

11-1994

Macroeconomic Adjustment and the Economic Transition in Agriculture: The Case of Lithuania

Natalija Kazlauskiene

Lithuanian Ministry of Agriculture and Forestry

William H. Meyers

Iowa State University

Follow this and additional works at: http://lib.dr.iastate.edu/baltic_reports



Part of the [Agricultural and Resource Economics Commons](#), [Agriculture Commons](#), [Economic Policy Commons](#), and the [Macroeconomics Commons](#)

Recommended Citation

Kazlauskiene, Natalija and Meyers, William H., "Macroeconomic Adjustment and the Economic Transition in Agriculture: The Case of Lithuania" (1994). *BALTIC Reports*. 3.

http://lib.dr.iastate.edu/baltic_reports/3

This Article is brought to you for free and open access by the CARD Reports and Working Papers at Iowa State University Digital Repository. It has been accepted for inclusion in BALTIC Reports by an authorized administrator of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.

Macroeconomic Adjustment and the Economic Transition in Agriculture: The Case of Lithuania

Abstract

Experiences in transition economies have shown that the simultaneity of macroeconomic and sectoral reforms is important to the success of both. In Lithuania, macroeconomic, agrarian, and other sectoral reforms were implemented concurrently. Real wages and income have declined sharply, inflation has been reduced to low single digit levels, the real exchange rate has appreciated substantially and stabilized, and the real value of foreign trade and trade dependence in the East has fallen substantially. Restructuring and privatization of state and collective farms has been progressing rapidly, and the privatization of other enterprises in the food and agricultural chain has been going at a slower pace. Input prices and retail prices have increased in real terms while real product prices have declined. The food and agricultural sector has contracted and in a market economy will likely remain far less dependant on imported inputs and on export markets for products.

Keywords

Agriculture, Policy, Macroeconomics

Disciplines

Agricultural and Resource Economics | Agriculture | Economic Policy | Macroeconomics

Macroeconomic Adjustment and the Economic Transition in Agriculture: The Case of Lithuania

Natalija Kazlauskienė and William H. Meyers

Report 94-BR 18
November 1994

**International Trade Development Unit
Ministry of Agriculture
Vilnius, Lithuania**

and

**Center for Agricultural and Rural Development
Iowa State University
Ames, IA 50011**

Natalija Kazlauskienė is advisor to the minister and unit leader, International Trade Development Unit, Lithuanian Ministry of Agriculture, Vilnius; and William H. Meyers is professor of economics and associate director of the Center for Agricultural and Rural Development, Iowa State University.

Production and distribution of the Baltic Report series is funded by the Midwest Agribusiness Trade Research and Information Center (MATRIC), Iowa State University. MATRIC is supported by the Cooperative State Research Service, U.S. Department of Agriculture, under Agreement No. 92-342857-7145. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect the view of the U.S. Department of Agriculture.

The contents of this report may be cited with proper credit to the authors, to the Lithuanian Ministry of Agriculture and to CARD and MATRIC at Iowa State University.

CONTENTS

Figures	iv
Tables	iv
Abstract	v
Macroeconomic Reform and Adjustment	1
Reforms and Adjustments in Food and Agriculture	6
Implications for Further Adjustments	10
Data Sources	13

FIGURES

1.	Lithuanian consumer price index and average wages, 1991-94	3
2.	Price impacts of removing input and product subsidies	9

TABLES

1.	Real prices of Lithuanian energy inputs	2
2.	Lithuanian trade in real 1990 values	5
3.	Real GDP and its branch structure in Lithuania	6
4.	Dynamics of number and size of farms, 1990-93	8

ABSTRACT

Experiences in transition economies have shown that the simultaneity of macroeconomic and sectoral reforms is important to the success of both. In Lithuania, macroeconomic, agrarian, and other sectoral reforms were implemented concurrently. Real wages and income have declined sharply, inflation has been reduced to low single digit levels, the real exchange rate has appreciated substantially and stabilized, and the real value of foreign trade and trade dependence on the East has fallen substantially. Restructuring and privatization of state and collective farms has been progressing rapidly, and the privatization of other enterprises in the food and agricultural chain has been going at a slower pace. Input prices and retail prices have increased in real terms while real product prices have declined. The food and agricultural sector has contracted and in a market economy will likely remain far less dependent on imported inputs and on export markets for products.

Keywords: transition economics, macroeconomic adjustment, Lithuania

MACROECONOMIC ADJUSTMENT AND THE ECONOMIC TRANSITION IN AGRICULTURE: THE CASE OF LITHUANIA

Previous studies have shown that macroeconomic policy and macroeconomic conditions have significant impacts on the performance of agricultural sectors in developing and developed economies alike (Johnson et al. 1989; Schuh 1976). It is to be expected that the large macroeconomic restructuring and adjustment taking place in transition economies would also have a substantial impact on agricultural sectors in these economies. Since agriculture in these economies is usually a significant share of gross domestic product (GDP), developments in agriculture are also likely to have significant impacts on the performance of the general economies.

This paper explores the linkages between macroeconomic adjustments and the transition in the Lithuanian food and agriculture industry. Lithuania, like Estonia and Latvia, adopted a rather rapid transition path and is beginning to experience the benefits of this painful process in reduced inflation and improved macroeconomic stability. The first section of the paper discusses the processes and results of macroeconomic reform and adjustment. The second section evaluates the reforms and restructuring in the food and agriculture industry and the impacts of macroeconomic factors. The final section reviews the implications for further adjustments and the prospects for stabilization and economic development in the food and agriculture industry.

Macroeconomic Reform and Adjustment

At the beginning of the economic reforms in 1991 and 1992 the Lithuanian government removed many regulations and constraints from the Soviet period. While these cannot truly be called free market policies, virtually all of the government subsidies and much of the government regulation of production decisions, wages, domestic commerce, and foreign trade have been removed or drastically reduced. Input prices have been rising rapidly toward world market prices, and prices of other goods and services have been following the same path, but at a lower rate, in response to higher input costs, removal of subsidies, and deregulation of the economy.

The first step in the price reform process was a partial deregulation of input prices in the Soviet Union in the fall of 1990. Further deregulation of input prices by Lithuania in 1991 and 1992 resulted in input price increases greater than general price inflation for most inputs, so real input

prices increased. Since production inputs for many industries had been imported from the Soviet Union, the economy was jolted by the virtual collapse of trade relations with the Soviet Union after Lithuanian independence was recognized in August 1991. A major reason for the rapid price increases in 1992 was the dramatic decline in quantities and rise in prices of energy resources (Table 1). With prices of the main energy inputs moving toward world market prices in 1992 and 1993, there were dramatic increases in real prices for diesel fuel and gasoline (1.7 to 1.8 times compared with December 1990), natural gas (11.8 times), electricity (4.9 times), and fertilizers (2.5 to 7.6 times). The reduction in the real prices of many of these items between December 1992 and June 1993 indicates that the major input price adjustments were completed during this period. For fuel, where more recent data are available, the real prices peaked in June and July 1993 and have declined 30 to 35 percent since then.

Highly subsidized consumer prices in the Soviet period increased pressure on the state budget and caused the government to increase retail prices significantly. Lithuania preempted the April 1991 retail food price increases in the rest of the former Soviet Union by an earlier announcement of its own retail price increases. New retail prices were three to four times higher than the old prices. The retail price increases were accompanied by new income support policies, resulting in the temporary

Table 1. Real prices of Lithuanian energy inputs

	Dec. 1990	Dec. 1991	Dec. 1992	June 1993	June 1993/ Dec. 1990
Consumer Price Index	1.00	4.76	59.70	133.30	
		(Dec. 1990 rubles)			
Mineral fertilizer (mt)					
Nitrogen	70.00	33.19	355.81	257.60	3.7
Phosphorus	42.00	28.78	197.67	104.46	2.5
Potassium	31.00	13.87	107.21	234.43	7.6
Fuel (mt)					
Gasoline A-76	400.00	84.03	686.82	708.93	1.8
Diesel fuel	400.00	84.03	603.07	690.17	1.7
Natural gas (1,000 m ³)	28.00	13.54	307.31	329.18	11.8
Propane (mt)	103.50	94.54	492.94	338.33	3.3
Coal (mt)	—	121.43	66.55	56.26	
Electricity (1,000 kwh)	10.00	10.50	77.06	48.76	4.9

indexing of personal savings accounts and increases in wages and welfare benefits. In 1991, wage increases exceeded inflation rates, but the rapid inflation of 1992 quickly eroded earlier gains (Figure 1). By June 1993, real wages had fallen by nearly 60 percent compared with December 1990 and 71 percent compared with December 1991. However, drastic reductions in monthly inflation rates, beginning in June 1993, have allowed real wages to increase gradually.

Although there are still selective interventions by the government, substantial progress has been achieved in price deregulation and the virtual elimination of government subsidies in the processing and distribution sectors. Price liberalization has brought with it severe social and political problems, especially since real incomes have been declining while real food prices have been increasing. Food product price increases were accompanied by price increases for nonfood commodities and services, making living conditions extremely difficult for large groups of the Lithuanian population. The

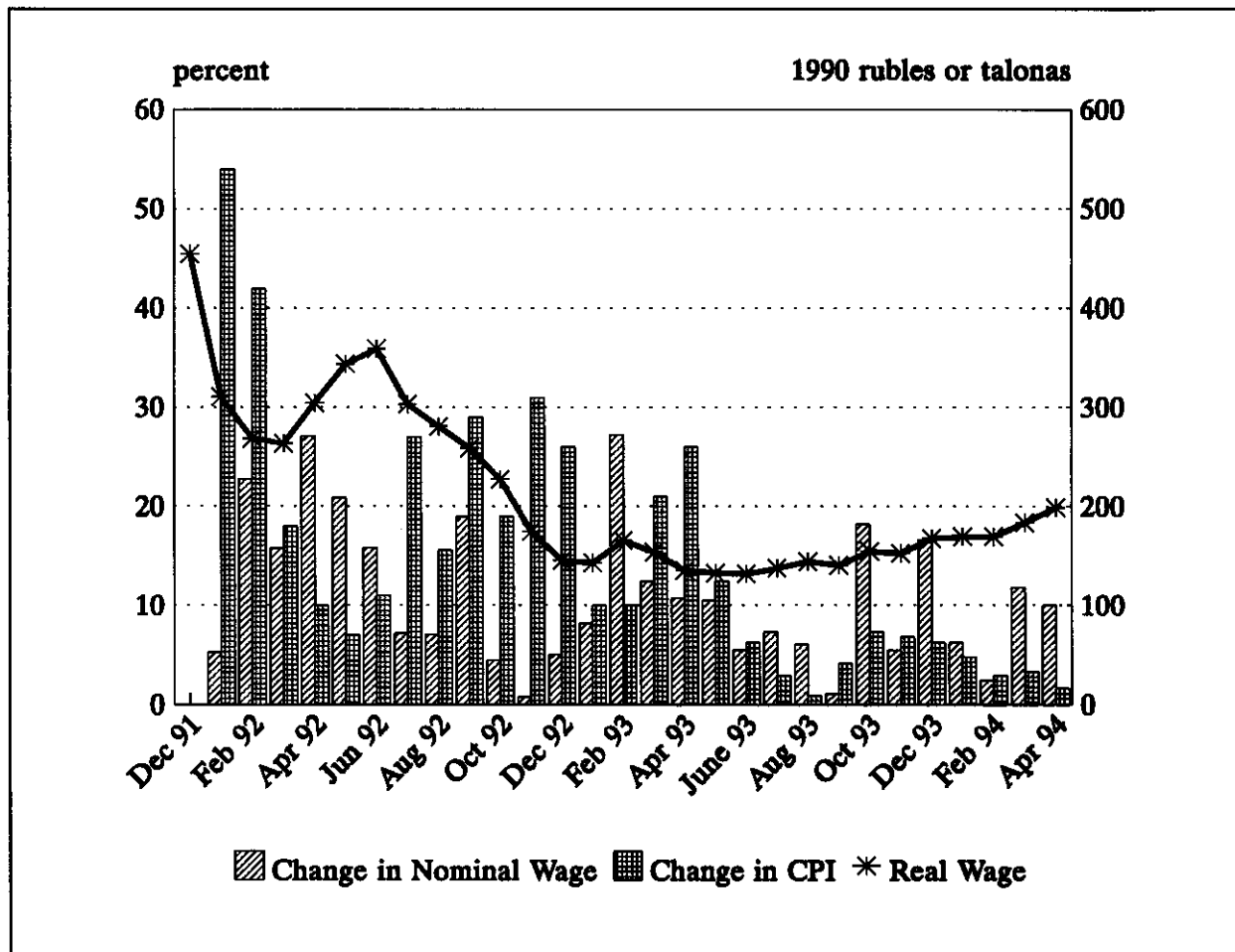


Figure 1. Lithuanian consumer price index and average wages, 1991-94

proportion of food in total consumer expenditures increased from 34 percent in 1990 to 60 percent in 1992 and to about 70 percent for lower income population groups. More recent data should show improvement in these conditions, as real wages and incomes rise.

The price adjustments that accompanied deregulation quickly led to inflationary pressures that were exacerbated by the indexing of incomes and the lack of any consistent monetary policy. In September 1992, the government adopted a wage freeze for budgetary organizations (two months) and state enterprises (one month) in connection with International Monetary Fund (IMF) and World Bank agreements and to slow the wage-price spiral (World Bank 1993). Thereafter, ceilings were established on increases in the minimum wage and average wages paid by the government budget. As a consequence, the largest drop in real wages occurred from September to December 1992. These measures, along with more stringent monetary controls implemented by the Central Bank in 1993, have gradually brought monthly inflation rates down to low, single-digit levels.

Like all former republics of the Soviet Union, Lithuania inherited the Russian ruble. As a small country within the ruble zone, Lithuania was subjected to the effects of a rapidly depreciating ruble with no way to control the underlying destabilizing forces in Russia. The only way to establish conditions so that fiscal and monetary instruments could be used to stabilize the domestic economy was to get out of the ruble zone at the earliest opportunity. Estonia introduced its national currency in June 1992, and Latvia severed its ruble link by introducing the temporary Latvian ruble in September 1992. Since Lithuania was not yet ready to introduce its national currency, a temporary currency called *talonas* was introduced as a parallel currency in May 1992 and declared the sole legal tender on October 1, 1992. In June 1993 the national currency *litas* was introduced at an exchange rate of 100 talonas per one litas and a target rate of 4.5 litas per U.S. dollar. As of April 1994, the litas had appreciated, relative to the dollar, about 9 percent in nominal terms and 39 percent in real terms. Throughout the transition period from December 1990 to April 1994 the real exchange rate relative to the U.S. dollar appreciated from about 16 (in 1990 rubles per dollar) to about two. This currency appreciation has been a key factor in closing the gap between domestic and world market prices.

While departure from the ruble zone created payment and exchange problems with countries still in the ruble zone, these problems are temporary and quite minor in comparison with the alternative of continued exposure of the economy to the vagaries of Russian monetary and fiscal policies and to arbitrary decisions by Russia on currency and banking matters.

The foreign trade regime in Lithuania is evolving from a state trading system to one relying more on private trade. At the beginning of this transition, export quotas and licensing were used extensively to control exports, although imports were relatively free of restrictions or tariffs. Much of the attention directed toward limiting exports was an attempt to slow the rise in consumer prices, especially for food products, and raise revenue; but it also limited opportunities for increased export earnings. By June 1993, the quantitative restrictions had been removed or replaced by a schedule of export taxes (primarily on food and agricultural products) and import tariffs, most of which were 15 percent or less. In 1994, while negotiating a trade agreement with the European Union, Lithuania decided to raise import tariffs on most agricultural goods to levels between 20 and 60 percent.

Due primarily to declining incomes in Lithuania and major traditional trading partners in the East, payments and other transaction difficulties, and restrictive and volatile trade policies of both sides, Lithuania's real trade turnover declined by nearly 80 percent from 1990 to 1992, then increased in 1993 to about 50 percent of the 1990 level (Table 2). Real export value declined by 49 percent and real import value by 54 percent in the same period, leaving Lithuania with a small net trade deficit in 1993. Using market exchange rates, the net trade deficit in 1993 was \$0.5 million compared with \$70 million in 1990. The proportion of imports from western countries remained fairly stable or even declined slightly; but the real value of exports to the West increased while total export value was decreasing, which increased the share of exports to the West from 6 percent in 1990 to more than 25 percent in 1992 and 1993.

Table 2. Lithuanian trade in real 1990 values

	1989	1990	1991	1992	1993	93/90 Percent
Total exports (mil. litas)	71.15	69.89	25.83	18.33	35.52	50.8
to Western market (%)	7.50	5.90	5.10	28.50	25.10	
Total imports (mil. litas)	82.70	81.25	18.33	13.13	37.34	46.0
from Western market (%)	21.30	19.90	9.80	18.00	14.70	
Total turnover (mil. litas)	153.85	151.14	44.16	31.46	72.85	48.2
with Western market (%)	14.90	13.40	7.00	24.10	19.80	
Trade balance (mil. litas)	-11.55	-11.36	7.50	5.20	-1.82	
Western market (mil. litas)	-12.23	-12.02	-0.48	2.86	3.46	

The macroeconomic transition has sharply reduced real GDP and shifted the structure of GDP somewhat. Real GDP per capita declined by 63 percent from 1989 to 1993, most of which occurred in 1992 (Table 3). The decline continued in 1993 but at a reduced rate. The structure of GDP has shifted slightly away from agriculture and construction to other sectors. The agriculture portion of this shift was in part due to poor weather conditions, so this share is expected to increase again in 1993.

Reforms and Adjustments in Food and Agriculture

Experiences in transition economies have shown that the simultaneity of macroeconomic and sectoral reforms is important to the success of both. For example, if macroeconomic reforms and restructuring precede agrarian restructuring, the old structure of production and distribution will not

Table 3. Real GDP and its branch structure in Lithuania

	1989	1990	1991	1992	1993 ^a
Real GDP Index	100.0	96.7	84.0	51.3	36.9
			percent		
Structure of GDP					
Industry	34.5	32.8	47.7	36.9	
Agriculture	27.3	27.6	21.2	21.3	
Construction	10.4	10.5	4.9	5.5	
Other	27.8	29.1	26.2	36.3	

^aEstimated.

be flexible enough to adequately adjust to the new economic conditions and incentives. Conversely, if agrarian restructuring precedes macroeconomic reforms, the new agrarian structure will be based on the wrong economic signals and will have to undergo another difficult adjustment later. In Lithuania, macroeconomic, agrarian, and other sectoral reforms were implemented concurrently.

From the beginning of the independence movement in Lithuania, there was a political imperative to give priority to the restitution of land to former owners. This provided a stimulus for rapid privatization, so Lithuania has been progressing rapidly in the privatization of agriculture and the development of market economy mechanisms. Many small private farms of various sizes have been created; but numerous, relatively large farms operating as various types of partnerships have also been established in the restructuring process. From an agriculture dominated by about 1,200 state

and collective farms with an average size of 3,000 hectares in 1988, Lithuania in 1993 had 112,000 private farms averaging 6.3 hectares each and more than 2,600 partnerships with an average size of 473 hectares (Table 4). At the same time, the amount of land operated as personal plots of rural inhabitants increased by 60 percent. In 1993, only 47 percent of agricultural land leased from the state or private owners remained in relatively large production units organized as partnerships, 26 percent was in private farms, 27 percent in personal plots, and 6 percent in other forms of management.

The input supply, processing, distribution, and retail enterprises are in the process of transforming from state to private ownership and management forms. The privatization of these enterprises is based on procedures established for industry as a whole, and this transition process has proceeded more slowly than that in production agriculture. In the retail sector by 1992, 60 percent or more of consumer purchases of meat and meat products, eggs, and potatoes were from private retail outlets, including farmers' markets. Another measure of progress toward normal market behavior is that retail prices for the same product, virtually constant across Lithuania during the Soviet period, varied in September 1993 across eight cities in Lithuania by 20 to 120 percent.

Processing enterprises are being privatized primarily through the formation of various types of stock companies and decentralization of ownership and management of local subsidiary facilities. The highly centralized procurement system has given way to multiple marketing alternatives for farmers, though many are still limited by distance to alternative buyers and by access to and cost of transport. Regional price differences indicate that normal market conditions are beginning to emerge. For example, producer prices for milk, cattle, and hogs in April 1993 varied among processing plants by 18, 19, and 32 percent. Farmers also have more access to alternative sources of input supply.

The combination of macroeconomic, agrarian, and other sectoral reforms creates the conditions and incentives for adjustment in production and marketing of agricultural and food products. Significant adjustments have already occurred; but it will be some time before these adjustments are completed, including further restructuring of partnerships and private farms, a decline in farm employment, and shifts in output and input use patterns. In the meantime, the fledgling private farms and partnerships are struggling with a severe cost-price squeeze, lack of access to credit, and pervasive payment arrears on product sales to processors.

Table 4. Dynamics of number and size of farms, 1990-93

	1990		1991		1992		1993	
	(number)	(percent)	(number)	(percent)	(number)	(percent)	(number)	(percent)
Number of farms	4104	100.0	7123	100.0	76504	100.0	114661	100.0
Reorganized public	1212	29.5	1219	17.1	3546	4.6	2661	2.3
Private	2892	70.5	5904	82.9	72958	95.4	112000	97.7
	(1,000 ha)		(1,000 ha)		(1,000 ha)		(1,000 ha)	
Farming land use	4874.5	100.0	4474.6	100.0	3817.3	100.0	2843.8	100.0
Reorganized public	4372.4	89.7	3253.0	72.7	1981.2	51.9	1258.6	44.3
Private	48.7	1.0	94.0	2.1	683.3	17.9	702.3	24.7
Personal plots	453.4	9.3	1127.6	25.2	988.7	25.9	722.0	25.4
Other	0.0	0.0	0.0	0.0	164.1	4.3	160.9	5.7
				(hectares)				
Average farm size								
Reorganized public	2535.0		2040.0		563.0		473.0	
Private	16.8		15.9		9.4		6.3	

The simple illustration of Figure 2 shows the major adjustments that have already occurred in the market transition. Domestic and net export demands are combined to simplify the example. The effect of world market prices is only weakly represented in export demand, since most Lithuanian products are not yet competitive (in quality terms) with internationally traded products and the infrastructure for exports to the West is not yet well developed. In Figure 2, Q_0 represents planned farm output, PF_0 is real producer price,

and PD_0 is real retail price in the pre-reform period. In the current situation, farm output is represented by Q_1 , farm level demand and real price by FD_1 and PF_1 , domestic and export demand by DED_1 , and real retail price by PD_1 . Real retail prices for most food products rose significantly during the transition as input and product subsidies were removed and retail prices had to reflect the full farm-to-market processing and distribution costs (Kazlauskienė and Meyers 1993). Most real farm prices declined over the same period in response to weak domestic and export demand and the removal of consumer subsidies, which greatly increased the margin between farm and retail prices. Aggregate output has declined about 40 percent as a consequence of sharply higher input prices, lower real output prices, and to a lesser extent disruptions caused by farm restructuring. Most of the output decline has been in meat and dairy products, 40 percent of which had been delivered to Russia in exchange for food and feed grains. Currently, meat and dairy product exports are only a small share of production, and livestock numbers have declined to a level that can be nearly sustained with domestically produced grains and forages.

The impacts of macroeconomic factors are seen in the removal of subsidies and reduced retail demand resulting from lower real incomes. The reduced export demand is dominated by the collapse of demand in the East. Currency and payments problems contributed to this in the short term, but the decline in real incomes in countries to the East was the major factor and one that will persist for some years. The effects of rapidly rising input prices are reflected in the costs of processing and distribution and in the shift to the left of the supply curve.

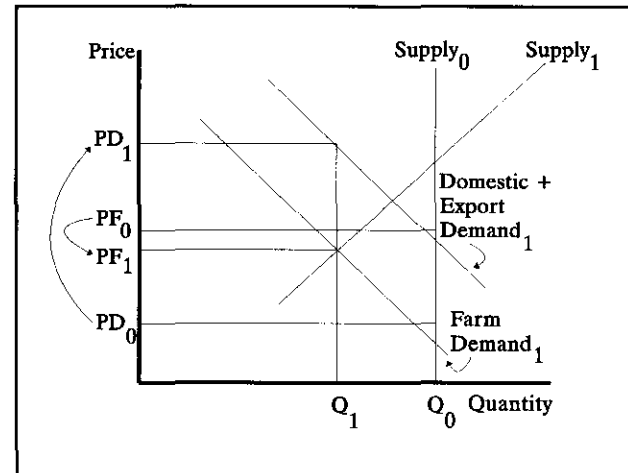


Figure 2. Price impacts of removing input and product subsidies

Implications for Further Adjustments

Several things can happen in the future to change the conditions reflected in Figure 2 as the market economy matures. Processing costs could be reduced by competitive forces, narrowing the gap between farm and retail prices and benefiting both consumers and producers while improving export competitiveness. As real incomes improve in Lithuania, retail demand should strengthen. It is unlikely, however, that per capita food consumption will return to pre-reform levels, since there has also been a significant increase in availability of other goods and in the cost of housing and services. As the quality-competitiveness of products in export markets improves and the infrastructure for exports to the West develops, export demand will approach a perfectly elastic, small-country export demand at the level of world market prices adjusted for handling costs and border measures. The domestic prices of imported products, such as grains, are already close to world market prices. The same will eventually occur for exported products, if the government does not isolate domestic markets with new trade barriers. With these changes, real farm prices are likely to rise above pre-reform levels. However, it is unlikely that aggregate agricultural production and meat and dairy production and exports will ever return to pre-reform levels that were based on cheap food policies and artificial, regional specialization plans of the Soviet command system. Imports of some food wheat, feed protein, and feed supplements are likely to be needed; and exports of some meat and dairy products are likely to continue but will be constrained as long as subsidized exports of other countries remain prevalent.

It is important to establish a consistent domestic market and foreign trade policy framework that can guide private and government decision makers in the food and agriculture sector. As long as the policy directions for the future remain uncertain, it is difficult for decision makers to make consistent and well-informed short-run and long-run operational and investment choices. While farm and processing enterprises are in the process of restructuring, the current and perspective policy environment will have an effect on decisions that are made. Recently, the government has been moving away from support and protection for agriculture. If this trend continues, the sector will develop a competitive structure that can be sustained in a fairly open market environment.

Regardless of the price and trade policies selected for food and agricultural products, it is important to maintain a stable macroeconomic environment and develop well-functioning financial and market institutions. Adjustments in the food and agricultural sector will be less difficult and the policy constraints less severe, if the general economic environment is more benign. As has often

been the case in other countries, policies in other sectors of the economy can be of equal or greater importance than policies in the sector itself.

DATA SOURCES

- Johnson, S.R., W. H. Meyers, P. Westhoff, and A. Womack. 1989. Agricultural Market Outlook and Sensitivity to Macroeconomic, Productivity, and Policy Changes. Pages 613-713 in *Agriculture and Governments in an Interdependent World*, Allen Maunder and Alberto Valdes, ed. Durham, NH: Dartmouth University Press.
- Kazlauskiene, Natalija and W. H. Meyers. 1993. *An Analysis of Transition Price Policies in the Lithuanian Food and Agricultural Sector*. Baltic Report 93-BR 12. Ames, IA: Center for Agricultural and Rural Development, Iowa State University.
- Lithuanian Institute of Agrarian Economics. 1992. Unpublished data. Vilnius, Lithuania.
- Lithuanian Ministry of Agriculture. 1992. Unpublished data. Vilnius, Lithuania.
- Lithuanian Ministry of Social Security. 1992. Unpublished data. Vilnius, Lithuania.
- Schuh, G.E. 1976. "The New Macroeconomics of Agriculture." *American Journal of Agricultural Economics* 59:803-11.
- The Baltic Independent*. 1992, 1993. Various issues. Tallinn, Estonia.
- World Bank. 1993. *Lithuania: Transition to a Market Economy*. Washington, DC: The World Bank.