal for one party to hold-up the contract.

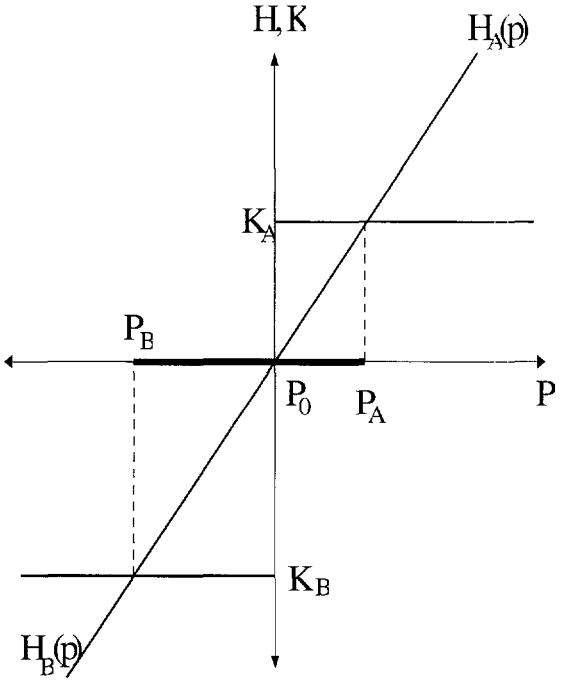


Figure 1. The self-enforcing range in contracts

To illustrate this, consider the following example. A producer needs to invest in a production facility specific for a certain delivery to a processor. To prevent a hold-up by the processor after the producer makes the investment, both parties agree on a contract that specifies product characteristics ("quality"), quantity, and a fixed price. Assume that the price is set at the expected market price p_0. Once the contract has been agreed upon, the actual market price, p, may deviate from the contracted price p_0. If $p > p_0$, the contract provides unanticipated rents to the processor, and the benefits of breaching the contract increase for the producer (the producer can get a higher price by selling his product in the market). As **Figure 1** shows, the producer's benefits of breaching the contract (H_A) increase with an increase in the wedge between the actual price and the contracted price. At some price p_A, the benefits H_A will become larger than the costs for the producer of breaching the contract, K_A, which is the sum of reputation losses and capital costs. Analogously, p_B represents the market price below which it is optimal for the processor to breach the contract and to buy his supplies in the market.

If the market price stays within the price range $p_B - p_A$, the contract will be honored, otherwise not. The range $p_B - p_A$ is therefore called the "self-enforcing range" of the contract (Klein 1996). The self-enforcing range measures the extent to which market conditions can change without precipitating a hold-up by either party. Changes in market conditions may alter the value of specific investments and thus the benefits of a hold-up, yet as long as the relationship remains within the self-enforcing range where each transactor's benefits of a hold-up

are less than the costs, a hold-up will not take place.

In this framework, hold-ups only occur when a sufficiently large unanticipated event shifts a contract outside the self-enforcing range. A hold-up would never occur in a fully anticipated world. If the transactor had anticipated the possible occurrence of the present market conditions and recognized the potential for hold-ups to occur, it is unlikely that he would have undertaken the initial investment to begin with. Otherwise, he would have insisted upon different specifications in the contract. Alternatively, since the magnitude of the private sanctions (reflected in H_A and H_B) affects the size of the self-enforcing range, a different distribution of private sanctions could also prevent a breach of contract.

Transition Hold-Ups in the Agro-Food Chain

Prior to the initial reforms in CEE most of the agro-food supply chain was centrally planned and vertically integrated (see **Box 1**). The central authority routinely provided contractual enforcement and transacting parties faced a low (or zero) probability of being held up. The reforms caused several institutional changes, leading to widespread hold-ups. First, economic reforms split the agro-food chain into autonomous enterprises. Second, contractual terms were no longer enforced by the legal system or the central planning authority, while new legal enforcement mechanisms were absent or ineffective. Third, since the transacting parties had no previous experience with hold-ups, private enforcement levels were left unchanged and producers continued making relationship-specific investments. Fourth, the reforms brought "unanticipated" shocks that dramatically changed market conditions shifting the processors outside of the self-enforcing range.

Box 1. Changes in the Processing Sector: The Case of the Slovak Republic

In the pre-reform era, both the upstream and downstream industries were composed of large state-owned companies, one per sector and in some cases the same firm on both sides of the market, e.g., the Agricultural Supplies and Procurement Organization (PZN). This enabled the state to gain total control of the sector, while producers effectively faced supply and marketing monopolies. Additionally, all production and resource allocation decisions, as well as price targets, were set centrally by the state. The artificially low and administratively set commodity prices required heavy compensation of agriculture through an extensive menu of subsidies. Massive consumer subsidies were also provided for basic foodstuffs. These factors stimulated excessive production and consumption of agricultural products, as well as the establishment of overcapacity in the processing sector (OECD 1997). Beginning in 1991, the Czechoslovak (later Slovak) government transformed the integrated agro-food processing sector comprising 30 firms and 188 processing plants into 197 separate and autonomous state-owned enterprises. Subsequently, these enterprises where either privatized during the first voucher privatization or sold to selected strategic purchasers in the second stage (OECD 1997).

As market conditions moved outside of the self-enforcing range, hold-ups were not prevented by court actions. The lack of transparency or the absence of a suitable legal system has complicated court enforcement in transition economies. For example, in the Slovak Republic during 1994/95, delays in the payment for delivered milk by dairy companies were 6 months or

longer, yet farmers continued to deliver milk to the processing plants without seeking any legal action. Some Central and Eastern European governments have drafted suitable legislation on contracting, e.g., prompt payment laws in the Slovak Republic and Slovenia, but it takes time for these laws to pass through parliament, and meanwhile the transacting parties have to rely upon other enforcement mechanisms. Once hold-ups occurred, the problem reinforced itself because the private enforcement capital of processors had declined as their reputation and relationship-specific investments decreased, further reducing the self-enforcing range.

Within the agro-food chain these hold-ups have typically been characterized by long payment delays for delivered product, i.e., increase in accounts payable of downstream processors and accounts receivable of primary producers. Effectively these payment delays have provided processors with an interest free loan for the length of the delay while causing additional financial strain on already distressed producers. Thus, in the Slovak Republic the length of the delay is negatively correlated with farm profitability: in 1994-95, profitable farms had an average collection period of about 80 days, while unprofitable farms had to wait about 100 days to collect on their accounts receivable (OECD 1997).

Delayed payments are not only an important constraint for farms, but also for other companies in the agro-food chain. A recent survey among food processors concluded that late payments were considered the single most important obstacle to company growth in the Czech Republic and Slovenia, and the third out of 12 obstacles in Hungary (Gorton, Buckwell, and Davidova 1999). Considering that these three transition countries are among the most advanced, one can imagine that the problem is at least as relevant in other transition countries. Indeed, the observed shift to barter trading in Russia and other former Soviet republics can be interpreted as an institutional response to extreme payment arrears existing in these countries (Melyukhina and Khramova 1999, Wandel 1999).

Farms responded to payment delays by internalizing their exchange transactions through vertical integration, shifting exchange to spot markets, or terminating their activities in anticipation of better market conditions. These factors combined have contributed to the large falls in agricultural output, the decline in fertilizer use, and shrinking investment in livestock and tractors, although with minimal changes in the use of arable land (Gow and Swinnen 1998).

FDI, Vertical Contracting, and Private Contract Enforcement

Empirical observations suggest that FDI in upstream and/or downstream industries in transition countries has provided a solution to the contracting problems and has facilitated access to inputs for farms through private contract enforcement mechanisms induced by innovative vertical contracting. More specifically, FDI has provided food processors with the ability and incentives to shift the self-enforcing range to better match the transacting parties' expectations of future market conditions, thereby sustaining the contracts. Through the provision of innovative and credible contracts with producers, enforced by private capital, such processors have been able to reduce the probability of a hold-up and stimulated increased relationship-specific investment by producers.

FDI-induced vertical contracting between agro-businesses and farms has taken many forms, but typically included conditions for product delivery and payments, as well as input support programs for farms. **Tables 2** and **3** summarize programs implemented by various FDI-linked agro-businesses in Central and Eastern Europe and the former Soviet Union. These programs include pre-financing of inputs (chemicals, fertilizers, and seeds), interest subsidies on investment in machinery, and technical support for technology adoption and management.

In the next section, we present empirical evidence and insights from a case study of one of these FDI-induced vertical contracting activities. The case study illustrates the principles of the vertical contracting mechanism, as well as its direct and spillover effects.

CASE STUDY OF A SLOVAK SUGAR PROCESSOR: JUHOCUKOR A.S.

Juhocukor a.s., the largest sugar processing company in Slovakia, was taken over in 1993 by a British-French company (Eastern Sugar BV). Following the takeover, Juhocukor's sugar output increased by 212% and sugar beet deliveries by 157% between 1993 and 1997. This coincided with marked increases in investments, productivity, and output at the farm level, producing strong spillover effects to other sectors. In this section we explain how Eastern Sugar's FDI in Juhocukor reduced the probability of hold-ups and thereby induced these strong positive effects.

Table 2. FDI-Induced Vertical Contracting and Support to Producers by Agro-Businesses in Central and Eastern Europe (Source: Own case studies)

Foreign Investor	British/French Sugar Processor	British Sugar Processor	Belgium Beer Producer	Belgium Malter	European Seed Merchant	---
Local Partner	Local Sugar Processor	Local Sugar Processor	Local Brewery	Local Malting Plant	Foreign Food Manufacturers	Oilseed Producer
Activity	Sugar Production	Sugar Production	Malting	Malting	Seed Merchandising	Vegetable oil productio
Countries of Investment	Hungary Czech Republic Slovakia	Poland	Romania Hungary	Croatia	Central and Eastern Europe	Slovakia
Producer Type	Sugar Beets	Sugar Beets	Barley	Barley	Crops	Rape and Sunflower
Types of Support to Producers						
Production and Equip. Training	Yes	Yes	Yes	Yes	Yes	Yes
Credit Access Programs	Yes	Yes	Yes	Yes	Yes	Yes
Input Provision and Facilitation	Yes	Yes	Yes	Yes	Yes	Yes
Machinery Procurement	Yes	Yes	---	---	Sometimes	---
Agronomical Support	Yes	Yes	Yes	Yes	Yes	Yes
Veterinary Support	---	---	---	---	---	---
Harvest and Handling Support	Yes	Yes	Yes	Yes	Yes	Yes
Quality Control	Yes	Yes	Yes	Yes	Yes	Yes
Transportation	Yes	Yes	Yes	Yes	Yes	Yes
Specialized Storage	Yes	Yes	Yes	Yes	Yes	Yes
Bus. And Fin. Mgmt Support	Yes	Yes	Yes	Yes	Yes	Yes
Market Access	Yes	Yes	Yes	Yes	Yes	Yes
Timely Payments	Yes	Yes	Yes	Yes	Yes	Yes

Before the takeover, Juhocukor was facing many problems. Besides the standard difficulties – such as financial constraints, underutilized processing facilities, poor quality control, outdated processing equipment, and low quality inputs – Juhocukor had gained a bad reputation for not paying farms within a reasonable time after delivery of sugar beets. These delayed payments had worsened the farms' strained cash flow and aggravated their profitability problems. As a consequence, farmers no longer wanted to invest in sugar beet production for Juhocukor: sugar beet deliveries to Juhocukor declined from 315,000 tons in 1990 to 214,000 tons by 1993, contracted hectares from 7,800 ha to 6,000 ha, and its sugar production from 32,000 tons to 24,000 tons.

In the framework of our contract model, the reform-induced changes in the institutional and market environment and the erosion of Juhocukor's reputation by previous hold-ups had shifted the expected environment outside the self-enforcing range and made private contract

Table 3. FDI-Induced Vertical Contracting and Support to Producers by Agro-Businesses in the Former Soviet Union (Source: Adapted from Foster 1999)

Foreign Investor	US Combine Producer	Swiss Confectionery Producer	US Dairy Processor	US Food Catering Firm	US Nut Processor	US Agri-Chemical Manufacturer
Local Partner	Ag. Equipment Dealer	Dairy Plant	Dairy Plants	Food Catering Enterprise	Facilities Owners	Ag. Input Distributors
Activity	Ag Equip. Leasing and Sales	Confectionery	Dairy products	Fast Food Service	Walnut processing	Fertilizer and Pesticide Sales
Countries of Investment	Ukraine	Russia	Ukraine Moldova Kazakhstan	Russia Ukraine	Moldova	Ukraine Russia
Producer Type	Grain and Oilseed	Dairy Producers	Dairy producers	Vegetable producers	Walnut Growers	Crop Producers
Types of Support to Producers						
Production and Equip. Training	Yes	Yes	Yes	Yes	Yes	Yes
Credit Access Programs	Yes	---	---	---	Yes	Yes
Input Provision and Facilitation	Yes	Yes	Yes	Yes	Yes	Yes
Machinery Procurement	---	---	Yes	Yes	Yes	Yes
Agronomical Support	Yes	Yes	Yes	Yes	Yes	Yes
Veterinary Support	---	Yes	Yes	---	---	---
Harvest and Handling Support	Yes	Yes	Yes	Yes	Yes	Yes
Quality Control	Yes	Yes	Yes	Yes	Yes	Yes
Transportation	Yes	Yes	Yes	Yes	Yes	Yes
Specialized Storage	Yes	Yes	Yes	Yes	Yes	Yes
Bus. And Fin. Mgmt Support	Yes	Yes	Yes	Yes	Yes	Yes
Market Access	Yes	Yes	Yes	Yes	Yes	Yes
Timely Payments	Yes	Yes	Yes	Yes	Yes	Yes

enforcement impossible under the existing circumstances. To encourage farms to invest in high-quality beet production for delivery to the company after the FDI takeover, Juhocukor introduced several programs which were intended to make the contracts self-enforcing and reduce the likelihood of a hold-up as perceived by the beet producers/ This involved restructuring the private enforcement capital, i.e., the distribution of costs and benefits in case of a contract hold-up, including assurances of easier access of producers to necessary inputs.

First, to get rid of its bad reputation, the company started paying contracts at the time of product delivery to the factory (it was the only company in Slovakia providing timely payments to producers).

Second, an input provision and investment facilitation program assisted farmers in the purchasing of inputs, such as seeds, fertilizer, chemicals, etc., and in accessing credit. The investment and financial facilitation packages were initially provided on an ad hoc basis, but were in 1995 formalized into a specific program developed with Polnobanka (the main bank lending to agriculture in Slovakia) for financing investment in machinery and working capital. The program provided Polnobanka with a guarantee for the repayment of both the principal and interest on each loan and provided the contract growers with an interest rate subsidy between 3 and 7%. Through accepting the residual claim on these investments via the guarantees, Juhocukor effectively increased its own costs of not honoring the contracts, thereby making its honoring of the contract more likely, and its promises to do so more credible. At the same time the program reduced the costs of a Juhocukor hold-up for producers. In the event of non-payment beet producers would not have to pay for their purchased inputs and only lose returns to their labor and personal capital contributions. By simultaneously reducing the likelihood of a hold-up by Juhocukor and limiting the hold-up costs for producers, the program induced farms to invest in sugar beets.

Third, a technical support and extension program, which included agronomical support, soil testing, IPM, production and managerial advice, etc., expanded the amount of non-salvageable relationship-specific investment which Juhocukor had tied up in the contract. This increased the amount of capital committed by Juhocukor and thereby enlarged the self-enforcing range of the contract.

Finally, Juhocukor attempted to restore its damaged reputation through an extensive media and public relations campaign. The campaign informed potential producers about the contracts and programs and signaled to producers that Juhocukor was willing to publicly risk its reputation to back these contracts. As its reputation grew over time so did the amount of private enforcement capital that Juhocukor had committed to the contract.

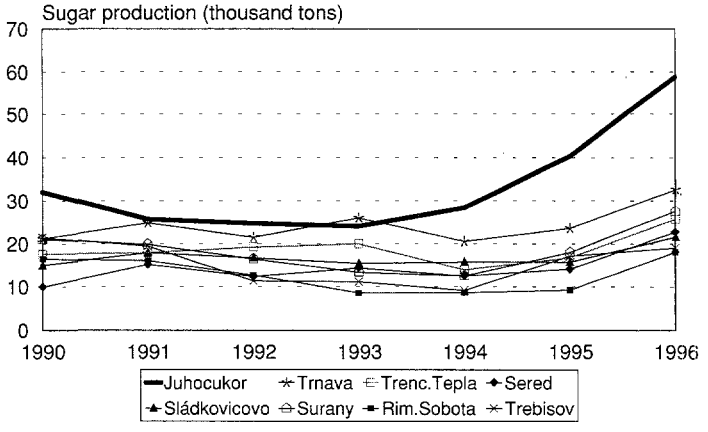
Direct Effects and Spillovers

The aggregate impact of the Juhocukor FDI, including the horizontal and vertical spillovers, was quite dramatic. At the farm level, the programs instituted by Juhocukor after the FDI takeover induced large increases in productivity: average yields increased from 33 ton per hectare with 13% sugar content in 1993 to an estimated 45 ton per hectare with 16% sugar content for the 1997 season. After the introduction of the finance and investment programs in 1995, contracted sugar-beet production increased from around 6,000 tons to 9,500 tons (this outcome cannot be attributed to price changes, as the terms of trade remained stable during 1993-97). In combination, the increase in farm yields and contracted hectares resulted in an increase in Juhocukor's sugar output from 24,000 tons in 1993 to an estimated 75,000 tons in 1997.

The impact on aggregate sugar production in Slovakia was even greater, because competition induced other domestic sugar companies (none of which were taken over by foreign investors until 1998) to imitate Juhocukor's contractual arrangements with some delay. As a result, other sugar companies and their suppliers also registered increases in output and

productivity with a one or two year delay (see **Figure 2**). Spillover effects began to manifest themselves after 1995, and aggregate sugar output in the Slovak Republic increased from 140,000 tons to around 250,000 tons between 1995 and 1998 (reversing the sharp decline that accompanied the 40% fall in sugar beet production between 1989 and 1993). The trade impacts were significant as sugar imports declined by 50% over this period (from 75,000 tons to around 35,000 tons), despite a strong growth in recorded consumption from 210,000 tons to 275,000 tons.

Figure 2. Sugar production by processing company in Slovakia (from Slovak Sugar Producers Association)



Contractual Convergence and Cross-Sector Spillovers

Contracts tend to converge to a new equilibrium as additional firms begin to imitate the (initially experimental) contractual arrangements of pioneering firms once they are seen to be successful (Eggertsson 1990). Competition among contractual arrangements thus leads to a phenomenon of contractual convergence. In the Juhocukor case, firms competing for the same farm resources (land) were forced to offer similar contractual arrangements, thereby causing contractual convergence.

Contractual convergence followed by new investment and technology adoption has not been confined to the directly affected commodity sector. Similar convergence and impacts have followed FDI in adjacent sectors, especially when there has been a requirement for high quality inputs by the downstream processing firms. For example, Palma-Tumys (Henkel) in the Slovak oilseed sector has provided similar contracts and associated programs with equal success. Other Slovak sectors that have been similarly affected include the brewing barley sector with Zlaty Bazant (Heineken), the corn starch and isoglycose sector with the Amylum group, and the dairy sector with Rajo (Schärdinger) and Majcichov (Farmco).

Another cross-sector spillover effect builds on the success of the contract-based lending scheme that Polnobanka (the main agricultural bank in Slovakia) developed with Juhocukor and Palma-Tumys. Polnobanka is now offering a standard range of credit lines that enable downstream enterprises to provide farmers with advance payments for contracted supplies. The schemes use draft loans with the future harvest acting as the collateral and operate in a similar way to the original Juhocukor scheme.

CONCLUSIONS

FDI in the agro-food sector has increased significantly since the beginning of reforms in transition countries. The impact of FDI on the agro-food sector in transition countries is significantly larger than is usually thought. Important effects on productivity, output, and trade are observed not only in the upstream and downstream sectors where FDI actually takes place, but also at the farm level. The spillover to the farm level is the direct consequence of FDI-induced vertical contracting. As part of this vertical integration, many agro-businesses taken over by foreign companies have implemented producer support programs, including financial and investment assistance programs and extension support.

In this paper, we have explained how these programs have contributed to growth of farm output and productivity. These programs provide so-called private enforcement capital to enforce contracts between the company and the farm. Contract disruptions and hold-up problems -- mostly in the form of payment delays -- have become pervasive in the agro-food sectors in transition countries, causing sub-optimal resource allocation, reduced investment, and decline of output and exports. In the absence of legal contract enforcement mechanisms due to transition problems, private enforcement mechanisms are crucial to enforce contracts and provide credible incentives for investments.

Vertical contracting and the associated support programs increase the costs of contract breaches for the FDI-based company. This makes contract breach by the company less likely, and reduces the cost for the farms. The support programs therefore increase the private enforcement capital and improve incentives for farms to make contract-specific investments. At the same time, by providing guarantees to banks and companies supplying inputs to the farms, these programs increase the flow of farm inputs. Both factors combine to stimulated growth and productivity increases at the farm level.

Empirical evidence from Central and Eastern Europe and the former Soviet Union suggest that the effect of FDI-induced vertical contracting may be quite strong. A case study of FDI in a Slovak company demonstrates the positive effects on output, yields, and quality. Empirical evidence further indicates that the introduction of the contractual arrangements has caused spillover effects to other firms and even other sectors. Competing firms have imitated the successful contractual arrangements inducing positive impacts beyond the direct FDI-induced vertical contract.

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Part Two

Land Laws and Legal Institutions for Development of Land Markets and Farm Restructuring

Emerging Land Markets in Central and Eastern Europe

Peter Dale
Richard Baldwin

A study commissioned by the European Union in 1996 examined the progress of land market development in Central and Eastern Europe (CEE) and identified policies that would be useful in overcoming transition problems and in establishing a well-regulated functioning land market, especially during the period leading up to EU accession. Members of the study team are listed in the acknowledgments in Appendix A to this paper.

The study sought to develop an understanding of land markets in countries in economic transition and hence to identify ways in which they can be developed so that they meet the needs of the societies that they serve. In particular, the aim was to identify policies that should have a positive impact on the land market in a manner that enriches the common good, facilitates economic growth and strengthens democracy. By understanding the framework within which both urban and rural land markets operate, it should be possible to bring about a general improvement in the "quality of life" of citizens and hence provide greater social stability and economic growth. Policy recommendations also need to be consistent with the broad objectives of countries seeking eventual membership of the EU.

It should be emphasized that there is no such thing as a completely open land market since all countries have restrictions of one kind or another, especially in the agricultural sector. Many of these restrictions are more concerned with who, and under what conditions, the land may be gainfully used, and with local social considerations, rather than with economics or law. For these reasons, the study did not seek a purely economic analysis of the land market, but rather sought to understand the broader political, social and historical factors that shape the attitudes of people.

The focus throughout the study was primarily on rural land markets and on agricultural land rather than forest. Urban land markets in the transition countries are characterized by a lack of access to capital and credit in the domestic sector (mortgage banks are a recent introduction), whilst the privatization and restructuring of industry produced a surplus of (relatively) low grade commercial premises. Investment has stimulated property development, and major growth has been experienced in sectors such as retailing, in response to consumer demand. Generally, the urban markets are most buoyant in the capital cities, although they are still hampered by incomplete reform of the administration (such as technical delays in the land registration process). Property speculation is still perceived as high risk, especially where bankruptcy or

mortgage laws are considered inadequate to safeguard an investor's interest, or the valuation system is perceived as weak or inconsistent.

Currently the land markets are much more active in urban areas than in rural. This is in part because in many countries rural land values are so low that owners are unwilling to sell and in part there are still major disincentives that arise owing to structural impediments in the market arising from the socialist legacy.

THE TRANSITION AND LAND OWNERSHIP

During the last fifty years, the countries of Central and Eastern Europe have experienced two profound changes in the dominant political ideology; a transition to a socialist command style of economy during the early 1950's, followed by a transition back to a market economy in the years following 1989. The socialist years had a significant impact on the socio-economic and legal framework. The land policy that was practiced during this period may be characterized as one guided by an ideological belief in the common or social ownership of property; the allocation of resources according to centralized planning including state intervention processes; and the associated suppression of the individual private ownership rights of property. This policy had a powerful effect on the legal framework and especially on the relationships between land, property and people and can be characterized by:

- changes in the legal framework associated with the definition of property and rights of ownership,
- concentration upon usage rights, as opposed to ownership rights,
- passage of legislation which discouraged or inhibited trading in land and property, and the expansion of the state as owner/occupier or user of land.

In terms of land, this led to the discouragement of private ownership with the result that the government organizations that had recorded land ownership focused on recording land use. In several countries, agricultural land was either taken into state ownership, or the individual private farmers were forced to join co-operatives. Many citizens found that their property was expropriated by the state. Additionally, the pattern of agricultural land was changed so as to create large fields that were the optimum for agricultural production. The evidence of the boundaries of the earlier smaller plots then disappeared from the landscape. In the urban sector, new socialized building took place without regard to the historical underlying property rights, and the individual apartments and buildings were often not registered. There was no need for a functioning land market in this environment.

Calls for property restitution or compensation for loss of property followed the changes of 1989. There are interesting differences as to how these issues have been approached in the study countries, driven by the political aspirations and the mood of society in the country concerned. In Poland, there has been no large-scale restitution or compensation. Land taken into the possession of the state is subject to privatization; as of March 1998, of the estimated 4.6 million hectares in the possession of the state, less than 650,000 hectares have been sold (as reported by the State Agricultural Property Agency). In Latvia, Czech Republic, Slovak Republic, Slovenia, the

restitution of actual property has taken place where reasonable and possible. The claimants are limited to citizens of the countries concerned and compensation is paid where restitution of the actual property is not possible. In Hungary, the approach has been fundamentally different: rather than carry out large-scale property restitution, the state adopted a policy of compensation for all claimants.

By June 1998, more than 200,000 urban and 230,000 rural properties have been restituted in the Czech Republic and the process was more than 90% complete. There were approximately 60,000 cases in the Slovak Republic, and these are now more than 80% complete. By June 1998, Slovenia had settled more than 60% of the estimated 40,000 cases. In all countries the existing restitution is approaching completion. However, due to large scale border movements at the end of WWII (Poland) and mass migrations (Poland, Czech Republic, Latvia, Slovak Republic), there are still large groups of potential claimants who are unable to claim under existing legislation. In Hungary, land was awarded in a compensation process and also granted to the former workers in cooperatives and state farms. More than 2.1 million new land units have been created, and the total area subject to compensation is more than 5.6 million hectares (50% of the area of the country).

A second major effect of the socialist period has been the impact upon field structure and the separation of usage and ownership. This problem is particularly acute in the Czech Republic and the Slovak Republic, where the owners lost their rights of disposal and independent farming and were forced to farm cooperatively. The effect on the land fabric was to eliminate the historic field boundaries. Today, there is no evidence in the field of these parcels, and they can only be registered in simplified form (because there is no boundary data). This affects 9 million parcels in the Czech republic and 6 million parcels in the Slovak Republic (out of an estimated total of 23 million and 12 million respectively).

The third major effect was to reduce the importance of the regulatory structures. Private financing disappeared, land valuation became oriented towards optimizing agricultural production through detailed soil ecological analysis, and the land registers and cadastre were modified to reflect usage, not ownership, or were even not updated at all. Financing was a state responsibility.

LAND AS A COMMODITY

Land has a number of characteristics that distinguish it from other goods and services that may be traded in the market place. While the economist may view it as a commodity that is immovable and is strictly limited in supply, the landowner may not view it from an economic perspective but rather as a cultural heritage. Concerns by the Czechs over the ownership of real property in the Sudetenland, by the Poles over the areas once known as Prussia or by the Latvians over areas occupied by people of Russian origin add a dimension to the land market. What may make short-term economic sense, drawing investment back into a country, may be totally unacceptable for political and social reasons. There is an emotional element that enters into the ownership of land that constrains the land market and hence cannot be ignored.

In many countries an informal market appears to have operated with transactions being agreed locally, for example over who should use the land and who should benefit from it. In all western communities there has been fragmentation in land management between the control of ownership and use rights, the former often being controlled at a central government level and the latter at the municipal or local authority level. This pattern is being repeated in many countries in transition. Confusion is compounded in the case of valuations that are sometimes a central government responsibility and sometimes a municipal task. Within the land market, tenure, value and use are inter-dependent and yet at the administrative level they are treated quite separately making a formal understanding of land markets more difficult to achieve.

It is of course essential within market driven economies that land markets are supported by a clear legal basis that is administered by regulatory authorities who oversee the safe keeping and update of the legal title to property. Land and its associated buildings are traded according to their market value; they can be bought and sold, transferred from one owner to another or leased. The manner in which land or buildings may be used is, however, controlled by physical planning laws. Planning regulations affect the price that a purchaser will be willing to pay for any property since the permitted land use directly affects its market value. In looking at land markets, therefore, it is necessary to look at the factors that determine land values. These factors include matters particular to the individual land parcel such as the security of tenure and the nature of the use rights, and externalities such as the availability of credit.

In most countries land and property are subject to taxation for occupation and usage. As the monetary value of land and property is high, it is usual to borrow capital in order to finance the purchase. The borrower needs security for the loan in the event of default and this will normally involve a charge upon the property. The various rights and privileges of the owner, the mortgagor, mortgagee, the lessor, the lessee and the occupier must all be defined in law. On the event of death of the owner, the inheritance must be settled and this often leads either to the fragmentation of parcels (with one farmer owning many small plots scattered over a wide area) or fragmentation of owners with many people having claim to a single piece of land. Parts of Poland provide an example of the former; a farmer may own fifteen fields each being less than two hectares and spread over an area of forty square kilometers. Slovakia offers an example of the latter where a single field of twenty hectares may have more than three hundred owners and over a thousand co-owners. In Slovakia changes in the law to prevent such multiplicity of ownership were rejected as they were judged to be contrary to basic human rights that in turn are protected by the Slovak Constitution.

Any proposed land market model must take all these factors into account. It must also recognize that in mature markets there is the range of parties involved and a variety of goods and services. In the land market, this means there will be a range of participants, including private individuals, corporate investors, speculators and financial institutions. There will also be supporting services including valuation, estate management and a mechanism to put the buyers and sellers in contact with each other (real estate brokers). Each of these contributes to the market and to the efficiency and effectiveness with which it operates.

A MODEL OF THE LAND MARKET

There is a general consensus that development of a functioning land market requires:

- clear definition and sound administration of property rights;
- minimum restrictions on property use consistent with the common good;
- maximum simplicity of the transfer of property rights;
- transparency in all relevant matters; and
- availability of capital and credit.

These requirements are necessary but not sufficient to guarantee an efficient and effective land market. It is obvious that underpinning all land and property development there need to be clear and consistent land policies that operate within a stable institutional framework. In general under communism the policy was clear and consistent since most matters were under central control. With the breakdown of communism new policies had to be developed and new legislation prepared. In the early days in Bulgaria, for example, there were at least thirteen versions of a proposed new cadastral law in circulation while in several countries conflicts remain between different pieces of legislation introduced by different government ministries and departments. Because of the fragmented way in which land and property are administered, it is important that there is a national policy that is coordinated between the different Ministries.

The market operates through participants buying and selling goods and services. These market operations need to be supported by three regulated sectors - land registration and the cadastre, valuation services, and financial services. The efficient functioning of these elements is essential if the land market is to operate smoothly and formally. These supports may be regarded as the regulatory pillars that stand on the base of land policy. In the communist era, the first regulatory pillar (land registry and cadastre) was modified to focus on land use, the second regulatory pillar (valuation) reflected the potential use rather than market value of the land, while the third regulatory pillar (financial services) was almost non existent.

Regulatory Pillar 1: Land Registration and Cadastre

In all market economies the basic legal relationship between real property and its owner is officially documented in land registers that also record obligations or encumbrances that are charges upon the land. The official recording of this information is normally carried out by the state administration although professionals in the private sector may be empowered to carry out some of the processes. In many countries there is, in addition to the land title registers a cadastre that was created to support land and property taxation. Unlike some land registers, the cadastre is map based, the plans recording precisely the physical extent of the property, including information about its boundaries.

Many Central and Eastern European countries have followed the old Austrian practice of having the Land Register (the Land Book or Grundbuch) separate from the Cadastral Map. In some countries (e.g. Hungary, the Czech Republic and the Slovak Republic) both the land register and the cadastral map are effectively integrated into one register and managed by a single

authority. In others (e.g. Slovenia and Latvia), the land register and the cadastral map are maintained by separate authorities.

Regulatory Pillar 2: Valuation

In many of the land reform programs, great emphasis has been placed on cadastral reform and on computerizing the land records. Only when this began to gain momentum did the focus move towards property valuation; a process that aims to establish the connection between monetary value and the property itself by producing an estimate of the capital value of the asset. There are various ways used to calculate this capital value that may involve estimates of the income potential or the actual market value of the property. The methodology may need to take into account such factors as access, utilities, improvements and for agricultural land, the quality and permitted use of the land. In the case of the EU, an additional factor is the assignment of milk or wine quotas; if a land unit has an assigned milk quota then it may have a greater market value than a land unit that has no such quota.

During the communist period, there was no need for an assessment of market value as agricultural land value was connected to its potential productivity. In all of the Central and Eastern European countries, a system of land quality indicators was developed that involved soil type and estimated productivity of that soil type for a particular crop. This was assessed within a particular district or region. Using this approach, the communists hoped to be able to optimize the agricultural production across the country.

Valuation has suffered from a lack of expertise and a lack of data about market prices. Even today the methodology for valuation is weak in many of the transition countries and mass appraisals are based on 'cadastral' values that are calculated from land parcel areas, soil types and other objective criteria rather than on estimates or recordings of market price.

In the early stages of land restitution several countries delayed the introduction of land taxes, partly in order not to discourage land owners from reclaiming their rights. Now that the restitution programs are nearing completion the infrastructure for providing a valuation service and for the mass appraisal of real property is being put in place. In Latvia for example the mass appraisal that will form the basis of land taxes is itself based on the data gathered in the communist era since it can reflect the local comparative value between properties, even if in absolute terms it bears little relation to the market price.

Where property taxes exist, there is a general consensus that the amount of tax paid should be proportional to the value and amount of land held by the landowner. More recently, land taxation has been viewed as a land mobilization tool, in that it can be used as a mechanism to promote good land management practices. By varying the tax rate the actual usage of the land can be influenced. In order to adopt this practice, up to date and accurate information is needed regarding the land occupancy and its actual (as opposed to intended or possible) usage.

In the command economies, land value was a tool for the efficient allocation of resources through the planning process. In a market economy, land value supports the re-allocation of resources according to market forces (supply and demand). The land valuation practices that developed in the socialist countries did not produce transparent, reliable estimates of monetary value that are required for an efficient and secure land market. New valuation procedures are therefore being developed.

Regulatory Pillar 3: Financial Services

The third regulatory pillar that is needed to support the land market is the delivery and regulation of financial services. A market economy requires that adequate financing mechanisms are in place to support the buying, selling, leasing and development of property assets, and it is essential that these financing mechanisms are regulated and supported by appropriate law. In the socialist economy, land resources were controlled by direct allocation of resources, without regard to their monetary value, and hence, in all socialist countries, this pillar was largely absent. In market economies it is normal for the private sector to provide the products and services within a clearly regulated institutional structure.

The financing mechanisms needed by a market economy require that the investment into the property sector is going to give sufficient returns to warrant the risk and trouble of investment. In this, property financing has to compete with other forms of investment such as interest yields on deposits, stocks, government bonds and other securities. In the market economies, there is a range of financial services that can be used to support property investment. Different financial instruments tend to be used by different types of investor. Investors can be government, co-operative groups, individuals or companies. Typically they will invest for different reasons. Government will be concerned with infrastructure, establishing support services and housing. Companies may invest purely on the expectation of financial gain, or they may invest in order to use or develop the site. Individuals will normally invest in order to obtain secure living accommodation. For all investors who lack existing capital, the financing will come from loans or grants.

Loans secured by charges upon the properties are mortgages and these are normally protected and regulated carefully by law. These form the principal financing mechanism available to the private investor and in countries such as the USA, mortgage and house savings funds can total more than 45% of the annual GDP. Raising capital for investment can also be obtained from the stock markets and capital markets and both of these require a secure and well-regulated financial sector, plus confidence on the part of the institutions that make up this market. Where there is a loss of confidence, then the investors will stay away. Government may make development grants available such as rural credit or rural guarantee funds in order to support policies and programs that it wishes to prioritize.

The Three-Pillar Model: Comparative Analysis of the Reform Process

The Three-Pillar Land Market Model is shown in **Figure 1**. The three regulatory pillars are constructed upon the legal framework of the country and are strongly shaped by the land policies adopted by government. Regulatory pillar one (land registration) provides the connection between land and property on the one hand, and people and legal entities on the other. Regulatory pillar two (valuation) provides the connection between land and property and finance mechanisms, while the third regulatory pillar (financial services) establishes the connection between finance mechanisms and people and other legal entities. If government is able to adequately establish and support the pillars then the land market will provide a dynamic environment that includes:

- the participants (land owners and tenants);
- the goods and services (the land and its use); and
- the financial instruments (mortgages, credit, capital financing, etc).

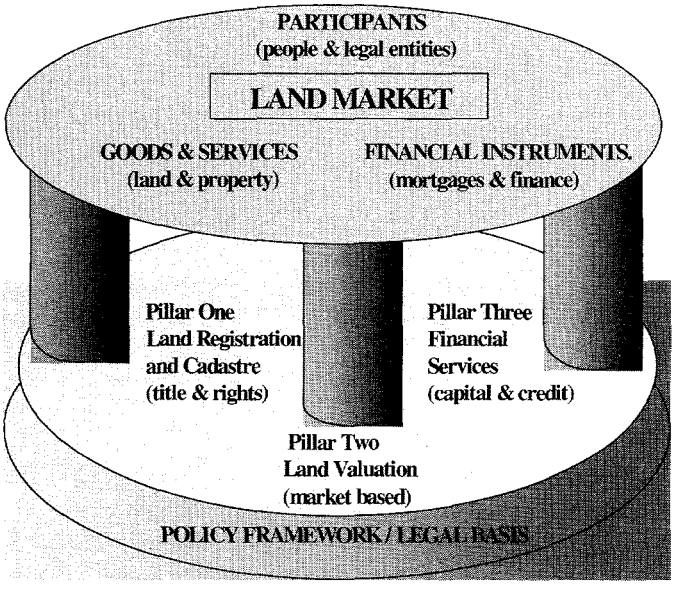

Figure 1. The Three-Pillar Model of Land Markets

An efficient and effective land market can be characterized in terms of the effectiveness of the regulatory pillars; the land policy; the regulatory framework; and the dynamism of the market itself. **Table 1** identifies those elements that are considered to have a significant impact. Where these elements are present, or are well supported, then this is a positive factor, while if the elements are clearly inadequate or weak, then this is an inhibitory factor on the land market development.

Table 1. Characteristics of an Efficient and Effective Land Market

Elements characterizing an efficient and effective land market
The Policy and Regulatory Framework
1. Legal entities and all physical persons may own properties with equal rights.
2. Institutional structures are secure with well-regulated activities.
3. Clear policies create strong and clearly understood regulating authorities, a favorable environment for investment and strong motivation for individuals.
4. Agricultural and urban land management policies are clear.
5. Planning, environment, health and local administration policies clear.
6. Planning and zoning controls are clearly understood and enforced.
7. Professional services exist, with basic assent and understanding from the public.
8. There are clear policies about information management, intellectual property rights and the protection of investments in data.
Market Assessment (Participants, Goods and Services, Financial Instruments)
1. Landowners and tenants exist and represent a range of different stakeholders.
2. There is a strong private sector (with individuals, companies & family units).
3. Large corporate players exist (including investment funds, pension funds).
4. All government held land is basically held for public purpose or social housing.
5. The construction sector is established and healthy.
6. There is a variety of assets available, apartments, residences (of various sizes), offices, commercial buildings and agricultural land holdings.
7. Information on real assets available for sale is widely known and reliable.
8. Mechanisms exist to create new assets where needed, (i.e. the market is able to respond to rising demand by building more houses, etc.).
Pillar 1: Land Registration and Cadastre
1. Sound legal basis for ownership and trading of property rights.
2. All necessary legal structures in place, especially inheritance.
3. Recording and registering systems are soundly implemented
4. There is no risk of unjustified expropriation.
5. Land and buildings can be traded and leased easily.
6. The quality of data held by regulators is good.
Pillar 2: Valuation
1. Valuation is clear and well understood, based on market prices.
2. Valuations are accepted and used as basis for calculation of asset value.
3. The mechanism for offering real property for sale is clear.
4. Mortgage advice is available for residential property.
5. The quality of data held by regulators is good.
Pillar 3: Financial Services
1. Cash sales are clear and supported.
2. Land and buildings can be used as security.
3. Special mortgages / credit facilities are available for agricultural land.
4. Bankruptcy and first charges on mortgages are supported.
5. Mortgages are available for residential property (up to a certain % of the value).
6. Financial products are tied to assets (e.g. pension funds can be used as security).
7. Taxation regimes are not subject to sudden change.
8. Tax implications for investments are clear.
9. Financing for investments exists and venture capital is available.
10. Foreign Direct Investment is encouraged and there is a low assessment of risk.
11. There is an understanding of how land and property taxes can affect land use.
12. The quality of data held by regulators is good.

The elements can be used as indicators of the current status of the land market. The land market can then be examined in terms of the elements identified in **Table 1**, and each element

can be scored (minimum value 0, maximum value 5) as a land market indicator according to **Table 2**. Using this scoring methodology, it is possible to assess the state of development of each of the regulatory pillars; the policy and regulatory framework and the state of the market, and also produce an overall score for each of the study countries. On the basis of the scoring methodology put forward in **Table 2**, an overall score of less than 1.5 would indicate a very closed command economy with inadequate or missing regulatory pillars, communist style land policy and very little market activity. A score greater than 4 would be indicative of a market economy with adequate regulatory mechanisms of registration, valuation and finance, and a range of participants, goods and services, financing mechanisms and a favorable land policy.

A Land Policy Framework Matrix (**Table 3**) is used to summarize the key issues that arise during the reform process, according to the land market indicator scores, for the three regulatory pillars, the market activity and policy approach of the government and shows the current status of the reform process. The Policy Framework Matrix helps to show the overall progress that is needed in the reform of each of the land market sectors (land registration, valuation, financial services, market activity and land policy.

The detailed case studies carried out as part of the ACE project enabled the study team to assign scores for each of the indicators of **Table 1** for each of the six study countries. Although the numerical values are obtained from qualitative assessments and are therefore not rigorously derived, they should be consistent and provide a means of measuring a country's progress in comparison with other countries. In particular, when viewed through the Land Policy Framework Matrix they:

- help to quantify the current land market status of the study country and illustrate the progress in the overall reform process;
- identify and characterize the principal bottlenecks and inhibiting processes;
- allow comparative analysis; and
- facilitate the development of specific recommendations to support land market improvements.

Table 2. Scoring for the Land Market Indicators of Table 1

Score	Criteria
0	There is no evidence at all that this matter is being addressed
1	There is minimal evidence that the stated feature is present, but it is not clear that the requested functionality is provided
2	There are some major problems, the system cannot be said to work adequately, but the basic components are in place or being developed
3	The functionality is basically provided. There are some known problems, but things basically work
4	The system works smoothly and could be considered consistent with what one would find in another market economy
5	The feature or functionality offer performance levels consistent with that required for EU membership and with what one would expect in an EU member state and there are no outstanding or fundamental problems known

Table 3. Land Policy Framework Matrix Showing the Status of Land Market Reforms

Command Economy -->|<----------Transition Economy----------->|<----------Market Economy---------->|<--- EU Member							
LMI score	<1.5	1.5-1.90	2.0-2.4	2.5-2.9	3.0-3.4	3.5-3.9	>4.0
Policy Level Framework	No government support for land market development & individual property rights	Weak political support for objectives of land market. No broad political consensus	Inconsistent or inadeqate policies leading to fragmented approach to land management.	Individual policies sound, but some difficulties with policy coordination & information exchange	Policies are coherent and preparations have started for EU accession	All reforms are complete and negotiations for accession are under way.	Clearly defined and integrated land policies that comply with EU regulations.
Market assessment: Participants	Weak relationship of land and people. Focus is on use rights and occupancy rather than ownership rights. Strong informal sector. Information unavailable or unreliable	Participation severely restricted owing to unclear ownership rights. Out-standing legal claims exist and identification of owners, parcels difficult.	Participation starting but interest limited due to structural problems and lack of market confidence. Information flows are weak	Relationship between land and people becoming clear. Growing interest in land as a marketable com-modity. Inform-ation flow still seen as limited.	Strong connection between land and There is a range of participants and types of land for sale. Information flow is working	Institutional investors and investment funds are active in the market. Risks in real estate investment seen as low. Informa-tion completely transparent	Large range of participants, goods and services. Real Estate seen as good safe long term investment
Pillar 1: Land Registration and Cadastre	No legal require-ment for registration, insecure law with respect to land ownership, inheritance and disposal rights may be unclear. Regulating authorities not in place	There is a legal requirement for registration but there are inconsistencies in the law and confusion over administrative responsibilities	Registers being recompiled, but institutional arrangements and land law need strengthe-ning There is a lack of title information. Land reform underway.	Legal requirements for title registration are basically satisfactory but delays in land transactions occur due to technical and organisational problems	Land Registration System is basically working Problems with titling are mainly in large cities and in areas under land reform.	Records nearing completion. System works efficiently (except capital cities). Titles are regarded as secure. Land Reform completed and no title insecurity	System is efficient and supports secondary market services, significant private sector involvement & cost recovery. Consistent 99% reliability of records.
Pillar 2: Valuation	Absence of any accepted methodology for market based valuations. No body tasked with valuation	There is a valuation methodology but little accurate and up to date data is available. Valuation may not be connected to market prices	Valuations are tied to market prices but results are unreliable due to lack of data from low volumes of transactions. No systematic reporting	Systematic valuation records being compiled. Valuations are seen as necessary and able to support market value. Real Estate prices volatile	Valuation system able to support property tax and market values. Regulatory procedures are in place to support data quality.	Secure, reliable system supporting land transactions and fair and efficient property tax collection	Complete valuation data sets available that can be linked to other land administration records. Significant private sector involvement.
Pillar 3: Financial Services	Almost complete absence of financing mechanisms	Cash sales take place but the market is volatile with few transactions and potentially rabid speculation	Mortgage support is being introduced but Foreign investment into real estate may be restricted (high risk)	Mortgages have become more accepted, and development financing is emerging	Mortgages more widely available, interest rates near to EU /G7 norm	Macroeconomic stability promo-tes real estate investment and encourages institutional investors	Pension funds, investment funds, life assurance major investors. Safe
General Assessment	Land market operates through informal sector outside government authority	Severe strategic impediments to land market activity, reforms progress very slowly	There are major impediments to a formal land market. Reforms are progressing but there are major difficulties at the policy level	Reforms are being implemented but there are still unresolved difficulties that inhibit development.	System is basically working and land rights are seen as secure and transferable	A mature market is beginning to appear along with secondary markets and transparent land dealings	The market is stable and secu-re and real estate seen as good safe long term investment

MEASURING PERFORMANCE

While the earlier analysis indicates the state of development of the land market in the reform process, it takes little account of the actual performance as measured in terms of the actual amount of activity. Empirical evidence suggests that there is a direct correlation between progress in the transition towards the market economy and the level of market activity although as discussed earlier the performance is much stronger in urban rather than in rural areas. **Table 4** identifies performance indicators that may be used to assess the market activity. The performance indicators are compared with EU norms, obtained from examining the statistics of five EU countries – Denmark, Finland, the Netherlands, Sweden, and the UK (reported in *The Land Administration Inventory of Europe*, Part 2, MOLA and the UK Land Registry).

Based on the definitions in **Table 4**, a Land Market Performance Indicator of 100% would indicate a land market reaching the same level of market activity as that which may be found within one of the more advanced EU member states. The Performance Indicator is defined in such a way that it reflects the availability of land that has clear title, with no regulatory impediments for sale, as well as the general market activity that includes inquiries, sales and mortgages. It is possible to develop this further and to include indicators based on area, land value and number of new constructions although this was not done in the present study.

Table 4. Land Market Performance Indicators

	Land Market Performance Indicator	Calculation method for particular country	Expected figures for EU member
1	How complete is the land regularization/restitution process?[1]	CEC_1 = Total number of properties settled Divided by Total number of cases expected	EU_1 = 100%
2	How complete is the land title database?	CEC_2 = Total number of loaded titles Divided by Total number of titles that exist	EU_2 =100%
3	What is the level of annual queries of the land title database?	CEC_3 = Total number of annual enquiries Divided by Total number of titles that exist	EU_3 =60%
4	What is the level of annual transfers of title?	CEC_4 = Total number of annual transfers Divided by Total number of titles that exist	EU_4 = 7%
5	What is the level of annual issue of mortgages?	CEC_5 = Total number of new mortgages per year Divided by Total number of titles that exist	EU_5 = 9%
Land Market Performance Indicator = $(CEC_1/EU_1+CEC_2/EU_2+CEC_3/EU_3+CEC_4/EU_4+CEC_5/EU_5) * 100$			100%

[1]This figure must take into account all matters connected with the full and correct registration of title (or deed) and full description of parcel data, i.e., it includes the completion or correction of problems such as restitution, compensation, missing property boundaries, missing owners, and all matters which detract from the completion.

The overall Land Market Model has two distinct measurement domains:

- Land Market Indicator measuring the overall status of the land market in its transition from the command to market economy; and
- Performance Indicator showing the overall level of activity in comparison with EU norms.

A plot of the Land Market Indicator against the Performance Indicator should produce a diagram like that in **Figure 2**. A Performance Indicator of the order of 90-100% (**Table 4**) and a Land Market Indicator of 4.5 or 5 (**Tables 1** and **2**) correspond to the land market status in most developed EU states, while scores of <20% and <1.5 correspond to a closed command economy. In improving land markets the aim would be to increase both the market activity and the market reform, thus increasing the Land Market Indicator and the Performance Indicator towards their maximum values. The evidence gathered through the case studies suggests that it is possible to view the market in terms of three phases of development.

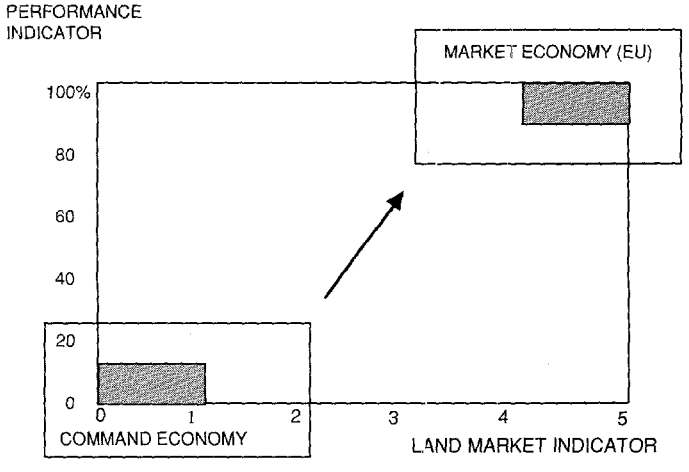

Figure 2. Land Market Indicator and Performance Indicator

Phase A: Early Phase – Reform Driven. The land market requires a certain amount of reform from its pre-1989 position before it can significantly develop. There must be a critical mass of property with clear title, secure boundaries and disposition rights. The legal basis must support private property, the regulating institutions must be in place and there must be a critical mass of participants with access to suitable funding. This implies that this phase is dominated by initial legal, institutional and regulatory reforms. There will only be a slow increase in market activity, linked to improvements in the technical infrastructure, once the initial conditions have been established. As the reforms become more substantial, the access to disposable property and the amount of available property becomes clearer, the regulating institutions begin to work, the financial institutions develop and the risks are seen to reduce resulting in increased market activity.

Phase B: Middle Phase – Market Driven. The land market now has most of the institutions in place and they are functioning. The data quality is good and the regulating institutions are sound. The credit facilities are available. The market becomes open to a wider range of participants and it is the dynamic energy of these that drives the development. Significant increases in market

activity take place for relatively little improvement in the institutional reform position. Land prices will rise significantly during this process and wealth creation is achieved.

Phase C: Mature Phase – Harmonization Driven. The market is beginning to saturate as it approaches the levels consistent with market economies and the EU member states. In order to finally reach the EU levels, there is a further reform (or harmonization) of laws and regulations that are required. These are more concerned with environment and the creation of instruments to implement EU policies such as the CAP. Market activities will not be suddenly stimulated during this period unless significant distortions are introduced externally (e.g., the agricultural land market is suddenly liberalized overnight).

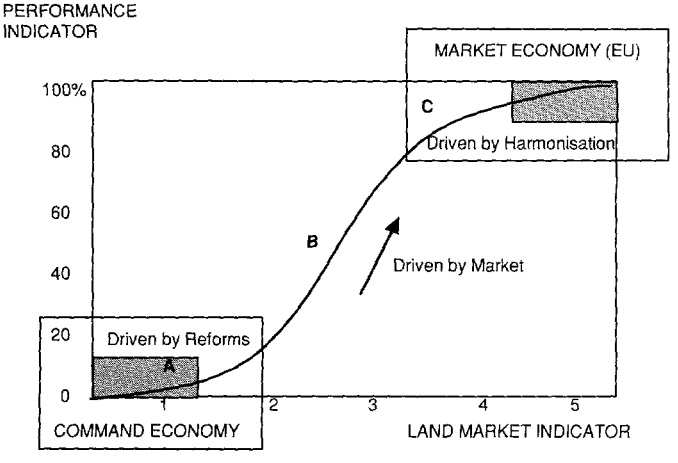

Figure 3. The Transition Curve

Figure 3 shows the development of a transition curve, which can be expected to represent the path of a transition country as it experiences the different phases and identifies the dominant forces during the transition from the command to market economy.

THE CASE STUDY IN SIX CEE COUNTRIES

The theoretical analysis outlined above was developed through the gathering of data and a series of workshops in which various ideas and components of the model were discussed. The model was then tested and scores evaluated both by members of the research team and by representatives of the six countries: the Czech Republic (CZ), Hungary (HU), Latvia (LV), Poland (PL), Slovakia (SK) and Slovenia (SI). The elements identified in **Table 1** were quantified on the basis of the criteria that are given in **Table 2**. The results are presented in **Table 5** and a summary is provided in **Table 6**. The scores are based on data gathered in 1997, and since then the markets have continued to progress. Some additional country details are given in **Appendix B**.

In general, as can be seen from **Tables 5** and **6**, the market reforms have progressed fastest in the land registration and cadastral pillar and less quickly in Pillars 2 (Valuation) and 3

(Financial Services). The reforms in Pillar 1 have received significant support from organizations such as EU PHARE and the World Bank and have enabled the land restitution and compensation programs to be largely completed. This has been both a political priority and an economic necessity in satisfying the aspirations of the former landowners, and reducing the role of the state as the principal landowner and land manager.

The development of the valuation pillar has been slower. The reasons for this are related to the lack of a historical role for property valuers and the lack of a central agency or institution charged with responsibility in this area. In addition, the relatively small number of commercial transactions during the early reform years and the lack of property taxes in most countries in the region have also caused progress to be slow. There is also a significant lack of information concerning Valuation Roll and valuation has historically been concerned with productivity, rather than monetary value.

The financial services are mostly provided by the private sector, so naturally this pillar will only strengthen as the market deepens and there is an increased demand for financial products and services. Necessary precursors for this include mortgage laws to protect the interests of the various parties and clear, strong foreclosure and bankruptcy laws to lessen the risk of debtors defaulting and creditors being unable to obtain possession of the property or adequate compensation. The generally higher level of interest rates in these countries will also restrict demand.

The policy framework supports all these activities. Governments must adopt clear policies and priorities and provide a sound organizational structure. There are often conflicts between ministries concerning their respective areas of interest and this will influence the policy framework. The governments have had to develop transition policies for all sectors of the economy and it can be difficult to prioritize the aim of developing land markets in competition with other sectors.

The completion of the land compensation program in Hungary significantly increased the number of participants and brought in the new landowners before the market driven price increases took effect. As a result, a relatively large number of people have been able to share in the wealth creation process. Uncertainty has also been removed, as there are no further potential claimants. The state has no longer any significant holdings in land. All land units have certificates of title, most have marked boundaries in the field and are registered. The information flows are available and the transaction and opportunity costs are low, with special incentives for voluntary consolidation (suspension of transfer tax, etc.). This is a response to consistent land policy on the part of the state. In Poland the state remains as a major landholder, and in the Czech Republic, Slovakia, and Slovenia, large reserves of agricultural land are still held by State Land Funds.

Table 5. Land Market Indicator Scoring for Six CEE Countries

Elements of the Land Market Model	CZ	HU	LV	PL	SK	SI
The Policy and Regulatory Framework						
1. Legal entities and persons have equal rights.	1	1	1	1	1	4
2. Institutional structures are secure.	4	4	4	2	2	3
3. Strong regulating authorities.	1	3	2	2	1	2
4. Agricultural and urban land policies are clear.	2	3	1	2	2	2
5. Clear Planning, environment & health policies.	3	3	1	3	3	3
6. Planning & zoning understood and enforced.	3	3	3	3	3	3
7. Professional services exist & are supported.	3	3	2	3	3	3
8. There are clear policies on information.	3	3	2	2	3	3
Average	**2.5**	**2.9**	**2.0**	**2.2**	**2.2**	**2.9**
Market Assessment						
1. Landowners and tenants exist.	3	4	3	3	3	3
2. There is a strong private sector.	2	3	2	3	2	3
3. Large corporate players exist.	2	2	2	2	1	1
4. All government held land used for public good.	2	3	3	2	1	2
5. Construction sector is established and healthy.	2	3	2	3	2	2
6. There is a variety of assets available.	3	3	3	3	3	3
7. Information on real assets readily available.	2	3	2	3	2	2
8. Mechanisms exist to create new assets.	2	2	2	2	2	2
Average	**2.2**	**2.9**	**2.4**	**2.6**	**2.0**	**2.2**
Pillar 1: Land Registration and Cadastre						
1. Sound legal basis for ownership and trading.	4	4	3	4	3	4
2. All necessary legal structures in place.	3	3	3	3	3	3
3. Recording and registering systems are sound.	4	4	4	2	2	2
4. There is no risk of unjustified expropriation.	4	4	4	4	4	4
5. Land and buildings can be traded easily.	3	3	3	2	3	3
6. The quality of data held by regulators is good.	3	4	2	2	2	2
Average	**3.5**	**3.7**	**3.2**	**2.8**	**2.8**	**3.0**
Pillar 2: Valuation						
1. Valuation is clear and based on market prices.	2	2	2	2	2	2
2. Valuations are accepted.	2	2	2	3	2	2
3. Mechanisms for property sales are clear.	2	2	2	3	2	2
4. Mortgage advice is available.	2	3	2	2	2	2
5. The quality of data held by regulators is good.	3	4	2	2	2	2
Average	**2.2**	**2.6**	**2.0**	**2.4**	**2.0**	**2.0**
Pillar 3: Financial Services						
1. Cash sales are clear and supported.	4	4	3	3	4	4
2. Land and buildings can be used as security.	2	3	3	3	2	2
3. Mortgages/credit facilities for agricultural land.	2	3	2	2	1	1
4. Bankruptcy and mortgage charges supported.	2	3	3	3	2	2
5. Mortgages available for residential property.	2	2	2	2	2	2
6. Financial products are tied to assets.	1	1	1	1	1	1
7. Tax regimes are not subject to sudden change.	2	2	2	1	2	3
8. Tax implications for investments are clear.	2	3	2	2	2	2
9. Financing and venture capital available.	2	3	3	2	2	2
10. Foreign direct investment encouraged.	1	4	2	3	3	2
11. Impact of land and property taxes understood.	3	3	2	2	3	3
12. The quality of data held by regulators is good.	3	4	2	2	2	2
Average	**2.2**	**2.9**	**2.2**	**2.2**	**2.2**	**2.2**

Table 6. Overall Assessment of the Land Market Indicators for Six CEE Countries

Sector of Land Market	CZ	HU	LV	PL	SK	SI	Mean
Policy Framework	2.5	2.9	2.0	2.2	2.2	2.9	2.5
Market Assessment	2.2	2.9	2.4	2.6	2.0	2.2	2.4
Pillar 1: Land Registration	3.5	3.7	3.2	2.8	2.8	3.0	3.2
Pillar 2: Valuation	2.2	2.6	2.0	2.4	2.0	2.0	2.2
Pillar 3: Finance	2.2	2.9	2.2	2.2	2.2	2.2	2.3
Overall Assessment	**2.5**	**3.0**	**2.4**	**2.5**	**2.2**	**2.5**	**2.5**

Table 7. Land Market Performance Indicators for Six CEE Countries (calculated as in Table 4, in percent)

	Performance Indicator	CZ	HU	LV	PL	SK	SI	EU norm
1	How complete is the land regularization/restitution process?	60	95	50	75	30	90	100
2	How complete is the land title database?	90	80	30	50	30	0	100
3	What is the level of annual queries of the land title database?	10	15	5	10	10	10	60
4	What is the level of annual transfers of title?	1	2.5	1	1	1	1	7
5	What is the level of annual issue of mortgages?	0.1	0.2	0.05	0.05	0.1	0.1	9
	Overall assessment (rounded to nearest 5%)	**35**	**45**	**20**	**30**	**20**	**25**	**100**

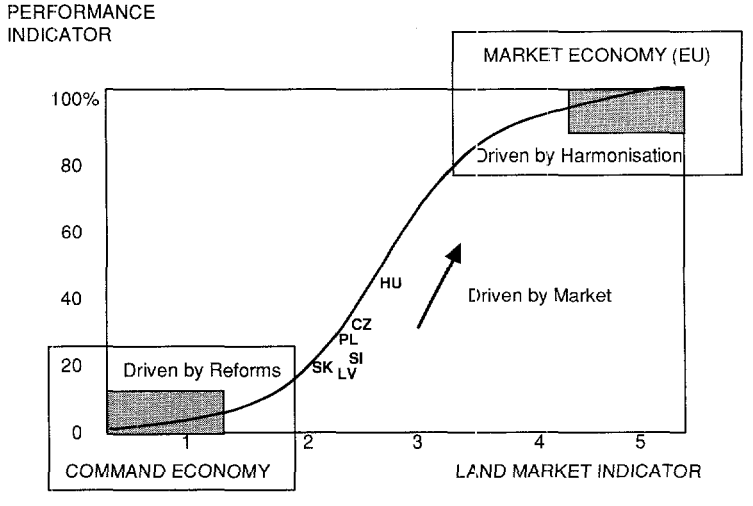

Figure 4. Transition Curve for the Six CEE Countries.

Land Policy Framework matrices produced for each of the six countries provided a profile of the overall reform and identified the major impediments at the time. The land market performance indicators described in **Table 4** were calculated for the six countries, based on information gathered during the case study. The results are shown in **Table 7**. When applied to **Figure 3**, the position of each country on the transition curve becomes apparent (**Figure 4**).

RECOMMENDATIONS

In making recommendations, the study team have made certain assumptions, namely:

- The basic reforms and market transition that are underway in the transition countries will continue and there will be no substantial change of political direction or orientation;
- The process of EU accession will continue; and,
- The governments of the transition countries are committed to open transparent land markets as a long-term objective.

The policy recommendations concentrate on those aspects that will bring real sustainable benefits in the development and nurture of land markets. It is not the intention to make specific recommendations for the individual case study countries, as each has a specific set of circumstances and we are seeking to establish general policy level recommendations applicable to all transition countries. However, it is hoped that the recommendations on the following pages contain relevance for all of the case study countries.

Recommendation 1: Completion of the Transition Process

Background

The relationship between the ownership and use of land and property was broken or suppressed during the socialist era, limiting the powers of disposal; in some cases the land itself was expropriated. Large socialist agricultural enterprises and co-operatives were created and in many cases, the evidence of the earlier field boundaries was destroyed. In some countries, the land ownership records were not updated, even in the case of inheritance. Land restitution programs have addressed the issue of expropriated property. In the case of eligible claimants in the Central and East European countries, the programs of restitution are largely complete though in some countries the problems of boundaries have not yet been addressed.

Issue

In several central and east European countries there are still substantial inconsistencies or inadequacies in the completion of the land registers owing to the "missing parcels" and "missing owners" resulting from the socialization of agriculture. The market mechanisms cannot work *until* the basic state directed reassignment of property relationships is complete and the records show a position that accords with reality. This does not mean that the old boundaries must be marked out in the field, but it does mean regularizing the new and old records in order that people can have clear title and also can see clearly where the properties are located. This will mark the completion of the state intervention into the rearrangement of land ownership relations.

Recommendation

It should be a policy objective of the government to complete the transition process in the land sector and establish the base conditions for market forces. This must include regularization of all titles and ownership relations and the settlement of any likely future claims as a prerequisite of completing the economic transition process.

Implementation

1. Establish a national policy objective of regularizing all available land and property records, including the identification of owners and the identification (but not marking out) of the property boundaries.
2. Charge the relevant institutions with developing ways and means of achieving this objective within a realistic period and declare that the instruments will include significant private sector involvement.

Success Indicators

1. All existing land ownership records are harmonized and accurately reflect the situation in reality.
2. There are no outstanding land claims by any disenfranchised groups.
3. The quality of data of the land records is good (title data and boundary data).

Recommendation 2: Establishment of a Coherent National Land Policy

Background

The establishment and operation of land administration systems and functioning land markets involves substantial cooperation from several different sectors of government. The transition countries are characterized by a lack of institutional co-operation and an absence of "ownership" of land issues that can lead to politics operating in a vacuum. The particular circumstances are unique to every country and there are no two countries that exist with an identical land administration structure. Each transition country has to organize these matters in the best way it can. There is a real danger that wider issues become lost and specific issues are addressed only within the narrower confines of a single ministerial brief. There are also dangers that policies in one sector will significantly impact on policies or ongoing programs in other sectors, therefore creating confusion and waste.

Policy is important in considering the role of the state as landowner, the role of the state as land administrator and regulator, and the role of the state in supporting measures for land market development. These matters need a coherent approach.

Issue

There is a lack of a high level integrated policy in land matters and no formal mechanism for inter-ministerial debate. The activities of the regulatory pillars are not formally coordinated and there is not enough support for all of the regulatory functions necessary to support a transparent and open land market. Without adequate regulation, there is no guarantee that the market will provide the right environment for the creation of economically and socially balanced structures able to serve the wider needs of society.

Recommendation

Governments should develop an integrated national Land Policy, including the identification and provision of the necessary supporting means and instruments that will allow high level political debate and the obtaining of broad inter-ministerial support. The retention, as far as possible, of a coherent integrated strategy in dealing in land and property should be a priority for both urban and rural land.

Implementation

1. The government should consider the creation of a National Land Policy Forum which will include representatives from all ministries and agencies (including private sector representatives drawn from the professions) and act as a High Level Policy Committee in land matters.
2. The government should prepare a Land Policy Statement that sets out its immediate and near term policy objectives and identifies the roles and responsibilities of its executive agencies. The policy statement should explicitly consider the role of the state as landowner.
3. The government should establish a working group responsible to the Land Policy Forum, who will prepare a national strategic plan in accordance with the recognized needs and co-ordinate and harmonize the work of different ministries and agencies. This should explicitly strengthen the regulatory pillars, the monitoring of land market activity and establish targets for any remaining land privatization.

Success Indicators

1. A clear and consistent policy statement concerning the land market
2. The establishment of an inter-ministerial forum for policy debate concerning land issues
3. The promotion of policies emphasizing broad sectoral issues and involving active cooperation of ministries and agencies

Recommendation 3: EU Accession and Land Ownership

Background

The overriding political objective within the six Central and Eastern European countries is the EU accession and four of the six study countries (Poland, Czech Republic, Hungary and Slovenia) have been accepted for entry under the next round of enlargement. The EU has opened negotiations with all 11 applicant countries. The basic principles for enlargement were laid out at the 1993 Copenhagen European Council and the *acquis communautaire* is accepted as the definitive guide to the collective legislation that must be adopted in order to harmonize and be able to assume the obligations of membership. The Commission published its Opinion on the applicants ability to adopt the *acquis* in July 1997 and the basic assessment is that the countries are moving towards compliance An accession partnership is now being negotiated to address the matters raised in the Opinion.

Issue

There is a fundamental difficulty with respect to land that is not addressed in the *acquis*. In order for an applicant to enter the Union, the applicant country must constitute a functioning market economy, a prerequisite for which is the possession of an accepted method of registering private property. In all previous enlargements the applicant countries already possessed such institutions. The topic therefore received no special attention, other than creating an awareness of the need to address the broader objectives of the single market and to open up the land market to competitive forces from anywhere in the Union.

The effect of this policy within the transition states is potentially catastrophic as most of the transition countries have significantly lower agricultural land prices (one tenth, on average); as a result, large parts of the countryside could very quickly become foreign owned. This would be politically destabilizing and socially disruptive and would outweigh any gains in productivity that the new investment would bring. Unlike many other traded goods, the supply of land is strictly limited. This should be recognized and the applicant states should negotiate a transition period for fully opening up the agricultural land market.

Recommendation

It should be a policy objective of the applicant government to negotiate a transition period for the full liberalization of the agricultural land market. Given the start of the accession negotiations in 1998 and the planned accession in the next few years, these issues are of extreme importance at the present time. The urban land markets should be fully liberalized immediately.

Implementation

1. Establish national policy objective as negotiating period of grace for full liberalization of the agricultural land market and signal this to the negotiating teams.
2. Allow full liberalization of the urban land market to proceed in line with the *acquis*. Change the law to allow any eligible EU national to have full ownership rights at the same level as a physical or legal entity of the applicant state for all land that is not designated as agricultural.

Success Indicators

1. Agreement for a transition period in the liberalization of the agricultural land market.
2. EU legal and private persons are able to hold urban land with the same rights and privileges as state citizens.

Recommendation 4: Land Administration – Institution Building

Background

The state is responsible for the legal and regulatory framework within which the land markets operate. The state also needs an efficient land administration capability in order to meet other national policy objectives, including justice and home affairs, revenue generation through tax policies, environmental controls, rural development, cross border issues and municipal

administration. The impending EU membership places additional demands upon the land administration, especially in the adoption of the Common Agricultural Policy (CAP) and the implementation measures that include the Integrated Agricultural Control system (IACS). The socialist legacy of incomplete land records and uncertainty in title (including technical defects) need to be corrected. The structural pillars of the land registration and cadastre, valuation, and the supporting financial services must be secured and strengthened.

Issue

The land administration functions established in the transition economies have concentrated on the re-establishment of the necessary legal framework, the establishment of a services network and the registration of title to land and property, as well as the support for the property restitution and compensation (and similar) programs. In some cases it is recognized that the institutional arrangements may not be optimal for efficient land administration and in other areas it is clear that the institutions face significant problems in introducing modern technology (and especially large-scale national information systems). They must also cope with the additional special demands of the compensation and restitution programs. Additional demands will be imposed by the IACS. It is recognized that the information flows are currently weak and the processing time for transfers is too long in all of the capital cities. There are known difficulties in the legal definition of land and buildings and in the trading of use rights including leases. Most countries have inadequate valuation systems, while the financial sectors of some countries need legal support in dealing with mortgages, bankruptcy and foreclosures. These matters are all concerned with strengthening the legal framework, the regulatory authorities and improving the performance of the relevant institutions. Private sector involvement is almost completely restricted to contracting of routine technical activities (e.g. mapping).

Recommendation

There needs to be institutional strengthening of the land administration sector, which includes the three pillars of the regulatory authorities (registration, valuation, real estate financing) and the underlying legal framework. There is also a need to establish the technical systems needed to implement and provide a national level of service within reasonable time and with a high level of security and confidence.

Implementation

1. The government should request the land administration agencies to draw up strategic plans for the step by step institution building, including budgetary, technical, legal and staff development, as well as the identification of performance indicators.
2. The government should encourage the land administration agencies to review and explore private sector involvement in the land administration sector.

Success Indicators

1. Identification of institutional weaknesses and the establishment of corrective programs.
2. Identification and removal of excessive bureaucracy and purely institutional and administrative barriers to simple and effective transfer.

3. Support for the technical infrastructure and legal framework.
4. Increased capacity in the land administration sector and the elimination of backlogs.

Recommendation 5: Land Market Support Measures

Background

The land markets in Central and Eastern Europe operate under many disincentives including punitive transfer taxes and notarial fees, the lack of credit financing, inadequate valuation methods and a poor risk assessment of the market. Other disincentives arise in that the shape and position of many agricultural parcels are unviable as agricultural units, resulting from restitution of land and parcellation that dates back more than 50 years. There is weakness in the availability of market based information including real valuations and market prices while the mechanism for connecting buyers and sellers is undeveloped. Agricultural support is an important aspect of rural development, yet it is not prioritized in some countries. Urban land markets are seen as subject to severe technical and legal delays in effecting transfers and there are serious weaknesses in the mortgage laws of some countries. The emergence of significant private investments driving insurance funds, building societies, savings and loan organizations or mortgage banks has not yet materialized. Institutional investors are still noticeably absent compared to EU countries and property (especially agricultural) is not perceived as a safe long-term investment.

Issue

There are severe weaknesses in the land market that can be addressed through support measures aimed at creating the right environment for bottom up processes to be initiated by individual owners or groups of owners. This needs to be addressed not through direct state intervention, but by the identification and removal of obstacles to processes that will encourage the formation of viable agricultural units and stimulate the urban property market. This includes the removal of high transaction costs (notarial fees and some of the higher registration fees), the removal of entry barriers (parcels without adequate documentation) and establishing incentives for voluntary consolidation (waiver of transfer tax, etc.) and increasing the access to credit. Support measures can include measures aimed at improving the quality and availability of the goods (i.e. the land units) and also supporting the entry of a wider range of participants into the market.

Recommendation

There needs to be a declared policy objective of liberalizing the agricultural and urban land markets through creating more open competition, providing support for information flows and removing entry barriers and disincentives. In addition there is a need to provide incentives for voluntary land consolidation

Implementation

1. Establish system of reporting for monitoring all land sales, including sales price, profile of investor, type and condition of real estate, to increase transparency and information flows. This could be implemented as part of a regional development policy.
2. Prepare a program in support of voluntary consolidation, including support measures and an information campaign.
3. Identify and remove specific entry barriers and excessive transaction costs.
4. Identify policy instruments in terms of land tax, transfer tax and fee levels, credit and mortgage support, and review leasehold law in order to liberalize markets sufficiently to promote growth.
5. Identify opportunities to support and promote voluntary consolidation.

Success Indicators

1. Greater information flows and transparency.
2. Reduction of impediments and transaction cost.
3. Increased availability of incentives to encourage individuals and provide greater mobility.

CONCLUSIONS

The study identified a number of key policy issues relating to:

- Land markets and the completion of the transition to the market economy;
- The accession to the European Union;
- The establishment of regulatory authorities – institution building;
- Modernization of the technical infrastructure; and
- Payment for cadastral services and the role of the state.

Traditionally, the approach has been to put in place the legal framework, then identify the necessary technical matters to carry out the mandated tasks. Given the close connection between the performance of this state sector and the impact on declared cabinet-level policy, land administration authorities cannot adopt a purely technical viewpoint and must consider the wider costs and benefits. Cabinet-level policy needs to address the market transition, open and transparent markets, EU membership, creation of a viable agricultural sector, efficiency in the administration, and promotion of the private sector.

A number of policy-level recommendations formulated in the previous section are aimed at assisting with the development of effective and efficient land markets. The recommendations are not aimed at a particular country, but identify and address common problem areas that were identified during the study.

The following specific issues need further study:

1. The economic objectives of land reform and the development of land markets.
2. The funding of land administration activities and the extent to which government agencies should seek full cost recovery.

3. The levels of cooperation between different government agencies, especially with regard to land ownership; valuation and taxation of land and construction; control and management of land use; development control; land related information; agricultural policy.
4. The linkages between urban and rural land management.
5. The management and exploitation of land and property related information.
6. The balance between public sector and private sector activities.
7. The shortage of skilled managers in land administration.

In conclusion, land policy must be emphasized. The land policy needs to be a response to the declared government aims. It should involve active participation and discussion with all operators in the land sector including other government agencies, the regulating forces and the market participants. The introduction of the financing and valuation sectors that underpin the trade in goods and services heralds the transition to the market economy and completes the three regulatory pillars. Achieving a balance between the regulatory structures and the market forces will allow controlled growth and will be perceived as of general economic and social well being to the populace.

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APPENDIX A: Acknowledgments and List of Contributors

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This study was undertaken by a group of researchers, consultants and academics who are actively working in the land market sector within the transition countries. A multidisciplinary approach has been adopted involving professionals from the fields of land registration, economics and agriculture drawn from both the EU member states and the countries in transition. The principal collaborators included the following:

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APPENDIX B: Land Policy Framework Indicators by Country

The six country studies are documented fully within the ACE report Project P2128R: The development of land markets in Central and Eastern Europe (ACE program, final report 1998). The report also contains the detailed Land Policy Framework Matrix for each country based on 1997 observations, which has been used to produced the scorings in **Tables 5** and **6** in this article. The following summaries provide a very brief assessment of the main findings.

The Czech Republic is hampered in its development by four main factors. Firstly, there are the potential claims of the exiled Sudetenland Germans. Secondly, the agricultural land market faces high transaction costs creating effective barriers through the lack of effective land units and the loss of the boundary data. Thirdly, the national agricultural policy is not conducive to investment in this sector. Lastly, the lack of financial regulation has resulted in various banking and investment funding scandals that have significantly reduced investment into the country. The institutional reforms have proceeded well in the land registration and cadastral

sector but land valuation remains to be sorted out and an institutional framework with accurate and complete valuation information must be created. The financial pillar is handicapped by the poor financial regulation, but this is a priority problem for the government; significant progress should be expected over the next 2 or 3 years. The land market is still not yet established in a robust form.

Hungary has virtually completed all of the land related transition activities and by passing through the compensation program, it has satisfied all outstanding land claims and there is no substantial group pressing for further land claims. It is also at the end of the three-year moratorium on land sales, following the compensation program and it is reported that agricultural land has increased in average sale price by 500% in the last year. Land Consolidation is now proceeding and is taking place both through a government-backed program and through voluntary sale and exchange. The compensation program created a large number of players who now have a chance to share in the increase of the capital value of the property. The agriculture produce sector has also been largely restructured and there is a willingness to invest in this sector. Hungary seems to have managed this process with relatively little institutional reform in the land registration and cadastral sector. It could be that some reform would become necessary as the market increases and the demand for services widens, especially concerned with valuation. The financial pillar can be expected to grow significantly in the next 2 or 3 year period. The conclusion is that the land market is beginning to work in Hungary and the country is firmly in a market driven phase.

In **Latvia**, the land market is developing in and around Riga but elsewhere, especially in the rural areas, the market price for land is still very low. Agricultural land that has been restituted is, in many cases, reverting to scrub or forest because the owners are unwilling to sell until the prices rise. Sensitivities over the status of long-term residents of Russian origin inhibit a more open debate about land related issues. Awareness of land values is growing, partly as a result of the mass appraisal that has placed a market price on the land. When property-based taxes are introduced in the year 2000 this awareness will increase further.

In **Poland**, the land market is likewise hampered by the potential claims of groups who were expelled and who wish to recover their families property. Consequently there has been no formal restitution or compensation law enacted. Large amounts of land (more than 4 million hectares) are still held by the state through its holding company and this is a significant damper on the market and can potentially overshadow private sector activity. This is having a depressing influence on land prices. The institutional structures in Poland are still confused and there is no single national land registration and cadastral authority as the responsibilities are split between different ministries and there has been interminable discussion about the future of the institutional structure. The administration is through the voivods and consequently there is a structural weakness that affects further progress. It seems from the case studies that the valuation system is claimed to be more advanced in Poland than in any of the other study countries but the land market cannot yet be said to be working effectively.

Slovakia is handicapped in its land market by the difficulties arising from the lack of updating during the socialist years, resulting in large numbers of unknown owners as well as the

loss of boundary information (as in the Czech Republic). There is still a significant amount of land held by the state land fund and the restitution is still only two thirds completed. It therefore suffers from structural problems arising directly from the socialist legacy. A further complication (as in the Czech Republic) is the potential claims of evicted landholders who were expelled after the end of the Second World War. The regulatory authorities are also weak in that the land registration and cadastre sector is operated as part of the overall state administration and consequently there is a loss of executive control. Valuation and Financial services are still underdeveloped and there are weak information flows. In order for the land market to begin to function, the owners and parcel data must be completed as a priority to complete the first stage transition. The institutional position of the regulating authorities also needs to be considered and the technical infrastructure is not yet in place.

In **Slovenia**, the land market is noticeably less active then the other case study countries. It is too early to assess the impact of the liberalization of the market (it was opened to EU nationals in 1997) and this will only become clear over the next year or two. At the present time, the market suffers from a lack of technical infrastructure within the land registry. There is no large restitution program and there are no significant potential outstanding claims. The same families have been settled on the land for generations in small plots and these are not often offered for sale. While people like to be associated with the land, they are not so interested in the active use. The second and third pillars follow the same pattern as the other countries, though financial services have been even slower to develop in Slovenia, as the general economy has remained more closed to outside companies. The chief impediments are considered to be the lack of technical infrastructure and lack of reliable information services from the Land Registry.

The overall assessment shows that the reforms and institution building within the land registration sector (pillar one) have been more effective than the reforms in the valuation and financial services sector. There is a recognized weakness in policy formulation and coordinated institutional activities and a weakness in the establishment of a sufficient number and variety of participants in the land market itself, though Hungary has been noticeably successful in this area.

Review of the Legal Basis for Agricultural Land Markets in Lithuania, Poland, and Romania

Roy L. Prosterman
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This report examines the legal basis for development of agricultural land markets in three of the ten Central and Eastern European countries seeking accession to the European Union (EU), with special reference to the requirements for accession. The three countries are: Lithuania, the Baltic country with the highest proportion of population in agriculture; Poland, the country currently engaged in accession negotiations with the highest proportion of its population in agriculture; and Romania, the country preparing for a later round of accession negotiations with the highest proportion of its population in agriculture.

For each of the countries chosen, agriculture plays a significant role in their economies, and agricultural land is a resource (and an asset) on which more than one-fifth of their populations rely. Thus, the implications of the EU accession requirements with respect to agricultural land-market development are of considerable importance.

This review is based largely on work done in Lithuania, Poland, and Romania in March and April of 1999. In each country, meetings were held with senior government officials, government specialists, legislators, bankers, non-governmental organizations, other non-governmental specialists, lawyers, EU personnel, World Bank personnel, and other expatriate specialists knowledgeable about various aspects of rural land market development. The authors gathered and analyzed constitutions, laws, and other legal acts that have a bearing on the various aspects of land market development, and interviewed local officials, family farmers, and managers of larger farm enterprises about the status and development of the land market on the ground.

RELEVANT EU ACCESSION REQUIREMENTS

Two main requirements for accession to the EU have been identified as relevant to agricultural land. First, countries seeking accession must achieve a "functioning market economy." This requirement was one of four accession criteria declared by the EU heads of

government at the Copenhagen European Council in June 1993.[1] To meet this requirement, at the threshold a country's laws must allow a market to function for each of the major factors of production which make up a market economy. One of those factors of production is land. Thus, land must be substantially privately owned and capable of being bought and sold. In addition, this requirement carries implications for the legal rules governing processes of land privatization, including processes of land restitution to former owners. Further, the law must also provide the critical supporting structures for a land market, such as registration of land rights and mortgage financing of land transactions.

Second, citizens and legal entities of EU member states should have the right to take up activities as self-employed persons, and to set up and manage undertakings, on the territory of other EU member states.[2] This right is known as the "freedom of establishment," and includes specifically the right to acquire and use land and buildings (*Treaty* Article 54(3)(e)).[3] The "freedom of establishment" is significantly qualified, however, in at least two relevant ways:

1. When agricultural land or buildings are involved, implementation of the freedom to acquire land and buildings in another member state is made subject to the objectives of the common agricultural policy, which include taking account of the "social structure of agriculture," the "disparities between the various agricultural regions," and the need to make adjustments "by degrees" (*Treaty*, Articles 54(3)(e) and 39(2)).

2. The freedom-of-establishment principle only requires that an EU citizen be afforded treatment equal to "the conditions laid down for [a country's] own nationals" (*Treaty*, Article 52). Presumably, such conditions must also meet the separate "market economy" criterion laid down in Copenhagen. In plain language, a country *can* impose restrictions on certain activities if the restrictions apply equally to nationals and other EU citizens, and if the restrictions still allow the country to meet the market economy criterion.[4]

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[1] European Council, *Conclusions of the Presidency*, Copenhagen, June 1993; see, e.g. *Agenda 2000—Summary and Conclusions of the Opinions of Commission Concerning the Applications for Membership to the European Union Presented by the Candidate Countries*, Strasbourg/Brussels, 15 July 1997 DOC/97/8.

[2] See the *Treaty Establishing the European Community (as Amended by the Treaty on European Union)*, Articles 52, 54, 58, 39. UNTS II (1957), and TEU amendments at O.J. C224/1 (1992) and 31 I.L.M. 247. A consolidated text of the *Treaty* can be found in George A. Bermann, et al., *European Community Law Selected Documents (including European Union Materials) 1998 Edition 5* (West 1997).

[3] See also *1961 General Programme for the Abolition of Restrictions on Freedom of Establishment*, O.J. English Spec. Ed. 2nd series, IX 7 (Council of the EEC), Title III (A)(d) (second lettered sequence, following (a)-(j)).

[4] See *Commission v. Greece*, Case 305/87, [1989] ECR 1461, in which the European Court of Justice held invalid under Article 52 Greek laws which had discriminatorily prevented natural or legal persons of other EU members from owning land in border areas and on the Greek islands. See also *General Programme*, Title I, and III (A) and (B) (suggesting that treatment of other EU persons affording rights beyond national treatment may only be required if they are resident self-employed natural persons).

Key Legal and Policy Issues Related to Agricultural Land Markets in Lithuania, Poland, and Romania			
Issue	Lithuania	Poland	Romania
1. Private ownership of land			
– by citizens	allowed	allowed	Allowed
– by legal entities	prohibited	allowed	Allowed
– by foreign citizens	prohibited	allowed, but with restrictions	Prohibited
– by foreign legal entities	prohibited	allowed, but with restrictions	allowed only through Romanian legal entity subsidiary
2. Privatization of land (see also section 3)			
– main method(s) of privatization	mostly by restitution to former owners, though land also allocated for auxiliary plots and private farms	most land remained privately owned during Communism; state-owned land being privatized through sale to lessees	Restitution
– speed of privatization	very slow	very slow, but affects the minority of land which is state-owned	mostly completed
– intent to privatize	clear intent to do so	doubtful intent	clear intent to do so
– current use(s) of land remaining in state ownership	leased to private farmers or to citizens for use on small plots	leased to farming corporations far smaller than the predecessor state farms	cultivated by state farms (this represents a minority of land; privatization expected soon)
3. Restitution of land			
– problems with restitution	complex laws, competing claims, and administrative hurdles	no restitution program	some problems of excessive parcelization
4. Farm restructuring (as it impacts marketability)			
– is collective and state farm land being transferred to the ownership and use of individuals?	yes	somewhat (most land remained privately owned)	Yes
– do restrictions exist on private land transactions that discourage farm restructuring?	no	no	No
5. Land-use regulation (as it affects marketability)			
– are "non-use" or "irrational use" subject to sanctions?	no	no	sanction for non-use
– are penalties for violation of land use excessive?	penalties do not appear excessive	penalties do not appear excessive	yes, land can be seized without compensation in certain cases (though not currently invoked)

Issue	Lithuania	Poland	Romania
6. Transactions in land			
– may citizens and domestic legal entities participate in purchase-sale transactions?	only citizens, not legal entities	yes	Yes
– may citizens and legal entities participate in lease transactions?	yes, including foreigners	yes, including foreigners	yes, including foreign legal entities. Foreign citizens may not lease land
– do certain parties have pre-emptive rights to buy or lease land?	yes, the state has priority rights for very limited lands (not for restituted lands)	none identified	yes, co-owners, lessees, and neighboring farmers have pre-emptive rights (but strictly limited and not problematic)
– are transaction costs (notarization, survey, etc.) high?	notary fees and survey fees seem excessive	fees seem high for transactions of small amounts of land	notary fees seem greatly excessive
– is there a moratorium on land sales?	no	no	No
– do size limits exist on the amount of land that can be owned or leased?	150 hectare limit on owned land; no limit on the amount of land that can be leased	no limits	200 hectare limit on owned land; no limit on the amount of land that can be leased
7. Land Mortgage			
– is basic mortgage law sufficient?	yes	yes	Yes
– do restrictions exist on banks (i.e., lenders) owning land?	yes, banks cannot own land, even temporarily	no	yes, but not a problem. Banks must dispose of foreclosed-upon land within one year.
– are foreclosure rules fair and efficient?	rules seem to excessively protect the lender, although they rarely have been applied in practice	banks complain that foreclosure is costly and slow	rules seem fair and efficient, but have been only minimally tested
8. Land Registration			
– does the registration law provide adequate definition and protection of legal rights	yes, but some fragmentation into separate systems	yes, but much land is not registered, with "sporadic" registration occurring for transactions	overall yes, though there some rights may not need to be registered, causing uncertainty
– is registration carried out in a timely manner	some complaints as to the slowness of registration	no, long delays often occur	registration seems timely

Issue	Lithuania	Poland	Romania
9. Land Taxation			
– are land taxes too high so that they distort market activity?	no	yes, and distortion is increased when combined with tax forgiveness for leased-out state lands	No
10. Compulsory Acquisition of Land			
– compulsory acquisition should be allowed only to meet clear, limited, public purposes	law is satisfactory	law is satisfactory	law is satisfactory
– just compensation should be paid when land is taken	market price is to be paid	compensation standards are adequate	law provides for "just compensation paid in advance"

POTENTIAL IMPEDIMENTS TO LAND MARKET DEVELOPMENT

This review of the current legal basis for agricultural land markets in Lithuania, Poland, and Romania was carried out against the background of the two relevant accession requirements stated in the previous section. Also, the review utilized a checklist of potential impediments relating to agricultural land markets that the Rural Development Institute had previously developed for the World Bank.[5] These potential impediments fall under the following 10 broad categories:

- Private ownership of agricultural land;
- Privatization of agricultural land;
- Land restitution;
- Farm restructuring (as it impacts marketability);
- Land-use regulation (as it impacts marketability);
- Transactions in agricultural land;
- Land mortgage;
- Land registration;
- Land taxation (as it impacts marketability); and
- Compulsory acquisition of land (as it impacts marketability).

The discussion of land markets in the three selected countries is organized according to these subject areas. Where significant problems are identified in the legal regime for land markets, we have offer brief "best practice" recommendations for their solution. The findings of the detailed country discussions are summarized in a matrix that presents in a comparative format the key legal and policy issues related to agricultural land markets in Lithuania, Poland, and Romania. The summary matrix is organized according to the same 10 broad categories of issues as the detailed country discussions.

[5] Roy Prosterman and Tim Hanstad, eds., *Legal Impediments to Effective Rural Land Relations in Eastern Europe and Central Asia: A Comparative Perspective* (World Bank Technical Paper No. 436, 1999).

COUNTRY DISCUSSIONS

Lithuania

Lithuanian law contains many of the needed provisions for a market economy in agricultural land to develop. Lithuanian citizens may own land, and engage in the full range of transactions. The law demonstrates a commitment to privatization of state-owned agricultural land, largely through the restitution process. Laws on land mortgage and land registration are sound. In addition, the law does not contain provisions allowing the government to over-regulate land rights, or to unacceptably terminate land rights, to any significant degree.

Problems do persist, however. Transaction costs are high, the registration system is in danger of being fragmented throughout the government bureaucracy, and restitution is proceeding slowly due to problems with the various laws and implementing regulations. Also, the Lithuanian Constitution prohibits foreign citizens from owning land, as well as prohibiting both domestic and foreign legal entities from owning agricultural land. These restrictions undoubtedly raise major issues regarding EU accession.

Private Ownership of Agricultural Land

Lithuania allows full private ownership of agricultural land by its citizens. Restrictions do exist, however, on private ownership by legal entities. Lithuania's Constitution allows agricultural land to be owned only by citizens and by the state. Thus, legal entities cannot own agricultural land, even if they are Lithuanian. This limitation could adversely impact the development of a market economy in two ways. First, by forbidding Lithuanian banks (which are legal entities) from owning land, the limitation might make mortgage financing of land purchase difficult or impossible. Second, forbidding land ownership by legal entities engaged in agricultural production may impair development of more competitive and efficient farms. Since a fundamental requirement for accession to the EU is the existence of a functioning market economy, the restriction is problematic.

Lithuanian law also proscribes ownership of agricultural land by foreign citizens and legal entitles. These issues are discussed in the section on *Transactions in Agricultural Land* found below.

It is widely expected that this constitutional restriction against ownership of agricultural land by legal entities will be removed (a similar restriction was removed for non-agricultural land in 1996). Some believe this change will occur before next year's parliamentary elections, while others believe the change will not occur until the restitution of agricultural land is substantially completed. Completion of restitution could take several years, as discussed below.

Privatization of Agricultural Land

The primary question surrounding land privatization and its relationship to the development of a market economy is the amount of privatization that has in fact occurred. In

Lithuania only 36.7 percent of agricultural land has been fully privatized; 63.3 percent remains in state ownership. However, several important facts make this statistic less gloomy. First, the Lithuanian government clearly intends to privatize a significant majority of its agricultural land. See the following section on *Land Restitution*. Second, over half of the state-owned agricultural land is leased to family farmers or used by citizens on auxiliary plots. Furthermore, while Lithuania has a far higher proportion of state-owned agricultural land than in Poland, for example, the administrators of such land appear more willing than in Poland to make it available in small and medium-sized parcels for lease to the family-farm sector.

Privatization of land has occurred in three principal ways. The most significant method is restitution, a process still ongoing. The second way is through the allocation of 2-3 hectare auxiliary plots in use to citizens, who are then allowed to buy the plots out with vouchers or with money. The third way was through the allocation of land to peasant farms in 1989, at the beginning of the land reform.

One obstacle to meaningful land privatization encountered in some transition economies is transferring land into so-called private ownership, but without the right to sell that land. This is not a problem in Lithuania: when land is transferred into private ownership, it is with the full range of expected ownership rights. Also, the state has not exempted from privatization large amounts of land for specialized production, as has been the case in some other countries. Exemptions for high-quality seed and animal-breeding, research, and other specific purposes probably constitute one percent or less of agricultural land.

Land Restitution

The principal focus of Lithuania's agricultural-land privatization efforts is the restitution of land to Lithuanian citizens who were pre-World War II owners, or their successors. Restitution is, preferentially, to be of the specific land that the pre-war owners had cultivated. Unfortunately the process has gone slowly. The basic political will to carry out restitution exists, but the process has been plagued by problems with laws and implementing procedures. Thus, as mentioned above, only 36.7 percent of agricultural land has been formally transferred into private ownership, including final registration.

The major problems with the restitution program are as follows:

1. Some land was allocated to peasant farmers in ownership under the 1989 law of the Lithuanian SSR "On Peasant Farming," before the restitution law was first adopted in 1991. As a result, unresolved conflicting claims exist between peasant farmers and restitution claimants.
2. The state allocated a substantial amount of land for use as auxiliary plots, and gave the users the right to buy out these plots (first with vouchers, and currently for a somewhat high state-determined price). Some of this land is now in private ownership, while most of it (an estimated 17.4 percent of all agricultural land) is still state-owned. This land was given out in 2-3 hectare allotments. As with the land allocated to the peasant farmers, much of the auxiliary plot land is subject to conflicting claims by restitution claimants.

3. The deadline for submitting restitution applications was extended in successive amended versions of the law.
4. The categories of people who were given restitution rights were expanded in successive amended versions of the law, most recently in the 1997 law "On the Restoration of the Rights of Ownership to the Existing Real Property." Most notably, they were expanded to include grandchildren of the original pre-war owners.
5. Several different laws, and potentially several amended versions of the same law, may be applicable depending on the date a restitution claim was submitted. There also appears to be a lack of clear legal rules to resolve the conflicts between the claims of actual users and restitution claimants under (1) and (2).
6. Numerous administrative problems exist, such as the use of complex Soviet-era land valuation procedures rather than market values.

Some of these problems, paradoxically, seem to arise from efforts to be scrupulously fair to restitution claimants. Complex rules and procedures contribute to indecision and gridlock. It is also worth pointing out that an estimated 50 percent of the claims for restitution of land in kind have now been dealt with. However, as one person noted to us, "the last 30 percent are likely to be the hardest."

- *Recommendation*: It would be very desirable to speed up the restitution process, but the issues are daunting and involve highly technical problems of administration and dispute resolution. The best that can be suggested is that the Lithuanian government must recognize that its present goal of completing restitution by 2000 is unrealistic, and that it try to implement solutions to the problems outlined above. Unfortunately, from a legal perspective the problems described in (1) through (4) involve rights which were granted, and thus cannot now be taken away. Some clarifications of ambiguities in the law may be possible under (5). The chief hope lies under (5) and (6), where initiatives to streamline administration and conflict resolution may be possible (improve training of officials who are tasked to work out solutions to conflicting land claims, use market valuations, etc.).

Farm Restructuring

The primary issue concerning farm restructuring and land markets is whether land traditionally used by collective and state farms is being transferred to the ownership and use of individuals. In Lithuania, transfer of ownership has been slow due to difficulties with the restitution process. Nevertheless, most land is used by individuals, as follows:

- Roughly 66 percent of agricultural land is used by family farmers or auxiliary plot holders.
- Approximately 16 percent of agricultural land is used by the 1,650 agricultural companies which are the effective successors to (although much smaller than) the former collectives. Slightly more than half of this 16 percent is leased from the state, and the rest is leased from private owners.

- About 17 percent of agricultural land is unused, with the remainder used in miscellaneous small categories.

The key factors leading to the relative smallness of the agricultural company sector have been government policy to transfer land to individuals, coupled with the prohibition in the Constitution on ownership of agricultural land by legal entities.

Finally, Lithuania has not restricted transactions with privatized land in a way that discourages farm restructuring, as can be seen in some transition economies. A land share system (featuring a cosmetically reorganized state or collective farm using most of its traditional land base, but with the land held in common ownership by the farm members) does not exist in Lithuania. As to individual land plots, at one point restituted land not being used directly by its owner had to be leased to the agricultural companies. This obligation no longer exists, and most restituted land not used by its owner is apparently leased to family farmers.

Land Use Regulation

Severe penalties do not appear to be used for regulating land use. The 1994 law "On Land" requires that agricultural land not be used irrationally. No "non-use" provision exists, but the law prohibits allowing agricultural land to be overgrown with shrubs or forests. However, there is no clear specification of penalty, and no indication that loss of the land (with or without compensation) is a possible penalty.

Certain legal issues arise when a landowner wants to change the use of his parcel from agriculture. If a town-planning document designates land as available for non-agricultural purposes, then the conversion can be easily made. Otherwise, it appears that a change in the town plan must be obtained under a rather complicated procedure. In addition, special compensation must be paid based on a multiple of the difference in profitability between the land as used for agriculture, and the land as used for non-agricultural purposes (i.e., a number of years of expected profit for the change must be surrendered up-front). Such conversions of land are rare, especially since land usually can be found which is already properly designated.

Transactions in Agricultural Land

1. *Sale and lease transactions.* All private landowners have the right to sell, and to carry out other usual transactions, and the state has not imposed moratoria on land sales. Although the state does not produce standard forms for exercising transaction rights, private parties have developed and utilized their own forms (with guidance also from the Land Law). Land leasing is not restricted, except that under the 1993 law "On Leasing" of Land some leases may have to be for a three-year minimum term.

One issue that still remains is, for agricultural land that has been sold by the state, as distinct from restitution land, the state has a priority right under the law "On Land Reform" to meet competing offers when the private owner subsequently offers that land for sale. Such a

limited and straightforward priority right probably will not raise serious problems, although ideally there would be no such right.

2. *Rights of foreigners.* Regarding rights of foreign citizens and legal entities, the Lithuanian Constitution presently limits ownership of agricultural land to Lithuanian citizens and the state. Foreign ownership is thus precluded. The exclusion of foreign citizens and foreign legal entities from ownership of agricultural land, compounded by the exclusion of Lithuanian legal entities, raises substantial problems for EU accession. Both the "freedom of establishment" issue and the "functioning market economy" issue appear to arise (see the discussion in the *Relevant EU Accession Requirements* section above). The "freedom of establishment" issue arises with respect to the ban on ownership by foreign citizens, although it may not arise with respect to the ban on foreign legal entities, since Lithuanian legal entities are also excluded from ownership, thus making the prohibition non-discriminatory. However, the potential problem must also be reviewed in light of the policy considerations integral to the common agricultural policy: taking account of the "social structure of agriculture," the "disparities between the various agricultural regions," and the need to make adjustments "by degrees." (See Articles 54(3)(e) and 39(2) of the EU Treaty.)

The "functioning market economy" issue may arise with respect to the ban on agricultural land ownership by Lithuanian legal entities, both because they, a major class of likely market participants, are excluded from the market, and because Lithuanian banks, in particular, may be discouraged from mortgage lending if they cannot acquire land upon which they are foreclosing, even in the absence of other buyers. Thus, even Lithuanian citizens may find it difficult or impossible to obtain purchase-money mortgages to finance the buying of agricultural land, arguably an essential component of any functioning land market.

Lithuanians generally recognize the problems with restricting foreign ownership. We found fairly broad agreement that the prohibition on foreign ownership should be ended, although many people thought it would be best to complete the restitution process first.

As a final matter, prices of agricultural land on the private market in Lithuania are clearly very low. They are estimated to be around 1,500 to 2,000 litas/hectare ($375 - $500/hectare). These prices are low not only in relation to EU market prices, but even relative to prices in neighboring Poland, where a realistic estimate of average market price may be as high as 7,000 zlotys/hectare (roughly $1,800/hectare). These great price differences suggest that unfettered foreign access to the land market could be highly disruptive, precisely what the Treaty policies quoted above are intended to avoid. In the previous round of EU accession, which involved a much more prosperous group of countries (Austria, Finland, and Sweden), even a restriction whose elimination would have involved far less potential social and economic dislocation (a restriction on foreign purchase of land for vacation homes) was permitted to be retained for a five-year period after accession.[6]

[6] See Act concerning the conditions of accession of the Republic of Austria, the Republic of Finland, and the Kingdom of Sweden, and the adjustments to the treaties on which the European Union is founded. O.J. C241, 29/08/94, Title III, Article 70.

- *Recommendation*: The restriction on agricultural land ownership by Lithuanian legal entities, especially banks, appears highly vulnerable under the "functioning market economy" criterion, and should be quickly eliminated. This will require a constitutional amendment. As to ownership of agricultural land by EU citizens and legal entities, EU policy and precedent are deferential to the need for extended transition periods (including post-accession periods) to avoid dislocation. This approach should be applied in the Lithuanian context as well.

3. *High transaction costs.* High transaction costs are a major problem, especially for transactions involving small amounts of land. The two principal costs are notarial fees and surveying charges. Both notaries and surveyors are private, but the process either requires or encourages high charges. The Ministry of Justice approves the fee schedule for notaries, which starts with a fixed fee of 300 litas for all sales of immovable property with a value up to 30,000 litas (thereafter 0.7 percent of the price up to 100,000 litas, and so on). Surveyors are "approved" at the *rayon* (county) level and publish their fee schedule, which is anywhere from 150 to 500 litas/hectare for their work (equivalent to $37-$125/hectare), depending upon a variety of factors. One farmer we interviewed was buying four hectares for up to 3,000 litas/hectare and paying fees totaling 1,200 litas for redrafting the land plan and notarizing the sale. This amount is equal to 10 percent or more of the purchase price of the land. For the purchase of a one-hectare auxiliary plot of poor-quality land, surveying costs could be almost equal to the price of the land.

- *Recommendation*: The minimum fee for notarization should probably be reduced. But, most importantly, competition among the private surveyors needs to be stimulated. It may be necessary to set nationally a maximum price for surveying (perhaps per parcel as well as per hectare) which should be substantially lower than the present fees. While the economic conditions are quite different, a situation of real competition among private surveyors in Moldova, for example, has led to a typical survey of one hectare divided into three separate parcels costing the equivalent of 32 litas.

4. *Discrepancy in rent levels between state and private land.* Another problem is the discrepancy between rent levels for state-owned land and privately-owned land. This discrepancy may be undermining the lease market, and possibly the sale market, for privately-owned land. Although private farmers we spoke with were leasing land from private parties as well as from the state, it was clear that rent levels for state-owned land were far lower. Rents on state-owned land are usually 1½ percent of a calculated "value" (an amount which is also equal to the normal level of land tax), typically now 20-30 litas per hectare. This is equal to roughly two to three percent of the average value of grain production per hectare. Rents on privately-owned land appear to be in the range of 120-150 litas per hectare (or equivalent in grain), although there are also cases where the owner leases the land for amounts described as "symbolic" or for payment by the lessee of the land tax. It seems highly likely that the availability of substantial amounts of state-owned land at comparatively very low rent levels is significantly undercutting both the private lease and private sale markets.

- *Recommendation*: The solution is to finish the restitution process and get the state out of the business of owning and leasing out substantial amounts of agricultural land.

5. *Size limits.* Neither maximum nor minimum size limits unduly impede the development of Lithuania's land market. The maximum size limit on ownership of agricultural land by a family is 150 hectares, and was established under a series of laws, including the law "On Land Reform" as amended through 1997. This does not appear to create a problem, although some thought must be given to possible adjustment if legal entities are given the right to own land. In addition, under the 1994 law "On Land," lower ownership limits could, theoretically, be set locally in accordance with local land-use planning documents. There is no maximum on the amount of leased land. Furthermore, under the law "On Land," it is theoretically possible for sub-division of private agricultural land holdings by transfer to be limited under local land-use plans. This appears to be the only respect in which a minimum size requirement could apply, and does not appear to be a problem in practice.

Land Mortgage

The legal rules as to mortgage under the 1997 law "On Mortgage" and other laws appear to be adequate, with the important exception that legal persons (hence banks) cannot own agricultural land. Thus, if there is an inadequate bid, or no bid, at a foreclosure auction, a mortgagee bank cannot acquire ownership of the land itself, even temporarily. At a minimum, this probably will lead banks only to take mortgages on agricultural land which is clearly marketable and has value well in excess of the loan amount, so that sale to a third party at an acceptable price at a foreclosure auction would be virtually assured. We spoke with one bank that does, nonetheless, make some loans on the collateral of agricultural land, but the restriction on bank ownership clearly is a constraint.

- *Recommendation*: Unfortunately this is a constitutional issue, so a partial approach is very difficult. Ideally, however, an interim solution would allow banks to own land for a brief period of time, if that land was not successfully auctioned at a foreclosure sale.

The law contains no express reference to purchase money mortgages, but this does not appear to create a problem. Excessive protection for the mortgagee may give rise to problems, although the practical experience with foreclosure is thus far very limited. The 1997 law "On Mortgage" appears to subject the debtor to a foreclosure auction within little more than a month after default, and we are not aware of any separate period-of-grace or special saving provisions. By world standards, such a rapid foreclosure procedure is fairly drastic.

Land Registration

The 1996 law "On the Real Property Register" appears basically adequate, although some improvement might be imagined. Registration is to be carried out by the "State Land Cadastre and Register." One emerging problem is that there is now a separate Mortgage Registry,

maintained in the courts by the Ministry of Justice. In addition, there is discussion about further fragmenting the registration system by turning over registration of other encumbrances or servitudes to the Ministry of Justice.

- *Recommendation*: Every interest in land that is to be registered should be registered in one accessible place, whatever that place is. Rather than further fragmentation, re-combination of the Mortgage Registry with other registered information would be desirable.

The law "On the Real Property Register" appears to require registration under its new procedures. Rights registered under earlier registration procedures are protected, however, until registered under the new procedures. The registry is open to the public.

We heard complaints about the slowness of the process of registering land sale transactions. The complex requirements found in the law "On the Real Property Register" make it easy to understand the difficulties, even though that law also attempts to set some unrealistically short time-lines for various review steps in the registration process. Registration fees do not appear to be substantial, but notarization and, especially, survey costs for land sales are excessive. See discussion under *Land Transactions* above.

Finally, initial privatization of agricultural land does not seem to be burdened by complex requirements for legal land descriptions and surveys, but survey standards for subsequent private sales are more exacting. Even so, it does not appear to be the standards themselves, so much as the excessive fees charged by surveyors for the work done, which are the problem.

Land Taxation

Land taxes are quite low. They usually amount to 1.5 percent of a state-calculated land value, and may be forgiven by local government. A tax of 1.5 percent of the calculated value would typically be around 20-30 litas per hectare, equal to perhaps 2-3 percent of the average value of grain production from a hectare of land.

No sales tax is levied on the first deal for sale of a restituted land plot made per year; any additional deals are taxed at a rate of 20 percent of the contractual price.

Compulsory Acquisition of Land

The 1994 law "On Land" clearly and narrowly identifies the purposes for compulsory acquisition. The constitutional standard is "adequate compensation." The law "On Land" provides for payment of "the official land market price of that locality," with the right to appeal to a court. Whether "official" and actual market prices may differ significantly, or may come to differ significantly as a land market develops, is difficult to assess. At least at present, compensation for compulsory acquisition does not appear to be a problem.

Poland

Poland has the best-developed legal base for agricultural land markets of the three countries reviewed. Polish citizens may own land, and carry out the full range of transactions with that land. Registration and mortgage laws exist and are functioning, and land use rules are generally reasonable. Persistent problems include delays in privatizing some of the former state farm land, a process of registration that takes much too long, and restrictions on foreign ownership of land.

Private Ownership of Agricultural Land

Private ownership of both agricultural and non-agricultural land is legal in Poland. Natural and legal persons may privately own land and enjoy the full range of expected ownership rights. Poland does, however, have significant administrative restrictions on acquisition of private land ownership by foreigners, which are addressed below.

The right of legal persons to privately own agricultural land has not given rise to any problems of coerced contribution of individually-held land to charter capital of enterprises, as in some transition economies. In Poland, the state farm/cooperative sector only uses 20-25 percent of agricultural land (the rest is held in family farms).

Privatization of Agricultural Land

Seventy-five percent of Poland's agricultural land stayed in family farms throughout the communist period. This land remained privately owned and did not require privatization. With respect to the remaining land, certain issues exist as to full privatization.

The Agricultural Property Agency (APA) is a state agency formed in 1992 under the 1991 law "On Administration of State Treasury-Owned Immovable Property." The APA took over roughly 4.6 million hectares of land, which had been occupied by state farms (3.7 million hectares), by the National Land Fund (600,000 hectares), or held in miscellaneous categories (300,000 hectares). The agricultural land in these categories represented 19% of Poland's total agricultural land base. The APA liquidated the state farms (average size 2,500 hectares), and distributed the three categories of land as follows:

- 2.8 million hectares were leased, largely to 6,000 newly-created smaller farms (average size 450 hectares). These new farms are far smaller than the old state farms, but many of them are probably still closer in functioning to a "state farm" than to a "family farm." Although lacking some of the benefits of household-size private farms, these 6,000 farms do continue to employ many former state farm workers, a group that received no privatization benefits.
- 728,000 hectares have been sold, apparently mostly to family farmers to expand their holdings;
- 161,000 hectares have been transferred free of charge;
- 330,000 hectares have been "redistributed" through "management," "perpetual usufruct," or "administration;" and

- 616,000 hectares are officially awaiting disposal, but indications from the APA are that this land is of poor quality and will probably not be used.

The most important issue related to privatization is the disposition of the 2.8 million hectares which have been leased out mostly to the 6,000 new farms created from the former state farms, usually under mid- to long-term lease (we encountered some 15-year leases), and at rather low lease rates. These 2.8 million hectares represent about 11 percent of all agricultural land. We were told by the APA that it is selling about 100,000 hectares of this land annually - probably nearly all to the lessees, who have a preemptive right to buy under the Civil Code. (The lessees are most likely buyers for another reason: a non-lessee buyer would be purchasing land already leased for a long term and at low rents to the lessee.) However, at the present rate it will take 20 to 30 years to fully privatize this land.

Some observers believe the APA is attempting to extend its bureaucratic life rather than serve its intended function of privatizing state land by selling this 2.8 million hectares at such a slow pace. Others argue that, if a new law mandates rapid privatization of APA-held land, most of that land would go to the 6,000 smaller (but still rather large by Polish standards) farms which came out of the break-up of state farms, rather than to true family farmers. Several factors reinforce this possibility: the currently depressed state of agriculture; the location of much of this land away from areas of family farming; and the existence of the leases.

- *Recommendation*: The land in the APA land fund should be transferred into private ownership. The APA should be given, by law, a fixed period (at most 5 years) to liquidate its "inventory" and close its doors. This may require much lower land prices than the APA presently offers, and probably – where the lessee does not want to buy or cannot meet another's offer – some preference for those local farmers who do exist. A second, lesser preference may also be needed for others who want to relocate to farm directly. Importantly, this land should be made available for purchase in single fields or units that are much smaller than the average size (450 hectares) of the 6,000 farms that are currently this land's principal lessees.

- *Recommendation*: If APA-held land is to be fully privatized, the workers on the 6,000 successor enterprises to the state farms should receive 15 percent of the financial proceeds of privatization, equivalent to what workers in the non-agricultural sector received when their enterprises were privatized.

Land Restitution

A leading issue in transition economies concerning restitution is whether claims are being processed slowly or are not yet decided. Either a slow pace or potential overhanging claims could prevent the affected land from being presently marketable. (Restitution is not an EU requirement, but a "functioning market economy" is.)

Poland does not currently have a restitution law, but successive drafts of such a law have been debated by the parliament through most of the 1990s. However, even if such a law eventually is adopted, it will affect a very small percentage of agricultural land. The only land affected will be APA-administered land -- land which the state expropriated from the aristocracy or large landlords after World War II and put into state farms. Most expropriated land under the post-war land reform was given in ownership to family farmers; that distribution is universally considered legal and binding, and will not be affected in any way. At most, a restitution measure would return an estimated 300,000 hectares to former owners. The APA has identified such former estates that had been swallowed by state farms, and has followed a policy only to lease this land and not to include it in any land being sold.

Farm Restructuring

As discussed above, the state now leases most of the land formerly held by state farms to some 6,000 farms operated by private enterprises or individuals which average about one-fifth the size of the former state farms. See the recommendation as to full privatization under *Privatization of Agricultural Land* above.

Because Poland does not have a land share system, the issue of "locking up" land in inefficient production units through long-term lease of land shares to large agricultural enterprises does not arise. The system of leasing out most former state farm land to 6,000 farms which are still rather large by Polish standards may tend, however, to lock up land in inefficient production units. The recommendation under *Privatization of Agricultural Land* above would attempt to ameliorate this effect by offering this land for sale – still subject to the existing lease, of course – in units much smaller than 450 hectares.

Land Use Regulation

We have found no provisions in Polish law threatening dire consequences for "irrational use" or "non-use." Nor have we found any indication of draconian penalties for land-use violations. However, under the 1994 law "On Spatial Development" and related measures, a spatial development (zoning/land-use) plan must be complied with in order to get a valid construction permit. This law actually goes dramatically, and undesirably, further than nearly all laws in the EU or North America, requiring compensation to the owner where a change in zoning reduces the value of his land. Following common practice, existing uses are also generally protected against zoning changes.

Under the law "On Spatial Development," if a spatial-development plan which zones particular land for agricultural use has been approved by the *gmina* (village-level administrative body), a change to non-agricultural use requires a change in the plan (a change in zoning). This change necessitates a substantial procedure and approval process. This procedure and approval are carried out at the *gmina* level, however, and our discussions suggest that the actual difficulties of conversion may range from slight to severe, depending on the particular locality (and probably upon such factors as whether the change is to allow a substantial job-creating investment). Under the same law, it might be noted, if the beneficiary of a zoning change then

sells the rezoned land, the *gmina* can impose a special fee equal to up to 30 percent of the increase in value of the property due to rezoning. However, this fee clearly does not represent a confiscatory level of taxation. A formula is used which probably reduces the impact still further compared to the actual price paid.

Transactions in Agricultural Land

1. *Sale transactions.* Poland appears to have an active sales market in agricultural land. The APA, for example, estimated that 500,000 – 1,000,000 hectares are sold each year on the private land market (roughly 2-4% of agricultural land). As in many developed market economies, there are few or no official forms to be used in land transactions; private parties create their own forms to suit their needs.

2. *Rights of foreigners.* The Polish Constitution appears to permit, but not to require, restrictions on foreign purchase. It appears that foreign purchase of agricultural land in excess of one hectare or non-agricultural land in excess of 0.4 hectares currently requires permission from the Ministry of the Interior, pursuant to the 1920 Act on Acquisition of Real Estate by Foreign Persons (as amended in 1996). Leases apparently are permitted without limitation.

As discussed in the *Relevant EU Accession Requirements* section above, restrictions on foreign ownership raise EU accession issues related to the "freedom of establishment." Although the prohibition of foreign ownership in Poland is not absolute, the need for administrative approval is, on its face, discriminatory and clearly sufficient to raise the freedom of establishment issue. However, with respect to agricultural land in particular, the requirement as set forth in Articles 54(3)(e) and 39(2) of the EU's governing Treaty needs interpretation. The requirement states that any implementation of the right of foreigners to acquire agricultural land and buildings must be subject to the objectives of the common agricultural policy under Article 39, taking account of the "social structure of agriculture," the "disparities between the various agricultural regions," and the need to make adjustments "by degrees."

The issue of foreign ownership is one of considerable political and practical importance for Poland. On the political front, there is considerable resistance to possible foreign acquisition of tracts of agricultural land, especially by German citizens in the western areas that were at one time German territory and became part of Poland after World War II. On the practical front, Polish agricultural land presently sells for market prices that are far lower than prices for comparable agricultural land in the EU, and consequently could be easily bought up by wealthier EU nationals. Also, it is argued that allowing foreign ownership would also tend to drive up the price of agricultural land, and make it less affordable to Polish farmers.

The differences in land prices between the EU and Poland appear to be substantial. We received estimates of the average price for agricultural land sold in private transactions in Poland ranging from around 3,000 zlotys/hectare ($790/hectare) to 7,000 zlotys/hectare ($1,850/hectare). By comparison, it was estimated that agricultural land in the western region of Germany sells for an average price of DM 15,000/hectare (about 32,000 zlotys/hectare), while such land in the

eastern region of Germany sells for DM 7,000-9,000/hectare (about 15,000-19,000 zlotys/hectare).

In sum, if Poland's agricultural land market is simply thrown open to bidding by EU citizens and enterprises, there could be adverse economic and political consequences of the sort that Article 39 of the EU Treaty seeks to limit.

- *Recommendation*: Poland may end up needing a post-accession transition period to remove restrictions on ownership of agricultural land by EU citizens and enterprises. During the previous round of EU accessions Austria, Finland, and Sweden were each allowed to retain restrictions on foreign purchase of land for vacation homes for a five-year period after accession (see footnote 6). These restrictions, if immediately removed, would clearly have been far less disruptive to the local economies than the restrictions at issue in Poland. Moreover, foreigners already have a certain level of access to agricultural land in Poland, since they may lease such land.

3. *Leasing.* No restrictions exist in Poland on land leasing. Under the Civil Code, lessees who have leases of 3 years or more in length have a priority right to acquire the land they lease. They must meet competing bids, however. Such a straightforward right restricted to lessees only does not seem to pose significant problems for a land market.

One potential problem regarding leasing is that APA lease rates for state-owned land are almost certainly below market. These rates currently average about 2.3 centners of wheat per hectare, which amounts to less than 10 percent of average production. While somewhat low, this rate is not nominal. The APA-held land, moreover, is usually leased out in large tracts and is largely located in areas (in the north and west of Poland) where there are not a large number of family farms. In those settings, APA leases probably do not substantially undercut the private lease market. On the other hand, we also encountered APA leases of smaller tracts in settings where there are many smaller farmers. In such settings, private leasing very likely is undercut.

In addition, low rents for APA land may discourage privatization. Currently the average sale price for one hectare of APA-owned land (2,700 zlotys) is equal to the price of 60-70 centners (6-7 tons) of wheat, while average lease payments to the APA are 2.3 centners per hectare. That is, APA sales prices average roughly 26-30 times annual lease payments, which implicitly (and erroneously) assumes that a reasonable return on investment in that setting is less than 4 percent. Thus, a substantial disincentive to buy the land exists. Since lease payments are already fixed under generally long-term leases, this probably means that land prices will have to be drastically reduced if the APA land stock is to be rapidly privatized.

- *Recommendation*: To solve these two problems (undercutting the private lease market and discouraging land privatization), the APA should privatize its leased-out land at whatever prices are possible and go out of business (as suggested under *Privatization of Agricultural Land* above). This may depress

the land market for a time, but thereafter a much healthier, and almost wholly private, land market will exist for both sale and lease of land.

4. *Other transaction-related issues.* Several other transaction-related issues deserve brief discussion. First, anecdotal evidence suggests that high transaction costs may hinder transactions for very small land parcels. One farmer we interviewed, for example, said that last year he purchased 0.26 hectares of land for 500 zlotys. The fees related to the purchase were another 500 zlotys, including the notary fee, taxes, and the registration fee. He added, however, that the costs go down proportionally the larger the land plot being purchased.

Second, Poland does not have upper limits restricting the amount of land private farms can own, as can be seen in other transitional economies. Subsidized loans are not granted to farms larger than 100 hectares, but this may well favor land markets at least in the short- to mid-term, and is indeed considered by bankers we spoke with to be favored by EU policies.

Third, Poland does not have direct minimum-holding requirements for agricultural land, which can often restrict market allocation of land to its most profitable use. However, in Poland two rules exist whose combined effect probably increases artificially the desirability of farms of at least one hectare in size but less than two hectares in size. To be a "farm," a unit must be at least one hectare in size, and only persons with such a minimum holding can qualify for the heavily subsidized agricultural pensions (contributors pay in only an estimated 5-7% of what the agricultural pension system pays out). On the other hand, if someone who loses a non-farm job also has a farm holding of two hectares or more, they do not qualify for unemployment benefits.

Other impediments to land transactions found in some transition economies do not exist in the Polish context, such as rules allowing private "ownership" of land, but without the right to sell that land, or rules imposing heavy financial penalties for early sales of land.

Land Mortgage

A sufficient set of legal rules guides mortgage transactions in Poland, although some improvements might be helpful, as noted below. Significant numbers of loans using agricultural land as security are made by the BGZ Bank and by the cooperative banks. In 1998, the BGZ Bank made roughly 3,500 purchase-money mortgage loans for agricultural land (although these loans were subsidized by the government). As with land sale transactions, the private sector has developed its own forms for mortgage lending. Although Polish law contains no express reference to purchase money mortgages, the general mortgage rules are fully sufficient: purchase money mortgages are available from banks and are treated like any other mortgage.

A number of technical mortgage-related issues should be mentioned. First, banks complain that foreclosure proceedings, which must be conducted through the courts, are very costly and slow. Second, under the Code of Civil Procedure, a mortgage lien had rather low priority relative to other creditors' claims (it stood sixth in order of priority, behind, most notably, workers' wage claims and tax claims). The banks we spoke with consider the problem largely solved by the law "On Mortgage Bonds and Mortgage Banks" (effective January 1, 1998).

This law amends the Code of Civil Procedure to provide that mortgages issued by "mortgage banks" are third in order of priority, preceded only by foreclosure costs and alimony claims. Many existing banks will probably set up new mortgage-bank affiliates.

Third, registration of land rights, including mortgage rights, often takes a long time to complete. Since mortgages are not effective until notarized and registered, and banks are reluctant to disburse loan money without registered mortgage rights, mortgagors receive the loan money only after lengthy delays. This problem has been addressed by the appearance of private insurance coverage that will guaranty the bank's security interest during the period between notarization and actual registration, for a fee equal to about one percent of the mortgage loan. Banks can now disburse immediately after notarization. Of course, the optimum solution would be to speed up registration, as discussed in the *Land Registration* section below.

Fourth, the law "On Mortgage Bonds and Mortgage Banks" appears to limit a mortgage loan, in most cases, to 60 percent of the value of the real estate mortgaged. This protects the bank, but requires the borrower to have considerable cash, or non-mortgage financing. Regular commercial banks, however, apparently can and generally do loan 80 percent of the value of real estate when making mortgage loans.

Fifth, in some countries concerns over bank land ownership and land speculation lead to severe restrictions on bank ownership of land, or to the setting of unrealistically short time periods for banks to sell land. Restrictions of these types are not found in Poland. The law "On Mortgage Bonds and Mortgage Banks" allows the new mortgage banks to purchase real estate, aside from office space for bank use, "only in order to avoid losses resulting from lending of secured mortgage credits." This right to buy in order "to avoid losses" would seem to furnish adequate protection to banks.

As a final matter, the greatest impediment to agricultural land mortgage may be social rather than legal in nature: many rural residents frown upon any bank foreclosure proceeding, and may be unwilling to buy their neighbor's land at a foreclosure sale.

Land Registration

The registration law seems basically sufficient, but major improvements could be made. While local lawyers claimed that registration of land rights provided "100 percent assurance," our own reading of the 1982 Act on Perpetual Books and Mortgages (as amended through August 1997) leaves us doubtful. We suspect that private "title insurance" may eventually be offered to shore up registered rights (as it is in the United States, where the system is one of "deed registration" rather than one of "title registration"). This can be an expensive solution.

A big issue regarding registration is the treatment of unregistered rights. In Poland an estimated 30-40 percent of land is not registered, and these unregistered rights remain valid, as they should. When transactions (or mortgage) affecting unregistered land take place, the notary is required to submit an application to open a registration volume (perpetual book) for that land. With only such so-called "sporadic" registration, decades may pass before all land is registered.

Legal registration of unregistered land draws on a plethora of sources, including documents held by the right-claimant, notarial documents, and materials kept in offices (especially a land and building register) that are entirely separate from the legal registry. The perpetual books are open to the public.

A more serious problem is that even sporadic registration is slow, is the subject of many complaints, and is a serious impediment to continued land market development. Typical delays run from a few months in the countryside to up to two years in Warsaw. The land and mortgage registers (the perpetual books) are kept by the nearly 300 district courts, and entries must be made by a judge. The system is thought to be seriously underfunded, and lacking adequate personnel.

- *Recommendation*: At a minimum, the law should be amended to allow trained personnel who are not judges to make non-controversial entries in the perpetual book. Expand, if also needed, the number of judges. Pay for the system by setting fees to cover actual costs and by letting the Ministry of Justice retain those fees to maintain the land and mortgage registers.

One problem seen in some transitional economies is that registration fees are high, thus discouraging transactions or use of the registration system. In Poland registration fees as such do not appear to be high. The main problem, we are told, is that the fees are not retained for the operation and improvement of the registry system; thus there is little value received for the fees paid.

- *Recommendation*: Let the registration system charge necessary fees and keep them for its own operation and improvement.

Land Taxation

The land tax, averaging about 2.5 centners of rye per hectare, or roughly 9% of average production, is fairly high. The tax's potentially distorting effects may be amplified by the fact that the land tax is forgiven for the first 5 years of leases of state land made by the APA. This drives annual payments for APA land still further below market levels, and creates a further distortion in favor of leasing rather than buying such land.

- *Recommendation*: End land-tax forgiveness for all future leases of APA land.

Compulsory Acquisition of Land

The purposes for compulsory acquisition are clearly identified by the 1985 law "On Land Use Management and Expropriation of Real Estate," as subsequently amended. This law sets forth adequate compensation standards, as well as the procedural rules in detail. Practices appear to be predictable.

Romania

Romanian law contains much policy supporting agricultural land market development. Most agricultural land is privately owned, and the government's intention seems to be to privatize much of what remains in state hands. Romanian citizens can freely sell, lease and conduct other transactions, and can mortgage their land under the law.

Several problems remain, however. Most notably, foreign citizens may not own or lease land. Foreign legal entities also may not own land, but can lease land under certain conditions. These restrictions are undoubtedly problematic under EU policy. In addition, land use rules contain some onerous provisions regarding confiscation of land in case of rules violations, and the land registration system faces difficulties.

Private Ownership of Agricultural Land

Romanian law provides for private ownership of land. Article 135 of the Romanian Constitution states that property, which clearly includes land, can be privately owned, and shall be inviolable. Article 41 states that private property shall be protected by law. These constitutional pronouncements on private ownership are supported by Romania's major law on land reform, the 1991 law "On Land Resources." This law states that land may be the subject of private ownership. Further support for private ownership rights can be found in the law "On Legal Circulation of Land."

When viewing these laws together, combined with discussions with policymakers and field visits to farms, private ownership rights to agricultural land extend to both Romanian citizens and Romanian legal entities. However, ownership of agricultural land by foreign citizens and legal entities is restricted, and is discussed under the section on *Transactions in Agricultural Land.*

Privatization of Agricultural Land

As of 1998, of the 14.8 million hectares in Romania's agricultural land base, 10.5 million hectares have been privatized, the bulk of it through restitution. Roughly 75-80% of this privatized land has been fully registered and titled. 4.4 million hectares remain in state ownership. Its fate is discussed in this section, and in the section on *Farm Restructuring* found below. For land that has been privatized, full ownership rights have been transferred to private citizens.

In order to gain a clear understanding of the significance of privatization, it is important to know not only how much land is privatized, but the extent to which privately-owned land is cultivated by small and medium size farmers. In Romania, roughly 15 percent of the privately-owned agricultural land has been joined together by the owners and is farmed in large associations averaging 409 hectares in size. Eighty-five percent is farmed in small and medium-sized units. When compared to the total agricultural land base, both private and state-owned,

about 60 percent of this base is farmed in privately-owned small and medium-sized units. If state-owned communal pastures are excluded, the figure rises to about 68 percent.

A related issue is the transfer of only lease rights or use rights into private hands, rather than full ownership. As mentioned above, privatization has meant the transfer of full ownership rights. However, the 1.8 million hectares on former state farms have been dealt with by an interim leasing scheme or have not been dealt with at all, rather than being privatized. The details of this scheme are discussed in the section on *Farm Restructuring* found below.

Still another obstacle to land privatization sometimes seen in transitional economies is large amounts of land being categorized as important for research needs, for special plant breeding, and for other activities, and thus being exempted from privatization. In many cases these needs are used as an excuse to retain land that should be transferred to private ownership. This situation does not exist in Romania. The law "On Land Resources" requires a strict determination of which land should be retained for research and other purposes. The Ministry of Agriculture reported to us that, of the 150,000 hectares allocated for research purposes, only 80,000 hectares will be retained for such functions. This amount represents just over one-half of one percent of Romania's agricultural land base, and thus is not a problem.

Land Restitution

Restitution of pre-communist era land rights to private parties has been a major component of Romanian land reform. The vast majority of the 10.5 million hectares currently in private ownership was privatized through the restitution process. Roughly five million people have received land through this process.

An important component of restitution is the timely registration and issuance of documents certifying private ownership. These processes can be delayed for a variety of reasons, such as difficulties in matching beneficiaries with land, various kinds of disputes, and administrative problems in registration and document issuance. While there are still delays, they do not appear to be primarily the fault of the legal rules, but rather reflect factual problems such as boundary disputes or disputes among heirs which are unavoidable during restitution. This is in contrast to the situation in Lithuania, where the law itself is the cause of many of the disputes. In any event (and despite the existence of up to 700,000 continuing disputes as compared to the five million beneficiaries), it is estimated that 75-80% of restitution beneficiaries have their rights registered and have received their documents.

In some transitional economies concerns exist that restituted land owned by urban dwellers cannot be the subject of land transactions for a variety of reasons, such as problems with registration or required government approval of transactions. These problems do not exist in Romania; urban dwellers who own agricultural land have typically leased most or all of their land to farmers. Since 40% of the new landowners live in towns, their ability to conduct transactions is very important to the land market.

Farm Restructuring

The major issue when considering the relationship of farm restructuring to land markets is whether, as a result of farm restructuring, land parcels are transferred to the ownership of individuals. During the communist period Romania had two major types of collectivized agricultural enterprises: agricultural production cooperatives (CAPs) and state farms (IASs). Under the 1991 law "On Land Resources," the vast majority of land used by the agricultural production cooperatives was privatized, primarily by restitution to prior owners or their heirs. Land used by agricultural production cooperatives that was not restituted was transferred to the management of local authorities. This land apparently is largely pasture land, and is used in common by rural residents. The failure to privatize this land will probably not have a major impact on the development of the land market, and in any event would probably be strongly resisted.

The former state farms continue to cultivate approximately 1.8 million hectares of agricultural land in Romania. Part of this land is already well along the process toward privatization. The law "On Land Resources," in conjunction with the 1994 law "On Lease" (as amended), provide that people whose land had been taken and placed under the administration of a state farm could choose to be designated as "locators." If this option was chosen, they could conclude a five year lease with the agricultural company using the land, after which the locator would be issued an ownership document to a land parcel. These five-year leases were largely concluded in 1994 and 1995, so will shortly begin to expire. The 1998 revisions to the law "On Land Resources" affirmatively state that the locators, as well as shareholders in agricultural companies, are to receive ownership of the land. This process, once completed, will result in one million hectares of former state farm land being privatized.

The remaining 800,000 hectares of former state farm land that will still be in state ownership consists of lands that were state property between the world wars, crown land, land under reclamation works, and land that no one was entitled to inherit by law. Discussions are currently underway concerning whether or not to privatize this land. Ideally this land would be privatized, but failure to do so would not be a serious blow to development of the land market, since this land represents only about five percent of Romania's agricultural land.

Other concerns that have been raised regarding farm restructuring in various transitional economies include failure to demarcate newly-privatized land rights; problems with land share systems (prevalent in the former Soviet Union); and improvident long-term leases to cosmetically reorganized collective farms. None of these problem appear in Romania: privatized land is demarcated; no land share system exists; and the former state farms lease land for at most five years.

Land Use Regulation

Three main problems with potential impacts on land-market activity have arisen regarding land-use regulation in transitional economies. The potential impacts come from undermining the owner's security of tenure, or reducing (or threatening to reduce) the land's value. First, laws

may allow for confiscation of land for irrational use, non-use, or for other reasons. Second, violations of the land use regime may trigger overly severe penalties. Third, conversion of agricultural land to non-agricultural uses may be severely limited.

In Romania the primary law dealing with land use regulation issues is the law "On Land Resources." This law requires holders of agricultural land to cultivate the land, to protect the land, and not to actively degrade the land. This legal requirement to cultivate the land is neither necessary nor helpful.

The penalties for violation of the cultivation and protection norms are graduated, starting with requests for remediation by the local authorities, then fines, and finally loss of the use rights to the land. The requests and fines are reasonable responses, but the loss of use rights is clearly excessive, since it amounts essentially to an uncompensated expropriation. Fortunately the farmers with whom we spoke knew of no instances of this measure being invoked for land use violations.

- *Recommendation*: The maximum penalty for land use violations should be forced public auction, with the net proceeds going to the land owner. In addition, the penalty for simple non-use should be eliminated, since the private owner is more likely than a government bureaucrat to make a rational decision on whether putting the land into production makes economic sense.

Regarding conversion of agricultural land to non-agricultural uses, the law "On Land Resources" requires that such conversion be approved by the Ministry of Agriculture and Food. Locally developed land use plans also play a role. Field interviews indicated that conversion was difficult in practice. In addition, the law imposes a heavy tax on land that is converted, which ranges from two times to four times the sale price, depending on soil quality.

- *Recommendation*: If conversion has been achieved through a planning process, it should not be subject to taxation of a punitive nature. A tax equal to a modest percentage of increase in value, or profit on sale, should be fully sufficient.

Transactions in Agricultural Land

1. *Sale, gift, and inheritance transactions.* The main legislative act addressing agricultural land transactions is the 1998 law "On the Legal Circulation of Land." This law provides that Romanian citizens can acquire and dispose of extra-*vilan* agricultural land (land not in towns) in conjunction with the norms of civil law. Purchase-and-sale, gift, and inheritance transactions are thus sanctioned. Discussions with both policymakers and farmers indicated that no further legal measures, such as implementing regulations or model contracts, were needed for such transactions to be carried out between Romanian citizens.

Dispositions of agricultural land are occurring in Romania. Anecdotally, the local administrative district of Prejmer (which is located near the city of Braşov in Transylvania) has

2,700 hectares of agricultural land. Prejmer has had 45 land sales, most of which were for agricultural land, through which 80-90 hectares of land has been sold. This represents a not-insignificant turnover ratio of about 3 percent, and has mostly occurred in the last year or so. The sales prices were 5-6 million lei/hectare ($333-400/hectare). Many farmers we interviewed indicated that they had purchased land.

On a broader level, Ministry of Agriculture statistics indicate that, as of December 1998, 12,119 hectares of extra-*vilan* land have been disposed of in 12,438 separate transactions. Most of this land is certainly agricultural land.

The rights of Romanian citizens to acquire and dispose of land are limited in two ways. First, a family may own no more than 200 hectares of arable land. This limit is not a major land market impediment, especially since the average farm in Romania cultivates only 2.2 hectares of land. Additionally, the 200 hectare restriction may help to prevent formation of *latifundia*. One problem that does remain, though, is that if a family acquires more than 200 hectares, then the amount, according to the law "On Legal Circulation of Agricultural Land," "shall be brought to the ceiling set by the law." How the family's land shall be brought to the ceiling is not specified.

- *Recommendation*: The law should be clarified to provide that forced sale, not confiscation, will be used where a family exceeds the ceiling.

Second, co-owners, neighbors, or lessees of extra-*vilan* agricultural land have a pre-emptive right to buy such land if it is offered for sale. The law "On the Legal Circulation of Agricultural Land" clarified and narrowed the pre-emption rules. The owner of land offered for sale must notify the local administration, which publicizes the offer to sell for 45 days. Within this time period the pre-emptive rightholders have the opportunity to make an offer to buy the land. The seller must accept the offer if the price is satisfactory. If it is not, the seller may sell the land to anyone. While pre-emptive rights extend the time for concluding sale transactions, they are not a major impediment to land markets in the Romanian context. Several farmers interviewed stated that they had bought land, and that the 45-day waiting period was not a significant obstacle to the transaction.

2. *Rights of foreigners.* Romanian law is much more restrictive regarding foreign acquisition of agricultural land. The Constitution explicitly prohibits foreigners and stateless persons from acquiring ownership rights to land. This prohibition is also reflected in the law "On the Legal Circulation of Land." This law also says that foreign legal entities may not acquire land by way of a transaction with a person, but then goes on to say that foreign rights to land which is the subject of foreign investment shall be governed by foreign investment legislation. The foreign investment legislation states that partly or fully foreign owned companies with Romanian legal entity status may acquire ownership to land in order to carry out their activities, but that the land must be disposed of if the Romanian legal entity liquidates. Thus, a foreign legal entity is able to acquire land for its activities through a Romanian legal entity.

As discussed in the *Relevant EU Accession Requirements* section of this paper, restrictions on foreign ownership raise EU accession problems related to the "freedom of establishment" under Article 52 of the EU's governing Treaty. Since Romanian legal entities as well as Romanian citizens can own land, the prohibition covering legal entities and citizens of EU countries is clearly discriminatory. However, with respect to agricultural land, the requirement as set forth in Article 54(3)(e) and Article 39(2) of the Treaty requires interpretation. The requirement expressly makes room for policy considerations integral to the common agricultural policy under Article 39, taking account of the "social structure of agriculture," the "disparities between the various agricultural regions," and the need to make adjustments "by degrees." In a setting in which an estimated 37% of the Romanian population makes its primary livelihood from the land, and in which market prices for agricultural land are low, the standards of Article 39(2) could, and probably should, be read to allow an extensive transitional period (even after accession) before sales of agricultural land to foreigners are required. Romanian agricultural land is incredibly cheap as compared with land in Germany, for example, and could not be thrown open to bidding by EU citizens and enterprises without a high risk of staggering economic and social dislocations. Such adverse impacts are precisely what the policies of Article 39 are intended to avoid.

During the previous round of EU accessions Austria, Finland, and Sweden were each allowed to retain restrictions on foreign purchase of land for vacation homes for a five-year period after accession (see footnote 6). These restrictions, if immediately removed, would clearly have been far less disruptive to the local economies than the restrictions at issue in Romania.

- *Recommendation*: Romania should be required to remove restrictions on EU citizen and enterprise ownership of non-agricultural land at an early date. With regard to agricultural land, EU policy and precedent provide the basis for a post-accession transition period for agricultural land, if such a transition period is ultimately needed.

3. *Leasing.* Leasing of agricultural land is common, both through written contracts and by oral agreement. Rents paid typically range from 10-30 percent of the crop. Leasing is particularly important since a high percentage of rural land owners live in the towns, and thus do not cultivate most or all of their land personally.

The 1994 law "On Lease" allows Romanian citizens and legal entities to freely conclude lease contracts for agricultural land and to agree on the terms, most notably the duration of the lease and the amount of rent that the lessee shall pay. The law also adequately outlines the required contents of a lease, such as that the lease be in writing, contain the names and addresses of the lessor and lessee, describe the real estate being leased, state the lease duration, and include other responsibilities of the parties as they agree. Additionally, the law does not give the lessee a pre-emptive right to renew the lease. Such a pre-emptive right would restrict the lessor's right to use and dispose of his land as he chooses, and is often seen in the laws of transitional economies.

The most significant lease restriction for European Union accession purposes is the requirement that lessees who are natural persons must be Romanian citizens. Natural persons

who are not Romanian citizens cannot lease agricultural land under the law. Additionally, lessees which are legal entities must be "of Romanian nationality" and have a representative office in Romania. This provision may not seem a serious problem, since it does not preclude Romanian legal entities controlled by foreign capital from leasing land, but it clearly raises "freedom of establishment" problems under the Treaty since it discriminates against EU legal entities.

- *Recommendation*: There should be an early, but probably not complete, easing of the leasing restriction. Leases of agricultural land to EU citizens or legal entities might initially be limited to a medium term, such as a maximum of 5-7 years, with any renewal requiring negotiation.

Two additional land market restrictions can be found in Romania's land lease legislation. First, sub-leasing of land is prohibited. While this restriction is not of major significance, ideally the law would allow the lessor and lessee to decide the question between themselves. Second, a lessee who is a physical person must have agricultural education, agricultural experience, or hold a certificate issued by the Ministry of Agriculture that testifies to the lessee's knowledge. This requirement adds a level of complexity to the lease transaction process, since the lessor must somehow determine that the lessee meets the standard. This requirement also manifests a lack of confidence in the workings of the market, which is premised upon private actors undertaking endeavors in which they believe they will be successful.

4. *Other transaction-related issues.* Another impediment to land transactions seen in some transitional economies is a moratorium on sales. Romania had such a moratorium at one time, but it has been abrogated. Other potential problems, such as financial penalties for quick-turnaround sales, nominal lease rates for government land undercutting the private market, and minimum landholding size requirements, do not exist in Romania.

Yet another set of problems in some transitional economies can arise from high transaction fees (notarization, surveying, registration, etc.). In Romania there seem to be problems related to high notary fees. Notary fees are calculated as a percentage of the value of the transaction, and can in practice reach as high as 30 percent of the declared purchase price of the land (as well as reaching a very substantial percentage of the, usually higher, actual purchase price). These high fees discourage otherwise willing sellers and buyers from carrying out land transactions. Reducing these fees would clearly help development of the land market.

Land Mortgage

The legal rules for mortgage of agricultural land are sufficient, according to several bankers we interviewed. Mortgage is clearly allowed, the necessary procedures are adequately detailed, and banks and borrowers can decide for themselves what the loan funds secured by mortgage will be used for. With regard to purchase-money mortgage in particular, the general mortgage rules are sufficient to allow such mortgages.

Foreclosure on mortgaged property for which the borrower defaults is governed by the Code of Civil Procedure. The Code contains a comprehensive procedure for adjudication of foreclosure claims, and for forced sale based upon a court judgment. The debtor can delay processing of the action by appealing to the court to use its discretion to grant up to one year of grace to pay all delinquent payments, or by appeal of an adverse court judgment. These rules seem adequate and do not seem to favor the mortgagor or the mortgagee, but they have not been significantly applied in practice.

Countries transitioning to market economies sometimes prevent banks from owning agricultural land, especially as a result of a foreclosure, for fear that banks will become large landowners and engage in land speculation. Rules such as these are often too restrictive and have the effect of discouraging mortgage lending. In Romania, the 1998 Banking Law forbids bank ownership of land, except for bank offices and for land "acquired as a result of the execution of the bank's claims," i.e. foreclosure, in which case the land must be disposed of within one year absent exceptional circumstances. This approach seems like a reasonable compromise.

Finally, as a practical matter, almost no mortgage of agricultural land has taken place in Romania. Reasons given by bankers included low land values, unreliable land values, and difficulties in selling agricultural land.

Land Registration

Due to its history of being divided between the Austro-Hungarian and Ottoman empires, Romania has two different registration systems currently in use. These are the "land book" system and the "inscription-transcription" system. The 1996 law "On Cadastre and Real Estate Publicity," the primary legal act dealing with land registration, contemplates use of the land book system throughout Romania, and outlines the procedure for switching over from the inscription-transcription system. Rights under the latter system are protected under this law until each particular jurisdiction is ready to make the change. (There will be 170 land book offices, under each of the 170 local court offices.)

A fundamental need in a land registration system is for the law to provide sufficient guidance on the system's major aspects. The law "On Cadastre and Real Estate Publicity" is on balance sufficient, addressing significant issues such as:

- which agency shall maintain the land books. In Romania the law gives this function to the Ministry of Justice, and declares that the law courts shall have specialized land book bureaux;
- describing the components of a land book. These are: (1) the description of the land parcel; (2) notations as to the land parcel itself, such as description of the owner, record of transfer of the land parcel, and easements; and (3) notations as to certain encumbrances, such as leases of more than three years, mortgage, and servitudes;
- the evidence to be considered in making notations in the land book;
- the procedure for making notations in the land book;
- procedure for dealing with disputes; and
- public access to the information contained in the land book.

An additional vital component of the registration system is a clear statement as to the legal effect of registration. The land book system is, in theory, supposed to provide conclusive evidence of ownership and other registered rights. However, the description of the land book in the law raises the possibility that the rights entered in the land book can be annulled in the future by court judgment. In addition, some rights, such as successions and rights obtained through court judgment, are enforceable even if not inscribed in the land book. These exceptions make it difficult for third parties to rely on the land book, since rights already entered in the land book can be overturned, or rights not entered may be enforceable.

Thus, it is not correct to view Romania's land-book system as a conclusive system of "title registration" in contrast to a primarily notice-giving system of "deed registration." In practice, Romania's system probably falls somewhere between the two; private title insurance may arise in the future to fill the gaps, but at a price.

Another potential problem is that the land book offices have little capacity to gather information; they rely on the local units of the National Office of Cadastre, Geodesy, and Cartography for all information upon which registration decisions are made. Unless these cadastre units are exceptionally responsive to requests from the land book offices, the land book offices may not be able to carry out registration activities in a timely manner. Unfortunately, these local cadastre units are required to accomplish a myriad of cadastre-related activities, and thus it is possible that their most important task, supplying information to protect legal rights, will not receive the needed attention and resources.

Land Taxation

In transitional economies, high land taxes and taxes on transfer of land can adversely affect the agricultural land market and can trigger undesirable social or economic impacts. Fortunately, high land taxes for agricultural land are not a problem in Romania. (There is a tax-related problem, however, when agricultural land is converted to non-agricultural uses, as discussed in the section on *Land Use Regulation*.)

Compulsory Acquisition of Land

Problems can arise for the private land market in transitional economies if security of tenure is undermined by inadequate rules for the forced acquisition of private land by the government for various supposed needs. Problems arise when the purposes for compulsorily acquiring land have not been clearly stated and limited, when the compensation provided is less than fair market value, and when the procedures for compulsory acquisition are unpredictable.

Romania has had little, if any, experience with compulsory acquisition to date. Indications are that the law that is in place is satisfactory. Article 47(3) of the Constitution provides a good general standard, allowing compulsory acquisition only if for a public purpose, and only for "just compensation paid in advance."

Agricultural Land Leases and Development of Effective Land Registration Systems in Central and Eastern Europe

Jim Riddell

The focus of this paper is on the FAO member nations in Eastern and Central Europe that are the most likely to be admitted early into the European Union. There are vast differences between these countries and many FAO member nations in the CIS that are still defining the nature of land rights to carry them through the transition (see especially Lerman 1999). The workshop's emphasis on EU accession has circumscribed the scope of our coverage.

LEASING AND PARTIAL INTEREST MARKETS IN LAND

All successful agrarian systems recognize the need for adjustments in land use to reflect changes in local demographic profiles, labor and management availability, capital, opportunities and so forth. Consequently, we can take it for granted that there will be a number of institutional *means* available to almost any rural population for transacting among themselves the variety of partial tenure interests in agricultural land and related resources.

Agricultural land tenure systems, of course, concern far more than just farmland. The value of agricultural land is also determined very much in line with available water resources, forests, orchards and other permanent crops, the suitability for commercial sites as well as buildings and other structures. Indeed, as the discussion of the multi-functional use of rural space takes on ever increasing importance in policy negotiation, the use of rural land for recreational facilities, scenic and public-purpose sites, and so forth can at times overshadow traditional agricultural land tenure concerns.

In order to deal with this extensive inventory of competing uses and users of landed property, land tenure experts have traditionally chosen to regard "tenure" as a bundle of rights. This bundle can be separated and reassembled in a wide range of different rights configurations. Thus, each of the rights, recognized in the bundle, can be defined as to who has the right to do what (purpose and intensity of use), and for how long.

Such rights in the use of the various interests that make up the bundle are normally institutionalized in terms of temporal interests (leasing, renting, share-renting, contractual license arrangements, etc.) and partial interests (such as, easements mineral rights, development rights,

and so forth). The wide variety of terms applied to the kinds of partial and temporal rights arrangements (tenancy, license, fixed versus variable rents and so forth) underscores two competing tendencies. The first is the often particularistic character of such arrangements; the second is the need to institutionalize such arrangements. For instance, we normally discuss share tenancy in the context of under developed agricultural systems. Yet it is also very common in even the most modernized agricultural economies. It is popular, for example, for neighboring dairy farmers in Wisconsin (United States) to agree that one neighbor will use land of the other to plant and harvest a fodder crop. In exchange the two neighbors will share the resulting harvest. As long as there is no disagreement on the nature of the arrangement, the rest of society cares little about how this agreement was instituted. But because land matters are a traditional source of conflict, institutional means are created to reduce transaction and litigation costs.

The need to deal with partial land tenure interests has been increasingly important as rural economies modernize. As the use of rural space has become increasingly multi-functional, there has developed an institutional means to deal with a variety of over-lapping and zoning needs. Indeed, there has been a whole sub-branch of land tenure that has emerged to study the evolving market in partial interests. For example, the European Union has established extensive environmental and ecological goals for its members. Thus, there has been, for instance, a renewed interest in preserving the rural character in peri-urban zones. Many jurisdictions in OECD countries have chosen to experiment with leasing or buying the development rights from agricultural property owners to preserve its use for environmental as well as recreational and aesthetic value. Of course, partial interests are not anything new. It has been part of the historical tradition in many of the countries participating in this Seminar to have a situation where the harvest rights (*fructus*) of certain fruit trees on land "owned" by one person belong to someone else. Indeed, it was quite remarkable during field visits to rural areas in Estonia, Lithuania, etc., during the early period of the restitution process, how often such rights were remembered in those situations where the trees were still standing. Old or new, the important point is that all advanced agrarian economies have highly-developed leasing and partial interests markets as a complement to existing land sales markets.

Given the finite character of land resources and the important political role of agrarian issues in any nation's political agenda, the value of rural land takes on a special characteristic. A surprising number of FAO Member nations do not have any expressed restrictions on the sale, lease or commercial interests of foreigners in urban property, but have imposed restrictions on rural holdings (FAO 1998). This raises the interesting point of how should one determine the value of these various partial and temporal land tenure interests. FAO has been organizing a world-wide analysis of this matter with our Member nations (Melmed-Sanjak and Lastarria 1998; Ravenscroft et al., in press). There seems to be little doubt that land tenancies are most efficiently allocated when their value/cost is determined by the market. The emphasis here is on negotiated market transactions. That is, when all parties to the transaction of temporal or partial interests are able to negotiate the terms "at arms length", we find the lowest transaction and contract maintenance costs. Additionally we find the greatest access for new land use seekers in the areas of food production and rural development enterprises. The macro as well as micro policy mechanisms needed to create good land tenure markets are part of an on-going co-operative effort of a number of agencies, including FAO, IFAD, and the World Bank.

Leasing and partial interest markets are particularly suitable for Central and Eastern European countries (CEECs) at this point in the transition process. Those countries that have chosen to restitute properties that had been collectivized face the problem that the restituted parcels are located in reference to pre-World War II agrarian structures, markets and infrastructure. In most cases, these parcels are not suitable to current conditions. Other jurisdictions have simply divided the parcels out of the "whole cloth" of state farms and agro-industrial collectives without regard to their suitability for alternative farming systems. In both cases, some redefinition of agricultural enterprise boundaries is desirable (during the transition period, short terms leases of 10 years or less are probably preferable to keep large blocks of land from becoming prematurely defined). Land values for a sale market are yet to develop; and thus a lease market is an efficient way to get land into productive units that make sense under existing circumstances. This takes advantage of inherent flexibility and temporary nature of modern leasing arrangements.

In a significant number of countries in transition, rural land, especially restituted farm property, has taken on a residual national/ethnic and/or cultural identity value that prevents it being a freely tradable capital asset for the foreseeable future. Formalized and institutionally supported leasing arrangements have the added value of clarifying and providing security to both the person leasing out as well as for the person leasing in. The partial or temporal interest, in contrast to alienation through sale, is much easier to constitute as a freely tradable production factor in the present circumstances, because leasing markets reflect the economic earning value of the land and are not as subject to speculative and other considerations.

In addition, the CEE region has an industrialized, highly educated population that is not likely to seek traditional farming as a way of life. Available statistics indicate that primary owners of much of the newly created rural parcels are already pensioners or nearly so. Neither of these populations are prime candidates to create innovative rural production structures. Thus, there is a need for flexibility to experiment with alternative economic uses of rural real estate, as well as to attract in new younger farmers who see agriculture's business potential.

Furthermore, the countries in transition are entering simultaneously into both an expanded world economy in agricultural goods and services and into an increasingly integrated European agricultural and rural development policy environment. These evolving regional and international agricultural alliances suggest the need for several decades of adjustment and fine tuning of the rural land resource use and agrarian structures. CEE Member nations will be faced with sectoral competition for scarce capital resources. This is where the ability to integrate institutional developments in private property will become very important.

For these and other reasons, leasing is an appropriate mechanism during this period of structural adjustment. It facilitates individual needs and aggregate responsiveness without requiring a fully articulated land market system.

RURAL LEASING AND PARTIAL INTERESTS MARKETS AND LAND REGISTRATION

Much has already been written on the shift from societal to private property as a key component in the transition process (see, for example, Csaki and Lerman 1996; Swinnen, Buckwell, and Mathijis 1997). If leasing and partial interest markets provide suitable land tenure arrangements for putting private property interests in land to use in CEECs, how formally do these arrangements need to be institutionalized in terms of both means and extent. It is our argument that temporal and partial interest markets in land are just as reliant on good land records as the land sales market. This section sets forth some of the reasons why land leasing will benefit from the extensive work currently underway to create fully modern cadastres, land registries and conveyancing institutions.

CEECs have universally agreed that they will use modern cadastre and land registries as the institutional means for providing secure property rights in agrarian land and resources. The reasons normally given for creating these modern land tenure institutions hold just as valid for partial and temporal interests markets.

- A well functioning land registry is an essential institution for private capital intensive investment on a general scale. The need for formal land tenure regularization is especially important for investment strategies for sustainable resource enhancement, on the one hand, and investment for entirely new uses of rural space on the other.

- Clarification and security of property rights through a good registry system encourages a favorable effort supply in land use activities (Deininger and Feder 1999).

- Good land tenure regularization institutions are designed to reduce to a minimum the cost of defending use rights, whether permanent or temporal and partial. FAO experience has underscored the fact that far too often improved land use practices only encourage others to enter into litigation to gain access to property currently held by an innovator. We find that where property rights institutions do not function, non-innovative land use practices that do not attract attention are one of the best ways to hold on to current family parcels.

- Good land records facilitate transfer of resources between users.

- Modern land tenure institutions facilitate the development of financial services. Indeed, the relationship between the development of financial services and the land registry are historically very tight. As we have pointed out in recent work (Palmer 1999; Riddell, Nichols, and Toselli 1999), a study of modern land registries indicates that over 60% of the transactions that are recorded are financial and actual transfer of ownership is involved in less that 40% of total transactions. Financial institutions realize that they benefit from complete registration and in most advanced economies a prerequisite for any financial, lending or mortgaging operation will be a complete registration of all property interests involved.

There has been a growing sophistication in our analysis of when and where it is appropriate to formalize land tenure relations. A point that has often been raised during the FAO work on land leasing is why would most rural populations need formal land tenure regularization institutions like the registry and the cadastre at all. After all it is pointed out, they have been doing generally quite well without them since the Neolithic. In any agrarian system, we anticipate that under normal conditions, a majority of temporal and partial interest lettings will be informal, short term adjustments in labor, management and capital availability. Longer term arrangements and attraction of outside investments will necessitate transparency, security and low transaction costs. Therefore, in those situations where it is important to either attract financial support from outside the local community, the need is just as great for good LIS (land information systems) and regularization and conveying institutions for partial and temporal interest markets as for real estate sales.

Should leases be entered into the land registry, and if so, when and under which circumstances? Most financial organizations in an advanced economy will insist on a legal recording of a lease when it involves a substantial amount of money and time. Short leases are often informal and unregistered. Yet it is common, even among friends to draw up a private recording instrument, to avoid any problems later on concerning memory of the details. It is important to remember that in advanced economies it is common to have generic leasing arrangements generally available at private businesses (e.g., stationary stores, attorneys offices, etc.) and/or public agencies. Fundamental to good contract and contract compliance is the secure knowledge of who has the rights to enter into obligations on specific parcels. That is, who can enter into legitimate negotiations over the letting of land.

However, there are circumstances when registering short term arrangements is desirable. In cases where the negotiating power between the two parties is very unequal, having a public record of the transaction facilitates ensuring equity matters. Since a lease or the letting or selling of any of the partial interests (e.g., mineral rights) changes the legal nature of a property, most longer term leases are entered into the registry. In actual practice, this is usually done in OECD countries at the insistence of the financial agency involved in the investments in the property. This is part of the close relationship between financial institutions and the property records system of an advanced economy.

It is important to remember that a majority of investments in the most advanced economies will be for enterprises, not property, and thus most financial institutions will likely have the larger proportion of their portfolio in enterprises using leased property. As such they are put at a certain greater risk of adverse selection (loaning to the wrong person or enterprise) and moral hazard (the borrower intends to default[1]). This is why lending agencies are more interested

[1]Though not commonly discussed in the literature, moral hazard is a common enough problem in situations where a favourable formal agricultural credit scheme requires agricultural land as collateral. In this kind of situation, the borrower buys up titles to rural properties with no intention of ever using them, and indeed he may sell them out again in the informal market. Once a suitable portfolio of properties is assembled, a loan is secured for an ambitious "agricultural project." The money is instead invested in urban property and the agricultural loan is defaulted. The bank then attempts to resell the title on the market, but can only recuperate the land through very costly and conflictual means. The observed result is a "formal" market in paper titles and an informal market in land use and occupancy rights.

in the quality of the "business plan" of the enterprise than in the deed as collateral to counterbalance the costs of adverse selection and moral hazard. Thus in all EU countries a good lease is sufficient for an investment loan, if the basic enterprise plan is judged sound.

With the emphasis shifted to the types of investments to be made under the terms of the lease, the question of both the length of the lease and the rights of the lessee in the improvements takes on a dynamic as opposed to a fixed character. In these terms, there is no ideal lease term, but rather the length of time, renewal provisions and so forth are contingent on the kinds of investments anticipated. In this sense, much discussion of the desirability for 99 year leases for countries with poorly functioning real estate markets is misplaced. The idea has been proposed many times as a way to give the kind of security that one could have under full ownership, while waiting for the proper legislation and conveyancing institutions to develop. Indeed, for all the reasons given above, and further discussed below, at this time in the transition process, it is important that lease terms are based on the business plan, not ideology. An investor with a good business plan for an agricultural enterprise is not going to be attracted to a jurisdiction offering a 99 year lease, but with poor land tenure regularization institutions, as opposed to one with good institutional support but with a lease based on expected returns, amortization and etc.

Rather than the idea of a very long lease being of foremost importance in investment strategy, such considerations such as ownership of improvements (indeed the types of improvements allowed are often a greater restriction to innovation), recovery of improved value of the property at the close of the lease should be given primary consideration. Another factor that is of more importance than having long terms (always keeping in mind the discussion at policy levels of 50–99 year leases) is the conditions of renewal and other ownership options. For example, many countries have found value in provisions on certain properties (often state-owned land) that the young farmer entering into agriculture will have the option of buying the land at a pre-set price after a certain trial period (e.g., five years). France's SAFER provides a good example of flexible arrangement to attract young, entrepreneurial farmers to developing agricultural enterprises.

From all perspectives of agricultural growth and investment in rural development, good leasing requires good land registries both from the point of view of the entrepreneur as well as the financial investors. There are as many reasons to have short term leases as there are to have long terms ones. For the countries in transition, the questions is not which length of time is best, but rather the principles of good leasing that attract capital for sustainable investment, employment generation and development. In the next section we will discuss what we think goes into such a strategy.

THE BASICS OF GOOD LAND LEASES AND PARTIAL INTEREST LAND MARKETS

FAO has been assisting its member countries since its founding on the ways of establishing good leasing practice. Recently there has been a concerted effort to provide some of the lessons learned in the form of a "Good Practice Guidelines for Private Sector Agricultural

Leasing Arrangements (Ravenscroft, et al., in press). The present section will give a brief description of the main findings.

To accord with the principles of good practice, policy, technical and operational areas governing and informing all lease arrangements should demonstrate the following characteristics:

- Simplicity
- Minimum cost of arrangement and operation
- Certainty
- Sustainability
- Equity and fairness between the parties
- Transparency
- Preservation of the legal interests in property
- Promotion of the leasehold sector as a means of promoting flexibility in the market
- A minimum of state regulation and intervention.

While these are considered essential elements in good leasing practice in a world-wide perspective, the following paragraphs illustrate how they apply to CEE member nations.

Simplicity. One of the temptations to be avoided in establishing sound leasing markets in member countries in transition is burdening the process with well intentioned but unneeded legislation. This is especially true where the search is for sustainable agricultural development that will require a great deal of flexibility as sound arrangements are worked out. Legislation and local law should not attempt to anticipate all possible outcomes and problems, but rather provide clear simple guidelines. FAO recommends the approach of the "model lease". The model lease can often be no more than a page in length. It sets out the essential elements of the lease, dealing only with the fundamental factors of the parties, the land, the commencement and termination dates and what are the payment (consideration) arrangements. The essential point is to preserve simplicity and to provide both parties with a good model.

Minimizing transaction costs. Keeping procedures straightforward and simple is an important factor in reducing transaction costs. The more experts and specialists (notaries, attorneys, government agencies, etc.) involved, the greater the cost to the contracting parties. Not incidentally it also increases the opportunities for graft and hence the requirements for developing systems of professional ethics. Thus, from the point of view of the FAO group, the focus needs to be on the general area of contract law and procedures of contract enforcement. This will be particularly important in the CEE countries as rural modernization will depend on attracting investments. Good leasing contracts are an essential ingredient, but outside investors must be convinced of the overall contract environment in the country before choosing to invest in a particular jurisdiction. This is another way of saying that in the competition for investment funds needed to finance projects, jurisdictions with the ability to enforce contract compliance will have an important advantage.

Certainty. Good land records are essential for having simple and cost effective leasing contracts. Thus, the current efforts to reconstruct or to create modern land registration systems must be completed as soon as possible to stimulate a leasing market as well as a real estate

market. An efficient land registry is essential in reducing the uncertainty that the person offering the land in lease or sale is the person with the right to do so and that no other is being sold the same right (adverse selection costs). It has been reported in several of the CEE countries that inefficiencies in the existing land registry offices, lack of co-ordination between the cadastre and the registry and complications in the conveyancing process have led to increasing reports of unscrupulous individuals being able to initiate simultaneous leasing and/or sales transactions with multiple parties. The degree to which the certainty of the participants (adverse selection concerns) and the actual situation of the property are in question will effect both the availability and cost of financial backing. As was argued above, the completion of effective land registries is also a major component in the development of much needed credit and other financial institutional resources at the rural level.

Sustainability. Overriding social concerns have increasingly come to play a role in the use of rural space. All of the CEE countries are working to bring their environmental and related policies and practices into co-ordination with those of the EU. Thus, sustainability becomes an issue in which the non-agricultural portion of the society takes not only a growing interest but also insists on the possibility of interventions. Thus, good leasing practice has to recognize that both the land owner and the tenant have responsibilities to ensure sustainable land use practices. Thus, most EU jurisdiction have insisted on what has been called "beneficial occupation" clauses. This is the requirement by the state that both the owner and the occupier of land have the duty to meet local environmental and related laws.

Equity and fairness between the parties. Essential to good contract is that the policy, technical and operational instruments of land leasing preserve the equity and fairness between the parties. This requirement often flies in the face of the social reality of the different parties. Normally in FAO's work, it is the landlord who is powerful and the land seeker who is at a disadvantage. In the CEE countries it is often just the reverse. The land owner is often a pensioner who has to deal with a successor organization to the former collective. The latter, since it is the only effective agent has a monopsony in the leasing market and has been able to keep rental value well below economic value of agricultural land (see Schultze 1999). Competition will lead to a better fit between economic value of land and its rental price, but government will have to provide the appropriate policy environment to attract competition, in the first place.

Transparency. Transparency is desirable in any agricultural contract, but is vital in CEE countries where the rehabilitation of the agricultural sector is dependent on attracting outside investment. This is part of the process reducing the transaction costs associated with adverse agent selection and moral hazards.

Preservation of the legal interests in property. CEE countries are particularly fortunate in being able to create modern use of rural space in an environment where the potential problems of inequality in land ownership have been largely solved by the restitution and land distribution processes. Leasing markets, as was argued above, provide a way of preserving this equality in land ownership on the one hand, while allowing for farm structure rationalization on the other. In addition, retaining the rights granted during restitution/distribution programs preserves the additional benefits of land ownership, such as credit worthiness, community social status and so

forth to a very large proportion of the rural population. Good leasing law, policy and practice need to secure the rights of both the person leasing out as well and the person renting-in land. Such security of property relationships will also be an important factor in the creation of truly democratic forms of decentralization and local governance.

Promotion of the leasehold sector as a means of promoting flexibility in the market. This point has already been discussed at length in the context of this paper. It need be added here only the point that rather than view the use of intermediary rights and interests in agricultural property as an indication of a poorly developed agrarian economy, policy makers in CEE countries should view it as a way of supporting a dynamic rural sector without the danger of prematurely stimulating one property structure over another (larger commercial farms versus small family farms).

Minimizing state regulation and intervention. Good leasing policy and practice should be part of the processes leading to good governance. Government needs to ensure the fair and level playing field that allows the participants to negotiate the terms of the leasing contract in conformance with the reality of the prevailing market. Experience in FAO member countries has amply demonstrated that much well intentioned legislation designed to protect the weaker party only exacerbated an already bad situation. When the leasing contract becomes too burdensome, too complex, over regulated, and so forth, it is bypassed. This ends up defeating the whole purpose of providing land tenure regularization institutions, in the first place. Leasing contracts become too encumbered with adverse selection and moral hazard costs and the willingness to invest in rural enterprises declines. Thus, rather than trying to regulate leases; government policy should be to ensure open factor markets and the elimination of distortions caused by subsidized agricultural credit, machinery purchase by large enterprises and selective tax advantages that favor large commercial agricultural firms.

Good land leasing practice and partial interest markets are part of the overall development of land tenure regularization institutions. While no one can predict the future with any accuracy, some trends are clearly evident for the kinds of challenges that will be faced by advanced industrialized economies like those of the CEE member nations when it comes to the future of agriculture and rural society. First and foremost, there will be an increasing emphasis on multi-functional use of (and demands on) rural space. Primary agriculture will continue to become just one of an important set of economic activities. Secondly there will be new and unforeseen innovations in the use of rural space as the urban-rural distinction becomes ever more blurred. And thirdly, it can be anticipated that there will be a growing emphasis on temporal and partial interest markets as the most efficient way to allocate multiple uses of rural time and space.

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The Impact of Land Laws and Legal Institutions on the Development of Land Markets and Farm Restructuring in Hungary, Lithuania, Poland, and Romania

Stjepan Tanic

The transition from a centrally planned to a market oriented economy in Central and Eastern European countries has had far-reaching repercussions on their agrarian structure. While all countries have adopted policies which aim at the privatization of landed property formerly held by the state and collectives, they applied different procedures to achieve this objective. This report summarizes the findings of relevant country studies carried out by FAO in Hungary, Poland, Lithuania and Romania.

LAWS AND LEGAL INSTITUTIONS RELATED TO LAND MARKETS AND FARM RESTRUCTURING

The governments of all four countries decided to abolish landed property owned by the state and collectives soon after they opted for the introduction of market economic principles. In Lithuania, where privately owned land was nationalized and became state property in 1940, the new government enacted legislation in 1991 which liquidated cooperative and state farms and ruled that all nationalized land was to be restituted to its former owners and their descendants.

Romania also passed a law in 1991 according to which land owned by agricultural production cooperatives was to be restituted to private property. In addition, persons whose agricultural land had been converted to state property were given a choice to either become shareholders of agricultural commercial companies or opt for the quality of lessor.

Poland maintained, even under socialist rule, a rather large sector of private farms with the state farm sector covering only about 19% of all arable land. In 1990 the government enacted a Law on Privatization of State Property which foresees the privatization of all state land.

Hungary also enforced a process of privatization, but rejected the restitution of farm land to its former owners. Instead it followed a policy of partial compensation and introduced the sale of agricultural land by auction that allowed a privileged elite class to obtain a large share of the formerly collectively owned farmland.

THE PROCESS OF REFORM IMPLEMENTATION

The privatization of landed property and the development of land markets has not been implemented in a well designed, systematic manner. In all four countries under review, the governments have frequently introduced changes and amendments to legal provisions regarding land transactions which indicates their lack of experience in market economy and perhaps their incapacity to conceive the implications of their political decisions.

In Lithuania, the restitution of ownership rights turned out to be particularly complicated and time consuming since the legal basis for privatization has been supplemented and specified many times. The government passed a Law on Peasant Farms in 1989, which was adjusted by three laws on the privatization of nationalized land, two enacted in July and one in August 1991. They were supplemented by two relevant laws in 1993 and 1994. In July 1997, the restitution process was stopped and renewed again in July of that year after significant supplements to the relevant laws had been passed. Due to a recent amendment of the Law of Real Estate Restitution, which increased the number of applications, the process of restitution will require another three to five years for completion.

The structural adjustment of Polish agriculture is based on the 1990 law for the privatization of state property in Poland. It has subsequently been modified by three additional laws which were passed in 1995, 1996 and 1997. While all state land is supposed to be privatized, so far only 16% of the state land fund has been sold. About 80% of the state land has been leased to legal or natural persons. Thus, the process of privatization is not yet completed but restricted to the "privatization of management."

The first law referring to privatization in Romania was enacted in 1990. It decreed that members of cooperatives were entitled to certain small areas of land. The more comprehensive Land Law of 1991 stipulated the restitution of land owned by agricultural cooperatives. It was amended in 1997 and 1998. Land lease arrangements were regulated in a law of 1994 which was adjusted in 1998.

Privatization in Hungary was based on two laws enacted in 1989 which enabled private persons and companies to purchase land owned by the state and by cooperatives. These laws were modified in 1993 and 1994. A new Law on Land Registration was introduced in 1997 replacing the previous one of 1972, while a new Act on Land Consolidation and the creation of a National Land Fund are planned for implementation.

EFFECTS OF THE ADJUSTMENT PROCESS

The various legal provisions adopted by the four countries in relation to privatization have had considerable impact on their agrarian structure. As their approaches to farm restructuring deviate significantly from each other, the results of the restructuring process vary accordingly.

In Hungary, the polarized agrarian structure with a preponderance of large-scale farms, the existence of a large number of fragmented dwarf holdings and the lack of medium-sized farms has been maintained. There are about 2,600 large scale farms, with an average size of 1,800 hectare, which cultivate 52% of the agricultural land. The remaining 48% belong to the private farm sector and are owned by 1.8 million households. Eighty percent of them own less than 1 hectare.

In Poland, structural transformation of arable land (mainly in the form of lease arrangements) embraced more than 4.5 million hectare, i.e., 24% of all arable land. The transformation process created a potentially strong sector of privately managed large scale farms, presently covering about 12% of arable land. The peasant farm sector which covers 82% of arable land increased its area by only 2.4% through purchase or lease of land. The main purchasers were small and very small farmers. The major reason for this development is the lack of interest by peasants in increasing the area of their farms which in turn may be explained by the low efficiency of the agricultural sector, i.e., the high costs of inputs compared to the low prices obtained for agricultural products.

In Lithuania, the abolition of the state and collective farm sector was achieved rather rapidly covering some 80% of the property by January 1993. As a result of the privatization process, 196,000 family farms were established by early 1997. Their number is constantly growing. In the course of privatizing the property of large scale enterprises by creating shareholding companies and distributing shares to its former operators, a total of 4,300 agricultural companies were originally created, however, their number is constantly decreasing and amounted in early 1998 to only 1,800. The majority of these companies were liquidated by the decision of the shareholders to cease activities. Following the enactment of a new law in 1997, members of agricultural companies are encouraged to establish family farms and their number is expected to increase.

In Romania the Land Law of 1991 established two types of land ownership, namely that of the private sector, administering 12.3 million hectare agricultural land and that of the state sector which manages 2.4 million hectare. The private sector is composed of: a) family farms with an average size of 2.3 hectare, covering more than three-quarters of private property land; b) land of family associations with an average size of 132 hectare; and c) land of legal associations with a size of 435 hectare. There is a high share of subsistence farms with less than 3 hectare (72% of all private farms) and a low share of farms larger than 10 hectare (0.3%).

The largest part of the Romanian state sector land is managed by joint stock commercial companies in which the state has the majority of the share capital. They have an average size of 3,370 hectare. These companies are in a difficult financial and technical situation and most of the 250,000 private shareholders do not receive the dividends to which they are entitled.

The impact of land laws on the development of land markets is equally heterogeneous. As a general trend it can be observed that the introduction of private land ownership enabled the creation or, in the case of Poland, the reinforcement of such markets.

In Hungary, an unlimited land market was established in 1989 and allowed a group of capital owners to purchase public land at low prices and at the expense of a large number of coop members. The land lease market is well developed; some 52% of the land fund is cultivated by legal entities on a lease basis.

The land market in Lithuania is in its initial stages. The size of holdings sold is usually small, averaging 2.6 hectare. Active trade takes place in areas close to cities and in attractive locations. Because of legal limitations, juridical persons, i.e. larger agricultural enterprises, cannot become land owners. They can, however, resort to the land lease market which is well developed and more active than the land sale market. Some 440,000 land-use units have been established on leased state land covering 43% of all agricultural land.

In Poland, the formation of a land market is influenced by an oversupply of land resulting from the liquidation of state farms. This applies in particular to regions with a large share of state farms. As a result, a specific land market emerged dominated more by administrative decisions and rules, rather than by market principles and mechanisms. The process of complete privatization embraced only about 15% of big farm land, while the rest is not yet covered by the privatization process, and so far, only private management of farms has been achieved. In recent years, however, the situation has undergone important changes. The process of transformation of state farms is coming to an end and an effective land market is beginning to gain importance. A market for arable land has developed between 1996 and 1997 as follows. All forms of land turnover covered 8-9% of land and about 13% of farms. Price differences were considerable, ranging from more than $4,000 per ha in the Warsaw region to about $200 in the north of the country. This shows that land prices are not determined by farming parameters but are rather the result of non-agricultural considerations. Land prices in typically agricultural regions are stable and low amounting to $300 to $500 per hectare. The extent of land lease arrangements during the period under review was not significant either. About 5% of farmers leased about 4% of the arable land.

The land market in Romania began to operate legally only in 1998. The average size of a land sale-purchase contract is 1.3 hectare. Land prices are relatively low due to a general lack of interest in buying land, the low price for agricultural products and the lack of capital and credit for buying land. The land lease market is functioning well in accordance with the Land Lease Law of 1994.

OUTLOOK

The experience with farm restructuring in the four countries reviewed indicates that a solid basis for the establishment of a dynamic land market has been created by relevant land laws and related legal institutions. The land lease market is well developed in all four countries reviewed. With the exception of Hungary, land sale markets do not yet constitute a key factor in the process of agricultural adjustment and play a rather marginal role with regard to the size of farms and land prices. There are, however, some indications that this situation will change in the near future. It is expected that with the accession of these countries to the European Union more

active land sale and land lease markets will lead to an increase in farm size. Small farms will remain petty economies, their owners will have to obtain additional income from non-agricultural activities and in the long run abandon agriculture altogether. In this process the compulsory registration of land owners and land users is essential since it will prevent illegal land speculations and form a basis for agricultural financing.

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Part Three

Development of Farm Services for Improved Competitiveness

Evolving Commercial Farm Services for the New Farm Structure

David Gisselquist

Effective on-farm management clearly makes an essential contribution to a country's competitiveness and efficiency in agricultural production. Yet what happens off the farm is also important. Without efficient upstream and downstream off-farm activities, a country cannot be competitive in agricultural production, even with the best and most efficient arrangements for land and farm management.

This paper reviews transition changes in agribusiness in pre-accession countries and suggests some areas for attention, where further policy changes may be considered to improve the efficiency of supporting commercial services and hence also agriculture and rural sectors in coming years. The paper is based on a World Bank sponsored survey of chambers of commerce and industry, chambers of agriculture, and other business organizations in eight of the ten pre-accession countries: the Czech Republic, Estonia, Hungary, Lithuania, Poland, Romania, Slovakia, and Slovenia. Latvia is not included, as unfortunately the business chambers in this country did not respond to the survey instrument. In the tenth pre-accession country, Bulgaria, a separate agribusiness survey was conducted, and its findings are reported in the paper by Anna Georgieva in this volume. Detailed survey results can be found in the Appendix tables at the end.

THREE CHALLENGES FOR AGRIBUSINESS DURING TRANSITION

At the end of the 1980s, the socialist countries in Central and Eastern Europe (CEE) had highly developed agricultural sectors. The process of transition involves a reorganization of agribusiness functions that former socialist societies took care of in other ways. Difficulties in reorganizing agribusiness arrangements have contributed to some of the problems of transition. Following sections discuss three challenges for agribusiness development during transition.

Establish Multiple New International Linkages for Technology and Markets

During communist times, the ten pre-accession countries shared science and technology and traded extensively with other socialist countries. These arrangements were sufficient for countries to reach high levels of technology and productivity. However, during the 1990s, these old linkages

are no longer sustaining. Exchanges with former partners in science and technology are no longer so easy and are no longer adequate to keep up with the latest technology, and old markets have largely collapsed, at least for the time being.

During transition, the pre-accession countries have established multiple links with EU and other OECD countries for access to technology and markets. Most of these new linkages are with private companies through trade, licensing contracts, joint ventures, or subsidiaries.

Establish Competition at the National Level

Socialist-era central planners designed efficient input production and trade and efficient output marketing and processing through large organizations, limiting duplication and competition to create the largest possible economies of scale. Price controls and other administrative measures forced resultant monopolies and oligopolies to serve farmers and customers. Organizations and market structures left over from communist times generally do not fit with what is required to make competitive markets work. To move to competitive markets at the national level, each input industry in each country needs a large increase in number of companies producing and/or importing inputs. Similarly, to move to competitive markets for output trade and processing, each country needs a large increase in numbers of traders and processors from regional to national levels. Paradoxically, efficiency in a market economy requires duplication of function, so that competition pushes agribusiness to serve and respect farmers and customers.

Extend Retail Buying and Selling Networks to Reach Small Farmers

With the number of farms increasing by factors of several hundred in many CEE countries, large increases in the number of wholesale and retail outlets for seeds, fertilizers, and other inputs are required to ensure that farmers have convenient access to inputs – and hence to modern technology – through competitive markets. Similarly large increases are needed in the number of traders that buy and store farm outputs, manage some first processing activities, and then sell products to consumers and downstream traders.

In the 1980s, for example, an average farm manager in Romania, Lithuania, and many other socialist countries bought and distributed inputs and collected and marketed outputs for 2,500-4,000 hectares. In the 1990s, these tasks to distribute inputs and collect outputs must be managed outside the farm, creating new jobs in agribusiness trade and services. Some simple calculations can show how important this can be for local agribusiness development. Suppose those who retail inputs to small farmers and those who buy outputs from small farmers for storage and resale are able to add a mark-up of 10%. Suppose also that the aggregate value of inputs is 50% of the value of outputs. With these conservative assumptions, the aggregate value of trade services to break down agricultural inputs and to bulk up outputs is 15% of the total farm-level value of agricultural production. If average gross farm income is $300 per hectare (for 3 tons of wheat or 4 tons of maize) then breaking a 4,000 hectare farm into 500 eight hectare farms creates net incomes for retail traders (input sellers and output buyers) worth $80,000. Whereas in the socialist era large farms had a number of staff to handle these jobs, these same

tasks are now moved into the commercial sector. These rough calculations suggest that breaking one 4,000 hectare farm into 500 small ones creates 6 to 12 non-farm agribusiness jobs paying $15,000-$30,000 each.

Table 1: Agribusiness Development during Transition

Agribusiness policies and development processes	Transition Challenges for Agribusiness		
	Fostering international linkages for new technology and markets	Establishing competitive markets at national level	Extending agribusiness input and output trade to new private farms
Establishing business dialogue with government	Democratization and political liberalization allow private businesses to represent their interests to law-makers and government regulators and to associate with national and international partners.	Maintenance of open and competitive markets depends on the ability of the majority to press their common interests for liberal markets against oligopolists and mafiosi.	Democratic local governments allow people to take care of many common concerns (as consumers and producers) through local and hence highly accountable and responsive government organizations.
Privatization	While public companies can and do arrange international linkages (e.g., Pioneer seed company had joint ventures with seed parastatals in Romania and Bulgaria and a state farm in Hungary) private companies are probably better at doing so. Nevertheless, privatization alone does not create enough private companies for all of the international linkages that are required for full access to technology and markets.	In communist times, agribusiness activity was organized into too few enterprises to generate effective competition. Privatization alone–without downsizing pre-existing public enterprises and without new entry and trade liberalization–does not achieve competition.	Privatization has little impact on the expansion and articulation of agribusiness trading networks to serve new small farms. Since communist-era parastatals were designed to large farms, they do not have the extensive network of traders and facilities necessary to work with new small farms.
New entry	Since there are so many new linkages to build with OECD companies and markets, new entry is essential. New private companies compete to find foreign partners for best access to technology and markets. Transition governments can facilitate new entry through asset shedding (auctioning parastatal assets), trade liberalization, and reasonable regulations (e.g., business licensing, phytosanitary and technology controls).	New entry is essential for competition at the national level. In some cases, new entry depends on trade liberalization alone (e.g., for tractor and combine markets). In other cases, such as grain trade and seed supply, governments can encourage competition and new entry by asset shedding (e.g., selling off grain warehouses and seed cleaning machinery through auction) and sensible regulations (e.g., easy procedures to license new grain traders and to introduce new crop cultivars).	Large-scale new entry for wholesalers and retailers is crucial for input selling and output buying networks to expand to reach new small farms. Governments can favor new entry with policies that encourage competition at the national level, with easy procedures to license new wholesalers and retailers, and with devolution of regulatory activities to sub-national governments.

MEETING TRANSITION CHALLENGES

There are three dimensions in transition challenges for agribusiness: (a) establishing business dialogue with the government; (b) privatization; and (c) new entry. The relevant challenges are discussed in detail in the following sections and are summarized in **Table 1**.

Establishing Business Dialogue with Government

Our survey of chambers and other agribusiness focused on organizations that served agribusiness at the district or other sub-national level. In several countries, we surveyed local chambers of commerce and industries, and in these agribusinesses seldom accounted for more than 10% of total members. In the Czech Republic, Lithuania, and several other countries, the survey looked at chambers of agriculture, which are generally dominated by farms rather than agribusiness. With a few exceptions, all of the chambers we surveyed began in the 1990s. In some countries, such as Estonia, for example, the national chamber dates from 1925, but local chambers emerged in the last decade only.

Pretty much everywhere we looked, we found private business organizations serving local communities with populations as small as 22,000-50,000 people. Annual chamber budgets are often modest – as low as $10,000-$20,000 only – which suggests a high degree of voluntary community service.

In several countries, such as Slovakia, chambers of agriculture are attached to government, so that they do not represent the private sector in dealings with government but are rather agencies for government to reach private farms and companies. In Slovakia and Hungary, for example, chambers of agriculture have played a role in channeling farm subsidies. Government control of business organizations appears to be a holdover from communist times. In Slovakia, membership in the chamber of agriculture is compulsory for registered agribusinesses, while Hungary ended compulsory membership at the beginning of 1999. As long as the door is open for competing private organizations to represent farm and business interests, there is probably no harm done in having some semi-government organizations working with farms and agribusinesses.

In all pre-accession countries, the emergence and evolution of chambers of commerce and other similar organizations at national and local levels provides an important element of the framework for private businesses to work together on their own and also to work with and through governments for efficient economic management. The chambers that we surveyed offer a range of services to members, including technical and market information, international contacts, intermediation with government regulators, and lobbying legislatures for workable laws and regulations.

Privatization

In most of the pre-accession countries, privatization has with some exceptions already shifted most pre-reform parastatal agribusinesses to private ownership and management. In some cases, such as Poland's plant breeding companies and Romania's grain warehouses, delays in privatization obstructed the development of competitive markets. In other cases, such as for tractors in Romania and fertilizers in Bulgaria, delays in privatizing domestic production companies have been relatively unimportant compared to government policies affecting imports. Bulgaria, for example, has taxed urea imports at 40% to block new entry from low cost CIS sources, a policy that protects not only parastatal fertilizer producers but also the major West European fertilizer company trading in the Bulgarian market.

The survey of business chambers found that the overwhelming proportion of their members are private. We also asked about the origin of new private companies. In most cases, privatization was responsible for a small minority of new agribusinesses, though it was more important in the formation of new private farms.

New Entry

As already discussed, new entry is crucial for agribusiness to build international linkages for technology and markets, to establish competitive markets at the national level, and to reach new small farmers. Chambers reported that most new agribusinesses come from new entry, and that most of their assets come from new investments (i.e., not from parastatals through auctions or other forms of asset shedding).

For most of the local business chambers in the survey, a large majority of members have annual turnovers below $100,000 and in some cases even below $10,000. On the other hand, chambers of agriculture in the Czech Republic and Slovakia report that most members (which are farms) have annual turnover over $100,000, which reflects the persistence of large farms in those two countries.

Many of the questions in the survey were designed to identify problems and hence barriers to entry for new small and medium agribusinesses. Among possible problems, chambers reported the biggest and most consistent difficulties with low demand, taxes, some aspects of contract enforcement and/or weak law and order, and poor access to formal credit.

Low Demand

Whatever governments do to improve sectoral policies, major improvements over the short and medium term in agricultural production, farm incomes, and farmer and consumer welfare depend on macroeconomic policies that affect overall GDP and exchange rates and hence largely determine domestic and export demand for farm products. Without adequate aggregate demand, private farmers and agribusinesses respond slowly if at all to liberalizing adjustments and reductions in trade and regulatory obstacles. This issue goes beyond the scope of this paper, but

it is important to keep in mind if we are going to talk sense about what to do and what we can expect from any particular package of sectoral reforms.

For many CEE countries, part of the response to low farm demand may be to accept low exports of bulk agricultural products (low relative to the 1980s) as a permanent or at least medium-term situation. With this approach, governments can adjust farm and rural policies to emphasize environment, rural welfare, and value added in processing agricultural products.

Taxes

Most chambers identified the level of central government taxes as one of the most important problems facing small and medium agribusinesses. There were also some strong complaints about the level of state and local taxes. On the other hand, uncertainty and/or corruption with central and/or state and local taxes did not emerge as a major concern. This was a surprise considering widely reported tax evasion and informal trade. One possible interpretation is that many firms in the formal sector are able to evade some taxes, so that uncertainty and corruption in tax collection are benefits rather than problems, whereas high tax rates taken alone are a problem.

For resolution of tax disputes, most chambers report that their members generally go through tax office arbitration or go to court. Some chambers report satisfaction with these procedures.

Law and Order

Many chambers report difficulties with business partners and with contract enforcement. For example, farmers in Slovakia sell their grain on credit, and then wait months for payment. Difficulties with business partners suggests lack of competition. In competitive markets, a large part of the business network operates on trust, where handshakes are as good as contracts. If this is not working, the problem may be too much government restriction and interference in licensing of dealers and contracts, not too little. The survey found few complaints about the mafia and protection rackets, but did find problems with law enforcement.

Chambers in most countries reported that local or national courts are the most common channels for dispute resolution. Other common channels are arbitration through chambers or through some government channel. This suggests that the institutional framework for private business activity is substantially in place and in use, but it is not possible to tell from the survey how well these channels work.

Access to Formal Credit

Many chambers reported poor access to formal credit as a major problem for small and medium agribusinesses. Part of this complaint is due to poor macroeconomic policies, including excessive austerity along with weak demand. With weak demand, businesses are not able to make money, so that credit is not only more in demand but also harder to repay. Also, to some extent this may be a false issue. Everyone in pre-accession countries is used to communist

governments making decisions about credit allocation. If everybody expects that government is responsible, then anyone who wants a loan looks to government to do something about it. A long-term solution to this situation requires not only GDP recovery but also development of more competitive banks and capital markets and wide acceptance of the principle that governments do not intervene to allocate credit, at least not to individual borrowers.

The fact that new small private companies dominate membership in local business organizations is evidence that government policies for transition have been at least workable. New entry has been taking place on a large scale. On the other hand, chambers report that small and medium agribusinesses face many problems that governments could address through policy adjustments. In most cases, the basic features of government institutions, laws, regulations, and policies are already in place and what we are looking for is adjustments within existing patterns. The following two sections discuss two areas for policy adjustments that could be considered to favor development of agribusiness commercial services.

REVIEWING AND REVISING POLICY BIASES

For most agricultural inputs and outputs in developed market economies, the efficient scale for production, processing, and wholesale trade is significantly larger than what is used or produced on each farm. In other words, inputs are traded down from large-scale production through wholesale and retail trade to reach relatively small-scale on-farm use. Similarly, outputs are bulked up from buyers dealing with relatively small lots from each farm to larger lots at the level of processors and wholesale traders.

When agribusinesses are not efficient in breaking down inputs and bulking up outputs, farmers and others avoid cash markets. There are many symptoms or signs that this is the case. For example, absentee coop owners (i.e., landowners) in Bulgaria accept payment in-kind. In Romania and other transition countries, companies supplying fertilizers and machinery arrange credit and payment in kind, even for large new combines. These examples suggest that something is seriously wrong with agribusiness markets.

In all pre-accession countries, to a greater or lesser degree, some of the strongest evidence for serious inefficiencies in agribusiness commercial services is the persistence and even expansion of subsistence farming. When it is expensive (inefficient) to channel wheat, chickens, vegetables, and other farm products through formal commercial trade from farmers to consumers, farmers will try to avoid formal trade whenever possible. In such cases, we can expect to see farmers producing for own consumption and for non-market distribution to relatives in towns and cities as well as for informal market sales. (The term "informal" is used here to refer specifically to illegal sales, most often because farmers do not report sales to avoid paying taxes.) Farming for own use was common in communist times, which makes sense since governments discouraged markets. On the other hand, 1990s increases in subsistence farming in post-communist countries suggests that current policies also somehow discourage – or in other words impose unnecessarily high per unit cost – on small-scale trade. For a small farmer to get into the formal market – to shift from informal to formal production – gains in production efficiency must be large enough to overcome high costs for small-scale formal trade.

At least some of these high transaction costs may be due to policy-based decisions including design of VAT taxes for farms and small businesses. In the EU, most governments allow farmers to avoid VAT paperwork by arranging for input sellers and output buyers to take care of VAT payments and receipts, so that small as well as large farmers are able to recover (approximately) the VAT they pay on inputs and are hence equal in what they pay and receive. Those who buy outputs from farmers issue receipts showing a nominal price plus a flat rate compensation, which is similar to VAT. Each EU government calculates its national flat rate compensation as national VAT receipts on inputs divided by national value of farm output. Buyers are required to retain these receipts and are able to subtract flat rate compensation paid against VAT received on downstream sales. Farmers, on the other hand, are not required to keep receipts or to balance flat rate compensation against VAT payments on inputs.

Similarly, most EU countries and many other countries with VAT systems have special arrangements to ensure that VAT taxes for small businesses are at least no higher than for larger businesses. In some cases, EU governments set somewhat lower VAT rates for small businesses, recognizing that accounting is a relatively heavy burden for smaller businesses and also reflecting the relatively high cost for governments to supervise VAT for small businesses. In contrast, government of Bulgaria, for example, does not allow small and medium businesses with annual turnover up to $50,000 to issue VAT receipts.

As part of the survey, we asked chambers whether or not countries had any special VAT arrangements or rates for farms or small businesses. According to information from the survey – which might not be entirely accurate, but nevertheless reflects business awareness – VAT systems in pre-accession countries generally ignore the special requirements to ensure fair treatment for farmers and small businesses. For example, small farmers characteristically pay VAT on inputs but do not issue VAT receipts. In Bulgaria, small businesses with turnover less than DM 70,000 are not allowed to issue VAT receipts, which means that any VAT that such firms pay on inputs is double-charged, putting them at an enormous competitive disadvantage. Although this does not present a serious problem for retailers that sell to final consumers, it puts farmers and other small producers and traders of primary and intermediate goods at a serious competitive disadvantage against larger producers and traders.

Design of regulations can be another possible area of bias against new entry and small and medium agribusinesses. As part of the process of adjusting to EU and OECD patterns, governments of pre-accession countries have been busily drafting and passing laws and regulations affecting agricultural inputs and food trade and industries. Most such regulations extend the authority of line ministries – such as the ministry of agriculture – whereas the general purpose of pro-market reforms is to get line ministries out of the way. Even when teams of experts explicitly try to copy EU legislation, drafting new regulations is not a simple and fail-safe task, since there are many models from which to choose and details may be lost or added in the borrowing process. In some cases, line ministries may be erring on the side of trying too hard to regulate quality. For example, it is arguably not necessary for ministries of agriculture to register all retail stores that put seeds and fertilizers on their shelves, or to register anyone who trades grain.

Biases against small businesses and small-scale trade in VAT and other government policies make it difficult for small farms and agribusiness to enter and/or grow towards larger and more efficient scales of operation. These same biases can make it difficult for large companies to address management problems and to improve efficiency by sub-contracting selected activities to smaller companies. During communist times, economic orthodoxy favored large state organizations versus small private ones. Some of these biases may have survived and metamorphosed into new taxes and policies in the 1990s. Some tinkering with policies including VAT taxes may be considered to reduce biases.

SUB-NATIONAL GOVERNMENTS

Our survey of business organizations looked specifically at local rather than national organizations to get some idea about the effectiveness of business organization at sub-national levels. Several questions in the survey asked for information about business dealings with government. In several countries, chambers reported that local courts play a role in dispute resolution. On the other hand, in those countries where local courts (responsible to sub-national governments) do not exist, the survey was not able to pick up any information about whether or not this represents any difficulty for small businesses.

We asked specifically about registration for new business entry. This does not appear to be a problem. Although most business registrations must be arranged through central government departments, most of these registrations can be managed through branch offices in local cities and towns. Similarly, problems with infrastructure are not reported to be serious, so that the relative role of central versus state and local governments in managing roads and other government construction does not draw attention and criticism.

Nevertheless, there is some evidence in the survey and from other sources that an expanded role for sub-national governments may be part of the continuing process of transition toward OECD patterns and EU membership. For EU and pre-accession countries, **Table 2** shows revenues for all sub-national governments as a percentage of central government revenues: The average for 14 EU countries is 41%, while for 10 pre-accession countries the average is only 25%. In Poland and some other pre-accession countries, devolving taxes and expenditures responsibilities to sub-national governments is part of an ongoing process of government reform.

Another area where devolution may be considered to assist agribusiness and other rural business development is regulation and law enforcement, including appointing and supervising judges, prosecutors, and police. Devolving some law enforcement authority to sub-national elected governments does not mean that the central government officials lose final authority, but allows them to limit involvement to cases that are not adequately handled at lower levels of government, including cases that are appealed for review after initial decision at a lower level. Devolution to sub-national governments supports the balance of power among executive, legislative, and judicial branches. Without strong sub-national governments, checks on executive actions at the national level can be seriously compromised.

The survey found dissatisfaction with some aspects of law and order. Devolution of police, prosecutor, and judicial functions to sub-national elected governments allows people to work within their communities to deal with known problems. This increases the number of potential remedies: If local police and prosecutors do not act, national police can step in. On the other hand, if national police and prosecutors are not interested to crack down on influential parties, local prosecutors responsible to local elected officials may not be subject to the same political pressures. Multiplicity of options improves the chances that someone will be able and willing to take action in the public interest.

Table 2: Total Non-Central Government Revenues as a Percentage of Central Government Revenues

Country group	Country	Total non-central government revenues and grants as a % of central government revenues and grants	
Pre-accession countries	Bulgaria	15 %	
	Czech Republic	26 %	
	Estonia	24 %	
	Hungary	34 %	average for 8 pre-accession
	Latvia	30 %	countries: 25 %
	Lithuania	28 %	
	Poland	27 %	
	Romania	17 %	
EU	Austria	50 %	
	Belgium	15 %	
	Denmark	83 %	
	Finland	74 %	
	France	23 %	
	Germany	65 %	average for 14 EU
	Ireland	36 %	countries: 41 %
	Italy	28 %	
	Luxembourg	18 %	
	Netherlands	33 %	
	Portugal	10 %	
	Spain	49 %	
	Sweden	53 %	
	United Kingdom	32 %	
Other OECD	Canada	149 %	
	Norway	43 %	
	Switzerland	92 %	
	United States	102 %	

Source: IMF, *Government Financial Statistics Yearbook 1998.*

Stronger sub-national governments may be part of the answer to concerns about corporate governance. Good corporate governance means that businesses answer to laws, both in their internal workings as well as in dealings with stock-holders, customers, governments, and other outsiders. Reliable enforcement of business laws requires transparency and accountability. When local governments are able to take on some of the prosecutorial and judicial burden for corporate governance – and even to compete for responsible enforcement of corporate law – the existence of multiple channels to enforce corporate governance increases opportunities and leverage for stock-holders and others to insist that at least some government body does what is required to force good corporate governance.

CONCLUSION: CUTTING COSTS FOR AGRIBUSINESS TO SERVE FARMS OF ALL SIZES

Are large farms or small farms more efficient? One thing good about a market economy is that experts do not have to answer such decisions. These questions are not always easy to answer, since we cannot measure everything that farmers value. We can measure product per hectare or per unit of other inputs, but we cannot measure how much satisfaction farmers get from working or producing for themselves, or conversely how much they value the security of a fixed-wage job on a large corporate farm. Also, we may see that large farms are more efficient for wheat–more output per unit input–but small farmers with the same land might choose to produce something else that produces even more net value, so we cannot say whether land is efficiently used just from looking at statistics. The only way we can be sure that any particular farm size is efficient is that farmers choose that farm size, and that choice is not constrained by policy biases that obstruct adjustments in farm size or development of efficient input and output trade.

Along with land markets, many other policies and conditions influence the efficiency of agricultural production in transition countries. If we take EU countries as a guide, average farm size across countries shows little relationship to relative country success with agricultural exports. While the three countries with the smallest average farms – Greece, Italy, and Portugal, with average farms under 10 hectares – all import more agricultural goods than they export, so do five other EU countries with average farm sizes 15-70 hectares. For the three EU countries that earn over 1.5 times as much from agricultural exports as they spend on agricultural imports – Denmark, Ireland, and the Netherlands – farm sizes average 17-40 hectares only.

While the break-up of large cooperatives and state farms and the distribution of land rights to new private owners has been a step in the right direction, there is much more that remains to be done for agriculture in pre-accession countries to prepare for entry into the EU. Some of this involves arrangements and policies affecting land ownership and land management. However, another set of changes involves further adjustments in central government tax policies, regulations, local government activities, and other government policies and structures to reduce barriers for agribusiness and other rural business entry and expansion. Following patterns in EU countries, changes will be guided in part by an open and expanding dialogue between business organizations and governments.

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APPENDIX: Results of the 1999 World Bank Survey of Business and Agricultural Chambers in Pre-Accession Countries

Appendix Table 1: Characteristics of Regional Chambers that Answered the Survey

Country	Number of chambers answering the survey	Types of members: F = farms; B = businesses A = agribusinesses	% of members with main income from farms and agribusinesses	Membership voluntary or compulsory	Populations of regions for chambers in the survey (1,000s)
Cz	2	F and A	>67%	Voluntary	94-110
Est	2, including a national chamber	B (including A)	<33%	Voluntary	100 for regnl chamber; 1,500 for natnl chamber
Hun	5	F and A	>67%	Voluntary (compulsory to 1/1/99)	220-430
Lit	3	F only	100%	Voluntary	22-38
Pol	3	F and A	<33%-100%	Compulsory for farmers	490-1,900
Rom	6	B (including A)	<33%	Voluntary	520-870
Svk	10	F and A	>67%	Compulsory for registered companies	25-120
Svn	4, including a national chamber	B (including A)	3 chambers: 33% 1 chamber: 33%-37%	Voluntary	50-2,000*

Country	Years chambers registered	Annual budget of chamber (US$)	Main services to members	Other private organizations with similar services?
Cz	1991, 1993	17,000-27,000	* enforcement and protection of members' interests; * information, education, etc	Yes
Est	1992 for regnl chamber; 1925 for natnl chamber	13,000 for regnl chamber 800,000 for natnl chamber	* defends interests of business community * mediates business contacts * business-related services, conferences, publications, etc	Yes
Hun	1994-95	25,000-420,000	* helps farms and companies apply for state grants * provides market, legal advice	Yes
Lit	1989	400-500	* advice, information * lobby for farm interests	Not very important
Pol	1996-97	150-190	* industry advice and representation * training programs	No
Rom	1990	No answer	* mediates between members, foreign businesses, and government officials * offers a range of information, meeting, and other business services at low cost	Yes
Svk	1991-97	8,000-38,000	* technical, business, and market advice * administer some government subsidies and programs * recreation	Yes in some regions; no in others
Svn	1977-79 regnl chambers; before WWII natnl chamber	Voluntary	* representing companies in dealings with government * information, education, data and other services * search for foreign markets	Generally no

Appendix Table 2: Chamber Membership and Dues

Country	Current number members	Number of members in 1991	% of those eligible that are members	Some reasons why companies might not join	Entry fee	Annual dues for members
Cz	94-114	Chamber did not exist in 1991	>67%	* different interests between large versus small companies, individual farmers versus companies, etc	$14	$0.3/hectare
Est	103 for regnl chamber; 2,600 for natnl chamber	Regnl chamber did not exist in 1991; 600 for natnl chamber	<33%; ca 10% for natl chamber	* some have no interest in chamber services	$34	$100-1,360 depending on number of employees
Hun	820-2,900	Chamber did not exist in 1991	4 of 5 chambers report 33%-100%	Membership was compulsory to Jan. 1999	$2.5-50	$20 plus 0.1-0.2% of turnover
Lit	90-1,200	48-300	<33%	* low awareness * chamber's lack of impact on government policies	$12.5	$0.5/hectare, $5 minimum
Pol	80,000-262,000	Chamber did not exist in 1991	100%	Membership is compulsory for farmers	$0	Chambers get a share of land tax
Rom	200-1,100, ave 500	20-800, ave 250	<33%	* lack of interest in chamber services * non-members can also use some chamber services * the chamber cannot help with credit and other major problems	$20-50	$30-250, depending on turnover and type of member
Svk	17-140, ave 48	18 in only chamber that existed	<67%	* membership fee * companies not applying for subsidies have no incentive	$0 for most regions as much as $140 in one region	Varies by region; typically ca. $0.3/hectare for farms and 0.04% of gross revenue for processors
Svn	1,000-2,500	200-750; one chamber did not answer	>67%	* inefficiency, ignorance on the part of the company *different interests * membership fee	-	$137 and up, depending on chamber, number of employees, etc.

Appendix Table 3: Character, Origin, and Size of Member Enterprises

Country	% of 1999 members that are:			Source of new private companies:			% of members with annual turnover (US$ 1,000):		
	State-owned companies	Old private companies (before 1990)	New private companies (from 1990)	Privatization of state-owned companies	New start-ups with assets from state-owned companies	New start-ups with new assets	< 10	10-100	> 100
Cz	0-3	0-14	86-97	Common	Common	Less common	7-20	30-40	50-54
Est	1	17-30	70-82	Not common (ca 10 %)	Not common (ca 10 %)	Most common	0-9	13	78-90
Hun	0-5 (except one chamber reports 38 %)	0-30 (old coops)	72-92	Less common	Common (with compensa-tion)	Common	av 40	av 44	av 17
Lit	0	10	90	-	Common (gov't restores land to farmers)	-	10-95	5-80	0-10
Pol	0	Most are old private farms	-	-	-	-	Most (small farms)		
Rom	< 10-33	0	67-90+	10-50 %	0-20 %	50-80 %	0-few	<20-80	20-80+
Svk	0-8	0	92-100	Less common	Common (gov't restores land to farmers)	Common for companies	av 15	av 22	av 67
Svn	Up to 2	Ca 2	90 +	Common (ca 50 % in one region)	Generally not common	Most common	3-77	15-45	8-60

Appendix Table 4: Channels for Small/Medium Companies to Resolve Disputes with Another Company or Customer

Channel for resolution	Use of various channels for dispute resolution in different countries							
	Cz	Est	Hun	Lit	Pol	Rom	Svk	Svn
Arbitration through government	-	Rare	-	Common (through MOA)		-	Ave 18%	-
Arbitration through chamber of commerce or similar organization	Sometimes	Less common	Common (reports from two chambers)	-	Possible (reports from two chambers)	Common	Ave 13%	Not common, but efficient
Local/state/provincial court	Most common	Most common	Most common	-		Most common	-	-
National courts	-	Rare	-	-		Common	Ave 63%	Most common
Other government channel	-	Rare	Less common	Common		-	Ave <1%	-
Other private channel	-	-	Common (reports from two chambers)	-		-	Ave 3% (mutual agree)	-

Appendix Table 5: Channels for Small/Medium Companies to Resolve Tax or Other Dispute with Government

Channel for resolution	Use of various channels for dispute resolution in different countries							
	Cz	Est	Hun	Lit	Pol	Rom	Svk	Svn
Tax office arbitration procedure	Less common	Less common	Most common	Most common		Most common	Ave 69%	Common, but not efficient
Courts	Most common	Most common	Sometimes	Less common	Possible	Common	Ave 26%	Sometimes, but lengthy
Arbitration through chamber of commerce or similar organization	-	Rare	Sometimes	Possible	Possible	Less common	Ave 4%	-
Arbitration through elected official	-	-	Sometimes	Maybe		-	Ave 1%	-
Other	-	-	-	-		-	-	Common (help from chamber's legal dept)

Appendix Table 6: Policy-Based Problems Facing Small/Medium Agribusinesses

Issue	How common and/or severe each issue is by country (scale of 0=no mention to 2=common and/or severe)							
	Cz	Est	Hun	Lit	Pol	Rom	Svk	Svn
Poor utilities (telephone, electricity, etc.)	0	0	0	1	1	0-1	0	0
Poor infrastructure (roads, ports)	0	0-1	1	1	2	0	1	0
Non-competitive or unreliable buyers or suppliers	2	1	2	1	1	1-2	1-2	0-1
Low demand/weak economy	2	2	2	2	2	1	1-2	0-1
Level of central government taxes	1	0-1	2	2	1	2	1-2	2
Uncertainty/corruption with central government taxes	0	0-1	1	2	0	0-1	0-1	0-1
Level of local/state taxes	1	0	1	2	0	2	1	0
Uncertainty/corruption with state/local taxes	1	0	0	1	0	0-1	0-1	0
Unreliable contract enforcement	2	0-1	1	2	2	0-1	1-2	1
Mafia/private protection rackets	0	1	0	1	0	0	0	0-1
Unreliable law and order situation	2	0-2	2	1	1	1	1	1
Lack of or poor access to formal credit	2	1-2	1	1	1	2	2	1
Other	2 (other European countries distort markets)	1 (local oligopolies)	1 (no profit in agriculture; unreliable markets)	1	-	1 (bureaucracy; unfair competition)		1 (denationalization; other)

Appendix Table 7: Opening New Businesses: Registrations Required and Location of Registering Office

Country	Registrations required for all companies		Registrations required for specific activities		
	Government office	Location of office	Activity	Government office	Location of office
Cz	Trade licensing office Tax office Social insurance admin Health insurance co.	District HQ District HQ District HQ District HQ	Food processing Pesticide use Work in protected natural region	Veterinary admin ? ? ?	District ? ? ?
Est	Commercial Registry	Local office	Food, etc, subject to phytosanitary control	National Board for Health Protection	Tallinn
Hun	Court Social aecurity agency Chamber of agriculture Tax office Bank	County seat County seat County seat County seat Major communities	Pesticide trade Animal husbandry	Plant health station Public health service Animal health station Local government Public health service Animal health station Local government	Major towns Major towns County seat Each community Major towns Country seat Each community
Lit	Whatever	Regional municipality	Whatever	Whatever	Regional municipality
Pol	Whatever	Local commune and tax offices	Pesticide trade	Inspectorate of Plant Protection	District (Voivod) office
Rom	Notary Court Territorial trade registry Public Finance (tax region)	District HQ District HQ District HQ District HQ	Most special activities	Branch of some central government agency	District
Svk	Entrepreneurial office Registration office Tax offices, health, and employment offices	District capital District or region District			
Svn	-	-	-	-	-

Appendix Table 8: Special VAT Tax Arrangements for Farms and Small Businesses

Country	Standard VAT rate	Special VAT Arrangements for Farmers	Special VAT Arrangements for Small Businesses
EU		(a) The EC Sixth Directive describes a common flat rate scheme for farmers. With this scheme, farmers receive compensation when selling output that (approximately) equals the VAT that they have paid on inputs, and this is done without farmers having to maintain VAT records. Each EU government calculates a rate based on national figures for VAT on inputs and agricultural production over previous years. The buyer who keeps receipts can subtract flat rate payments against VAT liabilities for products sold, but the farmer can ignore receipts (unless they want them for other purposes). (b) In Ireland, principal inputs are exempt from VAT. In Portugal, inputs are zero-rated. French farmers can claim VAT on inputs even if they are not registered for VAT.	(a) The EC Sixth Directive allows EU members to exempt small businesses from VAT, which means that they do not have to register or to issue VAT receipts. Small retailers gain from this treatment. However, small companies selling inputs to other enterprises lose if they cannot give VAT receipts, since they will have to sell at a discount compared to companies that can give VAT receipts. Hence, small companies are allowed to register and issue receipts if they wish. (b) For small companies issuing receipts, some EU countries (e.g., Austria, France, Germany) have special low VAT and/or special arrangements (based, e.g., on sales during a previous year) in order to avoid any tax bias against small companies, and if anything to tax them less to compensate for relatively high accounting costs.
Other countries with VAT		Most Latin American VATs exclude farm sales. This creates a bias against agriculture if farmers must pay VAT on inputs, since they are not able to recover any VAT when selling outputs. To offset this problem, many Latin American countries–e.g., Argentina, Brazil, Columbia, Uruguay–exempt principal inputs from VAT.	(a) Many non-EU countries with VAT exempt small traders. (b) Many non-EU countries have simplified schemes to estimate VAT liabilities without receipts. For example, Argentina bases tax estimates on employment and capital, Columbia uses turnover and gross assets.
Cz	22%	(a) No special arrangements for farms. (b) No special rates for agricultural inputs or outputs.	(a) Below $83,000 registration is not required. (b) Simplified schemes to estimate VAT?
Est	18%	-	No special VAT arrangements for small businesses.
Hun	25%	(a) Farmers saving sales receipts can claim 8-12% as compensation for VAT paid on inputs. Small farmers who do not save receipts pay VAT on inputs without getting anything back. (b) VAT on inputs 12%, VAT on outputs 0%.	(a) Below $12,500 producers not allowed to register (not allowed to issue VAT receipts). Above $50,000 VAT registration is required.
Lit	18%	No special rates or arrangements for farms.	No special rates or arrangements for small businesses.
Pol	22%	(a) Special VAT arrangements for farmers? (b) VAT on inputs 0%, VAT on machinery services 7%, VAT on most agricultural outputs 0%.	Special rates and arrangements for small businesses?
Rom	22%	(a) No special arrangements for farms. (b) No special rates for agricultural inputs or outputs, except that pesticide and fertilizer dealers are allowed to delay VAT payments until after the harvest.	No special rates or arrangements for small businesses.
Svk	23%	(a) No special arrangements for farms. (b) VAT for food through the retail level 6%.	(a) Below $18,750, businesses do not have to register for VAT.
Svn	-	VAT to be introduced from 1 July 1999.	VAT to be introduced from July 1999.

Sources: (a) 1999 World Bank survey; (b) Alan Tait, *Value Added Tax: International Practice and Problems* (IMF, Washington, DC, 1988).

Farm-Level Agribusiness Trade and Services in Selected EU Countries

Jean Cordier

Farm-level agribusiness trade and services in EU is quite a large and very much diversified topic. Depending upon the historical regional context, the type of input or output, farming and related businesses present quite a large diversity of organizations. In addition, a crucial change is launched within the EU which has not been decided by politicians but by consumers. This change is related to the full integration of the food chain. Consumers are now interested to know more and more on the technical practices of the upper side of the food chain. Agricultural market deregulation and new qualitative demands of the consumers are directly affecting farming and related businesses.

This paper is organized in three parts. The first part presents farming as an input-output system, like any other firm, but with some specificities that influence the nature of the relations with suppliers and clients. The second part is an essay to represent the current most important types of organization of the agribusiness trade and services within the EU. This part is based upon the search of the explicative parameters of such organizations. Finally, the third part develops the parameters that influence the future of these relations and organizations and therefore affect the future business climate in rural areas and in small rural towns.

FARMING: A BUSINESS ACTIVITY WITH SPECIFICITIES

Farming is a process of producing outputs, such as grains, oilseeds, sugar beets, fruits and vegetables or livestock and milk using a set of inputs. Traditional farm inputs are arable land, owned or leased, fixed investments, such as buildings and long-term equipment (including machinery), and direct inputs, such as seeds, fertilizers and agro-chemicals. For livestock production, genetics, feed, and veterinarian products are specific inputs. In addition to these inputs, labor and capital are traditional firm inputs. With such technical inputs, the farm manager is supposed to organize the various functions of the firm, in particular marketing, production and finance. Outputs and inputs are exchanged through various mechanisms and organizations, as a combination of "markets" and "hierarchies" in relation with various parameters (degree of differentiation, required services, access to the consumer, and others). For instance, grains may be sold on a cash market for immediate or delayed delivery with multiple potential buyers when machinery is bought from a specialized dealer representing a specific brand name.

But farms, especially family farms, do not manage directly all the traditional functions of firms. For instance, the human resource management is very often minimized because farming is usually run by the owner, with a limited number of employees. Labor is not considered as an input bought on the market against wages in family farms, but family labor finds a return in the farm total profit. The objective function is usually not managed as the farmer is doing "his best." Farming has been considered up to now as a traditional activity with technological improvements through time. No real external audits have been performed on family farms to check for good production practices. There is no quality assurance system developed on farms, and usually farmers tend to react to external constraints such as public regulations or client constraints. In addition to the objective function, the management of environmental conditions has not been practically taken into account for the time being at the farm level. Finally, research and development are completely externalized and basically managed by large firms dealing with genetics and agro-chemicals or by national research institutes. Family farms are acquiring technology through various channels but are barely able to capture the associated economical rent, which is retained by the technology owner.

In addition, farmers are buying services to manage the input-output farming system and improve the major functions of the farm-firm. For instance, farmers are buying accounting services, technical services, and advice on labor regulations or social rights. The external expertise may come from private firms which are selling farm inputs (but not necessarily so), or from farmer organizations and groups working on a purely independent basis or supported by public funds.

The farm manager has the responsibility of selling outputs and buying inputs, organizing the internal black box of the production process with the goal of achieving a positive net margin. The following table gives a synthetic idea of the historical importance of various farm functions in the past and their expected importance in the future.

Table 1. Importance of Various Farms Functions in the Past and in the Future

Farm functions	Historical importance	Future importance
Marketing	+/-	+++
Production	+	+
Finance	+	+
Human resource	-	+/-
Quality and the environment	-	++
Research and development	+/-	+

ORGANIZATION OF AGRIBUSINESS TRADE AND SERVICES

Historical Perspective in the EU

Farming is a business activity within the food chain. The primary objective is to provide food and other raw materials to local and distant populations. Therefore, farming is a strategic activity, as it conveys the concept of national food self-sufficiency. Wars and revolutions have been quite often related with agricultural production, food deficits, and more generally unbalanced markets. In addition, for some developing countries, agriculture is one of the most important resources for the national budget as agricultural exports account for a large part of the trade

balance. For these reasons, agriculture is the source of national policies all around the world. The EU is well-known for its Common Agricultural Policy (CAP), which influenced for more than thirty years the structure and organization of the farming sector as well as its clients and suppliers.

Europe has a long history of nations, kingdoms, empires, and republics. This region presents a great diversity of social organizations, cultures, and languages. Therefore, European countries present various farm structures as well as different forms of agribusiness trade and services related to farming. The farm inputs are bought from suppliers and the outputs sold to clients with different types of contracts and relationships. To give a view of such types of organizations and their diversity, the only way is to come back to some historical features. In a crude and personal decision, history has been divided into three periods of totally different lengths. The first period starts very early in the past and lasts until after World War II. The second period is from the sixties to 1996. And the last period extends from 1996 to now.

Period 1 covers most of the European history. During the period, two extreme positions can be represented with many intermediate situations. Some European countries have been stuck in quite liberal economies involved in international trade. Their fundamental culture brings the idea that the exchanges of goods, services and ideas are the source on national wealth. Therefore, competition on markets is the most useful process even though the weakest market participants disappear at a high rate and that firms are rapidly expanding in size. The leaders of such European group would be the United Kingdom and the Netherlands.

Some countries have a much more mercantilist economical approach. For them, the wealth of nations is based more on the accumulation of gold and valuable goods. It is important to defend and support the national firms as family jewelry. Exports are then positive but imports develop suspicion of unfair competition. Protective political measures are required to « regulate » market problems. Latin countries and France in particular are leading this group.

Period 2 is the first phase of the creation of the EU through the most important program, the CAP. This period starts few years after the signature of the Treaty of Rome in 1958, when the major political instruments are implemented for various agricultural productions, and ends in the years between 1992 and 1996. The major instruments are systematic purchasing public intervention for supporting European prices and isolation from international prices to maintain high domestic prices. These high prices were incentives to produce large quantities of agricultural products. As soon as the early 1980s, it is possible to have an evidence of a structural excess European supply for the most supported products. Therefore, in 1992, the CAP reform decreased quantitative incentives to produce and introduced new incentives for qualitative aspects. But the real shock to end this period came from the consumer through the BSE (Bovine Spongiform Encephalitis) crisis.

Period 3 starts basically in 1996 when consumers are disoriented by the sum of crisis and interrogations, hormones, BSE, antibiotics, genetically modified organisms, etc.. We know about the beginning of the period where consumers are much concerned by quality and also ethics of production, where consumers are wondering on the potential and responsibility of science, and we do not know how long this new period will last. The last episode of the dioxin within feedstuffs in Belgium in June 1999 adds on the question of food safety and consumer confidence in production techniques.

As a consequence of period 1, we explain the large structure of the farm sector in the United Kingdom with the specific role of the landlords in charge of maximizing the value of the agricultural assets or the intensive farm production in the Netherlands based upon high technological grounds. Intensive livestock production based upon imported feedstuffs as well as high value added production in vegetables or flowers compensate for small farms and high land value. In the meantime, these countries developed the most transparent and liquid markets for agricultural products that exist in the EU. These traditional markets concern futures markets in the United Kingdom and sophisticated auction markets in the Netherlands. A French region, Brittany, made a copy of these last markets for vegetables and hogs, with very positive consequences for the producers and the regional economy. In Latin countries, the cultural features brought a structure of small family farms with a low technology and a great inertia to adapt to the economical and technological environment.

As a consequence of period 2, we would like to emphasize the great success of production development as the fundamental result of price incentives by the mean of technological use as well as various forms of organizations. All the sources of productivity were used : new genetics for improved seeds, larger machinery and more powered tractors, high use of fertilizers and agro-chemicals. The maximum of productivity was the economical optimum for the farmers. The question was also to buy the latest technology, and to buy it at the least cost. The question of the demand is not so important at that time, as the political measures guarantee that what above the consumers demand, the excess supply will be taken by the public authority and « exported » on the international market with adequate subsidies. Therefore, one of the characteristics of the period is the dichotomy between the sphere of production and the sphere of consumption.

The consumer has a traditional demand for good-value and convenient food products that is fulfilled by the food and retailing industries. Commodities are bought from the "farm side" at administered prices. The dynamics of the food chain comes from the confrontation of the arbitrage power of the growing retailing industry and the product power of the food industry based upon innovation and consumer marketing.

Farmers with administered and fairly fixed prices for agricultural products are looking for cost efficient techniques to make a profit. Margins are very tight for output marketing as the competition is high between private and cooperative organizations. The dynamics of the supply side comes from the input industry, which brings technical innovation to farmers, usually through larger scale technology. Therefore, the rent is captured by the input suppliers and good margins are given to distributors.

Current Agribusiness Trade Organizations

With a determined target price of the agricultural products, the farmers focused on the production process in order to minimize costs. Productivity is the ultimate objective How the farmers managed to buy their inputs vary with the types of inputs, the market structure of the suppliers and also the "fundamentals" from period 1.

Two extreme situations can be drawn with a range of intermediate which creates a real difficulty to present a synthetic view. The first situation is represented with the large farm able to have a good knowledge of the incoming technology and able to bargain the price of acquisition. In such situation, private suppliers are providing the major farm inputs. A private company works as a wholesaler for agro-chemicals, seeds, feed and else. The private supplier usually tries to present the largest number of inputs in order to maximize the return from the farmer relationship. Some inputs are specific, especially machinery which requires repairing and maintenance work and banking for specific regulations of the financial markets (prudential rules). The private business is based upon a high initial education of farmers, a symmetry of information and therefore some equilibrium of bargaining power between the farmer and its supplier. We observe through time a simultaneous growth of size between the farms and their private suppliers. In addition to the purchase of inputs, the farmers are buying technical and managerial advice from private consulting firms.

The opposite situation is the organization of several farmers in order to reduce the market asymmetry of information and bargaining power. Agricultural history is full of examples of the continuing battle of the farmer against the abuses, either real or imaginary, of the marketing middleman. The farmer has continually complained about having to sell cheap as a producer and buy high as a consumer. Cooperative organization has been proposed by farmers as one possible solution to these problems. Cooperatives are businesses voluntarily owned and controlled by its members-patrons and operated for them on a nonprofit or cost basis. Cooperative associations are established to perform specific tasks. When classified according to the tasks performed, cooperatives fall into four broad categories, marketing, purchasing, service and processing associations.

Marketing cooperatives were first organized in order to sell farm outputs as commodities. Their role was to collect products from individual farms, grade and store them at competitive costs, then sell them on the markets to traders and industrial users using agents and/or brokers. Most of the grain cooperatives in France started in such a way. The current cost effectiveness of such organization require a regular size increase, which is reaching now a million tons of grain per grain cooperative. When the agricultural product is unstable such as milk or when the product requires some initial processing such as slaughtering for livestock or packaging for eggs, fruits and vegetables, the cooperative of farmers enters usually into the first processing level. Large dairy and slaughtering-cutting-processing cooperatives exist in most European countries competing with private businesses.

Very often and simultaneously, these groups of producers try to rationalize the purchasing of inputs such as seeds, agro-chemicals or veterinarian products. Through local producers organizations or even national cooperative organizations (UNCAA in France), farmers are looking for lower input prices and related technical services. Cooperatives are again competing with private business for distributing the production inputs. As explained above, margins and return on investments are much greater on technical inputs than on outputs, but these activities are linked and the same commercial person can deal with crop purchases and input sales, therefore large private and cooperative organizations are dealing with both activities.

Finally, producers are also organized for improving their technical and financial management. The technique is to develop groups of reference. On an anonymous basis, a group of

thirty to forty farmers brings all their financial and technical data. In working together and with the help of specialists, farmers are able to analyze how the best farms are managed and how the less efficient farms should improve their techniques. These systems exist in most of the countries within the EU. But all these current organizations have been developed within the particular context of the "great" European Agricultural Policy. The food chain value creation is in two parts which are not much working together, the demand side with innovation through food products and new distribution techniques and the supply side with technical inputs innovations for a better farm productivity (grains and livestock). From the farmer point of view, the problem is not to sell but to decrease production costs with the adequate technique and inputs.

Within this scheme, a minority of farmers in all EU countries are not pleased with the increasing distance with the consumers. They feel there is a market segment for agricultural products coming from much more traditional techniques, without use of processed fertilizers, pesticides and other chemical products. These products are called "bio" as they catch the attributes of nature and tradition. In period 2, these products and their producers are marginal. The farmers develop direct links with consumers as the food industry and associated retailing industry are not willing to fulfill this small segment of consumption demand. Short marketing channels are organized through direct sales from the farms or sales through the traditional small shops.

FUTURE PROSPECTS FOR AGRIBUSINESS TRADE

A New Food-Chain Environment

Since the mid-1990s, several fundamental factors are affecting the agrifood sector. Three factors appear to be of major importance: (a) consumer demand for new qualitative aspects, such as food safety; (b) technology developments, and particularly developments in biotechnology, which bring progress and increase the economic potential, but at the same time lead to objective and subjective risks; and (c) deregulation of agricultural markets, which affects the global supply side of the food chain, in particular the farmers.

The traditional qualitative characteristics of the food consumer demand are related to organoleptic taste, adequate value with respect to different consuming situations, convenient qualities in terms of purchasing activities, transportation, storage and cooking. The food industry has been working on these characteristics for decades (periods 1 and 2), first alone and then in collaboration with the retailing industry which took quite a large part of the rent created by such work. Since the beginning of period 3, new characteristics have appeared and developed: they are related to food safety and ethics with respect to the environment and animal welfare. In Europe, the BSE crisis in March 1996 was a shock for the beef sector but indirectly for the total food sector. The consumer was eager to know the origin of the products and also the different steps of agricultural as well as food processing. The implication of such new demand characteristics is great as the traditional food-retailing industries are unable to respond alone to the consumer demand.. The very first part of the food chain is now considered as a very important part of the food safety chain, farm suppliers input distributors, farms and first processing industry. Furthermore, the demand for durable agriculture and animal welfare is directly related to farming activities. The center of gravity of responsibility of the food chain has then changed.

Technology developments are first related to biology. Genetically modified organisms are now part of our environment, even though European and North American countries have not the same point of view on benefits and costs (or risks) of such products. But this current mediatic issue is just hiding quite a lot of products related to farm production which all brings economical benefit somewhere in the food chain, usually in reducing production costs. In fact, production techniques are more widely open and choices have to be taken positively, not only by individual farmers but by the complete supply side of the food chain. The second technology of interest is related to transportation. Transportation services are now worldwide, not only for bulk but for individual parcel, with new services such as fast delivery or cold chain and finally at decreasing costs. New transportation techniques allow one region, one food industry to sell not only commodities in bulk but intermediate food products around the world, which is a chance for any region but also a challenge as its own production can be replaced by imports. Finally, the communication technology is crucial for the food chain, as it allows new possibility of trade between regions at all level, for commodities of course, but also for intermediate food products and local consumer products. Electronic trading is a way to present regional products to the world consumer. Taking advantage of such technological aspects, firms are more and more internationalized. Some are relying on trade, import and export, some are developing a real international network of subsidiaries and financial alliances. The food industry first but now the retailing industry are running for internationalization, searching for market shares in large economical regions such as Europe, North America, South America, or Asia. The concentration of the downside of the food chain is a challenge for the upper (supply) side.

Agricultural market deregulation finally affects all the regions around the world. Most of the countries around the world are small countries and local agricultural policies affecting national markets through quantities or prices are less and less sustainable. The technology developments in parallel with internationalization of food-retailing firms are globalizing markets. As a consequence, we found that new agricultural policies around the world are looking for economical efficiency at the farm level and support the creation of "public goods", in particular the environment. Finally, agricultural policies are more and more taking into account the consumer and citizen demands. To be short, the dichotomy of the supply and demand sides of the chain, as a characteristic of period 2, is dismantled in the new period. Period 3 represents the union of the food chain where the consumer demand will lead completely the work of the complete chain.

Implications for Farming and Agribusiness Trade in Europe

The challenge of a regional food chain in period 3 is to develop the value creation, not only in minimizing costs (which still is necessary) but in developing answers to the demand of the international consumer. The local consumer is the considered as the closest international consumer. The general answer to the new food chain environment is an adapted vertical chain management with improved internal rules within each level of the chain and also improved interfaces between them. Each member of the chain brings part of the consumer demand within a vertical coordination. The economic theory has developed concepts on transactions and market participant behavior which are of great interest to build adapted contracts within the chain. When quality is cheap to analyze, products are usually exchanged with minor interface between the seller and the buyer. Depending upon the unit cost, *ex-ante* information is checked and/or created either by the buyer, the seller or a third independent body. This is the traditional way for commodities including

agricultural products, performed in periods 1 and 2. These products are called *search goods.* When the risk of the buyer is increasing and the cost of quality checking is high, quality may be checked after product delivery, and contracts usually include a warranty system with penalties for lower quality. The warranty will limit the risk of the buyer without being a safety-first criterion. When transactions are done on a regular basis, buyer and seller are developing a kind of implicit quality information. These products are called *experiment goods.* Finally, the models on transaction with limited ex-ante or ex-post information, high transaction risk are developed in industrial economics with the concept of credence goods. On such basis, the concept of seller reputation becomes crucial.

It is possible to consider that the food product is now shifting from the status of *experiment good* to the new statute of *credence good.* The international consumer does not trust anymore the food firm but is looking for food chain quality insurance. He is now asking the retailing industry to select such food chains around the world. This is a completely new approach that affects not only the food firms but also their suppliers, the farm sector, and its own supplier of inputs. The two direct basic implications of such moves are the need for vertical coordination (including production rights) and the need for new income risk management techniques.

The objective of vertical coordination is to increase the food chain value in bringing all the quality attributes expected by the consumer. In other words, it is a mean to add ethic and food safety value within food products. The consequences are a better rent to be shared between the chain members, therefore a better expected price for farmers and the insurance to sell their products. That is what is sometimes called the "production rights". The techniques of vertical coordination for the upper part of the food chain, farming and related agribusiness trade and services include the fine analysis of consumer demand and derived demands from the food industry, the writing of contracts with direct suppliers and clients that describe all the product specifications and production methods, and the implementation of quality-environment-ethics insurance schemes for each chain participant. This vertical coordination requires very often an horizontal coordination between firms from the same origin in order to take advantage of volume effects, reduce unit fixed costs and share local specialists. Such specialists may come from firms in other industrial sectors. Finally, we observe the development of a complex set of vertical and horizontal relationships, which brings the idea of a network company for representing the upper side of the food chain.

The concept of new income risk management comes from market deregulation for EU farmers and other market participants. Farmers will produce more and more for definite and specified consumer market segments in terms of quantities and qualities but they will face price risk as well as yield risk, inducing a global income risk. Therefore, there is an increasing need for market-based risk-management instrument for various time horizons, short term which corresponds to crop year for instance, intermediate term, from three to five years, which corresponds to some asset depreciation length and also long term, from five to twenty years, for long term investments. These techniques are based upon the use of derivatives contracts, swaps and long term insurance contracts. The objectives of such contracts are quite similar for the different objective terms, like defining floor income (or price), tunnels with minimum and maximum prices or participation contracts with minimum prices in case bearish markets and gain sharing in case of bullish markets. Current techniques in EU consist in presenting such programs

and related costs as a "normal" variable cost of production as the use of pesticides or herbicides. For instance, for wheat production, fertilizers cost can be 7-8 % of the sale per hectare, pesticides 7-8 % and a put option for a minimum safety price about 2-3 %. Farmers will participate in vertical coordination for fixing "production rights" and simultaneously will enter into risk management contracts to bring flexibility into their marketing plans.

These new marketing conditions, upward and downward, for farmers described for period 3, the current period, are already affecting both the farmer suppliers and distributors as well as the commodity traders and first processing industry. The two main consequences for the agribusiness trade and services are, first, the need to organize themselves for new marketing techniques and, second, to help farmers to better take into account some functions, such as quality and the environment.

New marketing and production techniques include the Client Profiler and the Image Designer, whose features are presented in **Table 2**. It is possible to elaborate on each item in the list, but one very recent example may illustrate most of the concepts. It is the case of a dairy industry in Brittany in France, which deals with cheese as an ingredient for the food industry (pizzas, cold and hot sandwiches, fresh products, etc.). This region is not particularly known for "traditional" products, and butter and milk powder are now commodities with no rent for the dairy industry. Therefore, the strategic idea has been some years ago to invest in growing consumer segments and deal with specialized cheese products for various types of industrial use. Competition is high between various European firms, and the market is at least the Common Market. But in addition, this firm has developed with milk producers and their suppliers a strong quality assurance scheme with a completely traceable system for milk and processed products. All the feeding system, as well as the veterinarian products, are under this scheme, allowing some products and some constraints for their use. So far regarding pure production techniques. Farmers are under a new environmental program which is supposed to limit the pollution problem (nitrates) in the region. During the dioxin crisis in June 1999, the firm has been able to prove that the all producing system, from the feed to the cheese, was under control first to the consumer but also to industrial buyers of intermediate food products. It is possible to believe that trust into the supply side of the food chain is very important for the demand side. It is a strategic problem for agricultural regions, for the local farmers and also for the agribusiness trade and services, to be successful in such practices.

Local Consequences for Rural Areas and Small Towns

Considering the new food chain environment, it is not possible to define a pre-determined model for the future of agribusiness trade and services, but changes should occur in the near future under well defined constraints. First of all, value creation will quite different from a region to another depending upon their competitive advantage. For instance, a region of low mountain will not be able to compete in terms of production costs, even with some compensatory amounts paid by agricultural programs. The farmers and the first processing industry should try to develop the "rent of origin." Typical and/or traditional products have to be developed, designed in a new manner, and distributed first through direct channels, from the farm to the consumer, through traditional channels of specialized stores, through specialized shelves of the "modern" distribution or now through innovative channels (electronic sales). Another region with cost advantages will

build on international products with high volumes of production. However, these products will be developed within the new context as explained previously.

Table 2. New Marketing and Production Techniques

Client Profiler	Image Designer
Better knowledge of final consumer	Build a rent on origin characteristics
Knowledge of international regulations	Build an image on integrated quality assurance schemes (quality charts, quality management, new communication tools and techniques)
Knowledge of direct/indirect clients (concentration): • purchasing center (organization, methods) • logistics (adapted to each client) • business-to-business marketing (coproduction, key account management), as opposed to consumer (test) marketing • ability to work with international clients (intercultural relations, distant working)	Set a mechanism to share the rent with partners (in particular, farmers)

The model of organization and behavior of the private agribusiness private and cooperative firms in Europe will differ from a region to another depending upon the mechanism of value creation and not the mechanisms of rent distribution between the participants of the food chain supply side. But individual changes may be expected in the various activities of agribusiness trade with respect to the previous analysis that should affect the economical activity of rural areas and small towns. **Table 3** shows which type of agribusiness trade should be affected and how. The various types of change (from (1) to (8)) for various services are discussed below.

Table 3. Agribusiness Trade and Service Organizations Affected by Change

Agribusiness trade and services	Intensity of change	Types of change
Input Distribution		
Farm machinery	Low	(1)
Fertilizers, agro-chemicals, seeds	High	(2)
Banks and insurance	Medium	(3)
Services		
Chambers of agriculture	High	(4)
Accounting and management	Medium	(5)
New services	High	(6)
Output Services		
Output private traders and commercial cooperatives	High	(7)
First processing industry	High	(8)

(1) *Farm machinery dealer.* Changes will occur with the increasing size of farms, inducing less and bigger machinery. Technology also will affect such input dealer, like precision farming, with more computers, use of GPS connected with automated farm tools. Another change in western European countries will come with pooling techniques of machinery in order to reduce fixed investments and depreciation costs. Some farmers are reducing drastically their machinery and rent "farm activities" to specialized dealers.

(2) *Fertilizers, agro-chemicals, and seeds: private business and cooperatives.* Changes will occur in the optimization of the agro-chemical use rather than maximization. Much more sophisticated techniques will be used for rational use of fertilizers, pesticides, herbicides and other products. Therefore, products will be sold with more technical services in relation with client charts and contracts. Concentration will affect such organizations for decreasing operating costs and dealing with increasingly sophisticated national and international regulations. New services may be shared with specialized firms on how to capture the rent for « nature », environment, quality, ethics. Agricultural official programs will bring compensation for durable agriculture and private dealers as well as cooperatives will develop plans for the farmers to catch such types of subsidies. Then, farmers will integrate such values and manage new traditional firm functions.

(3) *Banks and insurance.* These financial institutions will have to understand all the new risks of the farming activity. They will develop new products to deal with such risks, going from short financing means of marketing contracts (futures contracts, options) to longer term financing of swaps or insurance schemes. Specialized division of banks and insurance will be devoted to such activities.

(4) *Chambers of agriculture and chambers of commerce.* These traditional organizations will have to develop new regional services and new services. Regional projects can mature within these institutions, but also quite a lot of problems of transition in agriculture can be discussed. Land market and farm structure may be regulated through ad hoc commissions in order to maintain a real land market but also take into consideration long term objectives for the agricultural region.

(5) *Accounting and management.* Up to now, such services were related to production cost control. Their future is in margin management on short and long term. Their advice will integrate new commercial contracts, new risk management tools, new techniques of optimal farming.

(6) *New services.* What can change for rural areas and small towns is the development of new services, basic services for quality management, but also firm organization, information services (market data but also specialized professional news magazines) and related techniques, tax specialists, and do on. The list of such services could be very long and in various EU countries, such services are practically in development.

(7) *Output private trade and cooperatives.* These firms have a tremendous work for providing markets to farmers. "Production rights" depend on their ability to capture final and intermediate markets. Very often, supplying inputs and selling outputs are within the same business, allowing integrated plans for bringing all the quality attributes required by the market segments. In addition, this type of agribusiness is providing most of the risk management contracts, the necessary market information (current spot and futures prices, balance sheets, trends and expectations), and sometimes the farm marketing plans. Local horizontal alliances and network with other types of local industries for developing adequate new services or managing new regulative constraints will give local development opportunities. From diversified organizations, such business move to a series of vertically coordinated businesses.

(8) *First processing industry.* This industry is involved in the same way than the private trading and cooperatives. Sometimes, the first processing industry has been developed from the private or cooperative business. This business is the interface with the food industry, but also indirectly with the retailing industry. All the requirements of the demand side have to be fulfilled, which is a problem of internal methods but also coordination with direct suppliers, traders and cooperatives, as well as farmers. This requires an improved organization between the plants and the suppliers, computerized communication systems and quality controls.

As a conclusion, it is reasonable to consider that farming will be more and more integrated into organized food chain, a chain of firms. The agribusiness trade and services that were targeting very quantitative aspects for farmers are already moving towards more qualitative topics. The main idea is to create positive value for the consumer in addition to productivity and cost minimization. This is finally a much more complex challenge than a few years ago. Although a challenge, it is also a great opportunity for the sector. Traditional competitive advantages may change with new values of different consumer segments at the international level.

Organizations from the past are obsolete in many ways. They have to be designed in a new way. But, as markets are now involved, the timing of such new organizations is important. Images and market products are the results of a long process, and worldwide competition increases every day the costs of satisfying demands of "his highness the customer."

Survey of Farmers, Agribusinesses, and Machinery Owners in Bulgaria

Anna Georgieva

Bulgaria is a typical agricultural country with very good agri-food production and export potential. Yet after a decade of reforms, developments in the sector are fraught with difficulties. To understand the real problems that should be addressed, Agra Analytica, an independent research company, carried out with the support of the World Bank a questionnaire-based survey of three groups of agents: farmers, agribusinesses, and farm-machinery owners.

The survey was carried out in March-April 1999 in three municipalities: Ivanovo (Russe region), Montana (Montana region), and Dimitrovgrad (Haskovo region), including the towns and surrounding villages. These three regions located in the north-west, extreme north-east, and the south around Haskovo are among the less prosperous in Bulgaria. In all three municipalities, the number of subsistence farmers is increasing, while there is no increase in the number of professional commercial farmers due to low profits from agriculture and lack of start-up capital.

A total of 165 respondents were interviewed, 55 in each of the three locations, including 15 farmers, 25 agribusinesses, and 15 farm machinery owners. The local mayor's office identified potential farmers to interview, and each farmer suggested some suppliers, traders and processor in the area. The farms were selected from three size categories: small (under 100 ha), medium (100-1000 ha), and large (over 1000 ha). The agribusinesses included a range of activities: input traders, output marketers and processors, transport providers, and storage services. Organizationally, the agribusinesses represented agents of extra-regional companies, as well as independents with turnover of over 500 million leva, between 70-500 million leva, and below 70 million leva (the VAT cutoff point). The farm machinery owners were chosen among owners of tractors and combine harvesters. The services considered were the ones most in demand, i.e., deep ploughing and grain harvesting.

We hope that the survey findings will help gain a better insight into the obstacles to growth and support the development of policy options to improve the business environment, thereby aiding farmers, agribusinesses, and providers of machinery services in their activities.

SUMMARY AND CONCLUSIONS

Considerable progress has been achieved in land restitution (82% of land) and privatization in agribusiness (80% of assets), which are both near completion. There are evident government

efforts to follow a consistent agricultural policy, harmonize legislation with that of the EU, work with producer associations in defining policy measures and improve the efficiency of state agencies. Remarkable progress in the financial stabilization of the country was achieved with the introduction of the currency board and at this stage the need for measures stimulating growth is strongly felt.

Yet despite these encouraging signs, the restructuring of Bulgarian agriculture, despite eight years of declared reforms, is not yet completed. Stable and strong production structures are still evolving. The predominant form of farming is the production cooperative, which follows to a large extent the non-market model of former cooperatives prior to the start of reforms. Most family farms work mainly to satisfy own consumption needs. Commercially oriented large family farms and farming companies that rent in land so far are not widespread.

In the course of our survey we found farmers and agribusinessmen ready to share their experience and glad at the opportunity to freely voice their views. The informal discussions beyond the answers in the questionnaires pinpointed the existing problems and to some extent possible suggestions for their solution.

The basic problem indicated as an impediment to growth both by agribusiness and farmers is the lack of demand. Since 1989 the purchasing power of consumers decreased by more than half. The pursued macroeconomic policy aimed at financial austerity and depressing growth in incomes, achieving the desired results of stabilization. Inflation at this stage is not the problem as according to official figures deflation is registered on a monthly basis due mostly to falling food prices. As there is not enough demand for agri-food output, producers face increasing financial constraints. Hence they lack funds for technological innovations and product development, becoming less competitive. This leads to loss of market share on the domestic market as with liberalized imports competition from imports is strong and further loss of export markets. Revival in production should start from the domestic market as capturing market share on the exigent export markets of today needs a much more prolonged parallel effort on the national level and promotion of the country as an agricultural producer. In our informal discussions with farmers the market, both domestic and export market, was identified as the key factor for growth.

This issue is closely connected with denied access to credit for new entries and existing private agribusiness. Entrepreneurs can mostly count only on own funds (personal savings and loans from relatives) as banks are not interested in crediting a sector with low profitability. This also due to the fact that after the banking crisis of 1996 banks became overcautious in their approach to crediting. Requirements such as 200% collateral only in the form of real estate in towns cannot be met. The State Agriculture Fund has not been found to function effectively as its credits are actually disbursed by commercial banks. Moves are underway to reform the Fund's activity (e.g. by acquiring a stake in a commercial bank) and to establish an Encouragement Bank for small and medium enterprises and the need is felt to accelerate such developments. Farmers and agribusinesses naturally own mostly machinery, buildings in villages and land which are not accepted as collateral.

The reason land is not valued is that there is yet no active land market. For such a market to develop not only land restitution should be swiftly completed but also land consolidation must be

effectuated in the possibly most practical way. The local administrations think problems stem not so much from fragmentation in land ownership, but from fragmentation in land use which will affect Bulgarian agriculture in the next decades. The visited municipalities are ready to take an active part in land consolidation, believing that matters of direct concern to territorial units should be solved at the local government level. This would also be in line with the EU directive for local self-government.

The tax burden was another problem area indicated by producers and traders. This especially concerns the VAT, applicable to businesses with a 75 million leva turnover (about 40 000 USD at the current exchange rate). Small producers do not reach this threshold and cannot get back VAT paid on inputs. Larger producers feel at a disadvantage to smaller units when selling VAT levied products. The high VAT level of 20% is considered as dampening consumption, although the government already reduced the VAT from 22% in 1999. Thus there are various options to consider for possible improvements including lowering of the VAT level and registration threshold, voluntary registration for small agri-food producers or even zero VAT for agricultural and food producers. Examples of such options are found to be applied successfully in a number of countries (Tait 1998). There are also some new local taxes which are simply not paid by economic agents, because they are considered totally groundless. One example is the so-called patent tax for providers of services and food producers with a turnover below 75 million leva. Sometimes the size of the tax (e.g. 700 000 leva for a provider of machinery services) equals the value of services provided. This leads to the tax application remaining only on paper and an increase of people engaged in informal activity. In fact we have found providers of machinery services hiding or denying they render such services. The interviewed said they will not pay the tax or stop providing the service. The other tax which is generally not paid is the 2% on food company profits to be used for financing the State Agriculture Fund. This tax seems on the way to being revoked following strong pressure from food producers associations. Additionally there are income taxes and social securities (about 42% of salary level), which are strongly felt by employers and workers. This also leads to hiding of incomes by individuals or non-payment of social securities by companies, thereby increasing the share of the shadow economy. The problem is that people see taxation levels as high but cannot see what good quality public services they get in return.

The state of the roads is found to be not very good and the monopolist electricity, water and communications providers are also not deemed effective. What farmers indicated as a needed but lacking service was information and consultancy. As one farmer noted, the state may not have funds for subsidies, as in other countries, but could assist in ways not involving additional funding. The many research institutes and agencies could help to answer questions of what crops to grow, where to sell, at what prices. Moves are already underway to expand the existing national system for advice in agriculture and to reform the scientific research institutes. This is also connected with the perceived need of training in modern management and marketing methods, especially as regards cooperative farms. One other area where government bodies could improve work was enforcement of border customs control to stop illegal imports and regulation of the market through the foreign trade regime, when local producers perceive themselves as threatened by unfair competition.

The general impression of producers and traders is that the range of required licenses, inspections and registrations from state bodies is increasing, for which in many cases there are no

clear motives. The reason may be an effort to impose order and control or gain information on actual business developments that state structures lack. This burden in terms of time and money is considered as endurable but also poses a barrier to new entries while not contributing to any improvements in the business environment. The interviewed admitted the necessity for some form of control but suggested procedures could be simplified and shortened. For instance, wheeled tractor owners are required to drive them to town police stations and prove the origin and ownership of each spare part. As the machinery is old and repaired frequently this clearly poses an inconvenience. Farmers suggested the police inspectors could come and examine the machinery in the farms and simplify procedures for proving the ownership. Overall fewer and simpler rules would contribute to reducing unnecessary paperwork.

Due to the above factors (high taxes, numerous registrations) the number of new entries decreased in the last five years, and the trend to falling turnover prevails while the informal sector and illegal payments are permanent features of the economic life. Producers maintain their influence is detrimental to the competitive environment. Informal economic agents cause considerable damage swindling farmers with payment for output or providing them with sub-standard seeds and chemicals. Shadow groups also block direct access of producers to town markets. The construction of modern market buildings is not sufficient to solve the latter problem that pertains to organizing the distribution network.

Farmers seldom join in procuring inputs or selling outputs. On the one hand this leads to high prices of inputs, indicated as a major difficulty in inputs procurement. On the other, processors in certain cases dictate purchase prices of raw materials while farmers are mostly paid on credit, thus crediting processors and waiting for months before any payment is received. When selling output farmers complain prices are low, while for the final consumer retail prices are generally deemed high. Thus the profit remains with the numerous trade intermediaries. As one farmer pointed out, it is currently more profitable to trade, for example, in vegetables imported from Turkey than grow the products locally. Here is the scope for promotion and support on part of state bodies, starting with information and advice for moves in this direction. Marketing cooperatives successfully operated in the country in the beginning of the century and were used as a model in other countries. Developments here are difficult as the farm structures are yet weak and not well defined but it is time for stimulating such developments on a regional and national level.

For input procurement the main problem indicated by the interviewed farmers was lack of funds (79%) so that input prices are perceived as too high. When output is concentrated mainly in large state or privatized plants (e.g., feed and fertilizer) prices are in fact high due to maintenance costs for under-utilized production capacities. However another frequently encountered problem was with the quality of inputs as sub-standard seeds or chemicals with expired durability are sold. There is both a perceived need and market for good quality inputs which are crucial to increasing the output volume and quality.

Both tax disputes, concerning mainly the VAT, and commercial disputes are settled in court with no recourse made to arbitration, nationally elected officials, etc. This is considered as satisfactory or partly effective as procedures are long and even when writs of execution are issued they cannot always be implemented as debtors go bankrupt or cannot be found. Presently the judicial system is reformed exactly with the view to making procedures simpler and shorter with an

enhanced role for police in investigation. The procedure of plea bargaining (taken from the US practice) is about to be introduced. Mostly dissatisfaction with court procedures was voiced against the effectiveness of bailiffs. Presently the option is considered to allow this function being performed by private companies. The possible application of diverse forms of mediation is another field where new solutions are considered in legislation.

Problems connected with machinery use lead back to land fragmentation. According to the interviewed the low degree of machinery use and low effectiveness, determined by the size of holdings, makes charges high for farmers but still not sufficient to cover maintenance costs for machinery owners. According to machinery owners, services on small farms are provided mainly as a favor to neighbors. Less than one third of the tractors in our survey were produced in the last ten years while there is a shortage of combines, especially felt during harvest campaigns. As machinery breaks down often it cannot be used when most needed and also causes crop losses in harvesting. Evidently there is an urgent need to renew the machinery park. The government allowed for duty free imports of some machinery types to stimulate the process. Farmers said they would prefer to buy new machinery themselves, but again the source for financing such purchases, as for buying inputs or making investments, is lacking. Machinery rings are not widespread because farmers do not trust each other. When lending machinery to neighbors the owners prefer to perform the service themselves. This is also an impediment to the use of leasing, of which we have not found evidence in the surveyed regions although existing legislation is not so much of an impediment. There are still state machinery hire companies (about 100), awaiting privatization. Learning from experience, when large state companies were privatized and did not become profitable, it may be possible to auction off the so-called machinery and tractor stations through asset shedding.

For many of the indicated problems initiatives are underway on a national level looking for the best way to ease the conditions for the development of agribusiness. We have found local administrations and the surveyed farmers, agribusinessmen and machinery owners ready to give their contribution on identifying the major impediments. We can view Bulgarian agriculture as a market in need of consultancy to identify sales outlet, modern management training, high quality inputs, organization of modern distribution network. In spite of encountered difficulties new farm structures continue to evolve and new private companies add to the economic growth in agriculture. We hope that by presenting their views in this report we can provide a basis for discussions to facilitate the development of Bulgarian agriculture towards prosperity.

BACKGROUND

Developments in the Agribusiness Sector

All governments before 1997 tried policy moves in different directions while declaring agriculture to be a priority branch, and today the only undisputed thing about Bulgarian agriculture is that the natural conditions for its development are quite favorable. Agricultural land is 55% of the total area, the share of the sector in GDP is 13%, the employed 23% of the population. Bulgaria remains among world leaders in wine production, until recently it was second only to the US in tobacco and cigarette output, and the second largest importer of processed tomatoes to Germany. Bulgarian canned produce could be found on the shelves of shops in the remotest Siberian towns,

where it is now unfortunately displaced by imports from other countries. Production capacities in the processing industry exceed domestic demand three times, and in the past these capacities were always fully utilized.

While the traditional markets for agri-food products changed or were lost and the utilization of production capacity fell to 30-40%, what other changes occurred in the sector? The former state farms were liquidated. This was in some cases criticized as being done in a disorganized way and often not entirely above-board. The laudable efforts to mend past injustice ran into unforeseen difficulties as officials in the earlier years of reforms were in reality reluctant to swiftly complete restitution and privatization. The restitution "in old real boundaries" proved lengthy and complex, creating difficulties for those wishing to regain possession of their ancestors' land. Respondents in our survey reported restitution of land plots in the middle of a railway or a wholesale market, as during 50 years many things have changed. Some experts think that perhaps this process could have been carried out in a more practical way; however, as it had been initiated and promises had been made, the only way to proceed was to complete the restitution.

By March 1999 over 82% of the land had been returned to former owners according to official data, but just about 24% of owners have legal deeds of ownership. The land reform can be regarded as fully completed when the owner takes possession of the land and a legal title is issued, giving the right to sell or rent the land. According to this criterion, the land reform in Bulgaria has been completed only by 24%. The situation shows considerable regional variability. Thus, among the three regions surveyed, Ivanovo completed the process of land reform in 1996 and the administration is now working on mechanisms for land consolidation. A special department deals with auctioning municipal land on long-term leases. At the other extreme, Montana is in the initial stages of land reform, and almost half the land distribution plans prepared before 1996 are being revised. Municipality experts expect completion of the land reform by 2001.Dimitrovgrad occupies an intermediate position, with land reform completed in 35% of the village areas. The target is to complete 80% of land reform by the end of 1999.

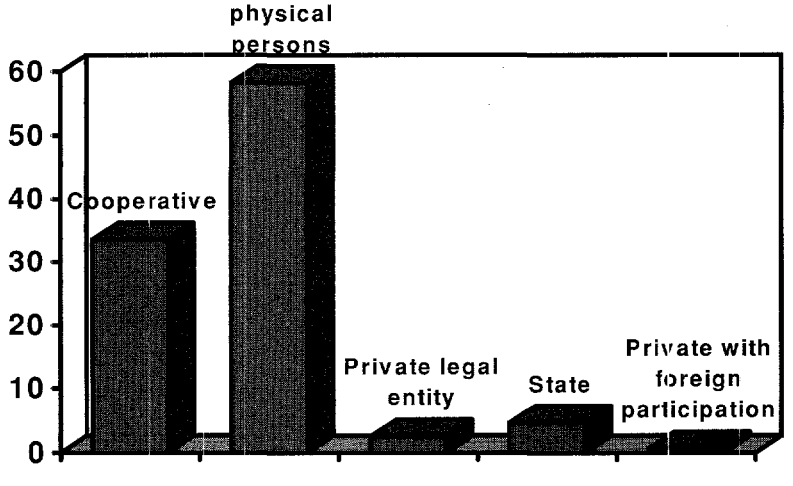

Figure 1. Structure of land ownership (in %)

The delays with issue of legal title documents is not the only factor that hampers the development of an active land market. As demand for agri-food products is shrinking and profits from agricultural activities are low according to farmers, there is not much interest in buying or renting land, of which an estimated 30% lies fallow. The development of land rental markets is furthered hampered by the extreme fragmentation of restituted plots: according to official estimates, at the end of the restitution process Bulgaria will have 25 million land owners with plots averaging 0.13 ha. The interviewed mayors express the view that the biggest problem in Bulgarian agriculture in the coming decades will be fragmentation of land ownership leading to fragmentation of land use.

The prolonged process of defining land property rights produced a model of farming characteristic of the pre-Second World War period, with the respective volume and quality of output. Bulgaria turned backward in its agricultural development and the gap with the EU widened. This naturally also influenced agricultural input suppliers. They would benefit from financially stable clients, people who know whose land they cultivate and who can plan ahead and invest in seeds, fertilizers, machinery.

In the processing sector developments were similar as privatization progressed slowly and painfully during the years. Currently over 80% of the state assets in the food industry are privatized and in some sub-branches there are no state enterprises left. Not always though privatization proved the total solution. Some large state enterprises designed to produce products no longer in demand and for markets that no longer exist collapsed and are now out of operation, no matter who owns them. We have come during our survey across a privatized cannery with its new owner at a loss how to make it profitable.

Subsidies to producers and exporters are practically non-existent in Bulgaria, according to some experts, if compared to other countries (given also their symbolic level and ineffective scheme of distribution). In fact, it is difficult to find an instance in the whole history of the country when agriculture was in any way supported. During economic crises agriculture was relied on to pull out and to support the other branches of the economy (e.g. finance industrialization). The different governments in the past decade, and before that, tried to protect consumers by maintaining low purchase prices of agricultural products and seldom took measures to protect or stimulate producers. Bulgarian policy interventions have been heavily taking resources out of agriculture and not subsidizing it (Valdes et al. 1998). The philosophy of granting state subsidies does not seem in line with official policy, nor could there be any free funds for the purpose, although subsidies for agricultural producers are granted in countries with which Bulgaria competes in both export and domestic markets. Access to funding for the sector is deemed difficult and taxation levels are quite strongly felt by companies and individuals. Perhaps this is one of the reasons for the existence of the shadow economy with an estimated share in GDP of 30%-40%.

Against this background new farms evolved with the supporting input structures, many private processing companies were established showing flexibility and entrepreneurship in offering diverse products and exploring new markets. Developments now depend not so much on the state, but on the initiative of the private sector which accounts for over 90% of agricultural production and 80% of the food and beverages output. The agribusiness sector is well on the road to forming

associations and lobbying for their interests, while this process is still at an earlier stage for the emerging farm structures.

The Role of Local Administration for Agricultural Development

In each of the municipalities work is in course to aid the development of agriculture, depending on its estimated significance for the area and the attitude of the administration.

In **Ivanovo** the municipal council passed a program for the sustainable development of the municipality in May 1999, giving agriculture the central role and focusing on attracting investments. The administration is gearing up to apply for participation in the EU's SAPARD program with projects to be ready by the end of 1999. Municipal land is set aside to be used at preferential terms for the implementation of major investment projects, for expanding family farms, and providing a buffer for the unemployed and the landless. The administration promotes the organization of a municipal union of farmers, joining efforts in procuring inputs and selling outputs. A consortium of farmers, businessmen and the municipality is engaged in a project for building a public grain storage facility. A long-term program for viticulture is prepared with the participation of the two largest wineries in the region (in Russe and Svisthov), which will provide the financing along with the State Fund for Agriculture. It focuses on restoring and expanding the area under grapes, including planting of new vine yards on family farms of about 5 ha, organizing machinery services, crediting farmers, etc.

In **Montana** according to the administration interest in agribusiness during the past few years is declining due to low profitability. The main efforts of local officials are directed to speeding land reform. Some investments projects are earmarked but financing is not provided. The chief problems to new entries in the sector are lack of working capital, investment funds and low profits. At the same time the absence of opportunities for alternative employment in the area leads more people to cultivating small land plots for own consumption needs.

According to the mayor of **Dimitrovgrad** the local administration will not be directly engaged in aiding agricultural development, except in speeding land reform. The main efforts are concentrated on building a market infrastructure. Currently funds are sought for financing the construction of a wholesale market for fruits and vegetables. The expectations for the development of agriculture in the district for the next few years are pessimistic, based on the forecast low purchase prices for the main crops grown in the region, cereals and vegetables.

FARM SURVEY

The 47 farms included in the survey cultivate 73% of agricultural land in the municipality of Ivanovo, 67% in the municipality of Montana, and 71% in Dimitrovgrad. The survey covered farms with cultivated land ranging between 1 ha and 3,000 ha. About 40% of those interviewed cultivate less than 100 ha and many cultivate less than 10 ha.

National data show that there are about 1.6 million private farms with less than 1.0 ha each, and they account in aggregate for less than 15% of total farm land in Bulgaria. The output from these small farms goes mainly for direct consumption of the extended family. Subsistence farmers

fall in three categories: people with a permanent off-farm job who cultivate their small plot on weekends as a hobby or to supplement the family income; unemployed who farm a small plot to produce the necessary food for the family, without intending to become permanent farmers; retired people with free time on their hands, who grow potatoes and vegetables on a small piece of land to augment their pensions. We generally excluded such small subsistence farms from our survey, as they do not produce for the market and are irrelevant to questions connected with competition in input supplies or output sales. The distribution of surveyed farms by size is shown in **Table 1**.

Table 1. Interviewed Farms by Size of Cultivated Land

Cultivated land	Number of farms	%
up to 10 ha	8	17
10-100 ha	9	19
Over 100 ha	30	64
Total	47	100

Description of Farm Types

Farms are registered as cooperatives (according to the Law on Cooperatives), companies (according to the Trade Act), private farmers with their families, and associations of farmers (according to the Law on Persons and Families).

Cooperatives

The predominant organizational form among farms is the production cooperative. The tradition of cooperative farming in Bulgaria dates back to the beginning of the century, and these structures have a very important role in providing the minimum necessary level of food supplies for the domestic market. In the surveyed municipalities, cooperatives account for 82% of cultivated land in Ivanovo, 89% in Montana and 76% in Dimitrovgrad. All land in cooperatives is owned by the members. Where land restitution is not fully completed (Montana, Dimitrovgrad), the cooperatives cultivate land which has been temporarily given to their members until all circumstances regarding land ownership are clarified (e.g., the size has been established, but not the location of the plot). The larger part of the property of former state farms, such as buildings, machinery, etc., is also concentrated in cooperatives: it was acquired upon liquidation of the state farms against vouchers by cooperative members.

The number of members varies between 77 and 2,500 per cooperative, but only 9% of them actually work in cooperatives and receive a salary. The larger part of cooperative members do not even live in the municipality. These "absentee" members are not interested in the activity and management of the farm as the rent or dividends they receive constitutes an insignificant share in their total incomes. In such cases, for both parties the conclusion of a rent agreement would be more reasonable, instead of membership, and in the longer term it would make more sense for "absentee" owners to sell their land to the cooperative.

The average number of employed in a cooperative is 18 people full time and 10 seasonal workers. The smallest cooperative had 6 employees and the largest 70. Of those employed full time, about 12% are various specialists, over 76% work in crop production, 4% in livestock, and

20% in administration. The average size of a cooperative farm is 945 ha, minimum 88 ha and maximum 2,800 ha. On average, each cooperative farm cultivates 60 ha per full-time employee. Cooperatives are characterized by different degrees of efficiency depending on the management and, according to the interviewed, a shortage of well-trained modern cooperative managers is felt.

Family Farms/Private Farms

The average size of a private farm is 247 ha, but 22% of the land in private farms is rented out to local cooperatives against payment in kind or for specific tasks (this is higher than the national average of about 5-6 ha for family farms producing for the market). Plots cultivated for own consumption on average are about 1 ha per farm of the whole farm size. The land is owned by the farmers in 97% of the cases, or in 17 of the 18 interviewed farms. One of the farmers in Ivanovo could be described as a large farmer (not included in the above number), cultivating with his family over 1,000 ha of rented land.

The average family farm has four members: one person up to 18 years old, two persons of working age, and one in retirement. In 37% of private farms surveyed there was one person with university education and in 72% one person with secondary education. Over 33% of family members were employed only on the farm, while 23% define themselves as unemployed (the work on the farm having lost their off-farm job). For 47% the work on the farm is additional and their main occupation is elsewhere. Among retirees, 95% work on the farm all year round. Only 2% of the farms employ additional workers all year round (on average 1 worker per farm) and 33% employ seasonal workers (on average 5 per farm). One full-time family member cultivates on average 70 ha, which is more than in cooperatives.

Farm machinery owned by private farmers includes tractors up to 50 hp (9% of respondents), tractors over 50 hp (23%), trucks (16%), and cars (49%). When larger tractors are owned, these could not be used effectively on the farm and are usually rented out. Farm structures include buildings for up to 12 animals in 23% of farms and storage facilities with capacity up to 10 ton in 12% of farms. Vineyards of up to 0.2 ha are reported by 28% of farms.

Farming Companies

Farming companies include hothouses (in Dimitrovgrad) that cultivate small plots (5-18 ha) but use valuable capital assets, or the large tenant farmers (in Montana and Ivanovo) who rent over 1,000 ha for cereals and use modern farm equipment. The technological level of production in farming companies is higher than the national average and all their output is sold on the market.

Production and Sales

Wheat is the main product for 38% of respondents, sunflower for 11%, tomatoes for 6%, and milk for 13%. The remaining 36% of respondents produce a wide range of other products (wine grapes, brewing barley, cotton, striped sunflower seed, peppers, tobacco, pork, eggs, chicken, fish). Wheat production was unprofitable in 1998, as the low purchase price associated with overproduction on the national level did not cover the production costs.

Farms of all organizational forms on average sell over 82% of the output in the market (84% for family farms). The percentage is lowest for cooperatives due to the practice of payments in kind and highest for the farming companies. This percentage is higher than the national average, as we have focused in our survey on relatively viable farms. According to official statistics, on the national level the rural population produces 60% of its food consumption and the urban population 38%. There are no official data as to what share of produced foods bypasses market channels and is sold directly from producers. Survey data indicate that as much as 60% of the agricultural output in the country goes for own consumption needs, payment in kind by cooperatives, and direct retail sales from producers.

On the regional level, there are on average 8 potential buyers per farm (minimum 1, maximum 50). According to 44% of the interviewed farmers, the number of buyers has increased in the last three years. In 1998, 62% of respondents sold their output to state processors (this is due to the high share of wheat producers in the sample and the low rate of privatization among the large mills and warehouses); 17% sold to private processors; and 34% sold through intermediaries.

Due to increasing transport costs and the decreasing number of large farms, delivery of farm produce to town markets is becoming less popular. According to some respondents, vegetable sales in retail markets in towns are almost impossible due to high charges for market stalls and control by criminal groups. At the same time, the role of direct retail sales from the farm is increasing. In most cases, these sales are characterized by lack of sanitary control, which leads to potential dangers for consumers (e.g., milk). Prices of output sold directly to consumers from the farm are about 40% lower than the average retail prices and about 10% higher than the average procurement price.

The main sale method is on credit provided by the farm (64% of the cases). Advance payments are reported only by 21% of the farms, and these advances cover 15%-20% of the output. In 47% of the cases payment is in cash upon the receipt of goods, which can be explained by the growing distrust of farmers in buyers. Low purchase prices are reported as the major difficulty by 89% of respondents. For 62% of farms difficulties stem from unreliable buyers and unfair trade practices. Thus, among wheat producers, every second farm is still awaiting payment for wheat sold. Lack of own storage facilities is reported as a major impediment by 21% of respondents.

Input Supplies

The main purchased inputs used by the farms are chemicals (32% of respondents), fertilizer (32%), seeds (11%), and other inputs, such as fuel and polyethylene film (15%). On the regional level, there are on average 8 potential input suppliers per farm (minimum 1, maximum 30). According to 42% of respondents, the number of suppliers has increased in the last three years.

The inputs are brought to the farm with own transport (66% of the cases) from an average distance of 36 km. Inputs are thus generally purchased within the municipality, mainly from local distributors and not directly from manufacturers. Farmers do not cooperate in buying inputs, and access to large manufacturers in remote locations is difficult. The consumer cooperative network

(Central Cooperative Union) no longer with input supply according to the respondents (although this was one of the reasons for its establishment 50 years ago) and is engaged mainly in the administrative function of managing cooperative property.

Over 79% of respondents identified the lack of working capital for purchase of inputs as the main difficulty. Thirty farmers reported that they had turned to a commercial bank for short-term credit, and all were rejected. Banks do not accept as collateral the future crop, farm machinery, or farm buildings. Agricultural land is not accepted as collateral either, even if title documents are available. This is due to lack of demand for land and absence of land market. The credit lines of the State Agriculture Fund in 1997-1998 were available only for some crops (wheat, sunflower, maize). The financial resources were small, loan applications too bureaucratic and, according to some farmers, approval involved illegal payments to state officials.

Another problem with input supply is quality. Many cases were reported when seeds, fertilizers, and chemicals did not meet standards, thus leading to crop failures. Unscrupulous local traders sell old commodities from the warehouses of former state firms for agrochemical services, which are no longer effective. No such complaints were voiced against reputable international suppliers. Some respondents indicated that the choice of input suppliers by cooperative managers is often connected with illegal payments.

High prices of inputs represent a major difficulty for 38% of respondents. Yet farmers do not initiate any actions to negotiate lower prices. Regional cooperation could reduce input prices for direct large shipments from producers by as much as 25%, with transport costs not exceeding 10%.

Machinery Services

Rental of machinery services becomes an increasingly common practice. Thus, 53% of respondents rent combines during the harvest, 34% rent tractors for deep ploughing, and 13% rent trucks for transport. A typical farm hires 1-5 combines, 1-4 tractors, and 1-5 trucks. Private companies and private farmers are the source for over 70% of hired tractors and combines and 100% of hired trucks. During the last three years farmers hired machinery form 2-3 different suppliers. Potentially, there are 6-7 suppliers of rental tractors and combines in each locality, and 24 suppliers of rental trucks. All this points to sufficient competition in the sector.

For 70% of respondents high price is the major difficulty in renting machinery services. For 68% of the farmers the quality of the service also poses a problem, as the available machinery is old and inadequate.

Many farmers indicated they would prefer to buy machinery instead of renting. Some actually tried to obtain investment credits from the State Agriculture Fund. This involved a lengthy bureaucratic procedure, which for a number of applicants ended with an approval from the Fund. However, in the end, it was impossible to find a bank that would disburse the loan approved by the Fund. The cost of hiring a combine may reach 100,000 leva per hectare, which leads to an average annual cost of 40 million leva per farm according to farmers from Ivanovo. This is one-fifth of the

cost of a new modern combine. Hence leasing schemes could be successfully applied to renew the machinery park.

The findings of the survey concerning the indicators of the business environment faced by farms are summarized in **Table 2.** The data are presented for farms in three size categories.

Table 2. Indicators Characterizing the Business Environment by Size of Cultivated Land

Indicators	up to 10 ha	10-100 ha	over 100 ha
Average size of cultivated land in ha (March 1999)	4.2	38.4	987.0
Of this own land in ha	3.2	19.6	888.9
% of rented land	24%	50%	10%
Percent of farmers renting land	37%	33%	17%
% of output of main product sold	84%	82%	81%
% of VAT registered	0%	33%	93%
Method of sale			
advance payment by buyer	0%	0%	23%
in cash	63%	40%	30%
on credit	38%	60%	48%
Sales channel			
from farm yard	63%	45%	73%
brought to market or processor	38%	55%	27%
Number of potential wholesale buyers	11	9	8
Potential buyers compared to 3 years ago:			
many more	38%	22%	19%
slightly more	0%	22%	27%
almost the same	37%	33%	27%
fewer	25%	33%	27%
Number of potential input suppliers	6	7	9
Potential input suppliers compared to 3 years ago:			
Many more	38%	11%	23%
Slightly more	11%	22%	20%
Almost the same	38%	22%	53%
Fewer	13%	45%	4%
Average distance from supplier	23 km	21 km	42 km

AGRIBUSINESS SURVEY

The Interviewed Companies

The survey covered 75 agribusinesses, including 21 input suppliers, 40 output marketers and processors, 7 providers of truck transport services, and 7 storage service companies. As privatization in the sector is almost completed, only three of the interviewed companies were fully state owned. Of the total number, 21 are privatized state companies that re-registered in new organizational forms after 1989, 4 are re-registered "consumer cooperatives" (with considerable degree of restitution involved), and 46 are new private companies established since 1991. Consumer cooperatives typically purchase agricultural commodities (eggs, wool, meat) from small farmers and selling them through the retail network and for processing.

All companies except one (a truck owner) are officially registered according to the Commercial Law: 26 sole traders, 24 limited liability companies, 12 joint stock companies, 10 cooperatives, and 2 partnerships. The company registration as a rule takes place in the company departments of the regional courts. Managers have no complaints about the time it takes to register a company or about the level of registration.

The average company employs 32 workers, of which 22 are full-time. Seasonal workers are used only by some companies, mainly for picking fruit and vegetables, in the canning industry, and to some extent in grain trade and transport.

Tendencies in Turnover Growth

According to their turnover, 40% of the interviewed companies are in the medium-range group (70 million leva to 500 million leva turnover in 1998), 32% are with a turnover above 500 million leva, and 28% are in the small-turnover group (below 50 million leva in 1998). Over half the respondents (57%) report a tendency to decrease in turnover in the last five years, about one-third of the respondents (31%) maintain the turnover has increased, while 12% report no significant changes in turnover. The companies reporting a fall in turnover are relatively large privatized state companies, the three fully state-owned firms, and the consumer cooperatives. In most cases when large state companies change ownership, no significant improvement of situation is observed. After all, they were designed to cater for markets which no longer exist in their former shape and produce output which no longer meets consumer requirements. The sectors in which these companies operate are production and sale of feed, transport, processing, and marketing of grain, meat, milk, fruit, vegetables, and grapes. An increase in turnover was reported mainly by companies that supply fertilizers, plant protection chemicals, veterinary drugs, and seeds, with few grain, fruit, and vegetable marketers.

The factors leading to turnover growth were expansion of activity (both the core business and development of new areas, e.g., expansion from chemicals to seeds) for 42%, increasing consumer demand for 21%, increasing competitiveness for 29%, and various other factors (stable exchange rate, favorable price changes, etc.) for 8%. Increased competitiveness was mostly attributed by respondents to entrepreneurial efforts and improvement of customer service, including offering consultations, transport, better quality of product, or better terms of payment. The main reasons for the decrease in turnover included weak consumer demand (60% of respondents), strong or unfair competition (26%), and other reasons, such as lack of working capital, indebtedness to other companies, and price fluctuations (13%).

Competition and the Informal Sector

The interviewed companies on average have 81 suppliers and 118 customers. The number of suppliers was the lowest for a meat company with a closed production cycle (it owns a pig farm that supplies raw materials for sausage production) and a premix importer (importing only from one Belgian company). The maximum number of suppliers was observed for a trader in agricultural products buying from many small producers. The maximum number of end customers was reported by a consumer cooperative selling primary and processed products in a retail market.

The observed structure of agribusiness today is not monopolistic. On average there are 8 companies with the same activity in each of the surveyed areas. Only 10 respondents declared that they were the single representatives of their activity in the area. These were companies trading in premixes, veterinary drugs, and agricultural machinery, as well as producers of wine, honey, and sunflower oil. The lack of competitors is not a characteristic of their activity; it is rather a result of the inherited structure of agribusiness in the region. In the past, each moderate-sized town had one winery, one feed manufacturer, or one meat processor, depending on the region. These agribusinesses still exist, but they cannot fully utilize their production capacities which was originally designed to satisfy a much higher level of demand, including from lost markets.

Almost half the respondents (48%) are aware of the existence of non-registered companies with the same activity (24% of respondents have not heard of such companies and 28% refused to answer the question). This obviously points to the existence of an informal sector the exact size and importance of which cannot be clearly determined. Of those acknowledging the existence of non-registered companies, 51% indicate tax evasion as a likely motive, 29% think this helps to elbow out competitors (also by paying less taxes), and 20% believe this is due to the small size and sporadic character of the unregistered businesses. The shadow economy is usually associated with low quality and harmful products offered at cheap prices. Examples were quoted of a seed producer selling "fake" seeds instead of the seeds declared on the label, of plant protection chemicals sold under a fake trade name after the expiry date, or of stolen goods sold with false labels. In the grain market, the practice of "informal" grain traders is to make one advance payment and disappear with the grain, never to be seen again. It was generally acknowledged that the informal sector inflicts considerable harm on producers and disrupts the market for agricultural products, especially as regards supply of seeds, plant protection preparations, purchase of fruits, vegetables and grain.

Licensing, Inspection and Other Requirements

According to respondents, licenses are required for trade in grain, meat and dairy products, fertilizers, plant protection chemical (including for storage), production and trade in alcoholic drinks and tobacco, seeds and planting material, sunflower oil, transport services abroad, import of premixes. There are permits for trade in veterinary drugs, medicinal herbs, feed, honey, and for canning and wine production. The general impression is that the range of licensed activities is expanding, in some cases without clear justification. Inspections are performed by numerous state organs, such as Hygienic and Epidemiological Inspection, State Veterinary and Sanitary Control, Fire and Road Departments and the agency for control of potentially dangerous substances in the Ministry of Interior, region inspection agencies of the Ministry of Environment, the tax administration, the commission for prices in the Ministry of Commerce, and various different departments in the Ministry of Agriculture.

Among the interviewed companies, 77% are subject to mandatory licensing, 97% to inspection from state bodies, 13% must have an independent annual audit, and 3% require approval of the technical specifications for new products. For 45% of respondents the time required to fulfil these obligations is bearable, for 32% the time required is not significant, and for 23% the time required is too long. From the point of view of how much it costs to meet the requirements, most

respondents (80%) have no complaints and 20% think the cost is too high. The general opinion is that requirements are on the whole necessary, but the procedures for their fulfillment could be organized in a better way. Respondents think the requirements should apply equally to all economic agents. The larger companies believe that government control is focused mainly on them, while smaller firms are exempted or controlled with less rigor.

Taxation

The tax burden is generally regarded as excessive. The companies pay taxes according to their registration status: 71% pay VAT, 53% pay the profit tax to the state and the municipality, 25% pay the income tax, 13% pay the patent tax, 73% pay local taxes (the so-called building tax and garbage tax), and 12% pay various other taxes. The patent tax introduced in January 1999 applies to companies with annual turnover below the VAT registration threshold (75 million leva), including food producers, restaurants, retail trade, repairs, and all types of services. All taxes are paid to the municipal tax department services, but the large taxpayers have to pay their taxes in regional centers. This requirement creates inconvenience for large companies because of the distance.

Tax disputes are reported by 37% of the interviewed managers, either in their company or in other companies. The average number of tax disputes is two per company, and the highest number of tax disputes reported in the survey is 15. In 93% of the cases the disputes were brought before the court, and only two companies have solved it by negotiation. Disputes were settled very effectively in 19% of the cases, satisfactorily in 42%, and with a low degree of effectiveness for 38% of the cases.

Commercial Disputes

Over 40% of the interviewed companies reported recent contract disputes with clients or suppliers. The disputes were settled in court in 76% of the cases, by mutual agreement between the parties in 15% of the cases, and by mediation of elected officials (usually the mayor) in 9% of the cases. Managers described the dispute resolution procedure as effective only in 16% of the cases; 50% of respondents described it as partially effective and 34% ineffective. One company with a large number or business partners brought over 100 contract disputes to court, but the court rulings could not be enforced. Other companies also expressed dissatisfaction with the legal execution mechanism.

Illegal Payments

One-third of the respondents reported making illegal payments at some time in the past. In 44% of the cases illegal payments were requested by government officials (including 14% from the Ministry of Agriculture officials), 37% from cooperatives and trade companies, and 19% by other officials (buyers from state organizations, bank officials, etc). In most cases the payment levels are set by the "established practice" as a percentage of the deal. Managers of cooperatives request a

percentage when selling grain and buyers from private companies request similar payments when choosing a fertilizer supplier. Respondents indicate that illegal payments are a permanent feature of the relations between business and administration.

Major Difficulties in Starting a Business

The respondents were asked to rank the obstacles to starting a business on a scale from 0 to 5 (0=no problems, 5=impossible) by six factors. Lack of demand was identified as the biggest impediment to new entry, with an average score of 4.12 and 25% share among the other factors. It was followed in the order of decreasing severity by the tax burden and access to credit (average score 3.84 and 3.77 respectively, both with 23% share). The remaining three factors had a weaker influence: infrastructure with an average score of 1.87 (11% share), availability of suppliers and transport with an average score of 1.27 (8% share), and registration and license requirement with an average score of 1.69 (10% share).

The high weight attached to lack of demand reflects the general economic situation in the country and the loss of traditional export markets in Russia. Output traders and processors are aware that lack of demand for their products is also attributable to lack of new investments that would allow higher quality and more competitive products. They also complain of unfair competition from imports of subsidized and often low quality products, made possible by VAT evasion and dumping. According to some processors, product quality also suffers because small farms are unable to observe the required production technology and generally deliver low-quality raw materials.

Taxation levels are regarded as excessive, especially by the larger companies subject to stricter control. The VAT level of 20% is considered very high and lowers consumer demand. Mandatory VAT registration only for companies with a turnover exceeding 75 million leva is regarded as placing economic agents under unequal conditions and distorting the competitive environment. The opinion was often voiced that corporate taxes hamper investment, as sums allocated for investment are not deducted before taxation. The income tax for sole traders and especially for those working on labor contracts was also reported to be unduly high. The new 2% tax introduced in 1998 to be paid by food processors to the State Agriculture Fund is criticized for its lack of clarity. Only one of the interviewed companies had paid the tax, which reflects the prevailing attitude to its application.

For most newly established firms access to credit is very difficult, if not impossible. Banks tend to grant loans only to recognized companies with a track record. Procedures for bank credit application are considered complex, expensive, and lengthy. On a more fundamental level, local banks have only short-term funds and cannot engage in investment lending. Moreover, banks are not willing to lend to agriculture, which is regarded as a high-risk sector. The investment support of the State Agriculture Fund is judged to be ineffective. Most managers maintain that the Fund's lending priorities are not clearly defined, leading to subjective decisions on the use of financial resource. Fund procedures for loan application are bureaucratic and require lengthy documentation. As a result of all these factors cumulatively, small private companies can only count on own funds for starting a business.

The most frequently voiced complaints about infrastructure concerned the state of the roads, which has worsened considerably during the past few years. Dissatisfaction was also expressed with the service provided by the state electricity and water monopolies, the lack of wholesale markets and commodity exchanges, and unavailability of market forecasts for agricultural commodities.

Grain Marketing

The respondents characterized the grain sector policy after 1990 as inconsistent and short-sighted. The chaotic changes of export bans with export taxes or quotas induced sharp price fluctuations and insecurity among producers. The high purchase prices fixed by the government in 1997, combined with exports taxes, results in losses for producers (they could not sell the grain to traders and processors as prices of stored grain subsequently fell), banks (farmers could not repay their loans), and the population (bread prices rose). The State Reserve was described as unpredictable and prone to "anti-market behavior", since it sold grain under its market price thereby hurting other market participants. Respondents suggested that the replenishment of the State Reserve should be done by open public tenders.

FARM-MACHINERY OWNERS SURVEY

Company Type

The majority of the interviewed tractor and combine owners (56%) are private companies. These are mainly producer cooperatives that cultivate own land and at the same time provide services to private farmers and household plots in the village. This group also includes small private companies (of the sole trader type) with a limited number of agriculture machinery and privatized former state organizations. The second largest group (40%) are private farmers who use the machinery for their own needs and also provide services to other farmers. The share of the state companies is small (4%) and includes some organizations within the structure of the agriculture ministry, such as seed testing stations. There is generally no specialization in provision of machinery services because of their low profitability. The respondents farm own or rented land in addition to providing machinery services.

Machinery Characteristics

The largest share of the tractors owned by the interviewed (77%) are Russian made. Bulgarian tractors are 4% and Czech tractors 7% of the total number of tractors. The data indicate that there is a uniform distribution between the lighter and heavier types of tractors. Combines are also mostly Russian models, and only 27% made in the West. Combines with header width of 5 meters and more are 73% of the total number. Almost one-third of the combines have a header width of 6 meters and over. The smaller combines represent 27% of the total number.

The age structure of the machinery park is very unfavorable. Less than one third of the tractors are produced in the last ten years. Most combines (73%) are over 10 years old, tend to

break down very often and cannot be adequately used during the harvest campaign. The expenses for machinery maintenance are quite high, and this increases the input costs for agricultural producers. Much of the machinery will probably become unusable in the near future, and availability of the necessary equipment to farmers will sharply decrease.

Mode of Acquisition

Machinery older than 10 years is often acquired against vouchers during the liquidation of former state farms (62% of combines, 50% of tractors). The remaining old machinery is purchased second-hand from private individuals or companies, including cooperatives and former state service stations.

Most of the machinery was purchased with own savings or loans from friends and relatives. So-called "leasing credit" was used to purchase only 22% of the combines and less than 5% of the tractors (both new and old). "Leasing credit" is arranged by farm-machinery suppliers, who agree with banks to give farmers loans for machinery purchases, with tractors and combines used as collateral. The interest rate is between 9% and 13%, and the term of the loan is one year for tractors or between 18 months and 2 years for combines. The interest on the loan is paid monthly, while the principal is repaid as a lump sum after one year (for tractors) or in three-four installments (for combines). The experience with loans for combines dates back to 1993.

Credits have not been widely used for the purchase of farm machinery for two reasons. First, due to the current low profitability of agriculture, machinery owners cannot service the bank credit and repay the loans in less than two years whether the tractors are used for cultivation of own land or for provisions of services. This reason is given mainly by managers of cooperatives and by small and older farmers. The second reason is the slow and expensive procedure when applying for investment credits from the State Agriculture Fund. The preparation of the necessary documents costs between 300,000 leva and 1 million leva, while there is no guarantee that the credit will be released by the bank, notwithstanding the approval by the Fund.

Some of the interviewed reported they had applied for investment credit during the last few years but could not meet the bank requirements for collateral (urban real estate covering 200% of the loan amount). Almost all respondents who had tried to obtain bank credit expressed dissatisfaction with the lack of proper coordination between the State Agriculture Fund and the servicing banks, as well as with the terms for the granting of credits from the point of view of required guarantees and the short repayment term.

Charge for Machinery Services

The average price for ploughing is between 40,000 leva and 100,000 leva per hectare; the price for harvesting is between 50,000 and 100,000 leva per hectare. The price depends not so much on the region, as on the size of the cultivated plots. For the smaller and more fragmented plots the price is higher. According to machinery owners servicing mostly small farms, the charge

covers only the operating costs. However, it would be impossible to charge higher prices because of the low liquidity of farmers requiring their services.

Most machinery owners are paid for their services in cash. Other forms of payment are used in only 16% of the cases, including payment in other services or in kind (agricultural products, fuel, etc). Most machinery owners receive the payment after the service has been rendered. This is why delays in payment, up to one year, are quite frequent. According to machinery owners, delays in payment are more characteristic for cooperatives than for small farmers. The reason for the delays is the low prices of cereals on the domestic and world markets during the 1997/98 season.

Usage of Machinery

The tractors and combines owned by the respondents have very different horse-power and technical characteristics. Thus the data regarding their degree of use can only be viewed conditionally. In 14% of the cases tractor usage is up to 10 ha per year, in 33% from 10 ha to 50 ha, in 22% from 50 ha to 100 ha, and in 31% of the cases over 100 ha. For combines, the annual usage is over 10 ha in 25% of the cases, up to 200 ha in 32%, and more than 200 ha in 41% of the cases. usage does not exceed 200 ha per year. Only in 41% of the cases usage per combine is more than 200 ha.

The low degree of usage of agricultural machinery (especially for tractors) shows that the problem is not the quantity but the quality of machinery. As profits in agriculture are very low, there are no incentives for increasing areas under cultivation, nor respectively the number of used machinery. Problems stem from the fact that the technical state of the machinery is inadequate, as it is quite old, and consequently maintenance and repair costs high. In fact cases when the machinery breaks down and cannot be used when it is most needed (during ploughing or harvest campaigns) are frequent.

Attitude to Taxes

Agricultural machinery services are not considered an agricultural activity, and the income from machinery services is taxed like income from all other economic activities. The interviewed machinery owners could be classified into two large groups regarding payment of taxes. Just over half the respondents (53%) do not pay taxes on income from machinery services. These are mainly physical persons (not registered as a company) who have a few pieces of machinery used on their own or rented land, as well as companies that provide machinery services for payment in other services. All taxes required by the law are paid by 45% of the respondents. The taxes vary according to the statute of the company. A relatively small share of company owners pay taxes only when they are asked to issue receipts, that is taxes are paid only on part of the revenues.

From January 1, 1999 a new tax was introduced, called patent tax (although it has nothing to do with patents). This is a tax that has to be paid on each piece of machinery used for services in agriculture. The same tax is also levied on other services, such as selling of spare parts, hair-

dressing, etc., and on food production when the annual turnover is below the VAT registration threshold (75 million leva). The amount of the tax is determined by each town administration, and in the surveyed municipalities the patent tax varied between 400,000 leva and 700,000 leva. Only few of the respondents said they had heard about the new tax, which must be paid until the end of the year. The respondents maintained that the tax was too high, and they would either not pay it or stop providing machinery services if forced to pay.

Registration Requirements

Up to 1999, machinery owners were not required to follow special licensing procedures to be able to provide machinery services. Only wheeled tractors had to be registered with the road police. About 22% of the interviewed said their machinery was not registered anywhere. These were owners of caterpillar tractors and combines or wheeled tractors with undefined property. In fact, the legal transfer of property rights in machinery from former state farms to new owners is still not completed in some cases. Some of the machinery is assembled using spare parts from other machinery and the origin of each spare part is difficult to prove. For these reasons, some of the wheeled tractor owners are not able to register their machinery with the road police. The respondents said an obstacle to registration with the road police is the requirement that they actually drive the tractor for inspection to the police station in town, which is sometimes distant over 20 km.

From the start of 1999, there is a new requirement to register all agricultural machinery with the so-called Control and Technical Inspection (CTI) service in the Ministry of Agriculture. The reason for this requirement is the lack of accurate information on the number and technical condition of agricultural machinery. In fact, the number of wheeled tractors registered with the road police is deemed to be inaccurate and higher than actual numbers, as machinery owners are under no obligation to inform the authorities when a tractor is retired or abandoned.

According to the new regulations agricultural machinery owners first have to register with the regional CTI service. To facilitate the procedure, representatives of the service are to visit machinery owners at their farms or companies, sparing them the inconvenience of driving the tractors or combines to town. After the inspection, machinery owners have to go to the municipal center (town) to obtain a certificate of registration for each separate type of machinery (against payment of 2,000 leva for each type), a registration plate for self-propelled machinery (against payment of 10,000 leva for each machine), and a municipality registration sticker. In one of the surveyed municipalities (Montana) registration had already begun and according to the respondents it did not involve any significant loss of time or money. Complaints were mostly voiced against registration with the road police, which involved a lot of time for providing the necessary documents, proving ownership on tractors and their separate spare parts.

Competition

There is a strong competition among providers of tractor services. About 24% of tractor owners reported up to 4 competing companies or farmers in the village area; 21% reported over 20

competitors; and 50% of respondents reported between 5 and 10 competitors. The competition among companies or farmers offering combine services is more limited: 9% of respondents reported only one other combine owner in the village area; in 64% of the cases the number of competitors was up to 4; and in 19% of the cases between 5 and 10. In villages with a shortage of combines, tension usually mounts during the harvest campaign, when the demand of all farmer for machinery services cannot be met at the same time.

Farm Sizes Served by Machinery Owners

Almost two-thirds of the land on which machinery services are rendered consist of small plots up to 2 ha, while plots of over 10 ha account for only 18%. Machinery services are thus used mainly by small-plot owners engaged in subsistence farming. The larger land owners, tenant farmers, and cooperatives have their own machinery and use external services only if they lack a specific machine. The small size of the plots serviced by the farm machinery owners is not conducive to efficient use of the equipment. The respondents said that, in a number of cases, the operation is not economically profitable and they provide the services for moral reasons (e.g. favors to friends, relatives, neighbors).

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Extension and Research for Farm Competitiveness

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The transition from a command to a market economy in the CEE countries has had a profound effect on agricultural production and farming systems. This paper considers the way extension and research services are operating in the CEE countries and how they might develop to meet the needs of the rural areas in the future.

RESEARCH

Research is a key component of all Agricultural and Rural Knowledge and Information Systems (ARKIS), and its primary role is innovation. Research brings new knowledge, concepts, methods and materials into the agricultural industry, and therefore bears directly on competitiveness. The huge advances achieved over the past fifty years, in yields, in efficiency of production, in reliability of yield, and in quality of produce, have originated from research findings. That the EU countries, by and large, have outpaced the CEE countries in making these advances is a reflection of their more effective research efforts, coupled with better technology transfer and a more alert, commercially aware response from farmers.

Agricultural research embraces a broad range of objectives and approaches. Four sub-divisions are commonly identified:

- *Basic, or fundamental research.* Research in areas of science linked to agriculture, for example plant and animal physiology, biochemistry, genetics and ecology, done primarily to advance frontiers of knowledge. There is no direct agricultural target, although long-term potential for enabling major practical advances may be foreseen.
- *Strategic, or mission-oriented research.* This is exploratory research, generally over a five to ten-year time-span, which relates clearly to stated agricultural objectives. It should involve innovative scientists who must work at international levels of knowledge and methodology. The study of new crop management systems, the incorporation of pest resistant genes into crop plants or the investigation of effects of dietary factors on animal reproduction could fall into this class.
- *Applied, or near-market research.* The results of strategic research are used to design and produce prototype materials and methods that are suitable for testing and introduction under practical conditions. Examples would be the breeding of new animal and plant varieties, and the design of improved milking machines or crop sprayers.

- *Development.* New materials and methods are further tested to see how they perform under regional conditions of soil or climate, and are modified to overcome difficulties. The demonstration of new materials and methods to advisory workers and farmers, in order to gain their interest and critical appraisal, and the organization and monitoring of proving trials on farms can also be included here. It is a matter of opinion and perhaps semantics whether this work is sufficiently original to be called research. Certainly it is vitally important technical work, and must be done to high standards.

In reality, these definitions are not clear-cut. They rather represent ranges in a continuous spectrum that goes from the most advanced cutting-edge science to the other extreme of simple checks for good performance of new materials or methods under particular farm or climatic conditions. However, they have proved to be useful working categories that help in defining the main roles of different research establishments, and in determining the balance of national research programs.

Another classification of research is into public-good (sometimes called policy-driven) and private-good (industry-driven). The former benefits directly the general public, and merits government commissioning and funding. Research relating to environmental safety, public health and the rural economy is often public-good. Private-good research benefits directly particular industries or companies, and merits commissioning and funding from these beneficiaries. The design and testing of new products or machinery often fall into this class. Again, the class boundaries are indistinct, and depend on judgement. For example, testing a new pesticide treatment against a prevalent crop or animal pest problem could be of primary importance to the economy and social stability of a particular region and rank as public good, or it could be important mainly for the profitability of the manufacturer who then should pay for the research.

All countries with a large agricultural industry require a well-focussed and cost-effective agricultural research base that has an appropriate balance of these different classes of research. Relevant characteristics and requirement of CEE and EU research are discussed below. Of course, a full analysis is not possible within the space and time constraints, but some indications and examples can be given, which may complement information given in other workshop papers and guide further studies.

Research Programs and Priorities

In most EU countries, the bulk of government-funded agricultural research tends now to be basic or strategic in nature. Formerly, applied and development work were supported to at least the same extent as the basic/strategic research, but they are now increasingly recognised as near-market and left for industry to support. This is particularly true of research leading to the production of new plant varieties and animal breeds, which is mostly done by private companies.

Moreover, the nature of the research has shifted very markedly towards biotechnology, molecular biology and genetics, and, to a lesser degree, towards environmental and ecological studies. Studies on biochemistry, soil science, crop and animal husbandry and plant protection have declined, in some countries to dangerously low levels. These are in fact worldwide trends, which

reflect the excitement and great momentum of molecular bioscience and related methodologies, and to some extent also the current concern about environmental contamination, sustainability, and the need to conserve biodiversity.

Similar changes are also occurring in the CEE countries to varying degrees but in general more slowly. The shift to bioscience requires expensive materials, know-how and training and all of these tend to be in short supply. Private sector funding in CEE is generally not available in amounts sufficient to support any major transfer of applied/development work from the public sector. Thus it is good, at least for the next decade, for CEE countries to retain and develop in the public sector a strong core of applied research and development work. This can identify, test, adapt and implement new methods and materials as they become developed and proved in EU and other countries, as well as in CEE. With very limited resources it may well be wise to avoid the temptation to shift too far towards more high-flown molecular science. However, a degree of such expertise is necessary in order to recognise, introduce and adapt advances in biotechnology that are made in other countries.

Most CEE countries have a very strong tradition for research into the production of new plant and animal varieties. Most institutes and stations seem to have breeding programmes. This seems to be excessive. Corresponding levels of reward are hard to see, new locally raised varieties often failing to compete with well-established varieties or with newer varieties obtained from EU or other countries. There are some exceptions, a notable one being the production of the sunflower variety Albena at the Wheat and Sunflower Research Institute in Bulgaria. This variety became grown widely in a number of countries, including France, and through good commercial arrangements it has brought great financial benefit support to the originating Institute. One does still question, however, whether a small country such as Estonia should really be running an independent varietal breeding programme for wheat. A shift of emphasis towards exploiting foreign varieties and towards more research into efficient crop and animal management may well be better justified in order to raise yields and quality to EU-competitive levels.

Integrated crop management has become a major research topic over the past decade in many EU countries, and is now entering farm practice. The need for pesticide, fertiliser, energy and seed inputs is minimised, and disease, pest and weed populations are reduced through the combined use of appropriate crop rotations and tillage methods, resistant crop varieties, and the exploitation of beneficial natural processes. At the same time, profitability and produce quality are maintained, and environmental risk is decreased. This holistic, systems approach deserves more attention by research and extension services in the CEE countries, where conventional inputs cannot be afforded and the integrated approach could be highly beneficial.

There is a need for more research into methods and systems for organic farming, i.e., farming without use of synthetic pesticides or artificial fertilisers, since demand for organic produce, sold at a profitable price, is increasing throughout Europe. Little research is done on this in EU countries as yet, and even less in the CEE countries where reducing input costs would be particularly advantageous.

The question of how far research needs to change to meet the needs of the reformed farming structures is a difficult one, not only because farm sizes and organization vary greatly

between CEE countries, and are likely to change further, but also because much research is not particularly size-specific. Some economic studies, and research into produce storage, and machinery development, could be aimed specifically at the small farmer. However, mainstream agricultural research should probably continue to focus on the medium to large producer, and on the more important crops of the country, in the interest of improving the national economy and meeting EU standards. The question of how the research topics are determined, and the need to involve the farming industry, are discussed later.

Research results in EU countries are published mainly in internationally distributed English-language journals, in international conference proceedings and in institute annual reports. The latter are now attractively produced in colour format and suit a broad readership including farm advisers, farmers and industrial sponsors. In CEE countries, most results are published in local journals or conference proceedings in the national language, and so get very limited exposure. Good results, and good scientists, deserve also a much wider readership through international publications. Most CEE institutes do produce annual reports, but these are often poorly presented and do not attract many readers.

The need for rapid and pervasive transfer of results, not only to the scientific community, but also to local advisers and farmers, cannot be over-stressed. All available means, whether by news-sheets, magazines, open days, meetings, radio and TV, should be used. One good example is provided by the Plant Protection Institute at Poznan, Poland, which receives, collates and distributes up-to-date information on risks of potential damage from crop diseases, and the need to apply spray treatments, from and to a large network of Plant Quarantine and Protection Stations throughout the country, which in turn inform farmers to assist in decision-making. Over the last few years this system has been made more precise, computerised and put on-line, with some initial assistance from the PHARE programme.

Organization

In both CEE and EU countries, agricultural research is done by institutes, local research stations, universities and colleges, and private companies. In general the institutes and universities do mostly basic and strategic research, whereas local research stations, colleges and private companies do applied research and development. In most EU countries this distinction is seen as important, and is insisted on by controlling and funding bodies, in order to maximise focus and use of resources, and to clarify responsibilities.

In CEE countries, there is a tendency for all types of research centers to try to cover all aspects, which can lead to dilution and isolation of scientific effort. In particular some small, local centers are inclined to undertake long-term basic or strategic studies, which might (if successful) confer scientific prestige but actually have little chance of success. Such studies are better done in larger institutes or universities that have the necessary facilities and can support multidisciplinary scientific teams that have sufficient critical mass to achieve goals within a reasonable time-frame.

Most CEE research centers, large and small, have always had an extension role, informing and advising the agronomists and zoo-engineers that were attached to large state farms. However,

extension needs are now much greater and more complex. In the main they should be handled by separate units, which could be located at research center sites if available in the locality. Extension staff should be fully committed to extension work, which can include field demonstrations, but they must interact with researchers in order to keep abreast of the latest developments and also to inform them about current farm problems. Economic analyses of returns on investment in research and extension services internationally have generally shown that strong linkages between these services have a beneficial effect on the value of each.

Compared with EU countries, the CEE countries tend to have a considerably larger number of institutes and stations, and larger total staff numbers, although a much smaller amount of industry-funded research. Bulgaria, with 8.5 million people, has at least 35 state–funded agricultural research institutes and a similar number of smaller experimental or diagnostic stations (including veterinary centers). Romania (22.5 million people) has 39 institutes and 74 territorial research stations, with 2,500 scientists and 20,000 total staff. Albania (3.5 million people) has 16 institutes, and Slovakia (5.5 million people) has 21 institutes.

These examples can be compared with 15 institutes and 27 stations in the UK, with 59 million people and which has a five times larger agricultural production and a three times larger cultivated land area than Bulgaria. Numbers of graduate research workers in 1992 were approximately 183 per million ha agricultural land in the UK (1990), compared with 403 for Bulgaria and 148 for Hungary (1990). France, with the biggest cultivated land area of all European countries, has 22 research institutes, and 3900 agricultural scientists.

The degree of spread of resources amongst separate major research centers is a serious policy question for all countries. In most CEE countries the spread is much too thin, so that facilities and equipment become out-of-date and poorly maintained. Library and communication facilities are poor, and pay is not adequate to attract and retain the best staff. It is often argued that regional differences in climate and soil within a country necessitate a large number of research centers. However this need is often exaggerated, and can largely be answered by placing field experiments with local advisory services or directly with farmers. Indeed on-farm research can give valuable findings regarding the practical feasibility and reliability of using new methods and materials, and readily permit demonstration to local farming communities. There is much to be said for concentration of the more complex and costly resources, human and physical, that are required to maintain an effective core of basic and strategic research.

In some CEE countries, for example Romania, a mother institute will control in some detail several satellite institutes or research stations that work on similar or related topics. Such multi-site management systems are difficult to run well, particularly if distances are great. If several centers are needed, then they may well be more effective if they are separately funded and managed, but respond to a common sponsor who can ensure good inter-communication, coordination and avoidance of duplication.

Overall responsibility for publicly funded agricultural research in CEE countries lies with an Academy of Agricultural Science or similar academic body, or directly with a Ministry of Agriculture or Ministry of Science and Education. In the EU, ministries, either directly or through Research Councils which they appoint, are usually in overall control, although increasingly this is

exerted at arms length through commissioning projects and giving grants for major capital purchases, rather than through direct employment or management of staff.

The most important factor in research direction is not the organizational system but rather the people involved in decisions on research priorities. Whatever ministries, councils, or academies may be involved, it is crucial that there is representation from all stake-holders, which include the farming industry, the food processing, marketing and export industries, farming supply industries (seeds, machinery, agrochemicals, feedstuffs, etc.) extension services, government economic, environmental and public health policy-makers, as well as relevant scientific bodies and individual scientists. Experience suggests that in CEE countries research decision-making has been (and still remains) too scientist-dominated, and too remote from current agricultural needs. Moreover, priorities are often set by scientists who are themselves direct beneficiaries of the decisions made.

According to a report (Zijp 1997) there are some pockets of excellence, but on the whole research is in turmoil, and the further east one goes, the more the system seems broken down. Many research managers agree that the national systems are oversized and overspecialised with little focus on economic efficiency, environment and small farmers.

At the level of individual institutes and regional research stations, input from the farming and other industries is again important. Most EU research centers have governing or advisory bodies with a broad membership, including farmers, farm suppliers and advisers, who meet regularly with the directors and their senior staff and review and influence the research programmes and the provision of necessary staff and facilities. This seldom seems to be done in CEE countries, but could prove very beneficial in building sustained links with the farming industry and improving research focus and technology transfer.

Some EU research centers also organize members' associations, or supporters clubs, which farmers, advisers, suppliers and others interested in research progress can join for a small subscription. Through meetings, newsletters and contact with research staff, the members keep up-to-date with information and can influence the work of the center. These clubs work very well, although care must be taken to limit access of members to staff attention. The researcher's main job is to do research, and not to spend all day on the telephone or visiting farms giving individual advice.

Research Funding

"He who pays the piper calls the tune." Certainly this is the case in research. Over the past 20 to 30 years, the customer-contractor relationship has come to dominate research funding, in almost all countries, including both CEE and EU countries. The contractors are the various types of research centers, while the customers comprise several well-defined groups.

Government

This customer group predominates in all countries, but particularly so in CEE. At certain UK institutes the proportion of government funding in their total income has now decreased to about 50 per cent or even less. Whereas the government bodies formerly gave block grants to institutes and universities, now they allocate funds on a project-by-project contract basis, for fixed time periods, and monitor progress at project level. Commissioned work may be placed specifically at particular centers, or even with particular researchers, or it may be advertised for competitive application.

Levy-Funded Bodies

This group forms an increasingly important funding sector for applied research in EU countries. Examples from the UK include the Home-Grown Cereals Authority, the Sugar-beet Growers' Research Organization, the Horticultural Development Council, the Meat and Livestock Commission, and the Milk Development Council. In France ITCF (Institut Technique des Cereales et des Fourrages) is a major funding source for research and development projects concerning cereals and forage crops. Such bodies receive compulsory levy money from farmers, some of which is earmarked specifically to support research. They have research committees, with mainly farmer and food-industry membership, who decide on their short to medium term research needs and commission relevant, well-defined projects for set time periods at appropriate research centers. They have control of the results, which are promulgated to their levy-payers or members through meetings, demonstrations, web-sites, news-sheets etc, as well as being published in the scientific literature.

This type of research funding has not been seen operating in the CEE countries, but as their agricultural industries become more profitable it could well become feasible, and highly beneficial. As an interim measure in Romania, the World Bank is currently planning to sponsor the operation of a competitive grants scheme for applied agricultural research (World Bank 1999). The farming industry will be strongly represented in the setting of priority research topics, judging grant applications, and awarding the grants. If this project develops properly, it may become a possible prototype for other countries. A detailed guide to the organization of competitive grant schemes for agricultural research has recently been published (Srivastava 1999).

Farmer Associations

Funded by voluntary subscriptions from their members, farmer associations sponsor applied research projects in the EU. Some are very specific in scope, for example the UK Maize-Growers Association. Others have broader interests, and can be large enough to sustain their own small research centers. In the UK a network of Arable Research Centers is entirely financed by arable farmers who set programmes of field trials and receive very rapid results that are confidential to the subscribers.

Industrial Companies

Large industrial companies, for example breeders of plant and animal varieties, agrochemical, fertiliser and animal feed manufacturers, and veterinary drug manufacturers, do most of their research in-house, with their own staff and facilities. They also commission research projects in research institutes and universities, either to gain access to expertise or facilities that they do not possess themselves, or to obtain an independent assessment of the performance of their products. In the main, these are relatively small, short-term projects, but there are recent examples in the EU of the medium to long term funding by international companies of large research programs at public sector institutes, particularly in molecular biology and genetics. Company funding of research in public-sector centers occurs both in EU and CEE countries, and is encouraged by governments. It is still relatively small in CEE countries, but can be expected to grow in response to increases in commercial opportunities for the companies, and in research expertise and facilities.

Link Schemes

Link schemes, involving joint funding (often 50:50) from government sources and from industrial companies or levy-funded bodies, have been run successfully in some EU countries over the past decade. Schemes are usually initiated by a Ministry and/or Research Council, and aim to support a number of research projects at different centers, with different industrial co-sponsors. An area of research thought to be in the national interest (e.g. environment-friendly arable crop management) is identified by the Ministry, and joint proposals from research centers and industrial organizations are invited, assessed by a panel with government and industrial representatives, and if accepted jointly funded. The agreed industrial contribution can include provision of facilities or other non-cash assistance.

International Bodies

With regard to international funding, the EC is the main source for the EU countries. DGVI (Agriculture) is the primary sponsor of agricultural research, but DGXII (Research and Development) also contributes. Applications are invited for a range of topic areas considered to be important to the EU, and competition is fierce. Normally, the EC will only consider applications that involve a partnership between researchers from two or more member countries, in order to encourage inter-country collaboration. For many years the only relevant EC funding available to CEE countries has been from the TEMPUS Program, which has paid for meetings and visits between researchers at EU and CEE universities and colleges. However, it is now very likely that the new Framework Programme 5, which has a large element of agricultural research, will be open to CEE countries. This will be a very valuable advance with respect to research funding and to East–West collaboration.

Other Sources

Other sources of income for research include sales of produce from institute lands or animal production units, and royalties from patents or plant breeder's rights. These are generally relatively small, although at some CEE institutes with large amounts of unrestituted land, with

intensive animal production, or with successful varietal breeding programmes, they can be substantial. In Romania, in 1998, the research institutes of the Academy for Agriculture and Forestry still possessed 100,000 ha of land. There is a danger that institutes running large commercial ventures can divert too much energy, time and resource to these ventures, to the detriment of their primary research role.

The overall amount of money put into agricultural research will depend on national priorities, the state of the economy, the importance of the agricultural industry, and the availability of non-government sources of funding. There can be no generally desirable target. Public spending on agricultural research, as a proportion of gross national agricultural production is in the range 1%-2% in most EU countries. Estimates for CEE countries tend to be lower (0.4%-0.8%), but are variable and unreliable because of rapid currency changes.

Management and Use of Funds

The correct apportionment of money between salaries plus social payments of researchers and overheads (the costs of maintaining their working environment) is crucial to effective and sustainable research management. There is a temptation to accept inadequate funding, that merely covers payments to workers, or little more, and this in effect makes the project concerned parasitic on others. In EU countries, the ratio of 1:1 for staff payments to overheads is typical. In CEE countries where staff payments are relatively low, but costs of materials, equipment, books, etc. approach EU levels, then a ratio of 1:2 might be more appropriate. Unfortunately this seems to be seldom achieved, so that researchers are deprived of the facilities they need for the most effective work.

Funders in EU countries are increasingly, and rightly, concerned that they get value for money. However, the effectiveness of research, as of any creative and innovative activity, is very difficult to quantify. Various criteria can be used, such as numbers of papers published in peer-reviewed journals, citation status of papers, number and size of research contracts obtained, number of patents granted and amounts of royalties obtained, and estimated value of commercial uptake. However, all of these can be misleading, and subjective judgement by the funder and/or his advisers must still be involved in order to gain a reasonable assessment. Despite the difficulties, and however approximate, some attempt to estimate value for money is made by EU funding bodies, whereas in most CEE countries this aspect probably merits more attention.

Staff Training and Development

Most scientists gain much from good training and experience. The universities are hugely important as training grounds in basic science and technology. The length of first-degree courses in relevant subjects such as biology, chemistry, biochemistry or economics, varies between countries, from three years, as in the UK, to five or more years as in the Netherlands and some EEC countries. A period of three years is generally sufficient.

In the EU, universities are also responsible for training graduates in research methodology, through PhD studies. In most CEE countries, however, the norm has been for graduates to do their PhD studies at a research institute or station, and then to stay there for their career. Experience in different laboratories and under different leadership, possibly in different countries, can be highly beneficial to promising young scientists. Working periods for CEE scientists in EU countries, and vice versa, should be encouraged. At present they are few, because there is no ready source of funds, and it would greatly stimulate CEE and also EU agricultural research, and promote communication between scientists, if more visiting fellowships should be made available by EC and other international sponsors.

Attendance at national and international scientific conferences and workshops, is highly stimulating to scientists at all stages of their careers, particularly if they present papers or posters. At the Brighton Crop Protection Conference, the premier annual conference for this important subject, it was encouraging to note in 1998 that out of some 750 non-British delegates, 20 were from Poland and 10 from Romania, although only three came from Hungary and two from Bulgaria.

A key role for scientists is to keep informed of developments in other countries, and to identify new concepts, methods or materials which could be introduced into their own country. CEE research centers, especially the smaller ones, often have a poor coverage of international journals and books, through lack of funds, but computer-based searches and e-mail contact with foreign scientists can help. English has now become the *lingua franca* of science, and it is vital for researchers, especially younger researchers, to learn English well enough to communicate internationally in their writing, reading and speech.

Annual staff reviews are conducted at most EU research centers. Each worker, however senior or junior, has to meet with his/her line manager to discuss his/her work, publications, achievements, difficulties over the past year, and a written record is made which includes objectives and any training needs for the coming year. This seems not to be done at CEE research centers. It is not an easy task to obtain a useful degree of openness in such reviews, and training is necessary. However, they have almost always proved very beneficial for all concerned and should be conducted throughout CEE organizations.

EXTENSION

Extension is part of the adult educational process. In the context of this paper extension services are considered as those organizations and individuals that provide information, advice and/or consultancy services to farmers and their families, including horticultural crop producers, on matters related to production from rural areas. Although the main consideration is extension for agricultural production, it is recognized that extension services should include forestry and socio-economic activities.

Forms of agricultural extension services have operated in both Eastern and Western Europe since the middle of the last century. In the UK the term "university extension" or "extension of the university" was commonly used in the 1840s and Cambridge University formally

adopted a system for the establishment of extension centers in 1873 (Van den Ban and Hawkins 1988). In Bulgaria the first agricultural schools were founded in 1883 (J. Achkakanova-Dimitrova, personal communication) and the Croatian/Slovenian Agricultural Society established eight regional extension services in 1842-43. (Zimbrek 1997). No doubt there are many other examples.

Development of Extension Services in Post-War Europe

It is valuable to consider the context in which extension services have developed in Europe in the last 50 to 60 years as this demonstrates why Western Europe has largely moved to services for which the farmer pays and why CEE countries are establishing extension structures. It also highlights the differences between the situations relating to agriculture in the two regions that can be expected to influence the organization of extension services.

The end of the Second World War found Europe seriously short of food, and governments introduced measures to increase production. These included expanded extension services, which in many cases were funded by the taxpayer, and the formation of cooperatives for buying inputs and selling produce.

In the West the measures were successful and the emphasis changed from food production *per se* to economic food production. Eventually by the late 1970s, the EU was producing more than it needed from an increasingly smaller proportion of the work force. This led policy makers to question the logic of the taxpayer funding advisory services that were helping farmers to produce food that was not needed within the EU. The result was a move towards charging farmers for the services they received and, in the case of England and Wales, privatisation of ADAS (Agricultural Development Advisory Service), the state advisory service and in Holland DLV becoming a self-supporting foundation. It is important to note that these developments took place in a situation where farming was profitable and farmers were used to receiving advice. Western governments retained a facility to provide advice, in reality to persuade farmers, on matters of "public good", e.g. care of the environment, encouragement of biodiversity, and landscape enhancement.

The CEE countries followed a different path and in the 1950s amalgamated the myriad of small farms into state farms or cooperatives run by party officials. These very large units, often of several thousand hectares, employed a range of qualified specialists. Because there were relatively few of these farms, the research institutes could easily contact the relevant specialists and provide them with the results of the research findings which the specialists were then expected to apply on their own farms. This information transfer was usually done by lectures and demonstrations and constituted the main extension activities during the communist period. Private farmers, where they remained, were excluded from the extension system.

Since 1990 in most of the CEE countries the state and cooperative farms have been broken down into much smaller units resulting in thousands of very small farms. The Czech Republic, Slovakia and Hungary did not follow this path and have retained the large farm structure but with changed ownership and management. The profitability of farming has been at best poor and there has been an enormous drop in agricultural production. At the same time the government reduced

funding, in some cases by 50 per cent within one year, to the research institutes, and so they could no longer afford to provide free services to farmers.

The result of this combination of circumstances was an acceptance that if farm production was to be increased (and possibly, for political reasons, the new farmers made to feel that something was being done to help them) extension services suitable for the new situation were necessary. The economic situation of all CEE countries was such that only a very limited amount of money from government was available to pay for the extension services. It is not surprising therefore that the idea of following the west and selecting a system of charging for advice was widely considered and in some cases implemented. However, conditions in the CEE countries are very different from those applying when chargeable extension services were introduced in the West. In particular the farmers in the CEE countries are very poor and are largely unaware of the value of advice.

It is not intended in this paper to discuss the relative merits of charging for advice or providing it free to the farmer. What seems clear is that if people do not appreciate that advice will help them or if they cannot afford to invest in advice they will not pay for extension services. Taken to its logical conclusion if advice is helpful then those that realise its value and find the money to pay for it will expand their business at the expense of their neighbours and, in time, the agricultural industry will be restructured and farms operated by the most efficient managers - but at what social cost? It is against this background that the different systems implemented in different CEE countries are considered and some of the important issues discussed.

THE APPROACH TO AGRICULTURAL EXTENSION IN CEE COUNTRIES

The different approaches to extension in CEE countries can be divided into three broad categories:

1) Extension is handled by a government organization within the Ministry of Agriculture and is fully funded from public funds.
2) Extension is maintained through government support to private consultants. The private consultants provide all advice to the farmer, while the government subsidizes the service and funds coordination and training of advisers, as well as information sources for advisers.
3) Extension is a provided by a government organization that is permitted to extend its activities by charging for some services.

In addition to the advice provided by government services or private independent consultants, farmers often receive advice from the supply industry (providers of animal feedstuffs, agrochemicals, seeds, and machinery). Input suppliers can, and usually do, provide valuable help to farmers, as they wish to develop and maintain a long term-relationship with their clients.

The Fully Funded Government Organization

Albania, Bulgaria, Croatia, Poland, and Romania, are countries that have, or plan to, follow this path. All have many small farmers and the first three, at least, are in the very early stages of

developing the extension services, despite substantial technical assistance from the EU, the US and other donors. Romania and Albania have yet to establish a credible extension service although both have sections within the Ministry of Agriculture responsible for extension and both have plans for local extension offices and, in Romania's case, staff that are supposed to advise farmers. However anecdotal reports indicate these people are neither active nor effective. The recent appointment of a Director for Agricultural Extension within the Romanian Ministry of Agriculture and Food implies more emphasis will be given, in Romania, to extension in the future.

The Polish extension service was established in 1991. It provides an extension center in each of the 49 voivodships and these provide advisory, information and education services. (Kielczewska 1996).

Bulgaria has established the National Agricultural Advisory Service (NAAS) which has 30 local offices, each with about five specialists, nine regional offices and four national centers for training, information, agri-business and accountancy, and soil analyses. Funds come from central and local government. (Achkakanova-Dimitrova, personal communication).

Croatia established the Agricultural Consultancy Service in 1994 as a department of the Ministry of Agriculture and Food. It is now an autonomous structure within the Ministry employing around 100 advisers based in local offices who are required to take a pro active approach to their work. It is financed from national and local government. There is provision for local government to fund and employ additional advisers (Zimbrek, 1997).

Macedonia and Slovenia are both understood to have government funded extension services.

Advice Provided by Private Consultants

Hungary, Estonia, and the Slovak and Czech Republics have adopted this policy. The fundamental philosophy is that it is not for government to provide the consultancy services but government may encourage farmers to use private advisers if it meets its policy requirements. Schemes are in existence to subsidise the advice.

The Estonian position is described elsewhere in this workshop and will not be summarised here. However it is noteworthy that in Estonia an independent Association of Agricultural Advisers was established in 1994. This has subsequently expanded its membership and played a significant part in the development of the consultancy profession in that country. It should be emphasised that the organization was established by forward thinking consultants and although encouraged by the government, is a completely independent organization.

Hungary recently established a "National Body for Extension Coordination" which includes farmers and makes recommendations to the Ministry of Agriculture. Government support to consultants includes funding of training for farmers and consultants, funding of publications to support these activities and provision of an infrastructure to support advisers through the establishment of three regional extension and information centers based at, but legally independent

of, three universities. There are also a number of professional knowledge centers that coordinate advice and provide specialist support to the private consultants. There were 670 advisers registered in 1996 (Kozari 1997).

Slovakia is still developing its policy for extension. Current plans are for a network of Extension Centers that will provide a link between those seeking advice and those providing it. Farmers receive subsidies for some forms of advice.

The Czech Republic has allowed the consultancy services to develop in response to market demand as well as providing financial inducements to farmers to use the advice available. Progress in the use of consultants is monitored by a research project operated and managed by the Czech Agricultural University in Prague in association with The University of Reading, UK and involving a range of institutions in the Republic. The results for this project are expected to be published later this year.

A Government Service Raising Money from the Private Sector

Latvia and Lithuania have taken this path. Both have extension services that are part of the Ministry of Agriculture and both have negotiated arrangements whereby they may provide services in return for a fee in addition to those normally provided to farmers by the government. At present, only a small proportion of income comes from the private sector. The organization of the services is similar to regional and local offices staffed by advisers and with a headquarters staff that includes specialists and provides central support facilities such as publication preparation and information storage and retrieval.

EVALUATING THE EFFECTIVENESS OF EXTENSION

The effectiveness of extension services is notoriously hard to measure and in the differing circumstances of each of the CEE countries to make any comparison on the effectiveness of the different approaches, without a full analysis of the different situations prevailing in the countries, would be at best unwise and at worst dangerous. What could be considered are a number of issues that are important in defining the role and determining the success of extension services.

Quality of Advisers

In most countries agricultural advisers may practice as consultants without having a professional qualification. This is in contrast to some other professions e.g. veterinary surgeons. A prerequisite for farmers to use advisers is that the farmer has confidence in the ability of the adviser. This is achieved in the West through a number of mechanisms, based on the fact that advisers are legally required not to be negligent when advising their clients and to advertise only that which they are able to provide. Consultancy firms have been established for many years and have built up reputations. New entrants to the consultancy business have to sell their services in a competitive market and depend either on past reputation or on quickly establishing a good

reputation. EU farmers are used to obtaining advice and should be experienced in working within a market economy and so better able to make good choices and understand the risks when employing a consultant. It might also be argued they are sufficiently financially sound to withstand the impact of bad advice (though most would deny this in today's circumstances).

The CEE farmer is unused to a market economy and generally sceptical of the value of advisers, especially if they come from the government. Legislation regarding the provision of negligent advice is in its infancy if on the statute book at all. The farmer's financial resources are very small and for the great majority of farmers the land provides for their own needs with a small surplus being sold. In these circumstances greater credibility can be expected to be given to an adviser that is known to have relevant knowledge. Where the government is providing the extension service then the government, at least in theory, will select only suitably qualified personnel. In practice the government advisory services tend to take existing government staff who are probably technically qualified but who often have, at best, only a small interest in and understanding of extension. Where the policy is to encourage private advisory services then some form of approval scheme may give greater credibility to advisers in the farmers' eyes and also provide a measure of control for governments in the administration of support for the advisers. Estonia has already established a scheme and Slovakia is seriously considering one.

Latvia and Lithuania have established state services, now with opportunity to raise revenue, and have obtained, in the formative years, substantial technical assistance which emphasised the need to meet the needs of the clients. The combination of attention to customer need, the realisation of partial operation in the market economy and the training provided to the advisers has ensured that the quality of their staff is high.

Qualification of Advisers

Agricultural education in the CEE countries produced technically well qualified and knowledgeable graduates in specialist disciplines. Subsequently these people worked in an environment where they often became more specialised. The zoo-engineer responsible for animal nutrition was not involved in animal selection and breeding, and the agronomist responsible for variety selection may not have talked to the plant protection specialist. Possibly this was a suitable situation for the very large collective farms but it is certainly unsuitable for the smaller scale commercial enterprises and utterly useless for the very small family farms. In addition, skills in business management, group formation and marketing in a market economy, which are now considered essential, were not taught. Western universities have recently extended their curricula to include organic production, environmental issues, impact assessment and landscape management. Educators in most of the CEE countries have now changed the curricula and provide courses in marketing and business management. However, they need to make further changes to meet today's needs.

Training specialists to become generalists has proved more difficult but has been successfully achieved in some places (Estonia, Slovakia, Lithuania, Latvia). There is still much to be done in this area, particularly regarding the need for consultants to understand the concept of urgency and to be able to write brief, succinct and relevant reports for their clients.

Inter-personal communication skills and training in extension methods remain a high requirement. The short courses provided as part of technical assistance programmes are very valuable but cannot be a substitute for the post graduate diploma and higher degree courses available in western Europe. Presently, the teaching capacity of CEE universities in these topics is very limited. Institutions such as the Institute of Rural Development in Tartu, Estonia and the Department of Pedagogy at the Czech Agricultural University, Prague, are amongst those who are rapidly expanding their expertise.

Motivation and Management of Advisers

Many advisers within the CEE countries are there because they lost their jobs in research institutes or on the collective farms. In these circumstances it is, perhaps, surprising that there are so many highly motivated advisers. However if standards are to be improved further then better-qualified people will be needed. Pay and prospects for advancement are key incentives but the perceived status of advisers as being lower than that of "proper scientists" working in universities and institutes means that some of the best people will not make a change of career to extension work. It is important that CEE governments and the consultants themselves seek to raise the status of advisers. (This is not only a problem for the CEE countries as many agricultural advisers in Western Europe also feel that they lack proper recognition for their skills).

A large number of advisers have their own small holdings. This enables them to "keep their boots dirty" but has implications for the spread of pests and disease in both animals and plants and means the adviser has divided loyalties. They may also be perceived as obtaining unfair advantage from their position. Certainly if the adviser receives government funds for his or her farming activities then every precaution must be taken to ensure that only the correct support is received and is seen to be received. There are also instances where advisers work part time for a food processor and part time as an independent consultant. This situation must cause farmers to question the independence of the adviser when working in his independent mode. Ideally the adviser should work only for the advisory service which is not realistic in the CEE countries at present but could be a long term aim.

Identification of User Needs and Involvement of Users in Management

Rural appraisal techniques have been used on occasions, e.g. as reported by Thompson and Jones (1997) in Estonia, but not widely. When used they tend to "result in a regurgitation of farmers problems rather than identifying solutions" (Zijp 1997). Questionnaires have also been used to try to assess what farmers want, at least in Estonia and Slovakia. Otherwise the approach has tended to be top down with extension service managers assessing the farmers needs and determining the service's approach to meeting them. In the UK, ADAS staff, prior to privatisation, felt they knew what the farmers wanted. Market research conducted in the pre-privatisation period found that they had, at best, incomplete knowledge. It is certain that it would be beneficial to pay more attention to what the farmer perceives as his/her needs if extension services are to be more effective.

Rural appraisal and market research techniques are very useful but time consuming. On a regular basis an advisory committee, as used by the Latvian Agricultural Advisory Service, comprising representatives of the various stakeholders is desirable for all publicly funded services. With the right membership both the service and the owner (the government) benefit. Management committees are more contentious, as they can remove authority and responsibility from the extension service management leading to lack of focus for the organization and lack motivation for the staff.

Who Are to be the Clients and What Services Are to be Provided?

With the exception of Slovakia, the Czech Republic and possibly Hungary, CEE countries have thousands of very small farmers (1.8 million in Bulgaria), relatively few larger family farms and a few very large farms. However the proportion of land occupied is not proportionate to the number of farmers in each group with the larger farms managing a relatively high proportion of the land. This poses governments with a dilemma. Do they support advice for all or do they concentrate limited advisory resources on the larger farms where the return on investment is likely to be much greater. If they do ignore the small farmer (plotter or gardener) they may alienate a significant proportion of the electorate. For instance in Romania, 48 per cent of the population lives in rural areas.

Addressing this problem is not easy for governments. From a practical point of view it is clearly impractical to fund the provision of high quality one-to-one advice to more than a small proportion of the very small farmers. This means that a mass or group approach is essential. Larger farmers can justify more comprehensive and detailed advice and are more likely to be able to afford to pay for it. The implication of this analysis is that

- Governments must decide which groups of farmers are to be supported with subsidised or free advice.
- Extension managers or policy coordinators must then devise programmes that meet the paymasters' requirements. Private consultancy companies will, of course, market themselves to the group of clients that offer best prospects of a profitable relationship.

It is far from certain that many CEE country governments have adequately addressed the issue of where the extension effort should be directed.

Use of the Mass Media and Information Technology

It has been argued that insufficient use is made of both technologies. The mass media, and radio in particular, thanks to the increased skills of the journalists, are now a very effective means of communication. A case in point is the results of a survey in Romania. Radio was most often mentioned as the most credible source of information and not a single person was mentioned as a credible source; the respondents did not seem to trust any individual (Zijp 1997). A mass media approach is the only practical way of getting information to thousands of small farmers even though it has limited capabilities in the provision of advice which requires an assessment of an

individual's situation. Radio is particularly valuable in creating awareness of situations, especially when urgent action may be needed. (e.g. a pest or disease requiring control in crops). Television seems to offer limited opportunity in extension due to the lack of buying power or relatively low proportion of the population involved in agriculture.

The information interactive technology will have profound implications for development. To date, the Internet has had little direct effect on the great majority of farmers although some advisers have ready access. (In Estonia where domestic and foreign investment in computers for extensionists has been substantial, and where there are relatively few advisers, possibly half the consultants are connected to the Internet). Telecottages and community communication centers such as those in Sweden and Hungary must have potential for providing direct access for farmers and for supplying locally based extension agents with information. Cost of equipment represents an obstacle to greater use of information technology and the standard of telecommunications in some countries also limits its development at present. However, this modern and powerful communication technology can be of great benefit to the rural population and probably much more thought should be given to its use and different approaches tried in the CEE countries.

The Extension-Research Link

Effective and rapid transfer of research results to the farming industry is imperative for the industry to become and remain competitive. Extension agents obtain their information from many sources, research being one of the most important. The link between research and farms was relatively straightforward when both were owned by the state. Today the research institutes and the research departments of universities must respond to the needs of the industry. Governments cannot afford to spend money on unnecessary research. The extension services in the West act as a conduit for information between the farmers and researchers. These roles are poorly developed in CEE countries and the links are in urgent need of strengthening. The job descriptions and performance indicators for both applied research and extension staff must emphasise their duty to contribute to the research-extension link. The use of commercial farms to demonstrate and test new techniques is an effective extension tool that also establishes valuable links between farmers, extensionists and researchers.

THE WAY AHEAD

With the great variation between the different CEE countries, in their farming structures, and in their research and extension achievements and needs, it would be unwise and indeed not feasible to offer any kind of general prescription for progress in relation to future EU membership. The best option is to offer a set of key issues, which a country ought to consider in developing its own plans for future action. In certain countries some or even all of these items may have been considered and acted upon already. However, there is always room for re-checking, and for seeking improvement.

The items are not listed in any order of priority. However, the one aspect that should be stressed above all others, and which pervades many of the points below, is the need to ensure that

all efforts in both research and extension are geared to meet the current and potential future requirements of agricultural producers and their customers.

Research Programs and Projects

The national research program should be tailored to support the needs of the agricultural industry of the country. The portfolio of projects should be reviewed regularly, by a broad-based group that includes not only scientists but also farmers, advisers, food industry representatives, export marketers and other stake-holders. An overview group and specialised sub-groups will be needed.

The program should be reviewable. Digestible, informative, up-to-date summaries of projects, suitably classified, should be available. Objectives, results to date, time required, costs, locations, and future plans should be available.

New proposals should be elicited from research and extension services, farmer and marketing organizations, and other bodies, and assessed alongside the existing program. For longer-term projects, it is worth considering adoption of a firm replacement policy, for example terminating 10 per cent of existing projects each year, and introducing 10 per cent of new ones.

The key criteria for priority judgement should be:

(a) degree of relevance to agricultural competitiveness, food security, rural social needs and environmental and consumer safety.
(b) uniqueness; is there replication of similar work either within or outside the country? If so is this deliberate and desirable, or is it unnecessary and wasteful?
(c) innovation; is the research breaking new ground or is it more of the same?
(d) chance of success; are real advances likely to be made within the stated time-frame, bearing in mind the scientists, technicians, equipment and other resources that are available?
(e) cost: is this well worked out, and is it proportional to the size of the potential benefits?

Organization

The required number and size of research institutes and stations, and university departments should be assessed, in relation to national and regional needs, and to funds available. Preference should be given to doing a smaller amount of more effective research, with properly rewarded staff and good facilities, rather than maintaining a larger amount that could suit a wider range of conditions but may never receive sufficient support for good progress.

Communication with extension services must be encouraged and monitored. Researchers must feed extension units with information, and gain from them up-to-date information on practical agricultural issues. All research centers should be accountable to a broad-based controlling body, which includes industry representatives. Each institute and research station should have an advisory committee, with farmer and other industrial members, and formation of members' associations should be encouraged.

Funding

The total amount of public money to be invested in research must be assessed. It should be determined primarily by the importance of agricultural progress to the national economy and social well-being, rather than by past research effort and its cost. Current values from other countries should be obtained and kept in mind, e.g. research expenditure as a percentage of gross agricultural output.

Other sources of income should be maximised. Opportunities for EC funding will greatly increase, but the system is complex and individuals, at headquarters and institute level, should be trained as expert advisors on gaining EC funding. Funding from levy bodies, trade associations and companies can be substantial, and can increase science-industry collaboration. Consider also government-industry Link Schemes for joint project funding.

Appropriate norms for the ratio of staff payment to overheads should be established, in order to secure proper support for equipment, materials, journals, travel, communication, safety measures, etc. Whilst some flexibility may be necessary, research contracts should not depart too far from these norms.

Staff Development

Special attention should be given to the career paths of young scientists. Grants should be available for 1 to 2-year MSc and should be given 3-year PhD studies at universities and institutes, generally to be followed by a move to another research center. If possible, post-Doctoral fellowships should be awarded to promising scientists to enable experience in other countries (perhaps with a condition of return to the home country for a minimum period).

A system of regular progress reviews should be outlined to monitor the performance and development of all research staff.

Extension

- The farmers should be categorized and extension resources allocated to each group according to their respective priority and structure.
- The perceived and real needs of different groups of farmers should be identified accurately and extension programmes should be designed to meet the requirements of the different groups.
- The links between client groups and advisers should be strengthened to ensure that the advisers improve the degree to which they meet the farmers needs.
- The two-way links between research and the farmers should be strengthened by effectively utilising the extension organizations.
- A culture should be developed in the agricultural scientific community that accepts that advising is a profession which requires different, but equivalent, skills from a researcher.
- The policy and coordination units in government charged with developing extension systems should be strengthened. The usual answer to a request for more people is the inability to

finance the posts. Many Ministries of Agriculture have thousands of employees (the Ministry of Agriculture and Food in Romania is reported in a PHARE project report as having 32,000 employees) including teachers, researchers and staff in regional offices. Relatively few may be employed in the central office leading to inadequate resources for policy work. From these thousands of posts it should be possible to identify some that are less important and to transfer the funds, not necessarily the people, into work for agricultural extension.

- The opportunities to benefit from the incidental improvement in biodiversity resulting from the greatly reduced use of agrochemicals since transition need consideration.
- The issue of rural development and its relationship with agricultural consultancy services, should be addressed.
- It should be determined whether the widespread use of information technology is practical and if so a programme should be drawn to fully utilise this powerful tool.
- The agricultural education system should be reviewed to ensure that it meets current and future requirements for the training of potential extension workers and those expected in the future.
- Ministries of Agriculture should seek to ensure that Ministries of Finance appreciate the value of an extension service in achieving the goals of government policy.
- International agencies, such as the EC, should investigate the possibility of establishing professional standing for agricultural consultants thus helping to ensure an improved status in the eyes of scientists and increased credibility in the eyes of the farmer.
- As labor requirements of agriculture decline and the rural population shifts to other rural-based entrepreneurial or salaried activities, agricultural extension services will need to expand their activities and expertise to provide rural development advice.

CONCLUSIONS

The variety of approaches adopted by the different countries of Central and Eastern Europe make general conclusions difficult to draw. What is apparent is the need for governments to decide on clear, well-reasoned policies for agriculture, agricultural research and extension. To what extent, and how, will they support their agricultural industries? Are they prepared to consult with the agricultural industry and to make difficult decisions on changing the content of their agricultural research programs? Most of the CEE countries cannot afford the numerous research facilities that exist at present, particularly as the level of commercially sponsored research is less in the CEE countries than in "The West." The large commercial production activities of many of the research centers in the CEE countries is probably not a function to be encouraged in the public sector.

Researchers and extensionists must take more account of the needs of the farmers, take positive steps to identify these and ensure that strong permanent and effective links are forged between all parties. Frequently, within the CEE countries the concept of the stake-holder is difficult to grasp. Slovakia for instance has no direct translation for the word, and yet stake-holder analysis is crucial to the positive development of all sectors of the agricultural industry. The research and extension sectors must work with the education sector to ensure that the farmers are aware not only of the need and methods for improved quality and more efficient production but of the farmers' role in maintaining biodiversity and protecting the landscape. CEE countries have a

potential competitive advantage in this area at present which should be guarded jealously. The full potential of the current level of information technology has yet to be identified and put into practice. Advisers need to work more closely with journalists to produce more effective mass media programs.

It will take several years for most CEE countries to achieve an agricultural industry that is fully competitive with that of the EU but given the political will and the continuing support of the international community, there is no doubt that this can be attained. The farmers that survive into this era will have learnt their lessons the hard way and will prove very efficient competitors to the EU farmer used to a high level of protection.

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Restructuring of Extension and Advisory Services in Estonia: Expectations and Outcomes

Olav Kreen

The restructuring of agricultural sector is an important issue for all transitional economies of Eastern and Central Europe. Farming support services, including extension and advisory services, have to follow needs of restructured agricultural sector. Each country has its own unique features in economy and development. Estonia is known as a country with liberal economic and trade policy with minimum interventions. The development of advisory services has also followed the liberal policy, i.e., free market should be the main regulative factor. Three main trends can be identified in the development of extension complex in Estonia. First, initiating a new institutional setup for advisory services; second, building client-oriented advisory systems; third, initiating free advisory market. The issue of sustainability has not yet received much attention. The Estonia case is a good example of a country in transition that has been trying to build up private agricultural advisory services, experiencing need identification, problems, achievements and shortcomings in the process. This can provide valuable lessons for other countries of the region.

INDEPENDENCE AND TRANSITION IN THE AGRICULTURAL SECTOR

As Estonia was passing through a period of restoration and regaining its independence during late 1980s and early 1990s, many reforms were introduced, and several among them such as Law of Peasant Farming, Property Reform, Land Reform, Agricultural Reform, and Currency Reform, were related to agriculture. The Law of Peasant Farming provided legal framework for establishing private family farms. One of the main aims of the property and land reforms was to restitute land and property to the people (or their descendants) who were its owners in 1940, before the Soviet occupation. The main objective of the agricultural reforms was to privatize existing state-owned large-scale agricultural enterprises. As a result, the former state and collective farms were divided into small units, and a number of agricultural enterprises like cooperatives and stock companies were established. The new cooperatives were different from the ones during the Soviet era in the sense that, instead of being just administrative units, they were meant to act as business enterprises in a market economy, representing the business interests of their members. Many private farms were also established. According to official statistics for 1998, there were about 34,500 family farms and 1,000 other agricultural enterprises in Estonia, and the average size of private farm was 28.5 ha.

After leaving the Soviet Union, Estonia lost its traditional, and at that time, its only foreign market for agricultural products. The situation underlined the need for active search to locate new markets to maintain the income of the producers. At the same time, some changes also took place in marketing management. Unlike in the past when the export of agricultural products was managed nationally, the government gave up financing and management of such services, while the producers did not have any export organizations of their own. The government also gave up domestic market management. As the producers, including the owners of new private farms, had no domestic marketing organizations, they were left facing the monopoly of processing industry. This also affected the third group of producers, i.e., subsidiary households, for whom collective and state farms used to organize quite a number of services, including those related to marketing and advising.

The government started the reforms but failed to organize any support services and compensation mechanisms that would help the rural population in adjusting to the changes and thus minimizing the negative influence of the reforms. One case in point is the agricultural reforms that were started by the government but whose expenses were covered by newly formed agricultural enterprises (5% of collective farm assets were used to meet the costs of the reforms). The reforms, however, did not address the issue of national financing of extension under the new conditions. There was no government financing for a national information campaign that was supposed to make people aware of their rights and obligations. The government also lacked financial assets to transfer some of the functions that had nothing to do with the main objectives of collective farms to other institutions. Similar problems were faced concerning other reforms and innovations.

BACKGROUND OF EXTENSION IN ESTONIA

During the Soviet regime, the Estonian agriculture was a large-scale agricultural operation. While collective and state farms provided the bulk of agricultural production, the rural households also contributed although in a different way. As the wages earned in collective farms or rural enterprises (shops, schools, libraries, etc.) were only sufficient to cover elementary expenditures related to food and household goods, most of the people employed by collective farms raised livestock and grew vegetables, and sold them to earn extra income needed for building houses and buying cars and other goods that they could not afford otherwise.

During the Soviet period, extension activities were based on the activities of agricultural and veterinary research institutes and experimental stations. The extension units called Agricultural Administration, located at regional administrative bodies, served as the main extension agencies, and as the name refers, the people working there used to be more of administrators than specialists. Main channels of information dissemination were publications, regional meetings of specialists, demonstrations, and competitions. The extension system followed a top-down approach. However, regular regional meetings provided good environment for group communication and partners' network development at subject-matter specialists' level.

The extension specialists during the Soviet period had good education in their narrow subject matter. However, they had little knowledge of and experience in integrated approach to

agricultural production, and even less knowledge of communication and social change management. The main reason was the nature of curricula in agricultural schools and Agricultural University, which reflected the structure of agriculture. The curricula also contained quite a number of topics like political economics, didactics, history of the communist party, etc. that were of no relevance whatsoever to agricultural practices, but were still given priority over the technical subjects. Often, the university graduates who had obtained high grades in political issues, had better chances of employment and promotion than the ones with good professional and practical background.

The extension system comprised three levels, namely farm, county and national. Every collective farm had its own specialists whose number varied according to the farm size. Larger farms had more than one specialist, and the titles and work were assigned according to technical theme, for example, agronomist for seed multiplication, agronomist for fodder cultivation, etc. The work of these specialists was very much oriented to the administrative tasks of the farm. Therefore, more than 50% of the specialists' time was spent on just administration, and the rest on the respective technical subject matter.

The collective farms and the state farms, called kolkhozes and sovhozes respectively, were large-scale agricultural production units that employed rural people to manufacture primary agricultural products. As for other industries, these farms also supposedly "belonged to the people", while in fact, sovhozes were state-owned and the wages paid to the employees came from public funds. Kolkhozes, with the exception of land, were by juridical status owned by members, but their planning and certain financial aspects were handled by the government. As all the planning was done at very high level, in most cases by the communist party bosses, the employees had no say in the matters related to land improvement or general management. Still, local specialists played important role in implementing the plans involving technical decisions like fertilizer dose, etc.

The county level administration also had specialists in different disciplines. These staff provided relevant information to the farm specialists, in addition to controlling work quality and monitoring progress of the farms. These staff organized meetings for farm specialists to disseminate information, and also held annual competitions for identifying the best farm specialist. This particular activity helped to increase the knowledge of specialists. During the Soviet period, since agricultural activities were planned at central level, the farmers were not involved in extension programming.

A similar pattern was followed at the national level where the specialists in the Ministry of Agriculture dealt with county level specialists. One very important task of the Ministry was to maintain linkages with research. Research stations and experimental plots received their research plans from the Ministry. Since not only the research topics but the research funds also came from the Ministry, the situation in this specific matter used to be better than at present. The county specialists were, as a rule, involved in research process due to the fact that the research stations located in counties represented the practical dimension of research, i.e. testing the theory for its practical value. This mechanism facilitated the availability of results to the county and collective farm specialists and researchers who could adjust their activities according to the advice received

from the practitioners. The Ministry also handled the task of information distribution through printed matter, seminars and through its established hierarchical network.

The socialist extension system met the requirements of large collective farms rather well, as the information was disseminated very fast. The information channels comprising newsletters, magazines, and technical subject-matter specialists were always kept open and available to all the interested parties. One can notice here the beginning of bottom-up approach, as every farm specialist clearly knew whom to contact for queries. The activities like seminars, field days held for sharing of experience at experimental plots and model farms gave farm specialists opportunities to meet and learn from one another.

TRANSFORMATION OF EXTENSION AND ADVISORY SERVICES

In general, when one system is abruptly replaced by another, considerable confusion is bound to follow. As planned economy did not work any more, the farmers who were in fact "freshmen" had to change their way of thinking and also their attitude. They had little knowledge of production and were not able to comprehend various relevant aspects required for decision-making. Under the circumstances, the need for the establishment of a new services system, including advisory, became inevitable (Tamm 1993). As mentioned earlier, three main trends in the transformation of extension complex transformation can be identified in Estonia. First, initiating new institutional set-up for advisory services; second, building client-oriented advisory systems; and third, initiating free advisory market.

Initiating a New Institutional Setup for Advisory Services

In 1989, Research and Development Project was initiated and funded by the Ministry of Agriculture on development concept of advisory activities for Estonian agricultural sector. The project was handled by the Higher School of Agrarian Management (since 1993 Institute of Rural Development), and the first training courses for specialists interested in advisory work and organization were offered in 1989.

After the establishment of new family farms, the most innovative farmers realized the need for associations of their own, so the very first Farmers Federation was established in 1989. The first advisory system in independent Estonia was organized by Farmers Federation in 1991. This system included regional advisory stations of farmers unions, training centers located at two farmers unions (Harju and Viljandi), and the Jäneda Advisory and Training Center. Presently, there are 16 regional Farmers Unions (in 15 regions of Estonia), plus Farmers Union of Türi, that are connected under a central umbrella organization, Estonian Farmers Federation. The role of the Federation is to protect the interests of its members at national and political level, more specifically, represent the farmers at national level, participate in the development of different subsidy and support schemes, and help in improving farming to increase its efficiency. The unions have good relations with similar organizations in Scandinavian and European countries. After the privatization, these organizations helped the union members in getting second-hand machinery and equipment from their respective countries. Each Farmers Union has its own Management Board

and a Manager who represents his organization at the Central Farmers Federation. Most of the Farmers Unions employ their own advisers as well.

An appraisal of the complex of organizations involved in the provision of advice to agricultural producers in Estonia was carried out in 1992. The appraisal formed part of a wider project whose objective was to formulate a general strategy for the establishment of a comprehensive nation-wide extension service in Estonia. The project was financed by the Ministry of Agriculture and executed by the Institute of Rural Development. (Dembovski 1994). The activities for building up new advisory systems were held back because of hyperinflation and currency reforms. After the Parliament elections, the new government decided to build up advisory system on the basis of the Estonian Farmers Federation.

Building Client-Oriented Advisory Systems

The action taken during the period from 1992 to 1995 reflected a trend to apply different advisory models in Estonia borrowed from different countries. A number of projects financed by different donors were initiated to support the development of extension services. Several of these projects did not prove to be sustainable, while most of them failed to "implant" the advisory model from the country of origin. Still, these projects were useful since they not only provided training opportunities for the nationals but also developed a new understanding of extension. The two missing elements during the introduction of foreign models were general extension complex management and coordination of various projects at national level. Some examples of the advisory systems tried in Estonia are discussed in the following sections.

Advisory System of the Estonian Farmers Federation

This system has been developed in cooperation with the Danish Agricultural Advisory Center, with technical support from Denmark. The project was initiated in 1993. The structure of the advisory system is designed in line with the structure of organization of the Farmers Federation. There is an advisory service at every county farmers' union (total 16). Advisory and Training Center at Jäneda is a training, advisory, methodology and development center for advisory services for farmers unions, advisers and also for farmers. As many good specialists had lost their jobs after collective farms were privatized, the farmers unions started to use their services for advice. At the moment of establishment, the total number of advisors working under this system was around 65, which has now decreased to 56. According to the initial plan and the main idea of the "Danish model", the activities of advisory services should be controlled by boards at farmers union level and by the central boards at national level. However, the idea of advisory services management by farmers boards was not realized in practice. Effective 1998, Advisory and Training Center in Jäneda became a governmental institution and it does not any longer formally belong to the advisory system of the Estonian Farmers Federation.

Advisory Cooperatives

In 1994, an "advisory cooperative" was established in Viljandi county. Following the experience, three more advisory cooperatives were established in three other counties (Tartu, Järva, Jõgeva) in 1994-95. The decisive factor in establishing the first advisory cooperative was the financial support from the Ministry of Agriculture of Germany. The advisors of the cooperative were also trained in Germany. The member fee covered a small part of the expenses. The activities of the cooperative were supported by the state advisory program initiated by the Estonian Ministry of Agriculture in 1995. However, the activities could not sustain after the German funding ended.

Knowledge and Information Center of the Estonian Agricultural University

The Center was created in 1994 under an inter-disciplinary project aimed at facilitating knowledge transfer between the Estonian society and the University. The overall objective of the project was to develop cooperation in Estonia among researchers, advisers and rural producers, with the purpose of providing solutions to problems in the field of rural and agricultural development through an inter-disciplinary approach, thus improving linkages between the rural society and agricultural research activities. The project had two main goals for extension development. First, to promote an integrated, inter-disciplinary approach to work out solutions for dairy management through initiating a temporary working group comprising researchers and experts. The cooperation between researchers and reference group was important in order to meet the needs of clientele in the best possible way. Second, starting a newsletter, "Maamajandus" (Rural Economy), to introduce different queries and aspects of rural economy and agriculture. Politicians, decision-makers and leaders of rural life, teachers of agricultural schools and advisers are the target group of this newsletter. The project was jointly developed by the Research Information Center of the Swedish University of Agricultural Sciences and the Institute of Rural Development of the Estonian Agricultural University. The project was not sustainable as the activities almost ground to a halt due to insufficient funding and support.

Project on Dairy Farming Improvement

The project, supported by the Dutch Government, concentrated on pilot farms and advice based mainly on the experiences gained in the Netherlands. A number of farms were selected and advisers were given on the job training on farms. The activities concentrated more on farm trials and grassland management than on advisory skills. Still, several advisers were trained and good demonstration sites based on real situation at private farms were established.

Initiating Free Advisory Market Development

The Government of Estonia has certainly recognized the need for proper agricultural services. The Agricultural Training and Advisory Center at Jäneda was allocated some additional budget for advising farmers. The farmers unions were also supported by the Government. Still, the Government did not wish to be the sole provider of a state extension service, considering its long-

term implications for state budget support. So the objective set was to create an advisory system and to deliver advice, but to do it by facilitating the development of a free market advisory complex. However, at the same time, the Government did not want to promote one single advisory service either in spite of the fact that it provided, and still does, a considerable support to the Central Farmers Union and its advisory service in the counties as well to the Agricultural Training and Advisory Center at Jäneda. The Government realized that the advisors of farmers unions were not able to give adequate advice to large-scale agricultural enterprises. The farmers were also complaining about the quality of advice they received. So the need for restructuring was generally recognized by the Government.

New coordination activities have been initiated since 1994. A seminar on the role of the State in the development of advising activities was held and attended by the representatives of relevant organizations. Eventually, a specialist in extension and advisory matters was employed by the Ministry of Agriculture in 1995.

As the first step in the implementation of new advisory policy, a budget provision amounting to 2.3 million EEK, to be used for developing advisory services was made in 1995. As much as 40% of this amount was meant to enable the farmers to "buy" advice under an arrangement where the allocation per farmer was 500 EEK, and the farmer had to pay 10% of this sum. These funds were disbursed among the county governments responsible for implementing the scheme. Due to budget constraint, the funds were released with considerable delay. Also, some county governments did not clearly understand what the funds were made available for.

During the summer of 1995, the World Bank offered the Ministry of Agriculture an opportunity to establish an advisory development fund. In November, a two-week tour to six different counties of Estonia was organized for the representatives of the British Know-How Fund (KHF) and PHARE Advisory Service Project consultants. The options for supporting agricultural producers were discussed with the county government, local farmers unions representatives, advisors, farmers and agricultural specialists. KHF, on its turn, organized a seminar in December 1995 for the Ministry and its advisers on the use of model contracts. The feedback from the seminar was incorporated in the scheme description being translated into Estonian language. The copy of this summary was sent to every county in Estonia, where the local municipalities were asked to distribute this document among different advisory and producer organizations. During the next four months, several follow-up meetings were held with county government officials, advisory commission, county governors and representatives of different institutions, leading to the development of final versions of the advisory scheme and "Contract of Advice."

In line with its free market policy, the Government of Estonia wishes to see the development of a competitive free market of advisory services where the producers are free to buy the kind of advice they need at a mutually agreed price. However, considering the situation in agricultural sector, the Government realized that since the capacity of farmers to buy advice was very low, there was a need to subsidize the advice.

In 1995, the PHARE Advisory Service Project was started in Estonia, to support the Ministry of Agriculture in developing an advisory service system. The national advisory activities program and the PHARE advisory service program, with the participation of the British Know

How Fund, prepared a scheme for utilization of advisory subsidies that may be considered as preparatory work for utilization of advisory component (about 15% of the loan amount) of the World Bank agricultural loan. The objective was to encourage farmers to use advisory services in a way that would increase production efficiency. To apply the advisory subsidy system, all the advisors were asked to register at the Ministry of Agriculture. By the end of 1996, as many as 630 companies and private advisors were registered; 94 of them were companies with 411 advisors, and 125 were private entrepreneurs.

The present advisory system has no direct obligation of distributing EU-related information, but nevertheless, events being financed on behalf of the advisory project serve the aim of providing the farmers with training on issues related to EU. In terms of individual advice, the advisors inform their clientele about the standard and regulations established or to be established by EU that have some impact on the local market. Most certainly the advisers have to be aware of EU regulations and directives on food safety and environment protection, as these are the issues becoming more and more relevant to EU accession.

The implementation of the new advisory system has not been that smooth as many problems were faced in the development of the new system. The administrative system for the scheme is rather complicated, new computer software had to be developed, and of course, the county government officials processing the paperwork had to be trained. Also, there being no legislation covering the advisory scheme, agriculture is considered rather an insecure and unstable profession. Also, the Farmers Central Union has serious reservations about the scheme. Its members are of the opinion that their organization should be the only one to get all the subsidies provided and that agriculture in Estonia should be supported solely by their advisers. Other institutions, however, do not support this idea.

THE PRESENT PATTERN OF EXTENSION SERVICES

The general concepts for the advisory services were completed in 1996 and from there on the structure has been in constant development. It would not be wrong to say that compared to other countries, the extension and advisory mechanism of Estonia appears to be rather unique.

In terms of the lessons learnt from West European countries, the influence of Denmark was rather strong, especially in terms of structuring and establishing farmers unions. The ideas of privatizing advisory system came from Holland and the Great Britain, where the state-owned extension companies were privatized in early 1990s. Although Holland privatized its extension system, the government kept subsidizing advice for many years thereafter, decreasing its share of amount every year.

There is no state extension service per se in Estonia. It does not mean, however, that the state is not supporting the advisory services. In June 1996, the Ministry of Agriculture introduced the idea of developing "free advisory market", where all advisers and advisory organizations, no matter state or private, compete with each other. The state is also supporting the development of advisory service through Advisory Fund, which is managed by the Advisory Committee. The Advisory Fund pays direct subsidies to the farmers enabling them to hire the most efficient and

suitable advisers of their own choice. The payment of subsidies is based on the contracts concluded between farmers and advisers. There are certain rules, however. For example, in 1996, the upper ceiling for subsidized contract per farmer was 2,200 EEK, and the farmer had to pay 10% of this amount (**Table 1**). The entire scheme is quite simple. A farmer, seeking advice, contacts the most suitable adviser, in his judgement. Both of them prepare a contract containing mutually agreed terms regarding services, dates and payments. The adviser sends a copy of the contract to the relevant county government office where the contract is approved or rejected. The reasons for rejection of the contract include non-eligibility of the farmer or the adviser for the scheme, or if the farmer has already exhausted his amount of the subsidy.

Table 1. Subsidy Paid by the Government for Private Advisory Services Compared with the Financial Obligation of Farmers

Year	Limit of subsidy per farmer (EEK)*	Farmer's share of payment (EEK)*	Farmer's share in contract (%)	Comments
1996	1,980	220	10	Main subsidy since June1996
1997	2,700	300	10	Main subsidy
1998	2,550 1,800	450 1,200	15 40	Main subsidy/additional subsidy since June 1998
1999	2,550 3,000	450 3,000	15 50	Additional subsidy

*1 EEK=0.125 DEM

The lists of eligible advisers are available in each county office and a special registration program is used to check the subsidy payments each farmer has received. Officials do not interfere in advice or payment rate matters as these should stay only between the farmer and the adviser. Approval of the contract means that the state subsidy on this particular contract is guaranteed. Not all farmers and advisers are eligible for the scheme. A farmer, in order to have being entitlement to the advisory subsidy, must be officially registered, market at least 50% of farm produce, his farm providing full-time job for at least one person (farmer himself, family member or somebody else), and be a production unit and not a hobby farm. The adviser must be qualified by virtue of an endorsement procedure, where the levels of professional knowledge and communication skills are tested. Only the so-called "independent" advisers can qualify. This means that an adviser cannot be employed by a company that sells farm inputs or purchases farm products, or by an organization that enforces state control or carries out inspection activities. Presently, most independent advisers act as free-lancers or employees of advisory companies or farmers unions. A qualified adviser is expected to serve the farmer's best interests.

After the approval of the contract by a county government, the adviser delivers the services as agreed, and reports the actual time spent and services offered. The farmer, if satisfied, approves the report and pays his share of the contract (15 or 50%). The copies of the report and the receipt are sent to the county government, where the advisor is paid the outstanding balance of the contract amount (85 or 50%). The farmer's satisfaction with the quality of the work done by the adviser is very important. If a farmer is not satisfied, the report is not approved and the adviser can neither get state subsidy nor farmer's payment. This method of quality control is really effective, and the advisers who do not meet farmers' expectations go soon out of business.

The subsidy funds allocated from the state budget and the World Bank agricultural loan amounted in total to 6 million EEK in 1998, and almost 3,000 farmers used advisory services through the subsidy scheme. The plan is to increase farmers' share step by step. In 10 years of time the farmers should bear most of the costs of the advisory service. The Advisory Fund is financing the so-called group advice, training and extension activities, including field days, farmers' study groups, printing of handbooks, booklets and so on. In 1998, 3.1 million EEK were allocated for this purpose. The financing of this kind of activities is project-based. State and private organizations and self-employed advisers submit their project proposals, and the Advisory Committee selects the sound ones for financing.

Only certified advisers are eligible for the subsidy scheme, and if the farmer uses the services from non-certified advisor, he has to pay 100% of the contract amount. The number of certified advisers is 160. The criteria for certification of advisers were developed in 1996. In order to be certified, an advisor must:

- have either a university degree or equivalent qualification in agriculture or a related field (in case his/her technical qualification is lower, a recommendation is required from the agricultural specialist of a county government);
- be self-employed or employed by organizations and business (trading companies and agri-business enterprises) provided that these organizations or businesses do not seek to make a profit from farmers by selling them other goods like farm inputs or services other than advice;
- have received training in advisory methods and communication skills;
- have prior experience as an adviser.

In 1998, one more criterion was added: the advice being orally given to the farmers must also be put in writing. This will give the producer something tangible and would help in settling possible disagreements that may arise later. The written advice should contain the following components: (a) description of present situation and possible causes of the problem; (b) expected situation in the future, i.e., the target; (c) various options for solving the problem; and (d) comparison of various options with economic analysis of each option.

Advisers are trained not to take responsibility and make decisions for a farmer but rather guide them and make farmers to decide themselves. The reason for implementing such procedure is to increase efficiency of advisers and create better understanding among farmers about what is happening on their farm.

INFRASTRUCTURE FOR ADVISORY SERVICES

Together with the development of the advisory services, the need to develop necessary support structure for advisors was also recognized. Several support systems and information services are available both for farmers and advisers, mostly provided by state–owned institutions. All the laboratories of the Ministry of Agriculture, State Veterinary Service and the Agricultural University are providing services to advisors and farmers. For instance, milk quality can be tested in ARIC Central Milk Laboratory and at the Agricultural University. Feed and water analyses can be done in several feed laboratories of research institutes and in veterinary laboratories, which also

offer services for blood analyses for metabolic disease detection. ARIC, certified advisers, the Agricultural University or commercial suppliers make necessary arrangements for testing of milk equipment upon farmers' and/or advisors' request.

In spite of all these measures, the information flow from the research to extension is not satisfactory. One of the reasons is that although the advisers have the umbrella organization of their own (Estonian Association of Rural Consultants), they still have not been able to make the researchers appreciate their needs. The research institutes publish the results of their studies in newspapers and magazines. They also organize field days and seminars for interested advisors and farmers. Unfortunately, the information they provide is not always ready to be used by the advisors and needs to be adapted to the real needs. The researchers are not very keen on conducting applied studies, as most donor organizations do not show any interest in supporting such research. This means that the advisors need to spend quite a lot of their valuable time in search for information they need for their daily work.

During the last two years, two surveys have been conducted to find out what are the main sources farmers turn to in case they need agricultural advice. More than 50% respondents were of the opinion that they do need advice and assistance from a specialist. Most of the more advanced producers valued advisors and their input very highly. Those advisors are able to carry out farm situation study (technical and economic) and they are trained in problem tracking. Farmers consider the solutions they offered as reliable and serving their best interests. Researchers and the Agricultural University scientists are viewed as a source of information mainly for large-scale producers with good production level. General farm analysis is not expected from these scientists since farmers seek answers to very specific technical problems. The results of the surveys were processed by the Rural Development Center, and are available both from the Center and the Ministry of Agriculture. The results were also published in the newsletter of EARC with the objective of giving the advisers a chance to improve the quality of their work for the farmers. Both surveys were designed to cover the main aspects of farm advice including, general opinion on the advice received, organization of advisory system, benefits of advice, for how long has the respondent been using the services of an adviser, etc. In 1998, the questionnaires were sent to all the farmers that had made use of advisory subsidy scheme, and the same is expected to be repeated this year.

As far as extension-related planning is concerned, the strategies developed have mostly been short-term, for one-year period. There is no official advisory support strategy available, one of the main problems faced by the Estonian advisory system. The programs considered as long-term planning have, in fact, been the planning and implementation of the World Bank agricultural loan advisory service component.

The advisory subsidy is the very first support directly provided to agricultural producers. As the farmers are not given any cash, they do not consider this as a direct support. The general agricultural policy is aimed at supporting the producers to enable them to contribute towards improving the efficiency of agriculture, improving living standard of rural population and raising the production. Another principle, informally being applied, is to support those motivated individuals who are interested in development and are willing to do something about it on self-help basis.

AN APPRAISAL OF ESTONIA'S PRESENT EXTENSION SYSTEM

The key unique feature of the Estonian advisory scheme is building private advisory services directly through open competition of advisors, giving responsibility for quality control of the services to farmers from the very beginning of the process.

Strong Points and Unique Features

Given its relatively short history, the Estonian advisory service has been considerably successful. Several achievements described in this section reflect the strong points and unique features of advisory system development in Estonia.

The governmental advisory services program and public competition of projects for funding has been initiated. The national advisory program has been financed increasingly from the government budget starting with 2.3 million EEK in 1995, increasing to 4.1 million EEK in 1996, 4.51 million EEK in 1997, 5.01 million EEK in 1998, and 5.98 million EEK in 1999. The funds provided by the advisory program are used for project financing on the basis of open competition. The program is aimed at supporting individual advice as well as group and mass activities. An impressive number of extension materials have been developed, and the materials in general seem to be of practical value to the farmers as reflected by their high sale.

The advisory council has been established, chaired by the Ministry of Agriculture, to represent different categories of farmers, research, education, private and public advisors, processing industries and the Parliament. The council meets at least twice a year.

A system for certification of advisers has been introduced. A registry for advisors has been created and eligibility criteria have been developed.

The Estonian Association of Rural Consultants and Advisors has been established, which continues to grow. Currently, it enjoys membership of about 100 very dynamic advisors in the country. The association prints a newsletter for advisers and makes use of modern technology. The information about the advisory system can be obtained from the website of EARC.

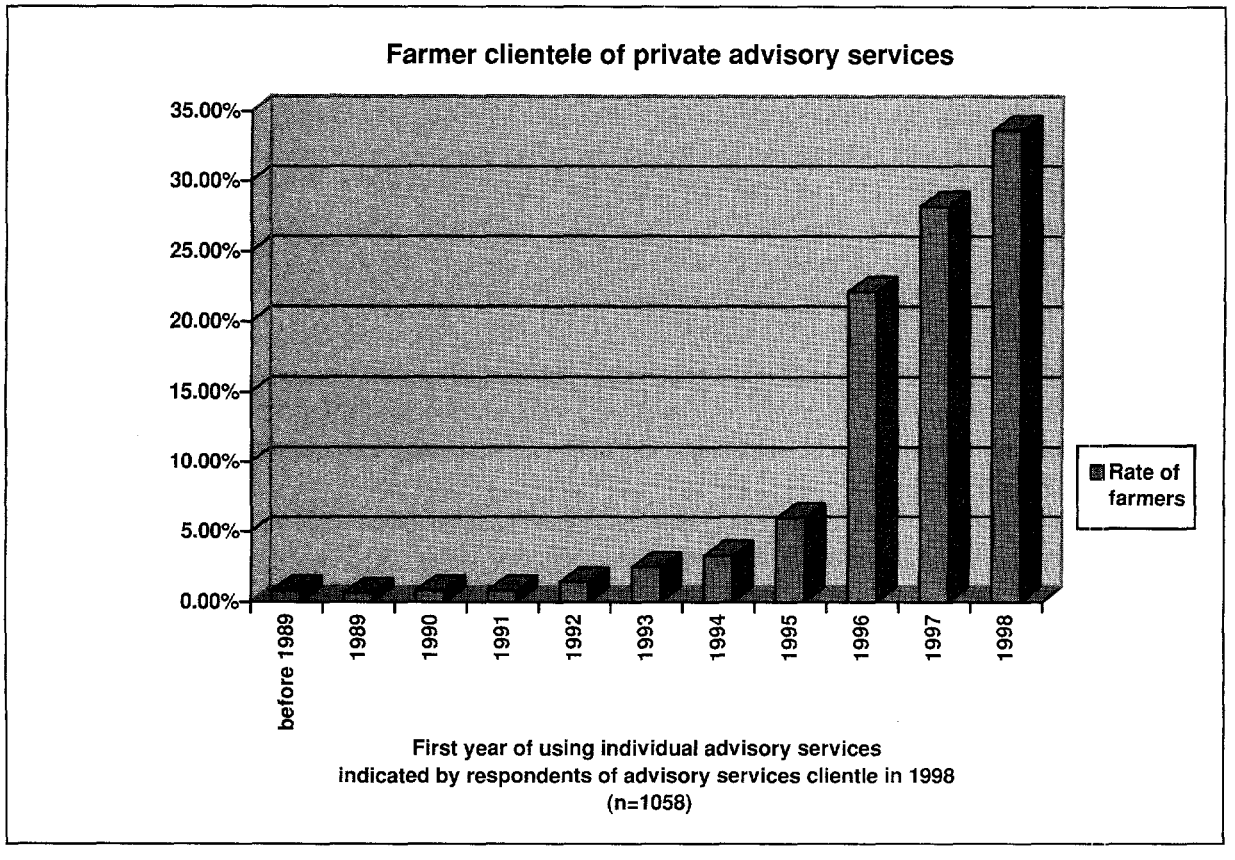
About 120 private advisers have been trained in business planning and advisory methods under the PHARE project. The trained Estonians have provided training to additional 100 advisors in advisory methods, and to about 50 more advisors in business planning. In 1998, a group of commercial bank employees was given training by the PHARE project in the subjects of agricultural loan appraisal and communication with farmers.

The first advisory company, EDLV, was established in 1997, bringing together active advisers from all over Estonia. The advisers joining the company realized the need to decrease their overhead costs, to cooperate, organize promotion campaigns and prepare their advisory products jointly. As the advisors greatly benefit from cross-selling and supporting each other, the company may be called as a good example for consideration by other countries of the region.

The demand for advice, especially that related to milk quality advice, is increasing very rapidly (see **Figure 1** below). Dairy farmers become more and more aware about the importance of producing high quality milk as a major factor influencing their income. As for the future, meeting EU standards is vital for producers who want to stay in business.

The advisers are operating in proactive way, which is important in order to give farmers proper experience in using advisory services. About 3,000 contracts were signed and approved in 1998 between farmers and certified advisers. Farmers are now paying 15% of the total costs of the services. The share of farmers' payment will be increased step by step. The farmers have expressed their general satisfaction with the service.

Figure 1



Aspects Requiring Further Strengthening

The most serious problem for agricultural knowledge and information complex is that the system is not oriented enough to the needs of the society, nor is it to finding solutions to emerging problems. Needs of the rural society are not considered as incentive for Agricultural Knowledge and Information Systems (AKIS) development. Estonia AKIS, including extension complex, does not have any mechanism for quick and adequate response to the feedback coming from the monitoring system. Extension complex is also not sufficiently client-oriented. Several important subjects are not covered by independent advisory services, such as machinery, farm construction,

forestry, legal issues, and animal husbandry in some regions. Due to this, the extension complex is not able to provide information to all interest groups on the issues of joining the EU.

The development of extension complex is not based on clearly defined goals and planned activities. Estonia does not have social agreement about AKIS future and strategy for extension complex development. Advisory and extension system management is not satisfactory. This will create planning problems in the long run. In the absence of proper coordination mechanism, some organizations and activities will end up getting multiple financing while some others will receive no support. There is an unfair competition going on between different organizations, a fact pointed out by several foreign experts, PHARE, and the World Bank.

The cooperation between research and extension is insufficient. Not only the definition of roles and distribution of tasks among different institutions and organizations belonging to extension complex is vague but the cooperation among these institutions and organizations is also insufficient.

The staff like researchers, university and college professors, county officials, book-keepers and veterinarians, whose full-time job provides them with valuable information, could use the information for the purposes of concluding advisory contracts. Thus they could benefit from the advisory subsidy the government has allocated for the farmers, without having any knowledge of the real problems of the producer. Another problem arising from the relatively high number of part-time advisers is that unfortunately, many of these persons are not concerned with improving their own professional skills, but looking for opportunities to make easy money. Investments in training and in developing long-term relations with clientele will be profitable for full-time advisers only. Farmers unions, veterinarians and book-keepers misuse their power and position to force the producers into contracts not serving their best interests. The relationship between the organizations producing the information (research institutions) and those applying it (advisers) is weak.

RECOMMENDATIONS FOR IMPROVEMENT OF EXTENSION SERVICES

The following suggestions are offered for further development of Agricultural Knowledge and Information System in Estonia:

- A clear vision and social agreement on goals and strategy for development of more client-oriented AKIS should be developed.
- The institutional development of AKIS should be encouraged and steps should be taken for more clear distribution of roles, duties and responsibilities.
- The cooperation among different subsystems and institutions belonging to AKIS should be enhanced.
- The organization management capacity should be improved and program-planning approach for AKIS should be introduced.
- The government should be more proactive when providing information and assistance to solve the problems that are created by the decisions and actions taken at national level, including those related to joining the EU.

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Workshop Program

Structural Change in the Farming Sectors of Central and Eastern Europe: Lessons and Implications for EU Accession

June 27-29, 1999
Warsaw, Poland

SUNDAY, JUNE 27, 1999

8:30-9:15 **WELCOME AND INTRODUCTORY REMARKS**

Welcome
Kevin Cleaver, Director, Environmentally and Socially Sustainable Development Sector for Europe and Central Asia, The World Bank

Introductory Remarks
Henryk Wujec, Secretary of State, Polish Ministry of Agriculture and Food Economy

Jaroslav Suchman, FAO Subregional Representative

Angel Carro-Castrillo, Head of Unit H4, European Union DGVI

9:15-16:00 **SESSION 1: EVOLVING FARM STRUCTURES IN THE CEECS IN LIGHT OF POTENTIAL EU ACCESSION AND FARM COMPETITIVENESS**

Chairperson: Csaba Csaki, Lead Agricultural Advisor, ECSSD, The World Bank

9:15-9:45 *Status of Land Reform and Farm Restructuring in the CEECs: A Regional Overview*
Zvi Lerman, DECRG, The World Bank

9:45-10:15 *Major Features of the New Farming Structures in the CEECs: Results of Ongoing Survey Work*
Johan Swinnen, European Union DGII, Brussels

10:15-10:45 *Potential Competitiveness of CEEC Farming Under EU Conditions*
Klaus Frohberg, IAMO, Halle

10:45-11:00 Coffee

11:00-11:30		*Impact of FDI on Farming and Agroindustry in the Restructuring of CEECs' Food and Agriculture* Hamish Gow, Catholic University Leuven
11:30-11:45		*Questions*
11:45-14:40		*Presentations on Individual Country Experiences:*
11:45-12:05		*East Germany:* Ulrich Koester, Kiel University
12:05-12:25		*Bulgaria:* Tom Morrison, Devec Ltd., UK
12:25-14:00	*Lunch*	
14:00-14:20		*Czech Republic:* Tomas Ratinger, VUZE, Prague
14:20-14:40		*Slovenia:* Stjepan Tanic, FAO Subregional Office, Budapest
14:40-16:00		*Discussion* *Remarks by invited experts:* William Meyers, Iowa State University EU Representative
16:00-16:15	*Coffee*	

16:15-18:00 **SESSION 2: LAND LAWS AND RELATED LEGAL INSTITUTIONS TO SUPPORT DEVELOPMENT OF LAND MARKETS AND FARM RESTRUCTURING**

Chairperson: John Nash, Principal Economist, ECSSD, The World Bank

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16:15-16:45	*The Legal Framework for Land Ownership and Land Transactions: A Regional Overview* Leonard Rolfes and Roy Prosterman, Rural Development Institute, Seattle
16:45-17:15	*Emerging Land Markets in Central and Eastern Europe* Peter Dale and Richard Baldwin, London University College
17:15-17:45	*Land Leasing and Related Registry Systems* James Riddell, FAO, Rome
17:45-18:00	*Questions*

8:30-11:45		**SESSION 2 (CONTINUED)**
8:30-10:10		*Presentation of Country Case Studies*:
8:30-8:50		*Lithuania:* Saulius Cironka, Lithuanian Agricultural Advisory Service, Kaunas
8:50-9:10		*Hungary:* Endre Tanka, Research and Information Institute for Agricultural Economics, Budapest
9:30-9:50		*Poland:* Tadeusz Hunek, Polish Academy of Sciences, Warsaw
9:50-10:10		*Romania:* Carmen Stefanescu, Scientific Association for Rural Development, Bucharest
10:10-11:00		*Discussion* *Remarks by invited experts:* Gershon Feder, DECRG, The World Bank EU Representative
11:00-11:15	*Coffee*	
11:15-11:45		*Discussion continued*
11:45-17:30		**SESSION 3: FARM SERVICES TO SUPPORT IMPROVED COMPETITIVENESS OF CEECS' NEW FARMING STRUCTURES** *Chairperson:* Michel Debatisse, Principal Agribusiness Specialist, ECSSD, The World Bank
11:45-12:15		*Evolving Commercial Farm Services for the New Farm Structure* David Gisselquist, ECSSD, The World Bank
12:15-12:45		*Farm-Level Agribusiness Trade and Services in Selected EU Countries* Jean Cordier, Ecole Nationale Supérieure Agronomique, Rennes
12:45-14:00	*Lunch*	
14:00-14:30		*Improving Farm Competitiveness – Example of Farmer Controlled Business in the North of Scotland* Simon Barry, Chief Executive, Highland Grain Ltd., Inverness
14:30-15:00		*Extension, Research and Farm Competitiveness in Central and Eastern Europe* M. Kalim Qamar, FAO, Rome
15:00-15:15		*Questions*

15:15-15:35		*Bulgaria: Survey of Farmers, Agribusinesses, and Machinery Owners* Anna Georgieva, Managing Director, Agra Analytica, Sofia
15:35-15:55		*Extension, Research, and Farm Competitiveness in Estonia* Olav Kreen, Rural Development Department, Tallin
15:55-16:15	*Coffee*	
16:15-17:30		*Discussion* *Remarks by invited experts:* Jitendra Srivastava, The World Bank EU Representative
19:00-21:00	*Reception and dinner at the Forum Hotel, Warsaw, sponsored by the Polish Ministry of Agriculture and Food Economy*	

TUESDAY, JUNE 29, 1999

8:30-12:30 **SESSION 4: CONCLUSION AND WRAP-UP LESSONS**

Chairperson: Kevin Cleaver, Director, ECSSD, The World Bank

8:30-12:00		EU Commission – Angel Carro-Castrillo, Head Unit H4, DGVI FAO – Jaroslav Suchman, Subregional Representative Country representatives Invited experts
10:30-10:45	*Coffee*	
12:00-12:30		The World Bank – Kevin Cleaver, Director, ECSSD
12:30-14:00	*Lunch*	

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