The Lithuanian Agricultural and Food Industry: The Setting for Economic Reforms

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The Lithuanian Agricultural and Food Industry: The Setting for Economic Reforms

Abstract
After parliamentary elections and the formation of a new government, Lithuania declared the restoration of its independence from the USSR on March 11, 1990. Although Lithuania was not recognized as a separate state by the USSR and the world community until after the failed Moscow putsch of August 1991, the process of economic and political transformation began in 1990. The goal of the reforms is a democratic political system and a market-oriented economy. The agricultural and food industry has been emphasized in these reforms because of its historical significance and its current importance in the national economy. This report provides an overview of this industry leading up to and including 1989 so the context for the reforms and the potential consequences can be better understood. Emphasis is given to the structure of farming, agricultural production and productivity, food production and consumption, farm prices and profitability, and trade. Information presented on price reform decisions up to May 1991 is indicative of the type of change that is underway, but this process is continuing.

Keywords
Agriculture, Policy

Disciplines
Agricultural and Resource Economics | Agriculture | Economic Policy

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The Lithuanian Agricultural and Food Industry: The Setting for Economic Reforms

Natalia Kazlauskiene, William H. Meyers, and Kyle J. Stephens

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The Lithuanian Institute of Agrarian Economics, Vilnius, and CARD, Iowa State University, are collaborating on a number of research projects related to all facets of economic reforms in Lithuania. This paper is a result of that joint venture.

The contents of this paper may be cited with proper credit to the author, to the Lithuanian Institute of Agrarian Economics, and to the Center for Agricultural and Rural Development, Iowa State University.
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ABSTRACT

After parliamentary elections and the formation of a new government, Lithuania declared the restoration of its independence from the USSR on March 11, 1990. Although Lithuania was not recognized as a separate state by the USSR and the world community until after the failed Moscow putsch of August 1991, the process of economic and political transformation began in 1990. The goal of the reforms is a democratic political system and a market-oriented economy.

The agricultural and food industry has been emphasized in these reforms because of its historical significance and its current importance in the national economy. This report provides an overview of this industry leading up to and including 1989 so the context for the reforms and the potential consequences can be better understood. Emphasis is given to the structure of farming, agricultural production and productivity, food production and consumption, farm prices and profitability, and trade. Information presented on price reform decisions up to May 1991 is indicative of the type of change that is under way, but this process is continuing.
THE LITHUANIAN AGRICULTURAL AND FOOD INDUSTRY:
THE SETTING FOR ECONOMIC REFORMS

Lithuania is one of three Baltic states that were a part of the USSR. Its area is 25.2 thousand square miles (65 thousand square kilometers) and in 1989 it had a total population of 3.72 million people. As Lithuania moved towards independence, there were numerous political and economic changes. One outcome of these changes is the reform of existing economic policies that, since the republic's incorporation into the Soviet Union in 1940, have been governed by a highly centralized planning system.

All sectors of the economy will be affected by these economic reforms. Economists, government legislators, and leaders of agriculture and industrial enterprises are heavily involved in formulating economic reforms. The goal of the reforms is to move towards a market-oriented economy. The agricultural sector has been emphasized within the framework of these overall reforms because of its nature and its importance to the national economy. As a consequence of economic and political reforms, conditions in the food and agricultural industry are changing rapidly. This report provides a comprehensive overview of this industry prior to these major reforms so that the context for these reforms can be better understood.

The agricultural orientation of the Lithuanian economy can be illustrated by the traditionally large share of total GDP the agribusiness sector has held in the republic: 50.4 percent in 1989, 42.6 percent in 1980, and 50.3 percent in 1975. The rural population is heavily employed in the agricultural sector and comprises 31.5 percent of Lithuania's total population. The agribusiness industry consists of three sectors: input production and supply for agriculture, production of primary agricultural products, and processing of agricultural products. Among these three sectors agricultural production is the largest. For example, in 1989 the contribution of production agriculture to the agribusiness industry GNP was 48.4 percent, it employed 56.0 percent of the labor force, and possessed 70.1 percent of the agribusiness industry's assets.

The recently implemented policy reforms and others still under discussion are intended to alleviate economic problems of the current production and distribution systems. Some reforms deal with fundamental changes in the structure of the farming system, ownership of the land and other assets, and management of the farms. Others deal with economic considerations such as price policies, income subsidies, tax policies, as well as the development of banking and credit systems, and the
privatization of enterprises related to production, processing, marketing, input supply, and agro-services. The reforms also include changes in state procurement policies for agricultural outputs. Specifically, these reforms would lead to alternative marketing systems, including a market-oriented system for agricultural products.

**Agro-industry in the General Economy**

More than 30 percent of the Lithuanian population lives in rural areas, and many rural residents work in some part of the agribusiness industry. The agribusiness sector produces about 50 percent of the Lithuanian GDP. In 1989, for example, agricultural production was 23 percent of GDP; and nearly 33 percent of GDP from industrial, construction, and transportation and communications activities was also in this sector. In the same year, about 44 percent of the labor and 62 percent of Lithuania's assets were employed in agribusiness.

While the food industry contributes nearly 25 percent of agribusiness GDP, it uses less than 10 percent of the labor and assets in the sector and receives less than 10 percent of the investment. These figures suggest that the food processing sector has been neglected relative to production agriculture and that there is significant investment potential in the processing industry. Such investment would also provide a new source of employment and income to workers who may be displaced by adjustments in production agriculture.

Wages in most agribusiness enterprises are higher than the national average, but there is a significant variation between the lowest group (retail) and the highest group (management). In addition, rural families can earn greater extra income from production on personal plots, which is not included in the wage rates. Investment in agriculture in 1989 was 80 percent of the total for the agribusiness complex and 38 percent of the total investment in the Lithuanian economy. Total figures on investment, machinery, and fertilizer disguise problems with distribution of these resources. The current productivity of farms is partially determined by the distribution and quality of assets and inputs. Past distribution of investment and machinery was not based on efficiency criteria but on administrative decisions that could be influenced by favoritism or mere incompetence of the authorities.
Figure 1. Lithuanian population

Figure 2. Lithuanian rural population
Figure 3. Structure of Lithuanian total GDP, 1989

Figure 4. Structure of Lithuanian agribusiness GDP, 1989
Table 1. Overview of Lithuanian population, GDP, and income

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population (as of December 31)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3,446</td>
<td>3,603</td>
<td>3,641</td>
<td>3,680</td>
<td>3,690</td>
<td>3,723</td>
</tr>
<tr>
<td>Rural</td>
<td>37.4</td>
<td>33.7</td>
<td>33.0</td>
<td>32.4</td>
<td>32.0</td>
<td>31.5</td>
</tr>
<tr>
<td><strong>Gross Domestic Product</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial</td>
<td>9,336</td>
<td>11,074</td>
<td>11,782</td>
<td>12,559</td>
<td>12,847</td>
<td>13,664</td>
</tr>
<tr>
<td>Agricultural</td>
<td>3,040</td>
<td>4,775</td>
<td>4,986</td>
<td>4,939</td>
<td>5,550</td>
<td>5,585</td>
</tr>
<tr>
<td>Construction</td>
<td>1,450</td>
<td>2,066</td>
<td>2,103</td>
<td>2,446</td>
<td>2,559</td>
<td>2,423</td>
</tr>
<tr>
<td>Transportation and Communication</td>
<td>506</td>
<td>716</td>
<td>771</td>
<td>765</td>
<td>787</td>
<td>869</td>
</tr>
<tr>
<td>Retail and Other</td>
<td>1,234</td>
<td>1,715</td>
<td>1,661</td>
<td>1,658</td>
<td>1,740</td>
<td>1,741</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>15,565</td>
<td>20,346</td>
<td>21,303</td>
<td>22,368</td>
<td>23,482</td>
<td>24,282</td>
</tr>
<tr>
<td><strong>National Income</strong></td>
<td>5,867</td>
<td>7,514</td>
<td>7,922</td>
<td>8,280</td>
<td>8,913</td>
<td>9,145</td>
</tr>
<tr>
<td><strong>Income per Capita</strong></td>
<td></td>
<td>1,717</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(rubles/year)</td>
<td></td>
<td>2,116</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Structure of GDP, labor, and assets in the agribusiness industry for 1989

<table>
<thead>
<tr>
<th></th>
<th>GDP</th>
<th>Labor</th>
<th>Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(percent)</td>
<td>(percent)</td>
<td>(percent)</td>
</tr>
<tr>
<td>Agriculture</td>
<td>48.4</td>
<td>56.0</td>
<td>70.1</td>
</tr>
<tr>
<td>Industry</td>
<td>31.0</td>
<td>9.5</td>
<td>9.2</td>
</tr>
<tr>
<td>(Food industry)</td>
<td>(24.8)</td>
<td>(8.8 )</td>
<td>(8.3 )</td>
</tr>
<tr>
<td>Forestry</td>
<td>0.2</td>
<td>0.9</td>
<td>0.1</td>
</tr>
<tr>
<td>State Purchases</td>
<td>0.6</td>
<td>1.5</td>
<td>0.6</td>
</tr>
<tr>
<td>Retail</td>
<td>4.6</td>
<td>7.7</td>
<td>3.0</td>
</tr>
<tr>
<td>Machinery Repair</td>
<td>2.2</td>
<td>0.3</td>
<td>3.0</td>
</tr>
<tr>
<td>Construction</td>
<td>6.1</td>
<td>14.2</td>
<td>1.7</td>
</tr>
<tr>
<td>Transport and Communications</td>
<td>2.3</td>
<td>2.5</td>
<td>7.5</td>
</tr>
<tr>
<td>Agro-chemicals</td>
<td>1.7</td>
<td>1.2</td>
<td>2.4</td>
</tr>
<tr>
<td>Other</td>
<td>2.9</td>
<td>6.2</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>12,234</td>
<td>684,400</td>
<td>17,059</td>
</tr>
<tr>
<td>(Percent of national)</td>
<td>(50.4)</td>
<td>(43.7)</td>
<td>(61.7)</td>
</tr>
</tbody>
</table>

* Million rubles for GDP and assets, number of workers for labor
Table 3. Number of agribusiness enterprises

<table>
<thead>
<tr>
<th></th>
<th>1988</th>
<th>1989</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (as of December 31)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collective Farms</td>
<td>736</td>
<td>833</td>
</tr>
<tr>
<td>State Farms</td>
<td>310</td>
<td>275</td>
</tr>
<tr>
<td>Agricultural Collective Ventures or Complexes</td>
<td>76</td>
<td>77</td>
</tr>
<tr>
<td>Regional Construction Organizations</td>
<td>80</td>
<td>181</td>
</tr>
<tr>
<td>Slaughter Houses</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Dairy Plants</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Sugar Refineries</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Flax Processing</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Alcohol Production</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Vegetable and Fruit Processing</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Agro-chemicals</td>
<td>44</td>
<td>44</td>
</tr>
<tr>
<td>Repair Workshops</td>
<td>44</td>
<td>44</td>
</tr>
</tbody>
</table>

Table 4. Wages in the agribusiness industry

<table>
<thead>
<tr>
<th></th>
<th>1988</th>
<th>1989</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(rubles per month)</td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>222</td>
<td>254</td>
</tr>
<tr>
<td>Food industry</td>
<td>271</td>
<td>283</td>
</tr>
<tr>
<td>Retail</td>
<td>150</td>
<td>184</td>
</tr>
<tr>
<td>Construction</td>
<td>308</td>
<td>335</td>
</tr>
<tr>
<td>Research</td>
<td>218</td>
<td>262</td>
</tr>
<tr>
<td>Management</td>
<td>298</td>
<td>447</td>
</tr>
<tr>
<td>Transportation</td>
<td>220</td>
<td>239</td>
</tr>
<tr>
<td>Average</td>
<td>234</td>
<td>263</td>
</tr>
<tr>
<td>National Average</td>
<td>223</td>
<td>241</td>
</tr>
</tbody>
</table>

*a In 1989 annual average income from personal plots was 739 rubles per family (373 rubles for urban and 2920 rubles for rural families). This income is not included in the wage rates.
Table 5. Investment in the agribusiness industry

<table>
<thead>
<tr>
<th></th>
<th>1988</th>
<th>1989</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>77</td>
<td>80</td>
</tr>
<tr>
<td>Industry</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Capital</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Retail</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(million rubles, 1989 prices)</td>
<td>1,449</td>
<td>1,392</td>
</tr>
</tbody>
</table>

Table 6. Investment in agriculture

<table>
<thead>
<tr>
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<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Investment in Agriculture</td>
<td>795</td>
<td>953</td>
<td>997</td>
<td>1055</td>
<td>1114</td>
<td>1114</td>
</tr>
<tr>
<td>State Investment</td>
<td>460</td>
<td>523</td>
<td>583</td>
<td>614</td>
<td>622</td>
<td>615</td>
</tr>
<tr>
<td>Collective Farm Investment</td>
<td>335</td>
<td>430</td>
<td>459</td>
<td>441</td>
<td>492</td>
<td>498</td>
</tr>
<tr>
<td>(percent of total investment)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agricultural Investment</td>
<td>44</td>
<td>39</td>
<td>36</td>
<td>36</td>
<td>35</td>
<td>38</td>
</tr>
</tbody>
</table>

Table 7. Farm machinery asset inventory, all sectors

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain Harvesting Combines</td>
<td>1,470</td>
<td>1,400</td>
<td>1,350</td>
<td>1,414</td>
<td>982</td>
<td>816</td>
</tr>
<tr>
<td>Tractor Ploughs</td>
<td>3,549</td>
<td>2,707</td>
<td>3,020</td>
<td>3,946</td>
<td>4,759</td>
<td>4,310</td>
</tr>
<tr>
<td>Tractor Seeders</td>
<td>2,872</td>
<td>1,798</td>
<td>1,717</td>
<td>1,584</td>
<td>1,680</td>
<td>1,443</td>
</tr>
<tr>
<td>Tractor Cultivators</td>
<td>3,448</td>
<td>5,281</td>
<td>5,736</td>
<td>5,536</td>
<td>3,731</td>
<td>2,581</td>
</tr>
<tr>
<td>Potato Harvesting Combines</td>
<td>110</td>
<td>282</td>
<td>128</td>
<td>14</td>
<td>32</td>
<td>4</td>
</tr>
<tr>
<td>Root Harvesting Combines</td>
<td>293</td>
<td>44</td>
<td>70</td>
<td>127</td>
<td>75</td>
<td>109</td>
</tr>
<tr>
<td>Silage Combines</td>
<td>514</td>
<td>203</td>
<td>377</td>
<td>191</td>
<td>74</td>
<td>80</td>
</tr>
<tr>
<td>Tractor Grass-mowers</td>
<td>3,200</td>
<td>1,600</td>
<td>1,590</td>
<td>1,530</td>
<td>1,960</td>
<td>1,774</td>
</tr>
<tr>
<td>Tractor Grass-rakers</td>
<td>1,582</td>
<td>1,054</td>
<td>840</td>
<td>524</td>
<td>490</td>
<td>470</td>
</tr>
<tr>
<td>Balers</td>
<td>721</td>
<td>560</td>
<td>424</td>
<td>216</td>
<td>375</td>
<td>588</td>
</tr>
<tr>
<td>Loaders</td>
<td>1,238</td>
<td>1,380</td>
<td>1,653</td>
<td>1,726</td>
<td>1,338</td>
<td>798</td>
</tr>
<tr>
<td>Milking Equipment</td>
<td>548</td>
<td>841</td>
<td>1,007</td>
<td>958</td>
<td>941</td>
<td>920</td>
</tr>
</tbody>
</table>
Table 8. Fertilizer supplied by the state

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>Total Fertilizer</td>
<td>553</td>
<td>689</td>
<td>657</td>
<td>672</td>
<td>667</td>
<td>732</td>
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<tr>
<td>Nitrogen</td>
<td>239</td>
<td>284</td>
<td>271</td>
<td>274</td>
<td>257</td>
<td>283</td>
</tr>
<tr>
<td>Phosphorous</td>
<td>123</td>
<td>143</td>
<td>133</td>
<td>144</td>
<td>139</td>
<td>179</td>
</tr>
<tr>
<td>Potassium</td>
<td>190</td>
<td>262</td>
<td>253</td>
<td>253</td>
<td>271</td>
<td>270</td>
</tr>
</tbody>
</table>

(单位: 千吨)

Note: Actual total fertilizer use is greater than the official numbers for total fertilizer supply. This discrepancy arises because farms may acquire fertilizer outside state contracts and use farm fertilizer stocks from previous years.
Structure of Farming

State and collective farms make up the public agricultural sector. In addition, there are individual plots and private farms are now being introduced. Part of the difference between 1989 and 1990 numbers for state and collective farms is the impact of reorganization. Some of the state farms became collectives and some of the large-scale collectives were divided into two or three separate collective farms.

The difference between collective and state farms is the ownership of assets. Collective farms own their assets and have greater decision making independence about using them. In addition, part of the collective farm profits are distributed among the workers as an end of year bonus. This bonus can be a substantial portion of yearly income. State farm assets are owned by the state and managers have little decision making flexibility.

Part of the processing of agricultural products takes place at the farm level and there is a tendency to increase the amount of processing at this level. Many farms are encouraging both agricultural and nonagricultural industries. These make up more than 50 percent of gross income on many farms.

Until July 1990, individual plots were officially limited to 0.5 hectares, although this limit was often exceeded. Since July 1990 individuals can have plots ranging up to 3.0 hectares. These small plots are mainly for livestock production. The little crop production that does take place consists mainly of potatoes or vegetables. Individual plots are allotted to public sector agricultural workers. They are allowed to graze their animals on some meadows of the collective farms. Livestock production on the individual plots is primarily dairy cattle. However, pigs are also fattened on contract with the collective farms, with feeder pigs and concentrate being provided by the collectives. Overall, about 30 percent of agricultural GDP comes from individual plot production.

Beginning in 1985 much of the livestock production from individual plots was sold to the collective farms through contracts. This production was included as part of the collective farms’ production rather than as individual plot production. The individual plots are cultivated by workers from collective and state farms, and this outside activity may cut into their on-farm work time. The production purchased from the individual plots helps the collective farms meet or exceed their contracts with the state. Because so much extra time is demanded from workers, they are unable to develop markets for their own products. They are also constrained in their ability to market their goods because of the limited farm-to-market transportation and an underdeveloped marketing system for private production.
In 1989/90 there were 150 private farms in Lithuania, and about 3,000 people had applied for farms. The number of private farms increased to 543 by April 15, 1990 and to 1,718 by July 1, 1990. Private farms will be given away in plots of up to 50 hectares. It is thought that it may take as long as 10 to 15 years before all the land is fully privatized. Some of the successful collective farms will probably develop into shareholding or joint stock enterprises. There will be laws regarding the sale of this land and the distribution of farm assets during the first few years of the transition process. A bimodal production structure is likely to exist for some time, with many small farms producing a small part of farm output and fewer large farms producing a large share of the output.

The individual plots are not mechanized to any large extent. In fact, the lack of any type of small-scale farm machinery will be an obstacle to the success of small private farms. Currently farm machinery and buildings are those of the large-scale collective and state farms. Until there is enough small-scale technology available, the private farms will need to adapt and develop ways of sharing or leasing existing farm equipment or services.
Figure 5. Structure of agricultural GDP, crops sector, 1989

Figure 6. Structure of agricultural GDP, livestock sector, 1989
Table 9. Structure of agricultural GDP

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>4,022.7</td>
<td>4,289.1</td>
<td>4,772.5</td>
<td>4,774.7</td>
<td>4,890.5</td>
<td>4,978.3</td>
</tr>
<tr>
<td>Public sector</td>
<td>(64.3)</td>
<td>(67.3)</td>
<td>(68.6)</td>
<td>(71.0)</td>
<td>(70.7)</td>
<td>(69.4)</td>
</tr>
<tr>
<td>Crops</td>
<td>1,301.4</td>
<td>1,475.1</td>
<td>1,623.7</td>
<td>1,586.2</td>
<td>1,639.9</td>
<td>1,706.4</td>
</tr>
<tr>
<td>Public sector</td>
<td>(64.2)</td>
<td>(69.1)</td>
<td>(69.0)</td>
<td>(71.9)</td>
<td>(69.9)</td>
<td>(69.2)</td>
</tr>
<tr>
<td>Livestock</td>
<td>2,721.2</td>
<td>2,814.0</td>
<td>3,148.8</td>
<td>3,188.5</td>
<td>3,250.6</td>
<td>3,271.9</td>
</tr>
<tr>
<td>Public sector</td>
<td>(64.4)</td>
<td>(66.4)</td>
<td>(68.5)</td>
<td>(70.6)</td>
<td>(71.0)</td>
<td>(69.5)</td>
</tr>
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</table>

Table 10. Agricultural GDP structure in 1989

<table>
<thead>
<tr>
<th></th>
<th>All Sectors</th>
<th>Public Sector</th>
<th>Industrial Plots</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crop Production</td>
<td>34.3</td>
<td>34.2</td>
<td>34.4</td>
</tr>
<tr>
<td>Grain</td>
<td>8.5</td>
<td>11.3</td>
<td>1.9</td>
</tr>
<tr>
<td>Industrial Crops</td>
<td>2.3</td>
<td>3.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Potatoes</td>
<td>7.4</td>
<td>3.4</td>
<td>16.5</td>
</tr>
<tr>
<td>Vegetables</td>
<td>1.8</td>
<td>1.3</td>
<td>2.8</td>
</tr>
<tr>
<td>Fruits and Berries</td>
<td>3.1</td>
<td>0.5</td>
<td>9.0</td>
</tr>
<tr>
<td>Feed Crops</td>
<td>10.7</td>
<td>14.2</td>
<td>2.9</td>
</tr>
<tr>
<td>Other Crops</td>
<td>0.5</td>
<td>0.2</td>
<td>1.3</td>
</tr>
</tbody>
</table>

| Livestock Production   | 65.7        | 65.8          | 65.6             |
| Dairy and Cattle       | 44.1        | 42.5          | 47.9             |
| Hogs                   | 14.5        | 15.4          | 12.5             |
| Sheep and Goats        | 0.2         | 0.0           | 0.7              |
| Poultry                | 6.1         | 7.1           | 3.8              |
| Other                  | 0.8         | 0.8           | 0.7              |
| GDP Total              | 100.0       | 100.0         | 100.0            |
Figure 7. Assets, GDP, and net returns on an average collective farm

Figure 8. Employment on an average collective farm
Table 11. Characteristics of an average collective farm, public sector

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Collective Farms</td>
<td>751</td>
<td>737</td>
<td>737</td>
<td>737</td>
<td>749</td>
<td>834</td>
</tr>
<tr>
<td>Agricultural Land (hectares)</td>
<td>2,984</td>
<td>3,039</td>
<td>3,035</td>
<td>3,020</td>
<td>2,975</td>
<td>2,693</td>
</tr>
<tr>
<td>Area in Crops (hectares)</td>
<td>1,993</td>
<td>1,980</td>
<td>1,976</td>
<td>1,967</td>
<td>1,926</td>
<td>1,798</td>
</tr>
<tr>
<td>Cattle (head)</td>
<td>1,561</td>
<td>1,828</td>
<td>1,832</td>
<td>1,848</td>
<td>1,802</td>
<td>1,637</td>
</tr>
<tr>
<td>Milking Cows (head)</td>
<td>507</td>
<td>523</td>
<td>523</td>
<td>518</td>
<td>499</td>
<td>458</td>
</tr>
<tr>
<td>Hogs (head)</td>
<td>1,877</td>
<td>1,872</td>
<td>1,919</td>
<td>1,884</td>
<td>1,857</td>
<td>1,745</td>
</tr>
<tr>
<td>Labor (people)</td>
<td>316</td>
<td>311</td>
<td>309</td>
<td>304</td>
<td>295</td>
<td>273</td>
</tr>
<tr>
<td>Average Monthly Wage (rubles)</td>
<td>134</td>
<td>183</td>
<td>197</td>
<td>207</td>
<td>224</td>
<td>257</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Assets</td>
<td>4,648</td>
<td>6,328</td>
<td>6,634</td>
<td>6,904</td>
<td>7,207</td>
</tr>
<tr>
<td>Agricultural GDP</td>
<td>2,003</td>
<td>2,673</td>
<td>2,791</td>
<td>2,914</td>
<td>2,923</td>
</tr>
<tr>
<td>Net Returns</td>
<td>-30</td>
<td>725</td>
<td>631</td>
<td>713</td>
<td>973</td>
</tr>
</tbody>
</table>

Table 12. Agricultural land use in 1988 and 1989

<table>
<thead>
<tr>
<th></th>
<th>All Sectors</th>
<th>Public Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(thousand hectares)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Land Area</td>
<td>6,520</td>
<td>6,520</td>
</tr>
<tr>
<td>Arable Land</td>
<td>2,378</td>
<td>2,307</td>
</tr>
<tr>
<td>Meadows and Pastures</td>
<td>1,222</td>
<td>1,167</td>
</tr>
<tr>
<td>Orchards and Berries</td>
<td>51</td>
<td>49</td>
</tr>
<tr>
<td>Total Agricultural Land</td>
<td>3,650</td>
<td>3,523</td>
</tr>
<tr>
<td>Individual Plots&lt;sup&gt;a&lt;/sup&gt;</td>
<td>152</td>
<td>152</td>
</tr>
</tbody>
</table>

<sup>a</sup> This land is owned by the collective and state farms, but used for production by workers of the public sector farms.
Agricultural Production and Productivity

The arable land of Lithuania is divided into one-third for pasture and meadows and two-thirds for crops. Nearly 50 percent of crop area is in grains, about 40 percent is in feed crops, and the rest is industrial crops (flax, sugar beets), potatoes, vegetables, fallow, and other minor crops. The rotation is very important in determining crop area. Depending on the quality of the land, grain is planted on about 37 to 50 percent of the arable land. This rotation consists of corn for silage, other silage crops, and grasses. Corn silage is the preferred crop in this rotation, but its production is constrained by the availability of harvest machinery. Production of other silage crops is constrained by the availability of seed grain.

The hard wheat grown in central Lithuania is used for food, and the remainder is soft wheat used mostly for feed. Rye is used for food, and barley is used for feed and beer production. Individual plots do not contribute greatly to the production of grain, feed, and industrial crops but are important for potatoes and vegetables. In 1989, 93.1 percent of grains and 91.7 percent of feed crops were produced in the public sector, while 68.4 percent of potatoes and 49.6 percent of vegetables were produced on individual plots. In 1980, which was a bad year for potatoes, the state purchased a much higher share of potatoes from individual plots than in other years. It is possible that higher yields were achieved on individual plots that year, because the potatoes are harvested by hand rather than by machines as in the public sector.

Most livestock product production comes from the individual sector. In 1989, 21 percent of meat, 38.7 percent of milk, 29.8 percent of eggs, and 73.1 percent of wool were produced on individual plots. Overall, the individual sector accounted for 30.5 percent of livestock production. Thus, state procurement needs to rely partially on individual production, especially for milk.

Lithuania is purchasing feed grain and processed concentrate feed from the Soviet Union in exchange for the supply of livestock products. Pork and poultry production is based largely on imported feed concentrate and takes place in large public sector confinement units and to a lesser extent in small contract feeding enterprises on individual plots. In total, about 84 percent of total feed use and only 53 percent of concentrate use is produced in Lithuania.
Figure 9. Livestock and products from individual plots

Figure 10. Agricultural production and procurement from public and individual sectors, 1989
### Table 13. Agricultural production from individual plots

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Crops</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potatoes</td>
<td>795</td>
<td>1,091</td>
<td>1,393</td>
<td>873</td>
<td>1,219</td>
<td>1,318</td>
</tr>
<tr>
<td>Vegetables</td>
<td>156</td>
<td>174</td>
<td>180</td>
<td>155</td>
<td>190</td>
<td>184</td>
</tr>
<tr>
<td>Feed Roots</td>
<td>518</td>
<td>702</td>
<td>786</td>
<td>725</td>
<td>958</td>
<td>973</td>
</tr>
<tr>
<td>Hay</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual and Perennial Grasses</td>
<td>17</td>
<td>32</td>
<td>53</td>
<td>47</td>
<td>48</td>
<td>51</td>
</tr>
<tr>
<td>Pastures and Meadows</td>
<td>374</td>
<td>391</td>
<td>367</td>
<td>357</td>
<td>358</td>
<td>376</td>
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<tr>
<td><strong>Livestock and Products</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Meat (slaughter weight)</td>
<td>116</td>
<td>168</td>
<td>133</td>
<td>100</td>
<td>101</td>
<td>112</td>
</tr>
<tr>
<td>Pork</td>
<td>81</td>
<td>127</td>
<td>99</td>
<td>72</td>
<td>70</td>
<td>78</td>
</tr>
<tr>
<td>Milk</td>
<td>1,006</td>
<td>988</td>
<td>1,073</td>
<td>1,106</td>
<td>1,162</td>
<td>1,253</td>
</tr>
<tr>
<td>Eggs</td>
<td>386</td>
<td>383</td>
<td>383</td>
<td>383</td>
<td>389</td>
<td>396</td>
</tr>
<tr>
<td>Wool</td>
<td>116</td>
<td>124</td>
<td>145</td>
<td>140</td>
<td>132</td>
<td>117</td>
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</table>

### Table 14. State procurement of agricultural produce from individual plots

<table>
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</thead>
<tbody>
<tr>
<td><strong>Noncontract Sales</strong></td>
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<td></td>
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<tr>
<td>Crops</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potatoes</td>
<td>86.5</td>
<td>48.8</td>
<td>52.5</td>
<td>51.8</td>
<td>32.2</td>
<td>49.3</td>
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<tr>
<td>Vegetables</td>
<td>1.4</td>
<td>8.3</td>
<td>8.9</td>
<td>7.8</td>
<td>11.2</td>
<td>7.4</td>
</tr>
<tr>
<td>Livestock and Poultry</td>
<td>64.8</td>
<td>7.6</td>
<td>7.0</td>
<td>5.8</td>
<td>5.5</td>
<td>5.6</td>
</tr>
<tr>
<td>(Liveweight)A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milk and Products</td>
<td>541</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>(Milk equivalent)A</td>
<td></td>
<td></td>
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<tr>
<td><strong>Contract Sales</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Total Meat</td>
<td>106.5</td>
<td>132.4</td>
<td>80.4</td>
<td>80.1</td>
<td>97.5</td>
<td>----</td>
</tr>
<tr>
<td>Milk</td>
<td>742.5</td>
<td>957.6</td>
<td>1009.3</td>
<td>1042.6</td>
<td>1133.6</td>
<td>----</td>
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</table>

*a Beginning in 1985 contract sales to public sector farms are reported as being procured from public sector farms.

---- = Data not available.
Table 15. Level of mechanization in the public sector

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<thead>
<tr>
<th>Crop Sector</th>
<th>1988</th>
<th>1989</th>
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<tr>
<td>Vegetable and Fruit Production</td>
<td>94</td>
<td>93</td>
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<tr>
<td>Flax Production</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Sugar Beet Harvesting</td>
<td>99</td>
<td>99</td>
</tr>
<tr>
<td>Potato Harvesting</td>
<td>54</td>
<td>61</td>
</tr>
<tr>
<td>Grain Harvesting</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Grain Drying</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Grain Cleaning</td>
<td>100</td>
<td>100</td>
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</table>

<table>
<thead>
<tr>
<th>Livestock Sector</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Milking</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Water Supply</td>
<td>99</td>
<td>99</td>
</tr>
<tr>
<td>Fodder Preparation</td>
<td>76</td>
<td>80</td>
</tr>
<tr>
<td>Manure Extraction</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td>Complex Mechanization</td>
<td>78</td>
<td>83</td>
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Table 16. Actual fertilizer use

<table>
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<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>(kilogram per hectare of arable land)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Total Fertilizer Use</td>
<td>241</td>
<td>305</td>
<td>299</td>
<td>308</td>
<td>310</td>
<td>352</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>105</td>
<td>127</td>
<td>123</td>
<td>126</td>
<td>120</td>
<td>137</td>
</tr>
<tr>
<td>Phosphorous</td>
<td>52</td>
<td>59</td>
<td>61</td>
<td>66</td>
<td>64</td>
<td>83</td>
</tr>
<tr>
<td>Potassium</td>
<td>84</td>
<td>119</td>
<td>115</td>
<td>116</td>
<td>126</td>
<td>132</td>
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</table>
Table 17. Area under crops in all sectors

<table>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(thousand hectares)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Grains</strong></td>
<td>1,192</td>
<td>1,147</td>
<td>1,192</td>
<td>1,120</td>
<td>1,121</td>
<td>1,125</td>
</tr>
<tr>
<td>Winter Grains</td>
<td>396</td>
<td>433</td>
<td>419</td>
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* Other silage crops: small grain/perennial grass mix used for silage.
Heavy rains reduced 1980 yields.

Figure 11. Average yield of agricultural products, all sectors

Table 18. Average yield of agricultural products in all sectors

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<td>(metric ton per hectare, bunker weight)</td>
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<td>2.8</td>
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<td>17.3</td>
<td>10.7</td>
<td>14.6</td>
<td>16.2</td>
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<td>15.3</td>
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<td>34.4</td>
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<td>4.1</td>
<td>4.3</td>
<td>4.1</td>
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a The harvest in 1980 was reduced by excessive rains in the fall. The potato harvest in particular was severely reduced.

b The main oilseed is rapeseed.
Figure 12. Crop production, all sectors

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<td>437</td>
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<td>510</td>
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<td>1,094</td>
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<td>231</td>
<td>286</td>
<td>219</td>
<td>201</td>
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<td>14</td>
<td>16</td>
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<td>15</td>
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<tr>
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<td>1,850</td>
<td>1,927</td>
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<tr>
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<tr>
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<td>2,609</td>
<td>2,802</td>
<td>2,552</td>
<td>2,953</td>
<td>2,823</td>
</tr>
<tr>
<td><strong>Hay and Silage</strong></td>
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</tr>
<tr>
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</table>

*The harvest in 1980 was reduced by excessive rains in the fall. The potato harvest in particular was severely reduced.*
Table 20. State procurement of crop production from all sectors

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<td>(thousand metric tons)</td>
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<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
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<tr>
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<td>100%</td>
<td>100%</td>
<td>100%</td>
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<td>100%</td>
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<td><strong>Flax</strong></td>
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<td>100%</td>
<td>100%</td>
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<td>100%</td>
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<td>85.4%</td>
<td>85.2%</td>
<td>78.4%</td>
<td>89.8%</td>
<td>85.2%</td>
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<td>93.7%</td>
<td>94.4%</td>
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<td>94.1%</td>
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Table 21. Total livestock head in all sectors, by the end of the year

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<td>(thousand head)</td>
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<td>567</td>
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<td>862</td>
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<td>2,705</td>
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Table 22. Livestock production in all sectors

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<td>Pork</td>
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<td>Other</td>
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<td>160</td>
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Table 23. State procurement of livestock production

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</tr>
<tr>
<td>Public sector (liveweight)</td>
<td>463.4</td>
<td>663.0</td>
<td>685.8</td>
<td>704.1</td>
<td>725.1</td>
<td>721.2</td>
</tr>
<tr>
<td>Individual plots (liveweight)</td>
<td>64.8</td>
<td>7.6</td>
<td>7.0</td>
<td>5.8</td>
<td>5.5</td>
<td>5.6</td>
</tr>
<tr>
<td><strong>Milk and Products</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public sector</td>
<td>1,427.0</td>
<td>2,104.8</td>
<td>2,769.5</td>
<td>2,875.7</td>
<td>2,940.9</td>
<td>2,963.6</td>
</tr>
<tr>
<td>Individual plots(^a)</td>
<td>469.9</td>
<td>541.0</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
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<tr>
<td><strong>Eggs</strong></td>
<td>511.1</td>
<td>650.0</td>
<td>736.9</td>
<td>808.6</td>
<td>862.8</td>
<td>837.3</td>
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</table>

\(^a\) After 1985 contract sales to public sector farms from individual plots are reported as a procurement from the public sector.
### Table 24. Productivity in the dairy sector

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>(kilograms of milk per cow)(^a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>All Sectors</td>
<td>2,905</td>
<td>3,407</td>
<td>3,492</td>
<td>3,571</td>
<td>3,674</td>
<td>3,765</td>
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<tr>
<td>Public Sector</td>
<td>2,942</td>
<td>3,447</td>
<td>3,570</td>
<td>3,634</td>
<td>3,733</td>
<td>3,774</td>
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</table>

\(^a\) Yield per cow is converted to the base fat content.

### Table 25. Feed requirements and supply in the public sector

<table>
<thead>
<tr>
<th></th>
<th>1988</th>
<th>1989</th>
</tr>
</thead>
<tbody>
<tr>
<td>(thousand metric tons)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Concentrate</strong>(^a)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computed requirement</td>
<td>3,431</td>
<td>3,590</td>
</tr>
<tr>
<td>Total supply</td>
<td>3,404</td>
<td>3,369</td>
</tr>
<tr>
<td>Lithuanian supply</td>
<td>1,800  (52.9%)</td>
<td>1,782  (53.0%)</td>
</tr>
<tr>
<td><strong>Hay</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computed requirement</td>
<td>3,649</td>
<td>3,595</td>
</tr>
<tr>
<td>Total supply</td>
<td>4,621</td>
<td>4,718</td>
</tr>
<tr>
<td><strong>Silage and Roots</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computed requirement</td>
<td>6,444</td>
<td>6,456</td>
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<tr>
<td>Total supply</td>
<td>6,813</td>
<td>6,174</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Total Feed</strong> (thousand grain units)(^b)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Computed requirement</td>
<td>602.3</td>
</tr>
<tr>
<td>Total supply</td>
<td>480.5</td>
</tr>
<tr>
<td>Lithuanian supply</td>
<td>405.4 (84.4%)</td>
</tr>
</tbody>
</table>

\(^a\) Poultry production in the public sector uses imported concentrate. Hogs are also fed mainly imported concentrate.

\(^b\) Individual crops used for feed are converted into common feed units. The conversion coefficients used were taken from *Recommended Feed Rations for Livestock for 1986-1990* by Lithuanian Institute of Livestock Breeding. Conversion coefficients used for particular feed crops are following: concentrate feed, 1.0; grains (average), 1.0; hay, 0.5; straw, 0.3; grass, 0.18; silage, 0.18; feed roots, 0.10; potatoes, 0.30, etc.
Food Production and Consumption

Lithuania produces a surplus of food products and exports substantial quantities of meat and milk products to other republics. Although most of the agricultural commodities used in food production are produced in Lithuania, about two-thirds of the sugar production is from imported raw cane sugar.

Consumption patterns have been similar to those in East Germany for the same period, although meat consumption in Lithuania is about 20 percent lower and grain products about 20 percent higher. Differences between rural and urban household expenditure patterns reflect the availability of food products as well as economic factors. Urban residents not only consume more away from home but also have fewer home-grown foods available such as potatoes, vegetables, and eggs. Higher urban expenditures on fruits may result from higher incomes as well as the fact that fruits are more available in urban markets. Perhaps the largest contrast is that in absolute terms, rural consumers spend nearly twice as much as urban consumers on grain products and less than half as much on meat products.

Food self-sufficiency ratios indicate that meat and milk products are the major export products. Lithuania is mostly self-sufficient in food grains, although some hard wheat is imported from other republics. However, large amounts of imported grain and protein meal, are used for feeding purposes. The self-sufficiency ratio is high for potatoes only because feed use and waste are high relative to food use. Although processed sugar is exported, domestic sugar beet production is less than half of what is needed for Lithuanian consumption.

Lithuania has three parallel retail food markets: the state market, the cooperative retail system, and the private market. The cooperative retail stores are more concentrated in the rural areas and the state stores are more prevalent in urban areas. The private market is legal for food products and is mostly in urban areas. State retail prices were heavily subsidized by the government prior to recent price reforms and in most cases were even below procurement prices of raw commodities. Cooperative retail prices were generally higher than state prices but still controlled and subsidized. Private market prices were not controlled and were much higher than both state and cooperative prices. For example, in 1989 the ratio of average market price to state price ranged from 161 percent for fruits to 567 percent for potatoes.
Table 26. Food production

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</thead>
<tbody>
<tr>
<td>Sugar</td>
<td>212</td>
<td>222</td>
<td>238</td>
<td>239</td>
<td>239</td>
<td>239</td>
</tr>
<tr>
<td>Meat</td>
<td>313</td>
<td>397</td>
<td>410</td>
<td>420</td>
<td>433</td>
<td>447</td>
</tr>
<tr>
<td>Beef</td>
<td>133</td>
<td>167</td>
<td>177</td>
<td>172</td>
<td>181</td>
<td>172</td>
</tr>
<tr>
<td>Pork</td>
<td>123</td>
<td>156</td>
<td>154</td>
<td>168</td>
<td>168</td>
<td>173</td>
</tr>
<tr>
<td>Mutton</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Poultry</td>
<td>31</td>
<td>36</td>
<td>39</td>
<td>41</td>
<td>46</td>
<td>48</td>
</tr>
<tr>
<td>Other</td>
<td>25</td>
<td>34</td>
<td>38</td>
<td>36</td>
<td>36</td>
<td>52</td>
</tr>
<tr>
<td>Sausage (tons)</td>
<td>62</td>
<td>68</td>
<td>72</td>
<td>74</td>
<td>75</td>
<td>76</td>
</tr>
<tr>
<td>Fish</td>
<td>277</td>
<td>276</td>
<td>297</td>
<td>272</td>
<td>425</td>
<td>418</td>
</tr>
<tr>
<td>Butter</td>
<td>52</td>
<td>72</td>
<td>75</td>
<td>77</td>
<td>258</td>
<td>28</td>
</tr>
<tr>
<td>Vegetable Oil</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Confectionery</td>
<td>68</td>
<td>79</td>
<td>85</td>
<td>87</td>
<td>90</td>
<td>91</td>
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<tr>
<td>Sweets</td>
<td>46</td>
<td>54</td>
<td>58</td>
<td>60</td>
<td>61</td>
<td>62</td>
</tr>
<tr>
<td>Cakes and Pastry</td>
<td>22</td>
<td>25</td>
<td>26</td>
<td>28</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>Pasta</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>14</td>
<td>14</td>
<td>14</td>
</tr>
</tbody>
</table>

(million tins)$^a$

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Canned Food</td>
<td>270</td>
<td>327</td>
<td>343</td>
<td>373</td>
<td>405</td>
<td>423</td>
</tr>
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</table>

(thousand metric ton milk equivalents)

<table>
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<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk and Products</td>
<td>502</td>
<td>730</td>
<td>747</td>
<td>790</td>
<td>794</td>
<td>814</td>
</tr>
<tr>
<td>Fluid Milk</td>
<td>176</td>
<td>175</td>
<td>180</td>
<td>188</td>
<td>177</td>
<td>164</td>
</tr>
<tr>
<td>Kefir</td>
<td>43</td>
<td>50</td>
<td>52</td>
<td>59</td>
<td>60</td>
<td>57</td>
</tr>
<tr>
<td>Sour Cream</td>
<td>24</td>
<td>30</td>
<td>32</td>
<td>34</td>
<td>35</td>
<td>37</td>
</tr>
<tr>
<td>Cream</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Full Fat Curd</td>
<td>20</td>
<td>23</td>
<td>24</td>
<td>26</td>
<td>26</td>
<td>24</td>
</tr>
<tr>
<td>Low Fat Curd</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Cream Cheese</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Cheese</td>
<td>18</td>
<td>23</td>
<td>25</td>
<td>26</td>
<td>26</td>
<td>27</td>
</tr>
</tbody>
</table>

$^a$ In equivalent basic canned food measure. Canned food includes canned meat, fish, fruits, and vegetables. The standard size is 150 grams for fish, 351 grams for meat, 400 grams for milk and vegetables.
Table 27. Per capita production of agricultural products

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(kilograms per year)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grain</td>
<td>476</td>
<td>686</td>
<td>761</td>
<td>837</td>
<td>727</td>
<td>883</td>
</tr>
<tr>
<td>Potatoes</td>
<td>343</td>
<td>516</td>
<td>638</td>
<td>382</td>
<td>500</td>
<td>520</td>
</tr>
<tr>
<td>Vegetables</td>
<td>77</td>
<td>92</td>
<td>98</td>
<td>87</td>
<td>100</td>
<td>88</td>
</tr>
<tr>
<td>Sugar (from beets)</td>
<td>21</td>
<td>21</td>
<td>21</td>
<td>21</td>
<td>22</td>
<td>21</td>
</tr>
<tr>
<td>Sugar (from imported cane)</td>
<td>43</td>
<td>43</td>
<td>46</td>
<td>45</td>
<td>44</td>
<td>43</td>
</tr>
<tr>
<td>Fruits and Berries</td>
<td>48</td>
<td>51</td>
<td>56</td>
<td>18</td>
<td>34</td>
<td>68</td>
</tr>
<tr>
<td>Meat (kilograms per year, slaughter weight)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beef</td>
<td>55</td>
<td>62</td>
<td>60</td>
<td>60</td>
<td>63</td>
<td>60</td>
</tr>
<tr>
<td>Pork</td>
<td>62</td>
<td>67</td>
<td>63</td>
<td>67</td>
<td>67</td>
<td>67</td>
</tr>
<tr>
<td>Other</td>
<td>13</td>
<td>18</td>
<td>18</td>
<td>17</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>130</td>
<td>147</td>
<td>141</td>
<td>144</td>
<td>148</td>
<td>143</td>
</tr>
<tr>
<td>Milk and Products</td>
<td>735</td>
<td>829</td>
<td>842</td>
<td>852</td>
<td>867</td>
<td>873</td>
</tr>
<tr>
<td>(kilograms per year, milk equivalent)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eggs (units)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>279</td>
<td>311</td>
<td>333</td>
<td>349</td>
<td>364</td>
<td>359</td>
</tr>
</tbody>
</table>

Figure 13. Per capita consumption of meat, milk, eggs, grains, and potatoes
Figure 14. Per capita consumption of vegetables, oils, fruits, fish, and sugar

Table 28. Per capita consumption of agricultural products

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>(kilograms per capita per year)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Meat</td>
<td>81</td>
<td>87</td>
<td>87</td>
<td>85</td>
<td>87</td>
<td>83</td>
</tr>
<tr>
<td>Milk and Products</td>
<td>415</td>
<td>409</td>
<td>420</td>
<td>438</td>
<td>441</td>
<td>451</td>
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<tr>
<td>Eggs (units)</td>
<td>253</td>
<td>285</td>
<td>304</td>
<td>317</td>
<td>319</td>
<td>316</td>
</tr>
<tr>
<td>Bread and Grain Products</td>
<td>111</td>
<td>107</td>
<td>108</td>
<td>110</td>
<td>111</td>
<td>110</td>
</tr>
<tr>
<td>Potatoes</td>
<td>150</td>
<td>134</td>
<td>137</td>
<td>139</td>
<td>143</td>
<td>146</td>
</tr>
<tr>
<td>Vegetables</td>
<td>78</td>
<td>84</td>
<td>84</td>
<td>84</td>
<td>84</td>
<td>82</td>
</tr>
<tr>
<td>Fruits and Berries</td>
<td>40</td>
<td>52</td>
<td>56</td>
<td>58</td>
<td>62</td>
<td>65</td>
</tr>
<tr>
<td>Sugar</td>
<td>41</td>
<td>44</td>
<td>46</td>
<td>47</td>
<td>50</td>
<td>46</td>
</tr>
<tr>
<td>Oil and Margarine</td>
<td>6</td>
<td>8</td>
<td>8</td>
<td>9</td>
<td>7</td>
<td>8</td>
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<tr>
<td>Fish</td>
<td>16</td>
<td>18</td>
<td>19</td>
<td>20</td>
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Table 29. Urban and rural annual per capita food expenditure patterns

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<tr>
<td>Home Consumption</td>
<td>87.1</td>
<td>93.1</td>
<td>86.7</td>
<td>94.6</td>
<td>85.8</td>
<td>95.0</td>
<td>83.5</td>
<td>93.5</td>
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<tr>
<td>Bread and Grain Products</td>
<td>7.6</td>
<td>23.7</td>
<td>7.3</td>
<td>23.1</td>
<td>6.8</td>
<td>21.7</td>
<td>6.1</td>
<td>20.3</td>
</tr>
<tr>
<td>Potatoes</td>
<td>1.5</td>
<td>0.6</td>
<td>1.7</td>
<td>0.6</td>
<td>1.5</td>
<td>0.5</td>
<td>1.3</td>
<td>0.3</td>
</tr>
<tr>
<td>Vegetables</td>
<td>5.6</td>
<td>2.4</td>
<td>5.9</td>
<td>3.3</td>
<td>5.3</td>
<td>1.9</td>
<td>5.0</td>
<td>2.0</td>
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<tr>
<td>Fruits and Berries</td>
<td>7.8</td>
<td>1.4</td>
<td>6.6</td>
<td>1.9</td>
<td>6.3</td>
<td>1.9</td>
<td>5.9</td>
<td>1.4</td>
</tr>
<tr>
<td>Meat</td>
<td>25.1</td>
<td>21.7</td>
<td>25.9</td>
<td>20.2</td>
<td>26.5</td>
<td>21.6</td>
<td>26.6</td>
<td>22.2</td>
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<tr>
<td>Milk</td>
<td>15.5</td>
<td>13.9</td>
<td>15.3</td>
<td>15.5</td>
<td>14.4</td>
<td>15.8</td>
<td>13.4</td>
<td>15.4</td>
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<tr>
<td>Eggs</td>
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<td>0.7</td>
<td>3.1</td>
<td>1.0</td>
<td>3.0</td>
<td>1.0</td>
<td>2.7</td>
<td>0.9</td>
</tr>
<tr>
<td>Sugar</td>
<td>3.4</td>
<td>8.0</td>
<td>2.8</td>
<td>6.2</td>
<td>3.2</td>
<td>6.8</td>
<td>2.5</td>
<td>5.4</td>
</tr>
<tr>
<td>Confectionery</td>
<td>7.2</td>
<td>9.8</td>
<td>7.4</td>
<td>10.3</td>
<td>7.5</td>
<td>10.4</td>
<td>7.8</td>
<td>11.1</td>
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<tr>
<td>Other</td>
<td>10.2</td>
<td>11.6</td>
<td>10.7</td>
<td>13.1</td>
<td>11.3</td>
<td>13.4</td>
<td>12.2</td>
<td>14.5</td>
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<tr>
<td>Away from Home</td>
<td>12.9</td>
<td>6.9</td>
<td>13.3</td>
<td>5.4</td>
<td>14.2</td>
<td>5.3</td>
<td>16.5</td>
<td>6.5</td>
</tr>
<tr>
<td>Total Food Expenditures</td>
<td>511.8</td>
<td>263.7</td>
<td>551.1</td>
<td>293.6</td>
<td>584.9</td>
<td>297.0</td>
<td>614.4</td>
<td>337.4</td>
</tr>
</tbody>
</table>

Figure 15. Self-sufficiency ratio
Table 30. Food self-sufficiency ratio

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat and Products</td>
<td>160</td>
<td>169</td>
<td>162</td>
<td>169</td>
<td>170</td>
<td>172</td>
</tr>
<tr>
<td>Milk and Products</td>
<td>177</td>
<td>203</td>
<td>201</td>
<td>195</td>
<td>197</td>
<td>194</td>
</tr>
<tr>
<td>Eggs (units)</td>
<td>110</td>
<td>109</td>
<td>110</td>
<td>110</td>
<td>114</td>
<td>114</td>
</tr>
<tr>
<td>Potatoes</td>
<td>229</td>
<td>385</td>
<td>466</td>
<td>275</td>
<td>350</td>
<td>356</td>
</tr>
<tr>
<td>Vegetables</td>
<td>99</td>
<td>110</td>
<td>117</td>
<td>104</td>
<td>119</td>
<td>107</td>
</tr>
<tr>
<td>Fruits and Berries</td>
<td>117</td>
<td>98</td>
<td>100</td>
<td>31</td>
<td>55</td>
<td>105</td>
</tr>
</tbody>
</table>

(percent)

Figure 16. Consumer prices for meat
Figure 17. Consumer prices for vegetables
Table 31. Consumer prices for main food commodities

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Meat</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State retail price</td>
<td>1.83</td>
<td>1.85</td>
<td>1.94</td>
<td>2.17</td>
<td>1.95</td>
</tr>
<tr>
<td>Cooperative price</td>
<td>2.22</td>
<td>2.38</td>
<td>2.41</td>
<td>2.56</td>
<td>2.60</td>
</tr>
<tr>
<td>Market price</td>
<td>5.06</td>
<td>5.36</td>
<td>5.24</td>
<td>5.32</td>
<td>6.28</td>
</tr>
<tr>
<td><strong>Market/state price ratio</strong></td>
<td>(percent)</td>
<td>276.50</td>
<td>288.60</td>
<td>270.10</td>
<td>245.20</td>
</tr>
</tbody>
</table>

| **Potatoes**     |      |      |      |      |      |
| State retail price | 0.11 | 0.12 | 0.12 | 0.15 | 0.14 |
| Cooperative price | 0.90 | 0.84 | 0.78 | 0.90 | 0.33 |
| Market price     | 0.38 | 0.40 | 0.47 | 0.45 | 0.54 |
| **Market/state price ratio** | (percent) | 345.50 | 333.30 | 391.70 | 300.00 | 385.70 |

| **Vegetables**   |      |      |      |      |      |
| State retail price | 0.37 | 0.40 | 0.44 | 0.42 | 0.46 |
| Cooperative price | 0.97 | 1.03 | 1.16 | 1.23 | 1.16 |
| Market price     | 2.31 | 2.12 | 2.64 | 2.48 | 2.61 |
| **Market/state price ratio** | (percent) | 624.30 | 530.00 | 600.00 | 590.50 | 567.40 |

| **Fruits**       |      |      |      |      |      |
| State retail price | 1.33 | 1.33 | 1.27 | 1.27 | 1.49 |
| Cooperative price | 1.72 | 1.60 | 1.53 | 1.56 | 2.06 |
| Market price     | 2.70 | 2.17 | 2.96 | 2.58 | 2.40 |
| **Market/state price ratio** | (percent) | 203.00 | 163.20 | 233.10 | 203.10 | 161.10 |
Farm Prices, Costs, and Profits

Under the state plan during this period, farms were expected to reach a profitability rate of at least 25 percent. Farms with low or no profits were aided with higher prices. In 1989, there were 7 farms with losses, 21 farms with profitability levels of less than 5 percent, 48 farms at 5 to 10 percent, 71 farms at 10 to 15 percent, 463 farms at 15 to 30 percent, and 505 farms with profitability rates of more than 30 percent. Extra price payments to low-profit farms in 1989 amounted to 559,600 rubles.

Grain production was not considered a profitable enterprise, especially on state farms when the grain is to be sold to the state. However, much of the grain is fed to livestock on the farm. Profitability rates for potatoes, sugar beets, and vegetables increased substantially in 1988 and 1989 primarily due to higher procurement prices. Bonus payments were also made in 1989 for farms exceeding the average production of the previous five years, which amounted to 283,300 rubles.

While there may be profit sharing on collective farms, profits are often used to form different funds to finance activities carried out by collective and state farms. The share of different funds in total 1989 profits was:

- fund for production growth and scientific/technological research, 27.3 percent;
- fund for development of social infrastructure, 8.4 percent;
- fund for bonus salaries for the members of state and collective farms, 10.5 percent;
- taxes for capital assets use, 2.9 percent;
- payments on short-term bank loans, 0.5 percent;
- payments to centralized funds and stocks, 2.7 percent;
- fund for salaries of the members of state and collective farms, 46.9 percent; and
- funds for financing other kinds of activities, 0.8 percent.
Table 32. State procurement prices on state and collective farms

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>1985 (rubles per metric ton)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grain</td>
<td>172</td>
<td>157</td>
<td>163</td>
<td>160</td>
<td>162</td>
</tr>
<tr>
<td>Sugar Beets</td>
<td>66</td>
<td>61</td>
<td>60</td>
<td>67</td>
<td>65</td>
</tr>
<tr>
<td>Flax (fiber)</td>
<td>1,256</td>
<td>1,113</td>
<td>1,308</td>
<td>1,313</td>
<td>1,479</td>
</tr>
<tr>
<td>Potatoes</td>
<td>127</td>
<td>172</td>
<td>152</td>
<td>188</td>
<td>204</td>
</tr>
<tr>
<td>Vegetables</td>
<td>232</td>
<td>260</td>
<td>307</td>
<td>334</td>
<td>390</td>
</tr>
<tr>
<td>Meat Total (liveweight)</td>
<td>2,725</td>
<td>2,560</td>
<td>2,610</td>
<td>2,795</td>
<td>2,826</td>
</tr>
<tr>
<td>Milk</td>
<td>383</td>
<td>345</td>
<td>344</td>
<td>371</td>
<td>371</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eggs</td>
<td>94</td>
<td>87</td>
<td>91</td>
<td>87</td>
<td>87</td>
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Table 33. Production costs of major agricultural products on collective and state farms

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1985 (rubles per metric ton)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grain</td>
<td>121</td>
<td>147</td>
<td>120</td>
<td>141</td>
<td>136</td>
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<tr>
<td>Sugar Beets</td>
<td>45</td>
<td>54</td>
<td>45</td>
<td>54</td>
<td>46</td>
</tr>
<tr>
<td>Potatoes</td>
<td>136</td>
<td>157</td>
<td>127</td>
<td>144</td>
<td>163</td>
</tr>
<tr>
<td>Vegetables</td>
<td>119</td>
<td>134</td>
<td>115</td>
<td>137</td>
<td>119</td>
</tr>
<tr>
<td>Beef</td>
<td>2,204</td>
<td>2,557</td>
<td>2,194</td>
<td>2,557</td>
<td>2,249</td>
</tr>
<tr>
<td>Pork</td>
<td>2,126</td>
<td>2,438</td>
<td>2,031</td>
<td>2,302</td>
<td>1,978</td>
</tr>
<tr>
<td>Milk</td>
<td>270</td>
<td>306</td>
<td>268</td>
<td>303</td>
<td>253</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eggs</td>
<td>57</td>
<td>61</td>
<td>56</td>
<td>59</td>
<td>57</td>
</tr>
</tbody>
</table>
Table 34. Profitability rates for major agricultural products (all sectors)

<table>
<thead>
<tr>
<th></th>
<th>1986</th>
<th>1987</th>
<th>1988&lt;sup&gt;a&lt;/sup&gt;</th>
<th>1989&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>(percent)</td>
<td></td>
</tr>
<tr>
<td>Crop production</td>
<td>17.0</td>
<td>17.3</td>
<td>26.3</td>
<td>32.4</td>
</tr>
<tr>
<td>Grain</td>
<td>8.0</td>
<td>10.9</td>
<td>5.4</td>
<td>10.9</td>
</tr>
<tr>
<td>Potatoes</td>
<td>9.0</td>
<td>-11.4</td>
<td>19.0</td>
<td>29.4</td>
</tr>
<tr>
<td>Sugar beets</td>
<td>7.5</td>
<td>6.8</td>
<td>36.0</td>
<td>23.3</td>
</tr>
<tr>
<td>Vegetables</td>
<td>6.7</td>
<td>4.5</td>
<td>26.8</td>
<td>28.2</td>
</tr>
<tr>
<td>Livestock production</td>
<td>27.6</td>
<td>27.8</td>
<td>34.0</td>
<td>29.2</td>
</tr>
<tr>
<td>Beef</td>
<td>28.8</td>
<td>25.1</td>
<td>27.4</td>
<td>20.9</td>
</tr>
<tr>
<td>Pork</td>
<td>22.9</td>
<td>27.0</td>
<td>36.0</td>
<td>31.5</td>
</tr>
<tr>
<td>Milk</td>
<td>26.2</td>
<td>30.9</td>
<td>39.8</td>
<td>35.0</td>
</tr>
<tr>
<td>Total</td>
<td>24.4</td>
<td>25.4</td>
<td>32.1</td>
<td>29.1</td>
</tr>
</tbody>
</table>

<sup>a</sup> New higher prices were introduced for potatoes, sugar beets, and vegetables.

Table 35. Structure of profits on the collective farms

<table>
<thead>
<tr>
<th></th>
<th>1988</th>
<th>1989</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>million rubles</td>
<td>percent</td>
</tr>
<tr>
<td>Crop Sector</td>
<td>80.0</td>
<td>11.0</td>
</tr>
<tr>
<td>Grain</td>
<td>8.5</td>
<td>1.2</td>
</tr>
<tr>
<td>Sugar Beets</td>
<td>15.7</td>
<td>2.2</td>
</tr>
<tr>
<td>Flax</td>
<td>7.5</td>
<td>1.0</td>
</tr>
<tr>
<td>Potatoes</td>
<td>8.7</td>
<td>1.2</td>
</tr>
<tr>
<td>Vegetables</td>
<td>1.6</td>
<td>0.2</td>
</tr>
<tr>
<td>Fruits and Berries</td>
<td>&lt;sup&gt;a&lt;/sup&gt;</td>
<td>&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Other</td>
<td>38.0</td>
<td>5.2</td>
</tr>
<tr>
<td>Livestock Sector</td>
<td>566.6</td>
<td>77.7</td>
</tr>
<tr>
<td>Beef</td>
<td>181.6</td>
<td>24.9</td>
</tr>
<tr>
<td>Pork</td>
<td>140.9</td>
<td>19.3</td>
</tr>
<tr>
<td>Poultry</td>
<td>3.4</td>
<td>0.5</td>
</tr>
<tr>
<td>Milk</td>
<td>226.2</td>
<td>31.0</td>
</tr>
<tr>
<td>Eggs</td>
<td>5.5</td>
<td>0.8</td>
</tr>
<tr>
<td>Agriculture</td>
<td>646.6</td>
<td>88.7</td>
</tr>
<tr>
<td>Other</td>
<td>82.2</td>
<td>11.3</td>
</tr>
<tr>
<td>Total</td>
<td>728.8</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<sup>a</sup> Less than .1 million rubles or 0.1 percent.
Figure 18. Profit structure on collective farms, livestock sector

Figure 19. Profit structure on collective farms, crops sector

Figure 20. Profit structure on collective farms, total
Trade

Lithuania has been a net exporter of most consumer commodities and a net importer of a few agricultural raw materials (feed grains, feed concentrate, and sugar cane) and many other inputs for production and processing. The largest export earnings for consumer commodities came from livestock products and clothing products. A large share of exports of basic food commodities was through state procurement for the all-union centralized fund. These goods were allocated to other republics or sold in foreign markets according to the central plan.

The trade flow data indicate that many food products were both imported and exported. Among the 20 food commodities listed for 1989, Lithuania was a net importer of vegetables, fruits and berries, tea, canned fruits, canned vegetables, margarine, vegetable oil, and salt. Tea, margarine, vegetable oil, and salt are not produced internally.

The most intensive economic ties Lithuania has are with the Russian republic (approximately 57 percent of total commodity exchange). Trade with the Ukraine accounts for 15.3 percent; Byelorussia, 9.1 percent; Latvia and Estonia, 8.0 percent; the republics of Middle Asia, 3.1 percent; the Caucasian republics, 3.0 percent; Moldova, 1.8 percent; and Kazakhstan, 3.0 percent of the total commodity exchange.

The main items that Lithuania imports from the Soviet republics are: oil products, building materials, timber, paper, ferrous and nonferrous metals, metal-cutting machine tools, cotton, plastic articles, various instruments, silk and textile goods primarily from Russia; and metals, coal, natural gas, farm machinery, cotton, wool, raw leather, sugar, and salt from the Ukraine. Natural gas, oil products, and instruments are being imported from Byelorussia; knitted goods, silk, woolen articles, cotton fabrics, electrical equipment, household devices and machines come from Latvia and Estonia; cotton and wool from Middle Asia; rolled metal, saturation equipment, pumps, and wool from Kazakhstan; wine, tobacco, fruits, and vegetables from the Caucasian republics.

Lithuania exports various industrial equipment, processing equipment for the food industry, instruments, electrical equipment, metal-cutting machine tools, farm machinery, synthetic fibers and yarn, bicycles, woolen and linen fabrics, knitted goods, footwear, leather and fur goods, household electric devices, fish products, meat and dairy products, sugar, confectionery, fruits and vegetables, and tobacco products.
Foreign Trade

In 1988 and 1989 Lithuania was a net importer of goods from countries outside the USSR, and about 95 percent of this trade went through Moscow. Lithuania imports various equipment for industrial enterprises and medicine production, transportation facilities, and farm machinery. Less than 50 percent of the foreign exports in 1988 and less than 33 percent in 1989 were for hard currency. Export data for 1988 indicate that less than 10 percent of the exports through Moscow were agricultural or food products. In 1988, nearly 20 percent of exports were processed food products to Poland through direct contracts.

The structure of exports are divided as follows: 60 percent to East European countries, 20 percent to developing countries, and 20 percent to developed countries. Geographically, 60 percent of Lithuanian exports are to European countries, 15 percent to the North American continent, 18 percent to African countries, 8 percent to Asian countries, and 0.4 percent to Australia. Main exports are machine building and metal-working products, electrical welding equipment, floating docks and electrical meters, radio and TV sets, bicycles, sanitary equipment, chemical products, farm machinery, furniture, building materials, fabrics, fish, meat, dairy products, and confectionery.
Table 36. Trade flows for consumer commodities

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Food</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Livestock Products</td>
<td>4.5</td>
<td>699.1</td>
<td>694.6</td>
<td>4.9</td>
<td>559.7</td>
<td>554.8</td>
</tr>
<tr>
<td>Crop Products</td>
<td>53.4</td>
<td>15.5</td>
<td>-37.9</td>
<td>35.8</td>
<td>22.2</td>
<td>-13.6</td>
</tr>
<tr>
<td>Processed Food</td>
<td>218.8</td>
<td>338.8</td>
<td>120.0</td>
<td>266.8</td>
<td>296.5</td>
<td>29.7</td>
</tr>
<tr>
<td>Other</td>
<td>93.5</td>
<td>16.5</td>
<td>-77.0</td>
<td>135.2</td>
<td>54.3</td>
<td>-80.9</td>
</tr>
<tr>
<td>Nonfood Commodities</td>
<td>1,139.0</td>
<td>1,991.3</td>
<td>852.3</td>
<td>1,430.0</td>
<td>2,110.7</td>
<td>680.7</td>
</tr>
<tr>
<td>Cloth, Clothes, Shoes</td>
<td>521.5</td>
<td>1,045.9</td>
<td>524.4</td>
<td>666.4</td>
<td>1,089.4</td>
<td>423.0</td>
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<tr>
<td>Cultural and Entertainment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commodities</td>
<td>280.2</td>
<td>424.9</td>
<td>144.7</td>
<td>323.3</td>
<td>442.1</td>
<td>118.8</td>
</tr>
<tr>
<td>Household Commodities</td>
<td>146.9</td>
<td>221.5</td>
<td>74.6</td>
<td>197.4</td>
<td>256.5</td>
<td>59.1</td>
</tr>
<tr>
<td>Haberdashery</td>
<td>176.5</td>
<td>264.4</td>
<td>87.9</td>
<td>226.6</td>
<td>285.0</td>
<td>58.4</td>
</tr>
<tr>
<td>Tobacco Products</td>
<td>13.9</td>
<td>34.6</td>
<td>20.7</td>
<td>16.3</td>
<td>37.7</td>
<td>21.4</td>
</tr>
</tbody>
</table>

Table 37. State procurement of main agricultural products for the all-union centralized fund

<table>
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<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Potatoes</td>
<td>19.5</td>
<td>33.7</td>
<td>29.7</td>
<td>19.6</td>
<td>23.0</td>
<td>32.0</td>
</tr>
<tr>
<td>Vegetables</td>
<td>0.5</td>
<td>12.6</td>
<td>15.1</td>
<td>9.5</td>
<td>18.9</td>
<td>11.5</td>
</tr>
<tr>
<td>Meat and Products</td>
<td>120.5</td>
<td>175.0</td>
<td>180.0</td>
<td>187.0</td>
<td>196.0</td>
<td>169.4</td>
</tr>
<tr>
<td>Milk and Products</td>
<td>863.0</td>
<td>1,100.0</td>
<td>1,120.0</td>
<td>1,140.0</td>
<td>1,180.0</td>
<td>1,256.0</td>
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</table>

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Eggs and Products</td>
<td>29.0</td>
<td>36.5</td>
<td>35.0</td>
<td>35.0</td>
<td>40.0</td>
<td>35.0</td>
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</table>
Table 38. Trade flows of main food commodities

<table>
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<th>1988</th>
<th></th>
<th>1989</th>
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<tbody>
<tr>
<td></td>
<td>Imports</td>
<td>Exports</td>
<td>Net exports</td>
<td>Domestic consumption</td>
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<tr>
<td>(thousand metric tons)</td>
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<tr>
<td>Meat and Products</td>
<td>2</td>
<td>180</td>
<td>178</td>
<td>235</td>
</tr>
<tr>
<td>Milk and Products</td>
<td>2</td>
<td>1,328</td>
<td>1,326</td>
<td>1,642</td>
</tr>
<tr>
<td>Eggs and Products (million units)</td>
<td>0</td>
<td>51</td>
<td>51</td>
<td>813</td>
</tr>
<tr>
<td>Potatoes</td>
<td>11</td>
<td>41</td>
<td>30</td>
<td>215</td>
</tr>
<tr>
<td>Vegetables</td>
<td>17</td>
<td>19</td>
<td>2</td>
<td>128</td>
</tr>
<tr>
<td>Fruits and Berries</td>
<td>27</td>
<td>3</td>
<td>-24</td>
<td>65</td>
</tr>
<tr>
<td>Pastry</td>
<td>---</td>
<td>2</td>
<td>---</td>
<td>1</td>
</tr>
<tr>
<td>Sugar</td>
<td>10</td>
<td>43</td>
<td>33</td>
<td>205</td>
</tr>
<tr>
<td>Bakery</td>
<td>1</td>
<td>28</td>
<td>27</td>
<td>63</td>
</tr>
<tr>
<td>Tea</td>
<td>1</td>
<td>0</td>
<td>-1</td>
<td>1</td>
</tr>
<tr>
<td>Margarine</td>
<td>19</td>
<td>0</td>
<td>-19</td>
<td>19</td>
</tr>
<tr>
<td>Animal Fat</td>
<td>0</td>
<td>13</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>Vegetable Oil</td>
<td>16</td>
<td>---</td>
<td>---</td>
<td>15</td>
</tr>
<tr>
<td>Salt</td>
<td>155</td>
<td>0</td>
<td>-155</td>
<td>155</td>
</tr>
<tr>
<td>Flour</td>
<td>15</td>
<td>44</td>
<td>29</td>
<td>356</td>
</tr>
<tr>
<td>Fish (fresh)</td>
<td>17</td>
<td>175</td>
<td>158</td>
<td>83</td>
</tr>
<tr>
<td>(million tins)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canned Vegetables</td>
<td>15</td>
<td>20</td>
<td>5</td>
<td>44</td>
</tr>
<tr>
<td>Canned Fruits</td>
<td>37</td>
<td>13</td>
<td>-24</td>
<td>82</td>
</tr>
<tr>
<td>Fish (canned)</td>
<td>17</td>
<td>58</td>
<td>41</td>
<td>45</td>
</tr>
<tr>
<td>Soft Drinks</td>
<td>---</td>
<td>8</td>
<td>---</td>
<td>11,773</td>
</tr>
<tr>
<td>(1,000 dal)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

--- = Data not available.
Table 39. Structure of trade outside the USSR

<table>
<thead>
<tr>
<th></th>
<th>Total value</th>
<th>Trade via Moscow</th>
<th>Direct contracts</th>
<th>Joint ventures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turnover</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1988</td>
<td>1,627.9</td>
<td>100.0</td>
<td>95.8</td>
<td>4.2</td>
</tr>
<tr>
<td>1989</td>
<td>1,796.6</td>
<td>100.0</td>
<td>94.5</td>
<td>5.3</td>
</tr>
<tr>
<td>Exports</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1988</td>
<td>586.7</td>
<td>36.0</td>
<td>34.5</td>
<td>1.5</td>
</tr>
<tr>
<td>1989</td>
<td>507.8</td>
<td>28.3</td>
<td>25.9</td>
<td>2.3</td>
</tr>
<tr>
<td>Imports</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1988</td>
<td>1,041.2</td>
<td>64.0</td>
<td>61.3</td>
<td>2.7</td>
</tr>
<tr>
<td>1989</td>
<td>1,288.8</td>
<td>71.7</td>
<td>68.6</td>
<td>3.0</td>
</tr>
</tbody>
</table>
Price Reforms and Proposals

In 1990 and 1991, major Lithuanian price reforms helped move the country toward a market economy. Procurement prices were increased first in October 1990 in response to the rise in input prices after most inputs were released from state price controls. Crop price increases were announced in January 1991, but were increased even further before harvest. Meat prices were increased in January, April, and May 1991; and meat and milk prices are expected to increase substantially in September and October. These increases were partially based on a pass-through of input price increases but were also influenced by political pressure from producers and by the need to procure sufficient amounts to meet state agreements to ship products to Moscow and Leningrad. The large increase in procurement prices has been partially offset by higher profit taxes on more efficient farms. It is also important to recognize that higher procurement prices are partially offset by the elimination of the complex system of bonus payments.

Retail price increases of 200 to 300 percent were introduced in April 1991 to cut the growing food subsidy costs and to begin removing the large dependence of the food processing sector on government subsidies. Some food items and many nonfood consumer goods were removed from state price control and were thereafter dependent on negotiations between wholesale buyers and sellers (contract pricing). To partially offset the higher cost of living, wage increases or direct income payments were made to consumers. The initial procurement and retail price increases apparently would have reduced government subsidy costs significantly, but later procurement price increases seem to have canceled these expected gains.

Latvia and Estonia have initiated similar price reforms, but they have different levels of prices. Latvia and Estonia have more goods that are priced according to negotiated contracts. In the absence of truly functioning markets for food and agricultural products, many prices are still controlled by the governments and can be strongly influenced by the small number of state enterprises involved in input supply and product processing. The food and agricultural pricing and subsidy policies remain very dynamic as the governments try to deregulate as quickly as possible while trying to moderate the adjustment costs to producers and consumers.

These large price changes are indicative of the major adjustments that are taking place and are needed in the transformation of these economies. By the end of 1991 most retail prices are expected to be deregulated. Meanwhile, laws are being adopted to implement privatization and other institutional reforms that provide the foundation for the development of market-oriented production and distribution systems for the agribusiness industry.
Figure 21. Lithuanian state procurement prices for main agricultural products

Table 40. Lithuanian state procurement prices for main agricultural products

<table>
<thead>
<tr>
<th>Product</th>
<th>1979</th>
<th>1989</th>
<th>Oct. 90</th>
<th>Jan. 91</th>
<th>Apr. 91</th>
<th>May 91</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grains Total</td>
<td>130</td>
<td>162</td>
<td>410</td>
<td>640</td>
<td>640</td>
<td>640</td>
</tr>
<tr>
<td>Potatoes (for food)</td>
<td>100</td>
<td>204</td>
<td>253</td>
<td>600</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>Sugar Beets</td>
<td>45</td>
<td>65</td>
<td>110</td>
<td>250</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>Meat (liveweight)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beef (middle quality)</td>
<td>1,353</td>
<td>2,871</td>
<td>3,330</td>
<td>4,000</td>
<td>5,010</td>
<td>7,200</td>
</tr>
<tr>
<td>Pork (II class)</td>
<td>1,945</td>
<td>2,839</td>
<td>3,480</td>
<td>4,220</td>
<td>5,260</td>
<td>8,010</td>
</tr>
<tr>
<td>Mutton (middle quality)</td>
<td>1,490</td>
<td>3,391</td>
<td>4,170</td>
<td>b</td>
<td>5,260</td>
<td>b</td>
</tr>
<tr>
<td>Poultry (chickens)</td>
<td>1,960</td>
<td>2,221</td>
<td>2,500</td>
<td>3,000</td>
<td>3,600</td>
<td>4,700</td>
</tr>
<tr>
<td>Milk</td>
<td>250</td>
<td>371</td>
<td>553</td>
<td>553</td>
<td>567</td>
<td>567</td>
</tr>
</tbody>
</table>

a 1979 and 1989 prices are simple averages; the later prices are for an intermediate quality of the commodity.

b Contract prices are negotiated, not fixed.
Figure 22. Baltic retail prices for main food commodities

Table 41. Baltic retail prices for main food commodities compared with old prices as of April 1, 1991

<table>
<thead>
<tr>
<th></th>
<th>Old price (rubles per kilogram)</th>
<th>Lithuania</th>
<th>Latvia</th>
<th>Estonia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef</td>
<td>1.80</td>
<td>7.80</td>
<td>7.20</td>
<td>7.55</td>
</tr>
<tr>
<td>Pork</td>
<td>1.94</td>
<td>6.20</td>
<td>7.30</td>
<td>4.80</td>
</tr>
<tr>
<td>Sausage</td>
<td>2.90</td>
<td>8.30</td>
<td>12.30</td>
<td>8.36</td>
</tr>
<tr>
<td>Hot dogs</td>
<td>2.60</td>
<td>7.10</td>
<td>7.30</td>
<td>6.49</td>
</tr>
<tr>
<td>Chicken</td>
<td>2.70</td>
<td>8.50</td>
<td>6.50</td>
<td>4.53</td>
</tr>
<tr>
<td>Milk (1 liter)</td>
<td>0.26</td>
<td>0.73</td>
<td>0.60</td>
<td>0.62</td>
</tr>
<tr>
<td>Butter</td>
<td>3.40</td>
<td>9.90</td>
<td>10.00</td>
<td>9.90</td>
</tr>
<tr>
<td>Sour cream (1 liter, 35% fat)</td>
<td>1.20</td>
<td>3.90</td>
<td>4.00</td>
<td>6.24</td>
</tr>
<tr>
<td>Cheese</td>
<td>2.90</td>
<td>8.7</td>
<td>8.60</td>
<td>8.02</td>
</tr>
<tr>
<td>Sugar</td>
<td>0.80</td>
<td>3.75</td>
<td>0.90</td>
<td></td>
</tr>
<tr>
<td>Eggs (10 units)</td>
<td>1.00</td>
<td>2.40</td>
<td></td>
<td>2.95</td>
</tr>
</tbody>
</table>

a As of March 26, 1991.

b Contract prices are negotiated, not fixed.
Table 42. Baltic average state procurement prices for main agricultural products as of April 1, 1991

<table>
<thead>
<tr>
<th></th>
<th>Lithuania</th>
<th>Latvia</th>
<th>Estonia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef (liveweight)</td>
<td>5,010</td>
<td>5,260</td>
<td>6,150</td>
</tr>
<tr>
<td>Pork (liveweight)</td>
<td>5,260</td>
<td>4,985</td>
<td>5,250</td>
</tr>
<tr>
<td>Poultry (liveweight)</td>
<td>3,600</td>
<td>a</td>
<td>5,050</td>
</tr>
<tr>
<td>Milk</td>
<td>567</td>
<td>705</td>
<td>590</td>
</tr>
<tr>
<td>Grains</td>
<td>640</td>
<td>550</td>
<td>600</td>
</tr>
<tr>
<td>Sugar Beets</td>
<td>250</td>
<td>136</td>
<td>----</td>
</tr>
<tr>
<td>Eggs (1000 units)</td>
<td>135</td>
<td>a</td>
<td>a</td>
</tr>
<tr>
<td>Mutton</td>
<td>a</td>
<td>a</td>
<td>a</td>
</tr>
</tbody>
</table>

*a Contract prices are negotiated, not fixed.

---- = Not produced in Estonia.
DATA SOURCES


Price reform data were derived from several sources:

- Lithuanian Institute of Agrarian Economics, Vilnius, Lithuania.
- Latvian Research Institute of Agricultural Economics, Riga, Latvia.
- Estonian Institute of Agriculture and Land Reclamation, Saku, Estonia.