

Transformation and Privatization in the Baltics

**William H. Meyers, Natalija Kazlauskiene,
Inesis Feiferis, and Valdek Loko**

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Lithuanian Institute of Agrarian Economics

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AGRICULTURAL TRANSFORMATION AND PRIVATIZATION IN THE BALTICS

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The Baltic states of Estonia, Latvia, and Lithuania have been undertaking rapid economic and structural reforms that greatly affect the food and agricultural sectors. Among the republics of the former Soviet Union, they are progressing most rapidly in the privatization of land and production assets and in the transition to a market economy. The papers in this report describe these reforms and the progress to date in restructuring agriculture and liberalizing prices and related government regulations. This paper summarizes and compares the previous reform structure of agriculture, the reform processes and the results of reforms in the three Baltic states as of Spring 1992. It should be emphasized that there are many differences in initial conditions and in reform programs in the three countries, even though their goals are very similar.

Prereform Structure of Agriculture

Although the importance of agriculture in the economies of the Baltic states has declined substantially since the pre-World War II independence period, in 1990 agriculture still accounted for 17 percent (Estonia) to 25 percent (Lithuania) of Gross National Product (GNP) (Table 1.1). The food industry adds an additional 11 percent (Lithuania) to 15 percent (Estonia) to the GNP, making food and agriculture one-third or more of the GNP in all three countries. The percentage of labor employed in agriculture and food processing ranges from 22 percent (Lithuania) to 16 percent (Estonia). The gross value of livestock production is 69 percent (Lithuania) to 74 percent (Estonia) of the total value of agricultural production. Even in the prewar period, the Baltic states were exporters of livestock and dairy products. During the Soviet period, this tendency increased; and as much as one-half of their livestock and dairy production was sent to other republics of the former USSR.

The resource endowment of forest and agricultural land relative to population is similar in all three Baltic states, except that the forest land per capita in Lithuania is about one-half that in Estonia and Latvia (Table 1.1). About one-third of the agricultural land is meadows and pasture, and most of

the arable land is used to produce grains and fodder crops. In 1990 the density of cattle ranged from 52 per 100 hectares (Estonia) to 66 per 100 hectares (Lithuania) and hogs ranged from 55 (Latvia) to 69 (Lithuania).

Table 1.1. Agriculture in the Baltic states, 1990

	Estonia	Latvia	Lithuania
	(percent)		
Agriculture/GNP	17.5	20.2	25.3
Food industry/GNP	15.1	14.9	11.3
Agricultural labor/Total labor	11.9	15.5	18.5
Food industry labor/Total labor	4.4	3.8	3.7
Livestock value/Agricultural GNP	73.8	71.1	69.0
Crop value/Agricultural GNP	26.2	28.9	31.0
	(1,000 ha)		
Forests*	1,814	2,594	1,823
Agricultural land*	1,471	2,567	3,514
Meadow, pastures and fallow	495	880	1,222
Arable land	976	1,687	2,292
Grain crops	396	686	1,084
Industrial crops	4	30	68
Vegetables and potatoes	58	91	129
Fodder crops	468	820	933
	(ha per capita)		
Forest*	1.15	0.97	0.49
Agricultural land	0.93	0.96	0.94
Arable land	0.62	0.63	0.61
	(1,000 head)		
Cattle population	758	1,439	2,321
Hog population	960	1,401	2,436
Poultry population	6,537	10,321	16,815

SOURCE: Lithuanian Department of Statistics 1991.

*All forest data and Estonian land data are for 1989.

Productivity measures indicate that the Baltic states were significantly above the average of the former USSR, but significantly below Finland (Table 1.2). The application rates for fertilizer were generally higher than neighboring countries, except for the former East Germany. The high

rates of chemical fertilizer use were, in part, a consequence of low fertilizer prices relative to product prices.

Table 1.2. Productivity and fertilizer use comparisons for 1989

	Finland	Estonia	Latvia	Lithuania	USSR	East Germany	Poland
Commodity							
Grain (mt/ha)	3.2	2.4	2.4	2.9	1.9	4.4	3.2
Potatoes (mt/ha)	2.9	16.6	16.2	16.2	11.1	23.4	18.5
Sugar beets (mt/ha)	32.0	- ^a	29.4	31.2	26.7	30.2	34.0
Milk (kg/cow)	5,246.0	4,217.0	3,636.0	3,806.0	2,780.0	3,821.0	3,267.0
Eggs (units/hen)	n.a.	250.0	219.0	246.0	246.0	220.0	169.1
Fertilizer use							
Nitrogen (kg/ha)	100.0	83.3	101.1	137.0	44.7	141.3	69.0
Phosphorus (kg/ha)	20.0	61.9	65.9	83.0	36.8	56.4	41.0
Potassium (kg/ha)	56.0	103.2	101.1	132.0	28.8	94.4	54.0

SOURCE: Compiled from various publications.

^aSugar beets are not grown in Estonia.

Agrarian Reforms

Before official recognition of the Baltic states' independence in 1991, their governments initiated economic reforms in order to abolish central planning and state ownership in their economies and to move toward market-oriented economies. Agrarian reform was viewed as an important part of general economic reform because of the significance of agricultural and food production in the Baltics. Agrarian reform in all three Baltic countries is oriented towards the restitution of property rights to former owners, privatization of agricultural assets accumulated by large-scale collective and state farms, and formation of market-oriented economic mechanisms. Nevertheless, the design and implementation of agrarian reform differs somewhat in each country.

Agrarian reform actually started in 1989 when Estonia, Latvia, and Lithuania found a way to begin the process of reestablishing family farms under Soviet law, which still prohibited private land ownership. Individuals were able to obtain land use rights in perpetuity, including the transfer of these rights to heirs.

From 1990 to 1992 the main laws on land reform and privatization of state and collective farms were adopted by the parliaments and the implementation processes were developed and set into motion. Although the laws and implementation mechanisms differed, all three states chose to restore land or equivalent compensation to previous owners, to privatize the production assets of state and

collective farms, and to permit competition among a variety of ownership and management systems. As a result of these reforms, the number of small family farms has been increasing rapidly but is still a small portion of total farm land. Another important change is that the personal plots operated (but not owned) by collective and state farm workers are allowed to be as large as three hectares, compared with only one-half hectare during the Soviet period. Although some of the land and assets from the state and collective farms are or will be used in family farm operations, much of it is and will continue to be operated in some form of partnership among groups of joint owners, at least during the next few years. If these forms of joint ownership and management prove not to be viable, they are likely to evolve into variously sized individually owned farms. Likewise, many of the new family farms that are too small to be viable will have to become larger or survive as part-time farm operations. It will be five to ten years before these reforms play themselves out and the new structure of farming stabilizes.

Price Reforms

The Baltic states, as elsewhere in the former USSR, actually had two parallel retail markets outside the state market for many commodities. One was the cooperative retail market, where farms and cooperatives could sell products outside the state market, and the other was the private market, which was legally sanctioned for food products but not for manufactured goods. As an example, the Lithuanian data for these markets indicate that cooperative market prices were generally higher than state prices but that private market prices were much higher than both. From 1985 to 1989 the ratio between market and state prices for beef, potatoes, and vegetables increased slowly and the ratio in 1989 varied from 322 percent for meat to 567 percent for vegetables. Market prices increased substantially in 1990 and 1991 as inflation and the relative scarcity of goods increased, further widening the gap between state and market prices.

Another inheritance from the Soviet system prior to the price reforms was that production inputs in agriculture were heavily subsidized and most of the production was sold through the state distribution system at fixed procurement prices. There also was a system of bonus payments to compensate low productivity farms, and this system was designed to achieve similar profitability across the farms with different productivity levels based on different production conditions. Additional bonus payments were provided for production that exceeded the average production during the previous five-year plan. These bonus payments went to large collective and state farms, who

frequently purchased the above quota production from individual production plots at the lower state procurement prices.

The intermediate sector, between the farm-gate and the retail market, was also heavily subsidized. In many cases, retail prices were below equivalent farm prices, indicating that the government subsidy exceeded the intermediate processing and distribution costs. Even where retail prices were above farm-gate prices, there were still significant government subsidies for processing and distribution. A major motivation of initial price reforms was to raise retail prices significantly more than procurement prices in order to reduce or eliminate these very large subsidies.

The first step in the price reform process, in fall 1990, was to partially deregulate input prices across the former republics of the USSR. To the then-Baltic republics who had declared or were seeking independence, this was an external factor requiring a price policy response. The first response was to raise procurement prices to offset the rising costs of production inputs. Although the range of procurement price increases was from 50 to 200 percent, procurement prices generally doubled from previous levels. Pricing decisions differed somewhat in Lithuania, Latvia, and Estonia, but the magnitudes of increases were similar. The complex system of bonus payments was also eliminated at this time, so the actual prices received by farmers did not increase as much as the increase in procurement prices. Since the bonus payments were highest in livestock and dairy production, the net price increase to producers of these commodities was significantly less than that for crop commodities.

As input prices continued to rise in late 1990 and early 1991, producers continued to pressure the government for higher procurement prices, and governments responded with additional procurement price increases over time. There appeared to be little consultation among the Baltic states as these price changes were implemented. The increase in livestock and dairy product prices was influenced both by the increased production costs and by the need of the governments to obtain products that had been committed in contracts with other cities and republics of the former USSR. It is also important to recognize that a portion of these price increases was offset by new taxes on producer profits.

In July 1991 Estonia virtually eliminated the state pricing system for food and agricultural products and replaced it with a system of producer support prices and retail markup restrictions that allows the market to function with relatively little government intervention. Latvia and Lithuania introduced similar pricing systems later in 1991. Producer prices in all three states are now generally

set through regional consultations between producers and processors, but the governments have various mechanisms designed to influence prices.

Since inputs were heavily subsidized during the Soviet period, input prices have risen far more rapidly than producer prices. Although the largest price shocks occurred between 1990 and 1992 (Table 1.3), input prices continue to rise more rapidly than producer prices. Both are still below, but are progressively moving toward, world market prices. The data that we have on input and product prices come from different periods, which partly explains why the Estonian increases are larger. But part of the difference also lies in the fact that Estonia is the most dependent and Lithuania is the least dependent on external energy sources. Moreover, Estonia has been liberalizing prices more rapidly than the other two countries.

Table 1.3. Changes in input and producer prices and price ratios

	Estonia June 92/90	Latvia Feb. 92/90	Lithuania Jan. 92/90
Input prices			
Diesel fuel	130	77	34
Concentrated feed	26	8	10
Urea	150	30	17
Electric energy	100	40	10
Producer prices			
Wheat	48	10	4
Cattle	7	5	5
Hogs	15	6	8
Broilers	10	5	3
Milk	19	11	5
Price ratios			
Urea-to-wheat	3.1	3.0	4.2
Feed-to-hogs	1.7	1.3	1.2
Feed-to-broilers	2.6	1.6	3.3

SOURCE: Calculated from data in the following papers.

The price changes have been huge, the largest being that urea prices in Estonia increased by 150 times from 1990 to mid-1992. All input prices and some producer prices increased more than the general price index during the period. The price ratios for urea-to-wheat, feed-to-hogs, and feed-to-broilers have moved more consistently across the three countries than have the individual prices, which indicates the internal consistencies of policies in each country. The large increases in these

price ratios, from three to four times for urea-to-wheat and from 1.2 to 3.3 times for feed-to-hog and broiler prices, indicate that large resource allocation and product mix adjustments must occur for farm enterprises to remain viable. The direction of these adjustments is toward lower use of energy-intensive inputs, such as chemicals and fertilizers, and shifts from livestock dependent on purchased feed toward pasture-dependent animals.

Changing Structure of Agriculture

Even though the agrarian reforms were only beginning to be implemented in 1991, the changing structure of production can already be seen in the changed shares of production (Table 1.4). The portion of production in the public sector decreased for most major crop and livestock products. The largest declines were for potatoes and vegetables, which use a small portion of total land and have been heavily emphasized by those who operate the personal plots. The large farms still dominated grain, flax, sugar beets, and livestock production in 1991, and most of the commercial production of these products will probably continue to come from the group of larger farms that emerge from the privatization process.

Another significant change is in the composition and level of livestock production. The region's agroclimatic conditions are very suitable for beef cattle and dairy production, and these were produced in abundance even before the Soviet period. However, large hog and poultry complexes were emphasized during recent decades as a part of the Soviet plan to provide meat and eggs to Moscow and St. Petersburg (then Leningrad). These complexes were highly dependent on imported feeds and on external demand for 30 to 40 percent of output. Furthermore, during the Soviet collectivization, the small-scale dairy and cattle herds of family farms were converted to large complexes of 400 to more than 1200 cows.

However, since 1989, animal numbers on state and collective farms and total animal numbers have been declining (see details in following papers). This was accelerated in 1991 by the loss of product markets in the USSR after the restoration of independence by the Baltic states, the loss of cheap feed concentrate supplies through the Soviet procurement system, and the decline in purchasing power in domestic markets. The largest decline was in hog numbers, since this sector was heavily dependent on the East both for feed grain and markets. Poultry was dependent for feedstuffs, but most of the market was internal. Compared with hogs, dairy and beef cattle were less feed dependent but had similar market dependence on the East. The drought effects on the 1992 grain and fodder crops and pasture are expected to cause further losses in animal numbers. It is yet to be seen how

Table 1.4. Public and private sector shares of production in 1990 and 1991 in the Baltic states

Products	1990		1991		
	Public sector	Personal plots and family farms	Public sector	Personal plots	Family farms
	(percent)				
Estonia					
Grain	93.4	6.6	83.9	4.0	12.1
Potatoes	51.1	48.9	31.6	49.7	18.7
Vegetables	41.0	59.0	31.7	53.1	15.2
Flax fiber	87.2	12.8	70.6	0.0	29.4
Meat total	83.2	16.8	76.5	22.2	1.3
Milk	84.3	15.7	80.6	17.0	2.4
Eggs	82.5	17.5	81.2	18.3	0.5
Latvia					
Grain	93.3	6.7	85.8	7.5	6.4
Potatoes	38.1	61.9	26.2	65.6	8.2
Vegetables	55.4	44.6	37.5	55.6	6.9
Flax fiber	100.0	0.0	97.2	2.8	0.0
Sugar beets	92.9	7.1	81.8	9.9	8.3
Meat total	73.1	26.9	68.8	28.0	3.2
Milk	71.1	28.9	65.1	30.7	4.2
Eggs	89.7	10.3	86.9	12.4	0.7
Lithuania					
Grain	90.6	9.4	79.1	18.3	2.6
Potatoes	26.2	73.8	19.4	76.4	4.2
Vegetables	40.6	59.4	12.4	81.9	5.7
Flax fiber	99.0	1.0	96.2	1.5	2.3
Sugar beets	99.9	0.1	95.9	1.9	2.2
Meat total	75.0	25.0	67.0	31.0	2.0
Milk	58.7	41.3	54.0	45.0	1.0
Eggs	67.9	32.1	69.0	30.0	1.0

SOURCE: Calculated from data in the following papers.

long the shift from large to small production units for livestock will continue, but it is expected that the most efficient medium-sized complexes will survive.

Conclusions

Changes are occurring rapidly, so the progress reported in the following papers should be seen as an interim picture of the reform processes. All three governments still have important decisions to make including macroeconomic and trade policy, privatization of other sectors of the economy, and long-term agricultural policy. These decisions will be at least as important as the privatization and liberalization programs that are being implemented now. Agricultural, trade, and social policies adopted by new parliaments and governments in coming elections will have a great impact on the development of the agricultural sectors in all three Baltic states.

AGRICULTURAL TRANSFORMATION AND PRIVATIZATION IN LITHUANIA

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As part of the general reform of the national economy, agrarian reform was formulated and implemented by the first government after Lithuania declared the reestablishment of its independence in 1990. This first program is being reviewed and is to appear in its final form in the summer of 1992.

The reform actually started in 1989, even before all necessary laws were adopted by the Lithuanian Parliament. The first step was to reestablish individual farms by giving land use rights to applicants who were qualified to farm. Based on the law establishing peasant farms in Lithuania between summer 1989 and fall 1990, about 6,000 private farms began operations.

The next step was in 1990 and 1991 when basic laws were formulated and adopted by the Lithuanian Parliament to implement agricultural reform throughout the republic. They included:

1. Law on the Procedure and Conditions of the Restitution of the Rights of Ownership to the Existing Real Property, adopted June 18, 1991;
2. Law on the Land Reform, adopted July 25, 1991;
3. Law on the Privatization of Property of Agricultural Enterprises, passed July 30, 1991;
and
4. Law on the Forms of Agricultural Partnerships, adopted earlier, April 16, 1991.

The goals and the main stages of agrarian reform are included in these four laws. Together with subsequent regulations, they form the legal basis for agrarian reform in Lithuania.

The institutions heavily involved in agrarian reform are the Central Privatization Committee, the Agrarian Reform Committee, the Ministry of Agriculture, local (regional) committees of privatization, regional boards, and agrarian reform services of the 44 administrative districts. Research and information institutions are also assisting in the implementation of reform.

Land Reform

Prior to this agricultural reform all land belonged to the state and was used by agricultural producers (state and collective farms, and individual producers on subsidiary plots) on a lease basis. Currently, significant changes in the property rights determined by the special Law on Land Reform are being made. The basic principles guiding the process of land reform are formulated as follows.

1. Private individuals as well as the state can own land.
2. Private individuals can acquire the land in two ways: by purchasing the land from the state or by the restitution of property rights to former owners. There is one main requirement, in either case, that the person applying for the land has to be a citizen of the Republic of Lithuania.
3. Private individuals or groups can get the land for their activities on the basis of a lease from the state. In this case, the state determines the purposes and conditions of the lease of land.
4. The maximum area of land that can be privately owned is 80 hectares, including 25 hectares of forests.
5. The state forms a special fund of land that will not be privatized and can be used by the state for road construction, expansion of cities, defense, research and training purposes, environmental protection and recreation, as well as for establishment of special agricultural enterprises. This area is 46,000 hectares.
6. Former owners (from the inter-war period) have priority in acquiring the land for agricultural purposes.

According to the law, the right of land ownership is restored based on the applications of former owners and their legal heirs. It can be done in three ways: (1) actually giving back the same plot of land they owned before collectivization; (2) providing a corresponding plot of land in the same area or near their current place of residence; or (3) providing them with compensation, taking into account the size and quality of land.

In the beginning of land reform there were government-imposed restrictions on land use, which significantly affected the way the reform was conducted. Primarily, the land was supposed to be used only for agricultural production; and land could not be sold or leased for five years. Later, recognizing the fact that such an approach towards property rights regarding land was going to slow the pace of agrarian reform, the Lithuanian government lifted these restrictions. Since May 1992, privately owned land is in full possession, use, and disposition of new owners.

The restitution of property rights for land was based on the claims of former owners and their legal heirs, including grandchildren. The initial deadline for claims was December 31, 1991, but it was postponed to late April 1992.

The process began with the liquidation of state and collective farms as legal farming units, based on the government decree on reorganization of large-scale farming operations in the fall of 1991. Private farms that had been set up on the basis of the 1989 law were not affected by restitution of private land ownership to former owners. There were several options for former owners who had to make decisions about their land:

1. To assume ownership of the land and use it individually for agricultural production, starting with the 1992 planting season;
2. To assume ownership of the land and pass it on to agricultural partnerships in the form of a share to be used for agricultural production;
3. To postpone actual farming for five years; or
4. To get compensation for previously owned land.

People who did not own the land during the inter-war period and thus could not inherit it have an opportunity to buy the land from the state at a fixed price, depending on the quality of soil and location.

The data on the situation in land reform at the end of April 1992 is presented in Table 2.1 showing the total number and distribution of claims for the land made by former owners. Out of more than 415,000 applications, claiming more than 3.9 million hectares of land, only 93,500 or 22.5 percent decided to start farming in 1992. More than 23,000 were actually able to start their activity in spring 1992, and nearly 35,000 claimants are to start farming in fall 1992. Significant numbers of claimants (more than 158,500 or 38 percent) would like to either postpone farming for five years (20.6 percent) or receive compensation for their previously owned land (17.5 percent). These decisions were due partly to the lack of agricultural machinery, an as-yet undeveloped system of credits, and uncertainty about purchasing inputs and marketing outputs. On the other hand, the initial restrictions on land use provided incentives to those who were not going to be engaged in farming, to postpone farming for five years either in order to gain the time for making final decisions or in the hope that significant changes could be introduced in land ownership and land use regulations. The decision of a rather large group of claimants (more than 39 percent) is undecided. The process of actual land distribution was temporarily halted on May 1, 1992, for the duration of the planting-harvesting season and is to be renewed in the fall of 1992.

Table 2.1. Data on land reform in Lithuania, April 20, 1992

Restitution of Property	
Applications	
Number	415,259
Area (hectares)	3,940,785
(Including after deadline extension)	
Number	15,965
Area (hectares)	102,854
Want to start farming in 1992	
Number	93,540
Area (hectares)	739,969
Approved/to start farming in spring	
Number	23,149
Area (hectares)	246,722
Land to be distributed in Fall	
Number	34,772
Area (hectares)	304,995
Want to postpone farming 5 years	
Number	85,762
Area (hectares)	874,171
Request compensation	
Number	72,701
Area (hectares)	748,044
Other (undecided)	
Number	163,256
Area (hectares)	1,548,601
New Buyers	
Applications	
Number	33,489
Area (hectares)	189,311
Want to start farming in 1992	
Number	10,361
Area (hectares)	110,045
Approved/have right to start farming	
Number	2,049
Area (hectares)	24,971
Land to be distributed second part of 1992	
Number	2,461
Area (hectares)	24,781
Lease of Land	
Applications	
Number	23,246
Area (hectares)	148,434
Able to lease land spring 1992	
Number	17,417
Area (hectares)	89,496

SOURCE: Compiled from Lithuanian Ministry of Agriculture data, May 1992.

As a result of the early stages of land reform there are different groups of land users in Lithuania (Table 2.2). The main land users engaged in agricultural production are: (1) private individuals, conducting their operation on small-scale personal plots that currently are up to 3 hectares of land and are used on a lease basis; (2) the state, organizing agricultural production for teaching and research purposes on state-owned land; (3) private farmers, operating on their own land; (4) agricultural partnerships, organized on the basis of former collective and state farms, privatizing their assets and reorganizing into smaller units and (5) individuals, producing agricultural production on a lease basis, renting the land from primary owners (state or private).

Table 2.2. Data on land distribution in Lithuania, March 1, 1992

Total area (hectares)	4,585,564
Agricultural land (hectares)	3,158,855
Personal plots	833,360
For teaching and research	98,016
Forestry workers' personal plots	6,982
Private farming	
Starting spring 1992	236,599
Starting fall 1992 and later	651,995
Available for partnerships	1,612,325
Agricultural partnerships	
Number of partnerships	3,071
Number of members	218,919
Land requested (hectares)	866,199
Average size	282

SOURCE: Compiled from Lithuanian Ministry of Agriculture data, March 1992.

Large-scale collective and state farms are being replaced by smaller units. Previously, Lithuania had about 1,200 state and collective farms with an average size of 3,000 hectares. Although the process of transition was not complete, in March 1992 there were already more than 3,000 partnerships requesting an average of nearly 300 hectares (Table 2.2).

The number of private farms is increasing continuously and rapidly. But in the process of reestablishing private farming there is a tendency towards formation of small-scale farms. This is one of the major concerns in the current situation, because many farms of 5 to 20 hectares cannot be regarded as commercially viable full-time farms and some of them will inevitably face bankruptcy because they are not competitive in the market with larger and more efficient production units. To stimulate the process of creating larger farms, regulations on the sale of agricultural land give neighboring farmers priority to purchase when land is for sale.

Privatization of Farms

Restructuring agricultural production is based both on distributing land to new owners and users and privatizing the production assets accumulated and operated by large-scale collective and state farms.

The process of privatization is being regulated by three main laws on: (1) initial privatization of state property; (2) privatization of the agricultural enterprise property; and (3) forms of agricultural enterprises.

It was recognized that agriculture, as a branch of the national economy, should be reorganized by applying general principles of privatization. At the same time, the specific features of agricultural production require a flexible approach towards privatization in the agricultural sector. One of the major complications of privatization and restructuring of agricultural production is its large scale. Before the beginning of the reform, agricultural assets were highly concentrated in state and collective farms. In 1991 the average size of the state and collective farms was about 2,000 hectares of agricultural land with an average of 1,300 cattle and 1,400 hogs per farm (Table 2.3). Livestock operations were organized in large-scale facilities, and crops were concentrated in large areas. At the same time, agricultural production was conducted on the personal plots of farm workers, providing a significant income for rural families.

Table 2.3. Main characteristics of large-scale state and collective farms in Lithuania

	1990	1991
Number of farms	1,212	1,219
Average size (hectares)	2,535	2,040
Total labor employed (thousand persons)	365.5	324.5
Agricultural labor	290.9	274.5
Agricultural GNP (1983 prices, million rubles)	3,056.0	2,564.1
Total value of main agricultural assets (million rubles)	9,040	19,900*
Net income (million rubles)	974.4	2,047.4
Total area of agricultural land (thousand hectares)	3,073.0	2,487.3
Total number of cattle (thousand head)	1,768.5	1,587.7
number of cows	505.8	467.6
Total number of hogs (thousand head)	1,966.1	1,665.2

SOURCE: *Statistical Yearbook 1991*, Lithuanian Department of Statistics.

*In 1991 the main assets were revalued to reflect the inflation rate.

These large-scale farms were reorganized into smaller operations on the basis of the Law on the Privatization of Agricultural Enterprise Property and the Law on Agricultural Companies. The first law provides the regulation of privatization by selling property or purchasing it in the form of shares. Prior to auctions the large-scale farm was divided into smaller, so-called *technological production units*. These units could be purchased at the auction by private individuals or groups for joint operation. The assets of state and collective farms were evaluated according to established procedures. This value was distributed among former and current members of the farms in the form of special agricultural investment vouchers. The value of assets per person depended on the person's age, number of years the person worked on the farm, and the property nationalized during the collectivization period.

After vouchers were allocated to the members of state and collective farms, they could be reinvested in private farming or turned in as a share along with other resources to create a larger operation—agricultural partnership or joint stock company. The forms of organization and management of production units are regulated by the Law on Agricultural Partnerships.

Reorganization of large-scale farming, which started in fall 1991 by abolishing state and collective farms as an organizational unit, speeded up the process of moving towards private farming. To assist this process the following institutional network was set up in Lithuania: (a) local (municipal) agrarian reform services; (b) district privatization commissions; (c) commission for the agrarian reform under the government; and (d) central privatization commission. This network covers all levels of the reform starting with private farms and going up to the national level.

As of May 12, 1992, privatization of state and collective farms' assets covered a total value of assets amounting to 9,942 million rubles by issuing shares in new production units. It is expected that by July 1, 1992, about 80 percent of these assets will be privatized. The consequences of this privatization and the land reform can be seen in the significant change in the distribution of land among different types of farming operations (Table 2.4).

Table 2.4. Land distribution among land users in Lithuania

Type of farms	1991	1992
	(percent)	
Partnership and state-owned	86	64
Private	2	13
Personal plots of agricultural workers	12	23

SOURCE: Lithuanian Ministry of Agriculture, May 1992.

Structural Change

Most agricultural commodities have been produced by state and collective farms. Prior to the 1990 reform in these farms produced more than 90 percent of grain, almost 100 percent of sugar beets and flax, about 75 percent of meat, more than 58 percent of milk, and about 68 percent of eggs.

But at the same time, many agricultural commodities, especially meat, milk, potatoes, and vegetables, were produced on small personal plots of the collective farms' members. In spite of their small size (0.5 to 3.0 hectares), these personal plots were producing 72.9 percent of potatoes, 58.6 percent of vegetables, 24.5 percent of meat, and 40.9 percent of milk.

The first year of agrarian and economic reform had significant impacts on levels of production and the structure of production. The decline in production of many commodities was primarily the result of rapidly increasing input prices, scarcity of imported livestock feeds, and disruptions in production and distribution systems.

As a result of structural changes (Table 2.4), the total number of cattle on state and collective farms decreased by 10 percent, but at the same time there was an increase of 6 percent in the number of cattle on personal plots, and cattle on family farms more than doubled. The number of hogs decreased by 15 percent on state and collective farms and increased 70 percent on family farms and 6 percent on personal plots. The numbers for sheep and goats are: a decrease of 27 percent in the public sector and an increase of 75 percent in the private sector and 4 percent on personal plots. The number of poultry on private farms in 1991 compared with 1990 increased 6.3 times. The number of horses decreased slightly in the public sector (2 percent), increased by 2.5 times on private farms and by 38 percent on personal plots (Table 2.5).

Meat and milk production declined in 1991 by more than the decline in animal numbers (Table 2.6) because of the feed shortage and the early slaughter of some animals as economic conditions declined. Egg and wool production declined even though animal numbers were up slightly.

Table 2.5. Number of livestock in Lithuania, 1991

	1990	1991	1991/90
	(1,000 head)		
Cattle	2,321.5	2,196.5	0.95
State and collective farms	1,768.5	1,587.4	0.90
Personal plots	543.0	566.0	1.04
Family farms	10.0	21.6	2.16
Dairy cows	842.0	831.9	0.99
State and collective farms	505.8	467.6	0.92
Personal plots	331.6	354.9	1.07
Family farms	4.6	9.4	2.04
Hogs	2,435.9	2,176.3	0.89
State and collective farms	1,966.1	1,661.7	0.85
Personal plots	460.1	481.6	1.05
Family farms	9.7	16.5	1.70
Sheep and goats	61.7	64.5	1.04
State and collective farms	11.7	8.5	0.73
Personal Plots	41.6	47.6	1.00
Family farms	2.4	4.2	1.75
Poultry	16,815.0	16,994.0	1.01
State and collective farms	10,880.8	10,995.1	1.00
Personal plots	5,810.8	5,914.4	1.02
Family farms	13.4	84.5	6.31
Horses	79.9	83.6	1.05
State and collective farms	68.3	66.6	0.98
Personal plots	11.0	14.5	1.32
Family farms	0.6	1.5	2.50

SOURCE: *Statistical Yearbook 1991*, Lithuanian Department of Statistics.

Table 2.6. Livestock production in Lithuania

	1990	1991	1991/90
	(slaughter weight, tmt ^a)		
Meat	530.1	449.6	0.85
State and collective farms	397.5	328.5	0.83
Personal plots	129.9	107.0	0.82
Family farms	2.7	14.1	5.22
	(tmt ^a)		
Milk	3,157.0	2,915.6	0.92
State and collective farms	1,852.7	1,587.1	0.86
Personal plots	1,291.1	1,299.0	1.01
Family farms	13.2	29.5	2.23
	(million)		
Eggs	1,272.6	1,234.7	0.97
State and collective farms	863.9	817.7	0.95
Personal plots	408.1	411.4	1.01
Family farms	0.6	5.6	9.33
	(tons)		
Wool	141.0	128.0	0.91
State and collective farms	29.0	16.0	0.55
Personal plots	110.0	106.0	0.96
Family farms	2.0	6.0	3.0

SOURCE: *Statistical Yearbook 1991*, Lithuanian Department of Statistics.

^athousand metric tons

For the crop sector, only sugar beet and potato production declined in aggregate; but on state and collective farms grain, sugar beet, potato, and vegetable production all declined by more than 10 percent. Since production increased on personal plots and family farms for all crops, the structure of production changed significantly from 1990 to 1991. These changes are indicative of the pattern of structural change that is expected to continue (Table 2.7).

Despite the changes that occurred in 1991, the state and collective farms (public sector) still dominated production of livestock and crops except for potatoes and vegetables, which were mainly produced on personal plots even before recent reforms (Table 2.8). However, from 1990 to 1991 the public sector share of grain production dropped from 91 to 79 percent and meat production from 75 to 67 percent.

Table 2.7. Crop production in Lithuania

	1990	1991	1991/90
	(tmt)		
Grain	3,65.1	3,347.5	1.03
State and collective farms	2,56.7	2,647.3	0.89
Personal plots	283.1	611.5	2.16
Family farms	25.3	88.7	3.51
Sugar beets	912.4	811.2	0.89
State and collective farms	911.3	778.1	0.85
Personal plots	-	15.2	-
Family farms	1.1	17.9	16.27
Potatoes	1,73.1	1,505.7	0.96
State and collective farms	412.4	291.7	0.71
Personal plots	1,47.1	1,150.6	1.00
Family farms	13.6	63.4	4.66
Vegetables	295.0	634.8	2.15
State and collective farms	119.8	78.7	0.66
Personal plots	172.8	519.8	3.01
Family farms	2.4	36.3	15.13
Flax fiber	10.1	13.1	1.30
State and collective farms	10.0	12.6	1.26
Personal plots	0.01	0.2	20.00
Family farms	0.09	0.3	3.33
Fruits and berries	86.5	272.7	3.19
State and collective farms	11.7	20.4	1.74
Personal plots and family farms	74..8	255.3	3.41

SOURCE: *Statistical Yearbook 1991*, Lithuanian Department of Statistics.

Table 2.8. Percentage share of total production of main commodities in Lithuania, 1991

	Public sector	Personal plots	Private farms
Grain	79.1	18.3	2.6
Potatoes	19.4	76.4	4.2
Vegetables	12.4	81.9	5.7
Sugar beets	95.9	1.9	2.2
Flax (fiber)	96.2	1.5	2.3
Meat (total slaughter weight sold)	67.0	31.0	2.0
Milk	54.0	45.0	1.0
Eggs	69.0	30.0	1.0

The government of Lithuania also formulated and introduced farmer support programs. Some changes were made to increase access to bank loans, input supplies, and output markets. A new system of support prices and taxation is supposed to assist stabilization of the agricultural sector that is in transition. As the situation is changing rapidly in the course of the agrarian reform, there are more problems requiring quick and systematic solutions.

Privatization of Processing and Retail Enterprises

Processing and retail systems are very important in the Lithuanian national economy. In 1991 food industry output made up 31.5 percent of total industrial production. It employed 12.2 percent of the total labor in the industrial sector and possessed 13.0 percent of industrial assets.

Processing of the major part of agricultural production was concentrated in a small number of large-scale processing enterprises: eight for meat and eight for milk processing. Besides these central facilities there are a number of medium-scale enterprises in the administrative-region serving the needs of the local population. The decentralization of dairy processing started in 1990. Currently milk processing is carried out by 67 processing units. Central facilities include 19 butter and cheese producing plants. There are also 24 city and regional dairy processing enterprises. Milk is mainly being processed for butter (60 percent), cheese (7 percent) and whole milk products (28 percent). In 1991 Lithuania produced 164.2 thousand metric tons of fluid milk, 38.6 thousand metric tons of sour cream, 5.5 thousand metric tons of cream, 31.8 thousand metric tons of cottage cheese, 67.2 thousand metric tons of butter, and 24.5 thousand metric tons of cheese.

Meat processing enterprises are mainly located close to large cities, providing them and nearby territories with meat products. There are some smaller scale meat processing units serving the needs of several former collective farms or villages. Their number is expected to increase soon, joining the efforts of individual meat producers. In 1991 meat and poultry processing plants produced 167.4 thousand metric tons of beef, 120.7 thousand metric tons of pork, and 25.9 thousand metric tons of poultry. Total production of meat including offal was 338.3 thousand metric tons in 1991. Concentration of livestock production processing in a small number of enterprises made it possible for processors, even after producer price liberalization in January 1992, to virtually control these prices because of their local monopoly.

Currently the processing industry is undergoing reorganization and privatization. Local slaughter houses and meat and milk procurement facilities are becoming independent from their central and regional enterprise management. They are being privatized mainly by the local management and local population. Citizens of the republic can purchase these facilities through open

public auctions, investing their general vouchers and cash money. Large-scale processing and packaging plants are privatized mainly by employees, agricultural producers, and outsiders; but agricultural producers are less active in this process. By spring 1992, 51 percent of milk and meat processing industry assets were privatized by the urban population. The Ministry of Agriculture is trying to encourage agricultural producers to become shareholders of processing enterprises and through these to participate in negotiating producer price levels. Some of the processing enterprises are planned to be privatized for hard currency only, in an effort to attract foreign investment to modernize the industry.

Agricultural and food products in Lithuania previously were marketed through three main channels: the state wholesale and retail system, consumer cooperatives, and on the free market. In 1991, sales of food products made up about 48.5 percent of total turnover in the state retail sector and 50.4 percent of turnover in the consumer cooperatives' system.

Food retail facilities (supermarkets and medium to small grocery stores) can be privatized according to the general law of privatization of state enterprises through ongoing shares or participation in open public auctions. There is a restriction imposed by the government on changing the pattern of activities: facilities that previously were used for food distribution or sales or for providing consumer services have to remain in the same business for a definite period of time. This restriction on one hand protects the interests of consumers, but on the other hand slows the process of privatization of the agricultural and food retail system.

Price Reform and Government Regulation

As a part of general economic reform the Lithuanian government made some changes in pricing mechanisms. First of all, Lithuania has to deal with the fact that a major portion of agricultural inputs is still being purchased from the CIS. Due to price deregulation and the high rate of inflation, prices for inputs are very high and keep growing. This has greatly influenced the use of inputs in Lithuania. Prices for main agricultural inputs increased from five times to more than 70 times from 1990 to January 1, 1992 (Table 2.9). In just the six months between the first quarter of 1992 and the third quarter of 1991, the price increase for fertilizers ranged from 5.2 to 8.9 times and averaged 7.5 times (Table 2.10). Smaller increases for herbicides and feed concentrate ranged from 1.5 to 3.0 times.

The previous system of procurement prices used by the state no longer operates because of liberalization in the pricing and marketing of agricultural products. As an alternative to these state procurement prices, support prices were introduced at the end of 1991. These prices were supposed to cover the production cost of farmers operating in the most unfavorable conditions and had to be

applied to the declining portion of agricultural production still purchased by the state. However, at that time no one could predict the rapid growth of inflation at the beginning of 1992, which influenced input prices. The mechanism of indexing these support prices was not introduced, and soon they lost their initial function. New levels and indexing mechanisms for support prices were introduced in April 1992.

Table 2.9. Agricultural input price indexes in Lithuania

	January 8, 1991	January 1, 1992
	(1990 = 1)	
Agricultural machinery		
Plows	1.5	18.0
Cultivators	2.1	10.0
Seeders	1.8	7.8
Fertilizer applicators	1.7	5.2
Manure applicators	-	11.2
Potato harvester combines	-	14.9
Grain combines	1.9	22.7
Tractors and trailers		
Caterpillar	2.2	32.6
Wheel	2.5	29.4
Trailers	1.6	36.2
Fuel, Oils		
Gasoline A-76	2.2	33.0
Gasoline A-92	2.1	28.8
Diesel fuel	3.8	34.4
Diesel oil	2.0	70.3
Electrical energy	5.0	10.0
Fertilizer		
Nitrogen	1.9	17.0
Phosphorus	2.3	22.4
Potassium	1.5	12.9
Mixed concentrate feed		
Cattle	4.1	10.1
Hogs	2.2	10.5
Wood and construction materials		
Cement	2.3	28.3
Slate	2.4	79.2
Bricks	3.2	-
Wood	1.4	25.4

SOURCE: Compiled from Lithuanian Institute of Agrarian Economics data.

Table 2.10. Prices and price indexes for main inputs in Lithuania

Inputs	Avg. 1991 III Quarter	Avg. 1992 I Quarter	92 I/ 91 III
	(rubles per mt)		
Fertilizer			7.5
Nitrogen	261	1,995	7.6
Phosphorus	236	1,220	5.2
Potassium	127	1,126	8.9
Plant protection chemicals			1.5
Mixed concentrated feed			
Cattle	576	1,721	3.0
Hogs	723	1,533	2.1
Poultry	763	1,715	2.2

SOURCE: Compiled from Lithuanian Department of Statistics data.

In January 1992 the process of producer price liberalization started relaxing government control over prices for main agricultural products excluding milk, which still remained under some control. Producer price liberalization resulted in large price increases reflecting the increase in input prices (Table 2.11). However, while letting processing enterprises determine producer prices for livestock production, the government set processing and retail margins to maintain some control over retail prices for main food commodities. It was a political decision to help reduce tension in society. Nevertheless, compared to the "stable prices" of 1990, consumer prices for main food commodities increased significantly. By the end of May 1992 the price for meat had increased by almost 38 times; butter, 42 times; milk, 45 times; eggs, 23 times; bread, 10 times; and potatoes, 32 times compared to 1990 (Table 2.12). This consumer price increase practically eliminated processing subsidies, which were quite high in previous years.

The increase in retail prices was accompanied by increases in wages, pensions, stipends, and other sources of income. The Minimum Standard of Living indicator was introduced, and different sources of income were related to it by a system of coefficients. But in spite of all government attempts to protect the population from price increases, real income is going down, resulting in the significant decrease in the consumption of both food and especially nonfood commodities. The situation became extremely sharp in March when, due to the lack of ruble banknotes, there was up to a two months' delay in payment of salaries and pensions. As a temporary way out the Lithuanian government introduced coupons, which circulated together with rubles, making up to 60 percent of salaries.

Table 2.11. Average producer prices for main agricultural outputs in Lithuania

Outputs	Oct. 1990	Avg. 1991 IV Quarter	Avg. 1992 I Quarter	92 I/ Oct 90	92 I/ 91 IV
Total					2.7
Crops					1.5
Livestock					2.8
Grain (rubles/mt)	410	1,054	1,432	3.5	1.4
Flax seed (rubles/mt)	1,684	5,743	7,507	4.5	1.3
Vegetables (rubles/mt)	745	2,068	10,663	14.3	5.2
Cattle (rubles/mt)					
Fed	3,330	7,933	17,980	5.4	2.3
Pedigree	-	10,081	29,931	-	3.1
Hogs (rubles/mt)					
Fed	3,480	8,323	26,581	7.6	3.2
Pedigree	-	11,285	34,657	-	3.1
Poultry (rubles/mt)	2,500	7,244	7,517	3.0	1.0
Milk (rubles/mt)	553	750	2,740	5.0	3.6
Eggs (rubles/1000 units)	90	625	886	9.8	1.4

SOURCE: Compiled from Lithuanian Department of Statistics data.

In order to protect domestic markets, there is still a rationing system for some products such as flour, salt, and sugar, which is also considered to be a temporary measure. In most cases, however, the monthly quantity available is more than the normal household needs.

Problems and Prospects

Before considering prospects for Lithuanian agriculture it is necessary to mention briefly the main problems and difficulties, which inevitably will influence the development of agriculture in the near term.

First, and one of the main problems, is that the government's agricultural policy is not yet clearly formulated. There are no real indications of what kind of agriculture is desired. Should it be oriented towards self-sufficiency or towards external markets? In the latter case, what kind of support policy (if any) has to be provided to agriculture and what markets are we looking for? There is a widely spread opinion that we have an Eastern market that is quite open to our production. This may be true, in the sense of quantity. But this market, as any other, is dictating its own conditions. Now the domestic prices for food in Lithuania are on the average 15 percent higher than in Russia and

Table 2.12. Retail prices in Lithuania

	December 1990	October 1991	December 1991	January 1992	March 1992	May 1992	May 1992/ October 1991
	(rubles per kilogram)						
Beef (first category)	2.02	9.99	18.66	29.85	54.22*	120.70	12.08
Pork (first category)	2.26	6.98	18.23	29.36	59.88*	111.70	16.00
Chicken	3.15	8.15	19.19	26.80	-	74.10	23.5
Sausage (top quality)	6.69	21.55	58.07	81.91	124.96	141.60	6.57
Eggs (10 units)	1.40	3.33	9.75	12.53	15.54	26.25	7.88
Fish (live)	1.37	6.49	14.00	21.99	27.79	33.52	5.76
Milk (2.5% milk fat)	0.23	0.65	1.08	1.83	5.48	9.10	14.00
Sour cream (25% milk fat)	1.37	3.89	6.71	11.77	35.62	44.50	11.44
Butter	3.40	9.51	19.03	29.51	99.26	143.00	15.04
Cottage cheese (9% milk fat)	0.75	1.76	4.00	7.45	23.19	34.90	19.83
Potatoes	0.19	1.30	2.06	2.24	2.29	4.20	3.23
Rye-wheat bread	0.39	1.05	2.51	3.13	5.41	4.85	4.62
Sugar	0.79	7.29	7.29	10.23	-	32.00	40.5

SOURCE: Lithuanian Department of Statistics, *Special Information on Prices and Tariffs 1992*.

*medium category

other CIS members. Currently the difference is covered from a special support fund for exported production. From the government point of view this kind of trade is not favorable. But it is still necessary to preserve it because of other reasons; namely, to gain access to Russian oil and nuclear fuel for the Ignalina nuclear power station.

The **second** group of problems is related to the small size of currently existing private farms, which can hardly be commercially viable and are poorly supplied with machinery, fertilizers, chemicals, and marketing options. There is also a lack of financial assistance or even credit for private farming. Keeping in mind the tremendous increase in input prices and the fact that the largest group of farmers are starting their activities from zero, a system of farm credit has to be developed.

Third, there is a lack of knowledge among private farmers on the matters of technological changes, marketing, and management of private farms. It means we have to set up a network of extension services, responsible for training and information, as well as to organize agricultural schools for these purposes. These are not the only problems we have now, but they may be the ones we need to solve as soon as possible.

Now, some words on prospects. It is quite difficult to make a prognosis when great changes are occurring in the organizational structure, and in the economic and legal environment. But we have tried to look at what could be the results of agriculture production for the 1992/93 crop year. Some estimates were done in March 1992 using a simulation model for agricultural and food policy analysis developed for Lithuania with the assistance of the Center for Agricultural and Rural Development (CARD) at Iowa State University.

Our main assumptions for this scenario were:

1. The quantity of imported grain would be reduced to that needed to satisfy the demand for food grain (primarily wheat);
2. Input as well as output and retail prices and per capita income would keep pace with inflation; and
3. Production of livestock and average yields of crops and structure of farming land were based on government estimates as well as taking into account expert evaluations.

Based on these assumptions, the production of main agricultural products is expected to decline significantly. The greatest effect is on production of pork and poultry, which used the largest part of imported grain. It will cause changes in the structure of produced and exported meat, giving the preference to beef, which originally is more suitable to the natural climatic conditions of Lithuania because of the large areas of grassland.

Although the projected decrease in livestock production is quite significant, we can still meet domestic demand and export about 107 thousand metric tons of meat and 471 thousand metric tons of

milk to meet the requirements of the agreement signed with the Russian government (70 thousand metric tons of meat and 400 thousand metric tons of milk).

This analysis for Lithuanian agriculture allows us to anticipate the results of the changing situation. It is also very helpful to people engaged in decision making to have analytical tools to evaluate different outcomes of government policy in the agriculture and food industry.

Conclusions

Restructuring of the agricultural and food industry is an important and complicated task for the Lithuanian Government, Parliament, and institutions involved. But at the same time it is both an exciting and difficult time for agricultural producers starting their activities in extremely difficult circumstances in the transition period. It also influences consumers of agricultural products who have to adjust their consumption to the current rapid price growth. That means that the whole society is engaged in the reform process and sincerely interested in its success. This, along with deep farming traditions and the persistence of Lithuanian farmers, provides hope that the outcome of the reforms we have started now will be positive.

AGRARIAN REFORM IN LATVIA

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More than 40 years of collective farming in Latvia, imposed by the forcible incorporation of the republic into the USSR in 1940, proved that this kind of farming is not efficient in its resource use. In spite of that fact, livestock productivity in Latvia was significantly higher than the average for the Soviet Union. However, livestock productivity was lower than that of Finland and Sweden, neighboring countries with similar and even worse climatic and soil conditions.

Under the collective farming system, workers on collective and state farms did not have sufficient incentives to improve their work. Workers' personal resources were not dependent on their labor efficiency. Decision making about resource allocation was highly concentrated at the republic level, leaving the farms' authorities "the right and privilege" of implementing those decisions. In some respect, centralized agricultural decision making even reached the national (USSR) level.

This situation developed as a natural consequence of the absence of traditional property rights in the Soviet Union. The main means of production, including land, belonged to an abstract owner, "the state." The state monopolized land ownership, leaving to the collective farms only a restricted right of current disposition and, to a large extent, determined land use rules. Such "rules" were formulated by state party institutions to keep agricultural production under complete control. As a result of the absence of traditional property rights, the collective farm workers, as well as the leadership, were artificially separated from the property they were using in the production process. This made people indifferent about increasing production efficiency. Usually efficiency problems were resolved by appointing a leader capable of organizing the group to achieve a specified goal. Management techniques employed by these leaders of the collective farms were less oriented towards introducing incentives to improve the work, but more towards moral enforcement. It is obvious that production based on such relationships could not be efficient.

The second reason collective farming was not efficient is that under the conditions of a highly centralized planned economy the economic indicators, which were developed by state government and were mandatory for the collective farms, were not based on natural market processes but were motivated more by political considerations. Leaders of the collective farms were unable to make decisions about resource allocations and development strategy for their farms. Plans for both social and economic development for every collective farm had to be approved by their state's management subunit in which that farm was located. These plans were considered to be law and had to be followed. Any farm leaders who dared not to obey such a "plan" usually were punished, sometimes imprisoned. Thus, a new type of manager evolved: decisions were made not based on economic factors, but rather on how to follow the plan designed for them by central authorities, even if this plan only harmed their collective farm and its employees.

Realizing the inefficiency of this farming system, the Government of Latvia began to work on agrarian reform before they regained their political independence. The reform was divided into several major sections.

The first reform involves property rights, which includes two separate issues: (1) land reform; and (2) privatization of assets accumulated in agricultural processing, transportation, handling, and retail enterprises. The goal of this part of the reform is to identify and regulate property rights and economic relationships by assigning a specific property to a particular owner, including land as a main means of production. It would mean changing an impersonal, abstract owner-state to a personalized owner.

The second part of the reform involves the change in economic relationships as the country moves from a centrally planned economy to a market-based economy. At the same time, we realize that there is no absolutely free market; economic processes are always, to a certain extent, regulated by state legislation and management. The task is to find a compromise between the intentions of state institutions to regulate the national economy and the intentions of business organizations who want complete freedom or a so-called free market.

The third part of the reform covers agricultural management, structuring it to separate the state's regulation of economic processes in agriculture from management's business operation and allowing both groups to make decisions about specific strategies such as enterprise development and resource allocation.

The major elements of the property rights reform and the reform of economic relationships are covered in more detail in two earlier Baltic Reports (Zile 1992; Arnte 1992), I will only briefly mention the main features of agrarian reform in Latvia.

Land reform was introduced in the Council of Ministers' Resolution on Peasant Farms in 1988. In 1989 the Supreme Council of Latvia adopted the Law on Peasant Farms, and then in June 1990, the Law on Agrarian Reform. Before the 1990 law was adopted, Latvia had 7,000 individual and family farms.

The most important law that changed land rights was the Law on Land Reform in Country Districts. It was adopted by the Supreme Council of Latvia on November 21, 1990. This law provides for full private ownership by individuals and is implemented in two phases. The first phase gives land to claimants for their use but does not give them private ownership. In the second phase, which will begin on January 1, 1993, land users will have the opportunity to obtain land ownership rights; former land owners, who possessed the land before the 1940 occupation, can renew their rights.

The law gives former owners the first priority to reclaim land. The second priority is given to present users and new petitioners according to the following criteria: (a) expansion of existing individual farms and subsidiary plots; (b) construction of individual homes for present land users that have none; (c) expansion of towns; and (d) additional land required by state and collective farms and other enterprises. Land claimants had to submit requests by June 20, 1991.

The classification of claimants is presented in Table 3.1. The area of land requested is 26.5 percent more than the area available for land reform. There are several reasons why so few former landowners from foreign countries will seek to restore their ownership rights. First, former owners will not return to Latvia. Second, some former owners have already rejected their ownership in favor of their relatives who live in Latvia. Some were not interested in their property in Latvia because they have other interests. Some refused their ownership because they think they do not have the moral right to request their land because it is more necessary for people who live in Latvia. Some of the former owners did not have correct and complete information about how to request land. Finally, some former owners from foreign countries will choose not to change their current citizenship, so they will not qualify.

Table 3.1. Classification of claimants in Latvia as of June 20, 1991

Claimants	Number	Thousand hectares	Percent
State and collective farms	902	2,737.8	34.14
Family farms	77,224	1,765.2	22.01
Personal plots	105,030	615.8	7.68
Plots used by individual	n.a.	11.5	0.14
Kitchen gardens	n.a.	8.8	0.11
Plots for home workshop	n.a.	243.9	3.04
Local governments (municipalities)	n.a.	390.5	4.87
State forestry enterprises	n.a.	2,048.3	25.54
Other (including industrial and transportation enterprises)	n.a.	198.1	2.47
Total	346,660	8,019.9	100.00
Former land owners	100,700	1,656.5	20.65
Foreign countries	1400	51.3	0.64

SOURCE: Compiled from Latvian Ministry of Agriculture data.

Note: All land area in Latvia available for land reform equals 6,338,000 hectares.

Compensation for Former Land Owners for Unclaimed Land

At the time this paper was written (June 1992) the draft Law on Compensation for Land Property was under discussion. The main theme of this law is the productivity of the land; that is, how much winter rye (the principal grain crop in Latvia) it is possible to produce on one hectare of land. This quantity of rye will be multiplied by its price at the moment when compensation begins. At the present time compensation for one hectare would be worth approximately 10,000 to 25,000 rubles.

Absence of a law regulating compensation and restricting land sales encouraged many former owners or their legal heirs to reclaim their land, having no intention to use it for agricultural production, but only so they might be compensated for it or be able to sell the land. This cycle of reclaiming for profit means that good quality agricultural land is not being used for farming, which results in decreased agricultural production.

Privatizing of Collective Farm Assets

The privatization of collective farm assets is based on the Law on Privatization of Agricultural Enterprises and Collective Fisheries. Under this law, every owner or his heirs may either get his property back or receive a property share. This allows expropriated property to be documented. Property is then valued according to its July 1, 1991, price and its property share. A work-share is defined by the total value of enterprise assets in July 1991, minus the value of expropriated property, divided by the number of people working on the farm times their years of work. Assets are then divided into separate production units or property items, and the total value of the property shares and work shares are set equal to the total value of the property. Every share owner can purchase a part of the enterprise's assets using these shares or, if he does not have enough shares, he can also pay part with his own money. In the event of a conflict, an auction can be organized. To ensure fairness and agreement, each collective has a privatization commission elected by its members. The result of this privatization process will be that the land and assets of the state and collective farms will be divided publicly and fairly.

Changes in Latvian agriculture from agrarian reform led to large structural adjustments, including reallocation of production assets of state and collective farms to individual and private farmers (Tables 3.2, 3.3, and 3.4). As a result, the total number of cattle on state and collective farms decreased by 10 percent, but at the same time the increase in cattle head reached 18 percent on private farms. In the case of hogs, corresponding figures are 18 and 30 percent; sheep, 18 and 18 percent; and poultry, 1 and 25 percent.

Table 3.2. Characteristics of state and collective farms in Latvia

	1990	1991	1991/1990
Number of farms	634	619	0.98
Average size (hectares)	3,526	n.a.	
Total area (1,000 hectares)	3,632	n.a.	
Agricultural land	2,234	n.a.	
Arable land	1,500	n.a.	
Number of workers (1,000 persons)	225.7	209	0.93
Tractors (1,000)	34.6	n.a.	
Trucks (1,000)	19.5	n.a.	

SOURCE: *Lithuania, Latvia, Estonia: Statistical Abstract 1991* and Latvian State Institute of Agrarian Economics data.

Table 3.3. Characteristics of family farms in Latvia

	1990	1991
Number of family farms	7,518	17,538
Average size (hectares)	20.2	18.5
Total area (1,000 hectares)	151.9	325.1
Agricultural land	108.7	225.7
Fields	79.1	160.1
Total planted area, (1,000 hectares)	58.9	89.3
Cereals	22.4	38.3
Tractors	5,385	8,475
Trucks	1,190	n.a.
Ploughs	2,924	4,408
Cultivators	2,834	4,951
Planters	845	1,367
Rakes	1,986	3,428
Milking machines	1,674	n.a.
Harvesters	2,320	3,586

SOURCE: Compiled from Latvian Ministry of Agriculture data.

Note: In 1935 average farm size was 16.3 hectares. As of March 1, 1992 there were 27,720 family farms with an average size of 17.3 hectares. They had 12,433 tractors. As of May 15, 1992 there were 41,000 family farms and 68,000 subsidiary plots.

Table 3.4. Numbers of livestock in Latvia by the end of the year

	1990	1991	1991/1990
	(1,000 head)		
Cattle	1,439.3	1,382.9	0.96
State and collective farms	1,116.8	1,002.2	0.90
Private	322.5	380.7	1.18
Including family farms	38.4	62.5	1.63
Dairy cows	535.1	531.4	0.99
State and collective farms	375.9	343.9	0.91
Private	159.2	187.5	1.18
Including family farms	15.7	25.7	1.64
Hogs	1,401.1	1,246.5	0.89
State and collective farms	1,201.4	986.1	0.82
Private	199.7	260.4	1.30
Including family farms	21.2	43.0	2.03
Sheep	164.6	183.7	1.12
State and collective farms	29.6	24.4	0.82
Private	135.0	159.3	1.18
Including family farms	17.2	27.6	1.60
Poultry	10,321.1	10,395.1	1.01
State and collective farms	9,343.1	9,176.3	0.99
Private	978.0	1,218.8	1.25
Including family farms	61.7	127.3	2.06
Horses	30.9	30.0	0.97
State and collective farms	24.7	20.4	0.83
Private	6.2	9.6	1.55
Including family farms	1.0	1.8	1.80

SOURCE: *Lithuania, Latvia and Estonia: Statistical Abstract* 1991 and Latvian State Institute of Agrarian Economics data.

Changes in livestock numbers influenced the level of livestock production on large-scale state and collective farms on one hand and small-scale private farms on the other (Table 3.5). Production of the main crops was affected in a similar manner (Table 3.6). By 1991, the importance of private production increased; but the public sector still dominated the production of grain, sugar beets, flax, and animal products (Table 3.7). The small percentage of family farm production is the result of an underdeveloped production base, a shortage of inputs, and organizational difficulties. The real opportunities for private farming will be evident in two or three years.

Table 3.5. Livestock production in Latvia

	1990	1991	1991/1990
	(liveweight, tmt)		
Meat	452.7	428.0	0.95
State and collective farms	330.7	294.6	0.89
Private	122.0	133.4	1.09
Including family farms	8.5	13.9	1.64
	(tmt)		
Milk	1,893.2	1,760.0	0.93
State and collective farms	1,346.1	1,145.8	0.85
Private	547.1	614.2	1.12
Including family farms	46.8	73.5	1.57
	(millions)		
Eggs	818.9	765.0	0.93
State and collective farms	734.5	664.8	0.91
Private	84.4	100.2	1.19
Including family farms	2.0	5.1	2.55
	(tons)		
Wool	347.0	337.0	0.97
State and collective farms	111.0	87.0	0.78
Personal plots and family farms	236.0	250.0	1.06

SOURCE: *Lithuania, Latvia and Estonia: Statistical Abstract 1991* and Latvia State Institute of Agrarian Economics data.

Table 3.6. Crop production in Latvia

	1990	1991	1991/1990
	(tmt)		
Grain	1,621.9	1,335.5	0.82
State and collective farms	1,513.7	1,146.5	0.76
Private	108.2	182.0	1.68
Including family farms	62.5	89.7	1.43
Sugar Beets	439.1	377.9	0.86
State and collective farms	407.8	309.3	0.76
Private	31.3	68.6	2.19
Including family farms	13.0	31.5	2.42
Potatoes	1,016.1	944.0	0.93
State and collective farms	387.0	247.2	0.64
Private	629.1	696.8	1.11
Including family farms	78.9	77.8	0.99
Vegetables	169.4	209.2	1.23
State and collective farms	93.8	78.4	0.84
Private	75.6	130.8	1.73
Including family farms	6.8	14.5	2.13
Linen Fiber	3.0	3.6	1.20
State and collective farms	3.0	3.5	1.17
Private	0.0	0.1	
Including family farms	0.0	0.0	
Fruits and berries	23.5	99.8	4.25
State and collective farms	7.8	6.9	0.88
Private	15.7	92.9	5.92
Including family farms	n.a.	n.a.	

SOURCE: *Lithuania, Latvia and Estonia: Statistical Abstract 1991* and Latvian State Institute of Agrarian Economics data.

Table 3.7. Percentage share of total production of main commodities in Latvia, 1991

	Public sector	Personal plots	Family farms
Grain	85.8	7.5	6.4
Potatoes	26.2	65.6	8.2
Vegetables	37.5	55.6	6.9
Sugar beets	81.8	9.9	8.3
Flax fiber	97.2	2.8	0.0
Fruits and berries	6.9	93.1*	n.a.
Meat total	68.8	28.0	3.2
Milk	65.1	30.7	4.2
Eggs	86.9	12.4	0.7
Wool	25.8	74.2*	n.a.

*includes family farm

Privatization of Processing and Distribution Enterprises

Most agricultural production is processed by a small number of large-scale processing plants. More than 80 percent of the milk is processed in six large-scale industrial complexes, and about 65 percent of the meat is processed in four industrial complexes. Of course, this high rate of production concentration not only reduces production costs per unit of output, but it also generates increased transportation costs for farmers, and inhibits a rapid response to the changing market situation. Present events are encouraging processors to monopolize their behavior, which in turn makes it difficult for farmers and reduces their opportunities to make decisions according to actual consumer demand.

Currently (June 1992) the Law on Privatization of Processing Enterprises is being deliberated in the Supreme Council of Latvia. Its basic premise is that the assets of processing enterprises should go to producers in the form of shares. These shares will be distributed in proportion to the amount of agricultural products these producers supplied to the processing enterprise.

Most of the wholesale and retail trade enterprises in Latvia that have dealt with the trade of agricultural products and food are state enterprises, so they are not motivated to function in

accordance with the needs of consumers. It is planned that these enterprises will be privatized by public auctions.

Input and Output Pricing and Economic Regulation

Latvia began price reform in March 1991. At that time product prices were still controlled by the state and were fixed, but input prices were already rising (Table 3.8). In response to increasing input costs and pressure from producers, producer prices throughout the year were increased more than retail prices. Consequently, state budget subsidy costs rose again.

On December 10, 1991, the government adopted a resolution on liberalization of prices for agricultural production and food that established minimum prices for agricultural products, but these prices were well below market prices. Producers, processors, and traders negotiate producer prices in each region every one or two weeks and then these prices are published in the newspapers. Producers and processors are free to sell products wherever they wish, but usually they have very limited options. In order to control processors, the government limited their profit to no more than 15 percent of total production costs. Similarly, the combined markup of wholesale and retail distributors is limited to no more than 15 percent for meat products, 20 percent for dairy products, and 25 percent for bread. Export licensing was established to control the outflow of food products. On June 1, 1992, these markup and export restrictions were removed.

The effect on producer prices after liberalization can be seen in Table 3.9. From December 10, 1991 to June 1, 1992, these price increases ranged from 3.5 times for cattle to 6.2 times for milk. But at the same time, input prices increased more dramatically. Meanwhile prices for gasoline increased 25 times, but for private individuals, including private farmers, 45 to 50 times. Prices for diesel fuel increased 42 times; fuel oil, 64 times; stone-coal, 60 times; tractors, 20 to 50 times; farm trucks, 76 times (Table 3.8).

In this same period retail prices (Table 3.10) increased 6.4 times for eggs, 8.5 times for beef, 8.6 times for bread, 11.4 times for pork, 15 times for butter, and 16.6 times for milk. We can see an analogous situation for wholesale prices (Table 3.11), which increased 5.6 times for beef and 14 times for butter. Only in the private market were the price increases lower (Table 3.12). This is understandable, because "starting prices" in the private market before December 10, 1991, were much higher than retail prices in state stores and they continue to be higher but by a smaller margin.

Table 3.8. Input prices in Latvia

	1990	1991	Feb. 15, 1992	Feb. 15, 1992/1991	Feb. 15, 1992/1990
Gasoline* (liter)					
AI-76	0.15	0.40	10.00	25.0	66.7
AI-93	0.20	0.50	12.00	24.0	60.0
Diesel fuel (liter)	0.14	0.26	10.83	42.1	77.4
Fuel oil (liter)	0.03	0.08	5.00	64.1	166.7
Electrical energy (kwh)	0.01	0.06	0.40	6.7	40.0
Natural gas (1000m ³)	53	56	1,187	21.2	22.4
Coal (mt)	12	20	1,200	60.0	100.0
Tractors (unit)					
MTZ-80	4,580	17,000	340,000 ^b	20.0	74.2
T-40	3,970	4,600	242,000 ^b	53.0	61.0
Concentrated feed (mt)	225	536	1,820	3.4	8.1
Harvester (unit)	17,510	30,414	380,000 ^b	12.5	21.7
Steel sheets (unit)	180	600	17,000	28.3	94.4
Urea (mt)	100	101	3,040	30.1	30.4
Trucks (unit)	3,890	7,870	600,000	76.2	154.2

SOURCE: Compiled from Latvian State Institute of Agrarian Economics data.

*Gasoline prices on February 15, 1992 for private citizens: AI-76, 18.00 rubles/liter; AI-93, 25 rubles/liter.

^bAs of March 4, 1992.

Table 3.9. Producer prices in Latvia

	1991		1992					June 1, 1992/ Before Dec. 10, 1991
	Before Dec. 10	Dec. 16	Feb. 1	March 1	April 1	May 1 (average price)	June 1 (average price)	
	(rubles per metric ton)							
Milk	1,150					6,500	6,500	6.2
Low		2,500	5,000	5,000	6,000			
High		3,300	8,000	8,000	8,000			
Cattle (top quality)	7,300					25,000	25,500	3.5
Low		10,000	20,000	20,000	25,000			
High		14,600	25,000	30,000	27,000			
Hogs (first quality)	7,700					37,000	38,800	5.0
Low		15,000	25,000	32,000	33,000			
High		16,900	35,000	40,000	40,000			
Broilers	5,500	11,000				n.a.	n.a.	
Low			15,000	18,000	20,000			
High			20,000	22,000	22,000			

SOURCE: Compiled from Latvian State Institute of Agrarian Economics data.

Note: After Dec. 10, 1991, prices differed among regions.

Table 3.10. Retail prices in Latvia

	1991		1992				May 1992/ Nov. 1991
	Nov.	Dec.	Jan.	Feb.	March	May	
	(rubles per kilogram)						
Beef (first category)	9.14	26.20	35.90	56.72	61.78	77.56	8.5
Pork (first category)	8.0	26.25	40.28	61.92	70.08	91.00	11.4
Sausage (top quality)	22.62	44.71	53.62	79.66	100.98	126.25	5.6
Fish (live)	8.06	8.35	15.50	n.a.	34.00	36.00	4.5
Milk (2.5% mf.)	0.62	3.24	3.72	7.34	8.01	10.32	16.6
Sour cream (25% mf)	5.17	24.40	32.95	51.23	57.93	60.60	11.7
Butter	10.00	76.65	93.71	139.68	145.57	149.50	15.0
Cottage cheese	2.20	15.20	15.20	24.60	29.29	37.20	16.9
Potatoes	2.33	2.79	3.83	4.51	5.28	9.20	3.9
Apples	5.09	6.33	11.58	23.76	35.01	62.00	12.2
Eggs (rubles/10 units)	4.50	8.20	14.45	14.50	23.49	28.70	6.4

SOURCE: Compiled from Latvian State Committee of Statistics data.

Table 3.11. Wholesale prices in Latvia

	1991		1992					May 1, 1992/ Before Dec. 10, 1991
	Before Dec. 10	Dec. 23	Jan. 3	Feb. 1	March 1	April 1	May 1	
	(rubles per kilogram)							
Milk (2.5 % mf)	0.62							
Low		2.50	2.50	4.30	5.60	5.60	5.70	9.2
High		3.46	3.60	6.30	10.70	9.00	10.00	16.1
Butter	10.00							
Low		46.50	54.70	100.34	120.00	120.00	130.00	13.0
High		80.24	73.50	165.00	147.00	161.00	161.00	16.1
Sour cream (25 % mf)	4.56							
Low		18.80	19.50	35.10	39.60	38.00	39.60	8.7
High		25.10	25.10	45.10	69.80	58.00	59.00	12.9
Cottage cheese (9 % mf)	2.70							
Low		11.00	11.00	25.10	25.40	25.40	29.00	10.7
High		16.00	17.00	31.70	31.77	34.52	31.00	11.5
Beef (1st category)	12.30							
Low		18.20	22.10	32.00	32.50	43.00	43.00	3.5
High		32.00	33.80	46.00	94.80	94.80	94.00	7.6
Pork (1st category)	10.30							
Low		23.30	25.00	40.38	51.50	54.95	54.95	5.3
High		30.00	36.00	52.20	79.00	79.00	79.00	7.7
Sausage (top quality)	10.70							
Low		29.14	29.14	45.00	58.00	58.00	58.00	5.4
High		45.00	52.10	65.00	130.00	130.00	130.00	12.1

SOURCE: Compiled from Latvian State Committee of Statistics data.

Table 3.12. Private market prices in Riga, Latvia

	1991		1992				May, 1992/ Nov., 1991
	Nov. 25	Dec. 25	Jan. 25	Feb. 25	March 25	May 12	
	(rubles)						
Pork (kg)	35	50	95	110	110	110	3.1
Beef (kg)	27	35	90	90	120	110	3.7
Milk (l)	15	15	10	13	20	20	1.3
Sour cream (kg)	30	50	75	90	120	150	5.0
Butter (kg)	80	100	90	190	200	200	2.5
Cottage cheese (kg)	25	50	45	40	50	70	2.8
Potatoes (kg)	4	8	8	10	9	9	2.3
Apples (kg)	8	8	50	50	45	n.a.	
Eggs (10 units)	5	8	18	20	30	30	6.0
Poultry (approx. 1.5 kg)	20	25	90	90	100	80	4.0

SOURCE: Compiled from Latvian State Committee of Statistics data.

In the absence of a competitive, intermediate market made up of many small- and medium-sized firms, it has not been easy to establish competitive prices through the marketing chain. Although producers are free to sell their products where they wish, and the home processing and private markets are increasingly used options, facilities are limited so large quantities may only be sold to state processing enterprises. Therefore, the privatization of processing and intermediary enterprises and retail shops is essential for improving the situation. But it is also necessary to involve new firms in order to develop competition.

Such a dramatic increase in prices led to a decrease of purchasing power for consumers because, from December 10, 1991, to May 1992, the average salary in Latvia increased only by 2.5 times and the minimum salary by 3.3 times. This decreased retail turnover and now there is overproduction of food products and insufficient consumption for some people.

The increase in agricultural prices is inevitable (at least until the level of domestic prices reaches world market prices), and these prices will rise to the level of world market prices or even higher if Latvia would introduce a protectionist policy for agriculture. These tendencies are currently being used by several political groups such as the Latvian Farmers Federation, and the Farmers Association to pressure the Supreme Council and Government of Latvia to introduce subsidies in agriculture and to restrict imports of main agricultural commodities.

These requirements for agricultural producers are not new. Many countries' agricultural policies are structured to protect their agricultural producers. In Latvia this is complicated by the difficulties of the transition period when beginning farmers have limited resources available for agricultural production.

Agricultural Policy for the Future

When talking about subsidies and import restrictions in agriculture and the food industry, several factors must be considered. First, the internal interests of Latvian farmers must be counterbalanced by Latvia's role in the world economy; this must significantly influence the formulation of agrarian policy. The development of Latvian agriculture depends upon this process in other countries, especially Lithuania and Estonia, the European Community, the former socialist countries of Central and Eastern Europe, and the United States, Canada, Mexico, and Southeastern Asia. This requires consideration of the results of the GATT negotiations and the agrarian policy of the EC countries, where the problems of agricultural subsidies as well as import restrictions in the form of high custom tariffs are of primary importance.

The issue of agricultural subsidies from the state government should be closely related to the primary concern: what direction will agricultural development take in Latvia? Will it be oriented toward achieving self-sufficiency only or toward exports? If the answer is self-sufficiency, then producer subsidies that might sometimes exceed world prices can be introduced within the country.

When producer prices for agricultural products do not exceed the world price levels, producers can be subsidized at government support prices. In order to do this, we need to calculate the real supply and demand, the possibilities for export, whether our government budget can handle such large outlays for agricultural support, and how that will influence the development of other branches of the Latvian economy. After all, this may increase taxes on nonagricultural enterprises and correspondingly decrease business activities and move prices upward for goods and services in the economy in general.

The relationship between prices for agricultural inputs and prices for agricultural products in all the marketing chain from the farmer to the consumer is important. We must determine to what extent the growth rate of agricultural producer prices will be based on the growth rate of prices for agricultural inputs that are approaching world prices. But only if the producer price level does not exceed the world prices. It is reasonable to produce only those products exceeding domestic demand if these products can compete with those from other countries in quality and cost.

In the initial stages (approximately until the year 2000) the state budget has to fund the development of production infrastructure, such as road construction, land reclamation, and development of telephone communications. Whatever help is needed to develop a production base for new farms should be in the form of special state programs like self-sufficiency for sugar, development of crop production, development of flax production, and reorganization of processing industries.

The current policy of the Latvian legislature is oriented mainly towards developing private entrepreneurship. This policy creates unnecessary difficulties for the development of other forms of entrepreneurship, based on unified ownership. It would be more reasonable to create equal conditions for all forms of entrepreneurship—individual and family farms, cooperatives, partnerships, shareholding companies, state businesses—so that through actual competition each could demonstrate its own viability.

It has already become apparent that now we should initiate a program of structural changes in agriculture in order to create optimal (from the point of view of effective resource use) farms. To do this, we must first allow free selling and buying of land.

The processing industry and the rest of the marketing chain for agricultural products demand essential development. On the way from producer to consumer, a significant amount of produce is lost: for potatoes, up to 30 percent; for vegetables, 20 to 25 percent; for milk and meat products, 10 to 15 percent.

In order for the agrarian reforms to develop successfully and consistently without going to extremes, we have to create a long-term program for Latvian agricultural development for the next 5, 10, and 15 years. This is of primary importance so that investors will be able to more clearly evaluate the effectiveness of capital investment in agriculture.

PROBLEMS OF TRANSITION FOR ESTONIAN AGRICULTURE AS IT MOVES TO A MARKET ECONOMY

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The main problems of transition for Estonian agriculture in moving to a market economy are similar to those for Latvia and Lithuania. There are three laws regulating the privatization of agriculture in Estonia: Law on Peasant Farming (adopted on December 6, 1989), Law on Land Reform (adopted October 17, 1991) and Law on Property Reform in Agriculture (adopted March 11, 1992).

As we compare these dates with the dates when the same kinds of laws were adopted in Latvia and Lithuania, we see that the Estonian parliament has been moving more slowly. It may be connected with the system by which the Estonian parliament was elected. In Estonia, several members (up to five) of parliament were elected from each election district. This system gives very different political forces the possibility of having their representatives in parliament but at the same time it slows the decision making process.

On the other hand, in the case of agricultural reform, slow decision making may be positive. Small farmers and owners in agriculture have had enough time to learn that creating small farms is not the way to make money. Public opinion is also turning away from the idea that "small is good." As a result, slow decision making may allow better options to create a more efficient production structure in agriculture.

On the basis of the Law on Peasant Farming, approximately 7,000 peasant farms have been established (Table 4.1). Their total area is 176,000 hectares, which is 9 percent of the land at the disposal of agricultural enterprises. The majority of these farms are part-time operations and they average 25 hectares. At present the creation of new peasant farms has been suspended with the Law on Land Reform.

Table 4.1. Family farm development in Estonia

	1989	1990	1991	1992
Number of family farms (Jan. 1)	n.a.	n.a.	2,339	7,029
Average size (hectares)	n.a.	n.a.	26.5	25.1
Total area (1,000 hectares)	n.a.	n.a.	62.1	176.1
Agricultural land	n.a.	n.a.	25.9	76.8
Arable land	n.a.	n.a.	25.6	n.a.
Total sown area (1,000 hectares)	6.4	26.0	91.2	n.a.
Grains	3.1	12.0	49.2	n.a.
Cattle (1,000 head, Jan. 1)	n.a.	2.8	9.9	n.a.
Cows	n.a.	1.0	3.9	n.a.
Hogs (1,000)	n.a.	1.9	6.2	n.a.
Sheep (1,000)	n.a.	2.3	7.6	n.a.
Tractors (Sept. 1)	n.a.	n.a.	3,438	n.a.
Production (tmt)				
Grain	6.5	28.5	114.1	n.a.
Potatoes	4.9	21.5	110.6	n.a.
Milk	n.a.	n.a.	26.4	n.a.
Meat (liveweight)	n.a.	n.a.	3.1	n.a.

SOURCE: Compiled from Estonian Research Institute of Agriculture and Land Improvement data.

The Law on Land Reform includes a number of main principles. Prior rights are given to the former owners and to their heirs. The time for submitting the application to return or compensate the land expired on January 17, 1992. As the mechanism of compensation has not been worked out, the majority (by some estimates 80 percent) of former owners will have their land returned. All applications will be computerized, but most probably it will take two to three years. This year the body of local government may allocate land for temporary use. Altogether we have 200,000 applications, one application for each 10 hectares available. Those lands that have already been allocated to establish peasant farms according to the Law on Peasant Farming can not be returned to former owners. If a person owns a house on the land of another person, he is entitled to 2 hectares of land. The primary date for submitting the application for an increase in or replacement of the landholding was March 1, 1992, but it has been changed to July 28, 1992.

There are some restrictions in the land reform that are intended by Parliament to moderate the transition to a market economy or avoid social conflicts. For example, during the first five years the

owner is not allowed to sell land, but he can rent it out. At the same time, the land plots cannot be divided into plots smaller than 10 hectares.

The main principles of the Law on Property Reform in Agriculture are as follows:

1. Collectivized property (assets) will be returned or be compensated. Compensation may occur in the form of substitution of property for another equivalent property, in the form of a fixed share of the property of a collective farm, or in the form of money. A special law is needed to set the value of collective property. This law may be adopted after election of a new parliament.
2. The share of collective farm property that has been acquired with government means belongs to the Estonian Republic as a state, and the Government of the Estonian Republic decides on the use of this property.
3. Objects of land improvement are transferred together with land property and are free of charge.
4. The property of a collective farm necessary for the satisfaction of social and cultural demands of a local population is transferred to municipal ownership.
5. The rest of collective farm property should be privatized to owners of collective farms as labor share (Table 4.2). The means for calculating a labor share from the property of a collective farm will be enacted by the government. There were two possible variants under discussion, either to calculate labor shares according to the length of service or according to summary wages. After discussion, the length of service was selected as the basis for shares. A labor share can be realized by allocating property in kind, by investing in enterprises created from the portions of the farm, or by transferring it to other persons free of charge or against payment.

After the property allocation the future operation of the collective farm will be decided by an assembly in which the members are permanent workers of the farm, old-age and disability pensioners of the farm, and the family farmers whose last job was on the farm.

Property reform in agriculture is administered by the first-stage local government, which forms on the principles of parity a reform commission consisting of three representatives of the collective farm, three local peasants, former owners of illegally alienated land and collective property (or their heirs), and of three representatives of the local government itself. In addition, a representative of the government participates in the work of the commission. For each collective and state farm the plan of reorganization should be worked out, and this plan should be adopted by the reform commission by January 1993. If the reform commission does not agree with the plan, the final decision will be made by the local community.

Table 4.2. Characteristics of state and collective farms in Estonia

	1990	1991	1991/90
Number of state and collective farms	331	356	1.08
Average size (hectares)	3,182.8	3,082.9	0.93
Total area (1,000 hectares)	2,476.0	2,476.2	1.0
Agricultural land	1,053.5	1,097.5	1.04
	905.7	1,085.1	1.20
Number of workers (1,000 persons)	132.2	124.7	0.94
Cattle (1,000 head)	697.1	646.0	0.93
Cows	251.6	236.0	0.94
Hogs (1,000)	1,023.0	902.0	0.88
Sheep (1,000)	6.1	4.5	0.74
Poultry (1,000)	5,831.8	5,366.8	0.92
Horses (1,000)	8.5	7.3	0.86
Tractors (1,000)	19.6	20.4	1.04

SOURCE: *Lithuania, Latvia, Estonia: Statistical Abstract 1991* and Estonian Research Institute of Agriculture and Land Improvement data.

In economic terms the main problem is related to the question of which forms of entrepreneurship will dominate Estonian agriculture as a consequence of these laws. Evaluating present laws and drafts, it seems that a free competition between different forms of entrepreneurship is guaranteed. For economic efficiency this is the best variant. But given the requirements of large-scale production, a dominance of private large-scale farms can be expected in the future. In a political sense a dissatisfaction among small farmers can, therefore, be expected. If the Parliament gives in to small farmers and allocates a lot of means for supporting small farms, the importance of small farms will naturally increase.

The decisions made during privatization will determine the future of Estonian agriculture for a long term; but unfortunately, there are no ready-made recipes for which decisions would be the best. Therefore, we must be ready to make new decisions in the future in order to adjust the path of development as conditions change. Even before the implementation of property reform and land reform laws, the structure of production has begun to shift from large public sector farms toward personal plots and private farms (Table 4.3).

Table 4.3. Percentage share of total production of main commodities in Estonia, 1990 and 1991

	1990		1991		
	Public sector	Personal plots & family farms	Public sector	Personal plots	Family farms
Grain	93.4	6.6	83.9	4.0	12.1
Potatoes	51.1	48.9	31.6	49.7	18.7
Vegetables	41.0	59.0	31.7	53.1	15.2
Flax fiber	87.2	12.8	70.6	n.a.	29.4
Meat total	83.2	16.8	76.5	22.2	1.3
Milk	84.3	15.7	80.6	17.0	2.4
Eggs	82.5	17.5	81.2	18.3	0.5

SOURCE: *Lithuania, Latvia, Estonia: Statistical Abstract 1991* and Estonian Research Institute of Agriculture and Land Improvement data.

Input and Output Pricing and Economic Regulation

At the moment (June 1992) only prices of bread are regulated in Estonia. There are no export or import licenses required. The retail price levels are generally similar to those in Lithuania and Latvia.

In 1991 production of milk and meat products diminished sharply (Table 4.4). In previous years meat and milk producers from the Baltic states got large amounts of feed grain at low prices, purchased by the USSR from the world market by oil export earnings. For example, in Estonia in some years this grain provided up to 40 percent of total feed. The equivalent amount of milk and meat products was sold to Russia. Now that we need to buy grain from the world market at the full price, this option is no longer profitable.

The purchasing power of our own consumers has also diminished. Here two main points should be mentioned. First, meat and milk products were previously sold at retail prices that were only 50 percent of the real costs. So now relative prices are twice as much, which decreases demand. Second, a very large rise in energy prices has decreased the part of income that could be used for buying food products. As a result, we have overproduction of meat and milk products in Estonia. Because input prices have increased faster than product prices, agricultural workers get only 50 percent of the average income of all workers (Tables 4.5 and 4.6). For this reason, producers

Table 4.4. Production of agricultural products in Estonia

	1990	1991	1991/90
	(tmt)		
Grain	1,177.1	1,135.8	0.97
Sugar beets	n.a.	0.6	
Potatoes	618.1	592.1	0.96
Vegetables	105.0	120.5	1.15
Flax fiber	0.4	0.7	1.75
Meat (liveweight)	301.5	184.5	0.61
Milk	1,208.0	881.1	0.73
Eggs (million units)	547.1	454.5	0.83

SOURCE: *Lithuania, Latvia, Estonia: Statistical Abstract 1991* and Estonian Research Institute of Agriculture and Land Improvement data.

demand the restoration of milk subsidies, which not long ago were 40 percent of milk producer prices. The government has planned to allocate 6 percent of the budget for the second half of 1992 for subsidies for agriculture, although the Ministry of Agriculture asked twice as much.

We may have large problems in agriculture because Estonia will introduce its own currency on June 20, 1992. If the exchange rate will be a bit better than the exchange rate of the Russian ruble, the world market prices of products could be lower than our own production costs. It's not realistic to cover this difference by subsidies. We should use import levies like in the European Community. We know that internal market prices in the European Community are 50 percent higher than the world market prices. In Finland they are at least 3 times higher. Of course, the world market prices for milk and meat products are heavily depressed by surplus dumping.

The future of Estonian agriculture is not bright. It depends very much on which common market we will belong to—the European Community or the Russian common market. We have no other choice. For agriculture it will be easier in the Russian common market, but just now Russia has rejected the Estonian proposal for a free trade agreement.

Our agriculture cannot survive with world market prices. We calculate that in this case the costs of purchased inputs are higher than income from product sales, and nothing remains for

Table 4.5. Input prices in Estonia

	1990	June 10, 1992	1992/90
	(rubles)		
Gasoline (per liter)			
AI - 76	0.15	21	140
AI - 93	0.20	28	140
Diesel fuel (per liter)	0.138	18	130
Fuel oil (per kg)	0.060	8.2	137
Electrical energy (per kwh)	0.011	1.10	100
Natural gas (per 1000 m ³)	55	4900	89
Tractors (per unit)			
MTZ - 82	9,800	540,000	55
T - 40 AM	6,300	280,000	44
Concentrated feed (per mt)	235	6,000	26
Urea (per mt)	80	12,000	150
Trucks (per unit)	3,700	550,000	149

SOURCE: Compiled from Estonian Research Institute of Agriculture and Land Improvement data.

Table 4.6. Producer prices in Estonia

	June 1990	November 1990	June 20, 1992	June 1992/ June 1990
	(rubles per metric ton)			
Milk	360	418	7,000	19.4
Cattle (liveweight, top quality)	2,700	4,500	20,000*	7.4
Hogs (liveweight, first quality)	2,310	3,800	35,000*	15.2
Broilers (liveweight)	2,230	2,230	22,000*	9.0
Rye	340	n.a.	9,000	26.5
Wheat (second quality)	270	n.a.	13,000	48.1

SOURCE: Compiled from Estonian Research Institute of Agriculture and Land Improvement data.

*Price in the meat processing factory in Tallinn.

Notes: After July 1, 1991, prices differ between regions. In addition to the 1992 prices given in the table, the state support to milk was 1.1 U.S. cents per kg and to meat 7 U.S. cents per kg.

workers' salaries. Probably our agriculture could survive in the European Community—at least half of the agriculture—on the lands that do not need improvement and where the production costs are lower.

The exchange rate of our own currency is of vital importance for the future of Estonian agriculture. A more favorable exchange rate will increase the competitive ability of agriculture. Of course the exchange rate will depend mainly on the competitiveness of our industry.

If I should make some conclusions it may be as follows: I am afraid that if there is a free market for food products in the Baltic states, then in the competition between American and Baltic farmers, American farmers will win.

DATA SOURCES

Note: Data for these papers were compiled from Baltic research institutes and government agencies and from their publications. Most of this information is currently unavailable in English.

Estonian Research Institute of Agriculture and Land Improvement. 1989-92. Unpublished data. Saku, Estonia.

Latvian Ministry of Agriculture. 1992. Unpublished data. June. Riga, Latvia.

Latvian State Committee of Statistics. 1991-92. Unpublished data. Riga, Latvia.

Latvian State Institute of Agrarian Economics. 1989-92. Unpublished data. Riga, Latvia.

Lithuania, Latvia, Estonia: Statistical Abstract. 1991. Lithuanian Department of Statistics, Latvian State Committee of Statistics, and Estonian Department of Statistics. Vilnius, Lithuania [English and Russian].

Lithuanian Department of Statistics. 1991. Unpublished data. Vilnius, Lithuania.

Lithuanian Department of Statistics. 1992. *Special Information on Prices and Tariffs.* #05-04-12. Vilnius, Lithuania. February.

Lithuanian Institute of Agrarian Economics. Unpublished data. Vilnius, Lithuania.

Lithuanian Ministry of Agriculture. 1992. Unpublished data. March, May. Vilnius, Lithuania.

Statistical Yearbook 1991. 1992. Lithuanian Department of Statistics. Vilnius: Information Publishing Center [Lithuanian, Russian, English].