DISCUSSION PAPER

Institute of Agricultural Development in Central and Eastern Europe

RESTRUCTURING THE LITHUANIAN FOOD INDUSTRY: PROBLEMS AND PERSPECTIVES

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ABSTRACT

Part of Lithuania's inheritance from the centrally planned economy of the former Soviet Union is its inefficient food processing sector, which bears much responsibility for the low competitiveness of domestic vis-à-vis imported food products. This harms the food industry itself as well as the entire agricultural sector. Consequently improvements in agriculture will only occur when efforts to increase the efficiency and technological performance of food processing bring significant results. Based on the structure-conduct-performance framework developed by the economic theory of industrial organisation, the objective of the present discussion paper is to identify those economic conditions that are giving rise to the low degree of competitiveness of Lithuania's food industry. The analysis shows that, although major progress has been made in macroeconomic stabilisation, privatisation and institution building, the efficiency and performance of this important part of the Lithuanian agro-food chain are far from perfect. Current problems of the Lithuanian food industry that result in low profitability in the food industry are increasing input costs, low labour productivity, low investment activities, excess capacities and a lack of market orientation. The main causes for these are unfavourable interest rates on bank loans, an inadeqate tax regime, ineffective corporate governance in privatised firms, and deficiencies in institution-building and implementation of institutions.

ZUSAMMENFASSUNG

Ein Erbe des zentralplanwirtschaftlichen Systems der ehemaligen Sowjetunion stellt der ineffiziente Verarbeitungssektor dar. Dessen Mängel sind wesentlich mit dafür verantwortlich, daß heimische nicht mit importierten Nahrungsgütern konkurrieren können. Die mangelnde Wettbewerbsfähigkeit litauischer Lebensmittel wirkt sich nicht nur auf die Ernährungsindustrie, sondern auch auf die Landwirtschaft negativ aus. Fortschritte in der Landwirtschaft sind nur dann zu erwarten, wenn entscheidende Verbesserungen in der Effizienz und Leistungsfähigkeit des Verarbeitungssektors erzielt werden. Ziel dieses Diskussionsbeitrages ist es, basierend auf dem Structure-Conduct-Performance-Ansatz der Industrieökonomik diejenigen Faktoren zu identifizieren, die zu der geringen Wettbewerbsfähigkeit der litauischen Ernährungsindustrie beitragen. Die Untersuchung zeigt, daß trotz beträchtlicher Fortschritte auf dem Gebiet der makroökonomischen Stabilisierung, der Privatisierung und dem Aufbau von Institutionen noch keine tiefgreifenden Verbesserungen der Effizienz und Leistungsfähigkeit der Ernährungsindustrie eingetreten sind. Gravierende Probleme der litauischen Ernähungsindustrie stellen steigende Inputkosten, eine niedrige Arbeitsproduktivität, eine geringe Investitionstätigkeit, Überkapazitäten und eine noch unzureichende Marktorientierung der Wirtschaftssubjekte dar. Die Gründe dafür liegen in den zu hohen Zinsen für Bankkredite, in einem ungünstigen Steuersystem, in einer ineffizienten Eigentümerstruktur der privatisierten Unternehmen und vor allem in Mängeln beim Aufbau marktwirtschaftlicher Institutionen begründet.

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LIST OF ABBREVIATIONS

CEFTA	Central European Free Trade Association
CIS	Commonwealth of Independent States
CPI	Consumer Price Index
CR	Concentration Ratio
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
H	Herfindahl Index
IDF	International Dairy Federation
ISO	International Standards Organisation
MFN	Most Favourable Nations
Phare	Poland and Hungary Action for Restructuring of the Economy
USD	US-Dollar
WTO	World Trade Organisation

1 INTRODUCTION

In the centrally planned economy of the former Soviet Union, the food industry was among the weakest links in the agro-food chain. For decades the industry suffered a chronic lack of investment or attention from the central authorities. As a result, many food industry techniques and technologies are obsolescent. Productivity is low, raw materials are inefficiently used, and quality is inadequate. When the foreign trade regime in the Baltic States was liberalised these inefficiencies became obvious, since domestic foodstuff could in many cases not compete with imported products. These difficulties not only have negative impacts on the food industry itself, but also on the agricultural sector. Agricultural producers thus depend on the pace of changes in the downstream sector. The hope of a quick improvement in agriculture is illusory, unless efforts to increase the efficiency and technological performance of food processing (and marketing) bring early results (see BROOKS et al., 1991, p. 151).

Agricultural economists in east and west, however, have so far concentrated their research primarily on the agricultural production sphere and on the issue of land reform. Little attention has been paid to the food industry. The central objective of the present discussion paper is therefore to provide qualitative and quantitative information that allows an identification of those economic conditions that are giving rise to a low degree of competitiveness of Lithuania's food industry. Based on the structure-conduct-performance framework developed by the economic theory of industrial organisation, the importance of various potential causes of inefficiencies in that industry will be ascertained.

After providing an overview with respect to the importance of the food industry in the whole Lithuanian economy (section 2) a review of governmental policies affecting the macroeconomic situation, the privatisation process, as well as the creation of institutions is given (section 3). The economic conditions of the food industry (demand, input supply and prices) and their changes during the last few years are analysed in section 4, as are general developments in the food processing sector. Section 5 examines the structure of the food industry. Horizontal concentration is analysed calculating the Concentration Ratio and the Herfindahl Index. The degree of vertical integration is described and a survey of marketing channels is also given in this section. The conduct of the food industry is analysed in section 6, looking at the price behaviour of firms, investments and management capabilities, while the performance of the food industry is reviewed briefly in section 7. In section 8 some conclusions are drawn.

The official statistical data used in this paper to calculate and evaluate economic conditions are presented in the Annex. Some difficulties may arise comparing Lithuania's statistical information to the indicators of foreign countries because of differences in classification and calculation methodologies. The Department of Statistics has started to apply the General Industrial Classification of Economic Activities, which is also used by the European Communities.

2 GENERAL IMPORTANCE OF THE FOOD PROCESSING SECTOR

The general importance of the food processing sector for the Lithuanian economy can be seen in and Table 2, as well as in Figure 1, and Figure 3. The manufacture of food products and beverages at current producer prices increased from 3.4 bn. litas in 1993 to 6.0 bn. litas in 1996, amounting to 32.9 per cent and 33.0 per cent of the total manufacturing industry respectively).

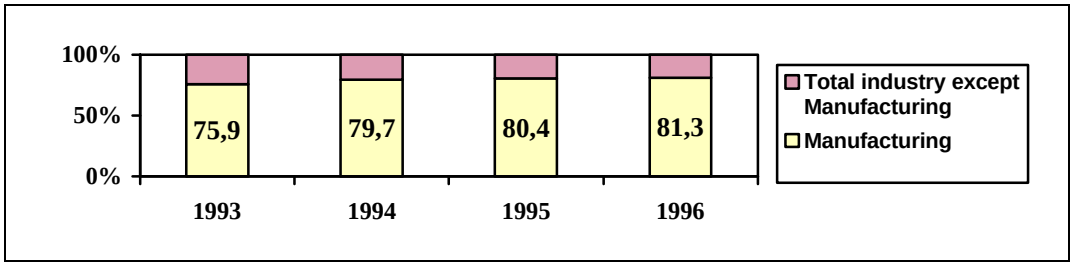
Table 1: Total industrial production (in current producer prices)

	1993		1994		1995		1996	
	bn litas	%	bn litas	%	bn litas	%	bn litas	%
Total industry	13.0	100.0	13.8	100.0	17.9	100.0	22.4	100.0
Manufacturing	10.6	75.9	11.0	79.7	14.4	80.4	18.2	81.3
Manufacture of food products and beverages	3.4	35.9	3.5	31.8	4.8	33.3	6.0	33.0
Manufacture of tobacco products	0.1	0.6	0.1	1.2	0.2	1.5	0.3	1.9

Source: DEPARTMENT OF STATISTICS (1997a, p. 268).

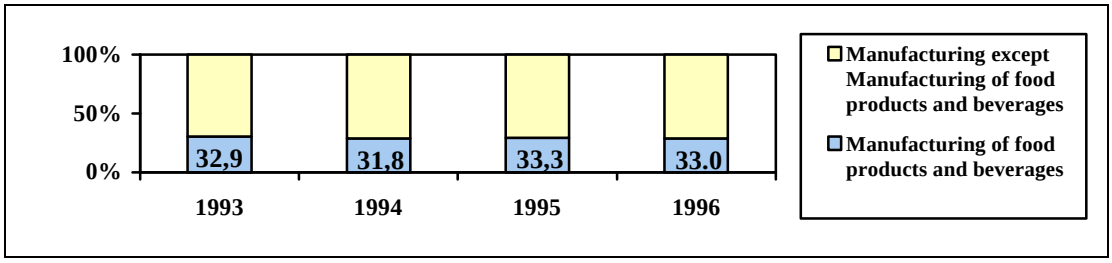
The share of manufacturing in total industry has been growing slightly (see Figure 1), while the shares of the manufacture of food products and beverages were almost constant, accounting for about 33 per cent of total industry output during the 1993-1996 period (see Figure 2). The manufacture of food products and beverages is the largest sector of manufacturing.

Figure 1: Share of manufacturing in total industrial production, in per cent



Source: DEPARTMENT OF STATISTICS (1997a, p. 268).

Figure 2: Share of manufacture of food products and beverages in manufacturing, in per cent



Source: DEPARTMENT OF STATISTICS (1997a, p. 268).

The restructuring of the economy, the decline of production, and limited markets decreased employment in the total industry by 25.8 per cent and in manufacturing by 29.4 per cent during the 1993-1996 period. In contrast in the manufacture of food products and beverages employment decreased only by 17.5 per cent, thus inducing a slight increase of its share in total employment in manufacturing in 1996 (Table 2).

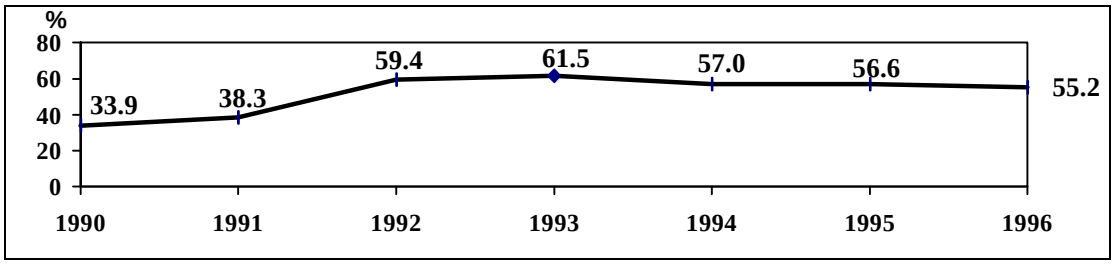
Table 2: Average annual number of employees (in thousands)

	1993		1994		1995		1996	
	000	%	000	%	000	%	000	%
Total industry	394.9	100.0	355.6	100.0	310.9	100.0	293.3	100.0
Manufacturing	364.1	92.2	321.0	90.3	275.9	88.7	257.2	87.7
Manufacture of food products and beverages	69.6	19.1	58.7	16.5	60.6	22.0	57.4	22.3
Manufacture of tobacco products	0.6	0.2	0.6	0.2	0.6	0.2	0.3	0.1

Source: DEPARTMENT OF STATISTICS (1997a, p. 277).

Food expenditure accounts for the major share of household budgets in Lithuania. Figure 3 represents the changes in the average share of consumer expenditure for food during the 1990-1996 period. Real consumer prices rose more rapidly than wages at the beginning of the reform. The increasing disproportion between consumer prices and wages forced consumers to spend an increasing share of their income on food. Thus, the average share of consumer expenses for food increased from 33.9 per cent of total consumer expenditure in 1990 to 61.5 per cent in 1993. Since 1993 the share of consumer expenditure for food has tended to diminish slightly, accounting for 55.2 per cent in 1996.

Figure 3: Average consumer expenditure share for food, 1990-1996 (in per cent)



Source: DEPARTMENT OF STATISTICS (1997a, p. 209).

The high share of the food and beverage industry in total industrial production and the high proportion of consumption are evidence of the importance of this sector for the economy.

3 GOVERNMENTAL POLICIES

3.1 Macroeconomic Situation

The stability of the macroeconomic situation is one of the most important factors influencing the situation in agriculture and agro-food processing. At the same time as playing a significant part in the national economy, agriculture and the food industry greatly determine macroeconomic stability.

The present economic situation is still strongly influenced by the legacy of the past when Lithuania was tightly integrated into the centrally planned system of the former Soviet Union. Since the beginning of transition Lithuania has made substantial strides in the transformation of its economy. In mid-92 the government adopted a programme for economic reform and stabilisation. It attempted to isolate the country from inflationary pressures in the former Soviet Union. The Lithuanian government has taken steps to reform the currency, ensure fiscal stability, privatise property and liberalise prices. It has also taken steps to open its markets to imports from abroad and to re-establish itself as an exporter of agricultural and food products.

During the restructuring process the Lithuanian economy experienced a number of economic crises. The gross domestic product (GDP) fell dramatically during the 1990-1993 period as many enterprises stopped or reduced production. But in 1994 the Lithuanian economy started

to recover; GDP grew by 1 per cent. This slight upturn accelerated in 1996, when GDP grew by 3.6 per cent (Table 3). According to preliminary estimates, GDP increased by 2.5 per cent in the first half of 1997 compared to the corresponding period in 1996.

Table 3: Basic macro economic indicators (1992-1996)

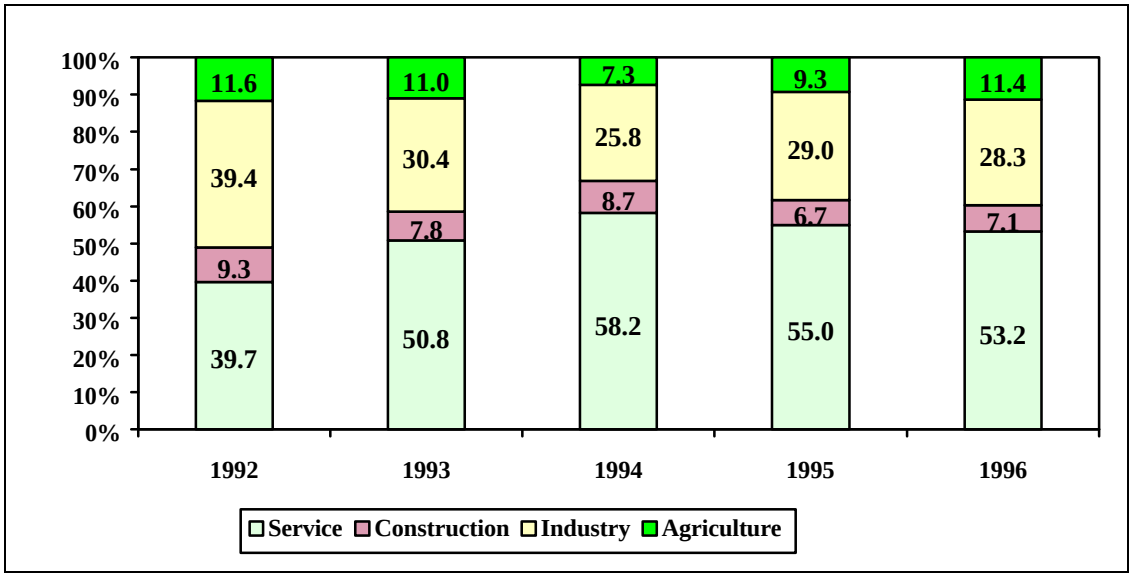
	1992	1993	1994	1995	1996
Change in GDP (volume), %	-39.0	-16.2	1.0	3.0	3.6
Inflation rate, %	1163.1	189.9	44.8	35.5	13.1
Exchange rate, litas per dollar	170[1]	4.24	3.97	4.00	4.00
Unemployment rate, %	1.3	4.4	3.8	6.1	7.1
GDP per capita (at current prices), in litas	905	2978	4564	6415	8388
GDP per capita (at constant prices 1993), in litas	4262	2978	3015	3109	3394

[1]talonas.

Source: DEPARTMENT OF STATISTICS (1997a, p. 107, pp. 555 - 556).

Substantial structural changes have taken place in the Lithuanian economy, with the state's share of GDP falling sharply, and the private sector's share expanding rapidly. The share of the private sector was estimated to be 65 per cent of GDP in 1995 and 68 per cent in 1996. At the same time, industry's contribution to GDP fell from 39.4 per cent in 1992 to less than 30 per cent in 1996. The share of the service sector accounted for over 50 per cent of GDP in 1996. The Department of Statistics has no separate estimate of the share of the food industry in the structure of the GDP.

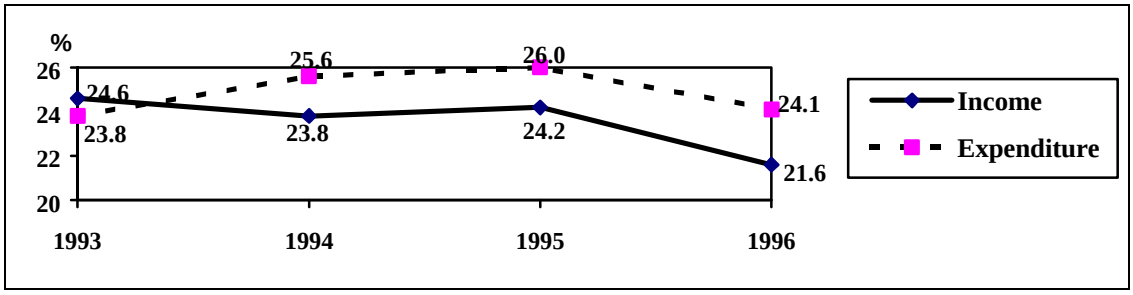
Figure 4: Structure of gross domestic product (1992-1996) (at current prices)



Source: DEPARTMENT OF STATISTICS (1997a, p. 582).

Macroeconomic stability also depends on fiscal discipline. The development of budgetary income and expenditures relative to GDP in Lithuania are presented in Figure 5.

Figure 5: Income and expenditure of national budget compared to GDP, in per cent



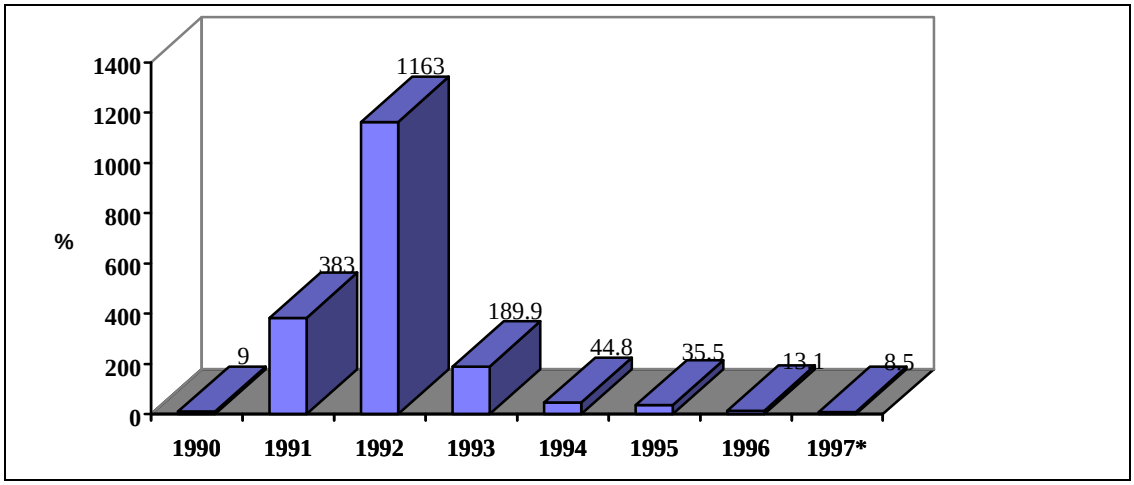
Source: DEPARTMENT OF STATISTICS (1997i, p. 24).

The Figure reveals that in 1993 the national budget generated a surplus that later turned into a deficit, which shows an increasing tendency. This increasing deficit may represent a problem for future growth prospects since it is not caused by government investments but is primarily due to increasing expenditures for social policy measures, high budgetary outlays for agriculture, problems with the tax system, and the hidden economy. In 1996, the budget deficit amounted to 790 million litas.

The trade balance reflects general trends in economic development. The growth in GDP since 1994 has caused an increase in foreign trade. However, exports grew more slowly than imports, which resulted in a deficit in the foreign trade balance. This deficit accounted for 34.3 per cent of total exports in 1996.

The consumer price index (CPI) is an indicator that allows to trace changes in the average price level for certain consumer goods over a particular period. The inflation rate reached a peak of 1163 per cent in 1992, but was brought down to 189.9 per cent in 1993 when the government adopted a tighter monetary policy (see Figure 6 and Figure 7). However, at the end of 1993 inflation rocketed once more, which was mainly due to a rise in prices for high value food products following the imposition of additional import tariffs. Although the introduction of value added tax on all goods and services caused inflation to rocket again in May 1994, the annual rate continued to fall. It was estimated at 13.1 per cent in 1996, and, according to preliminary data dropped to 8.5 per cent in 1997. (Figure 6 and Figure 7).

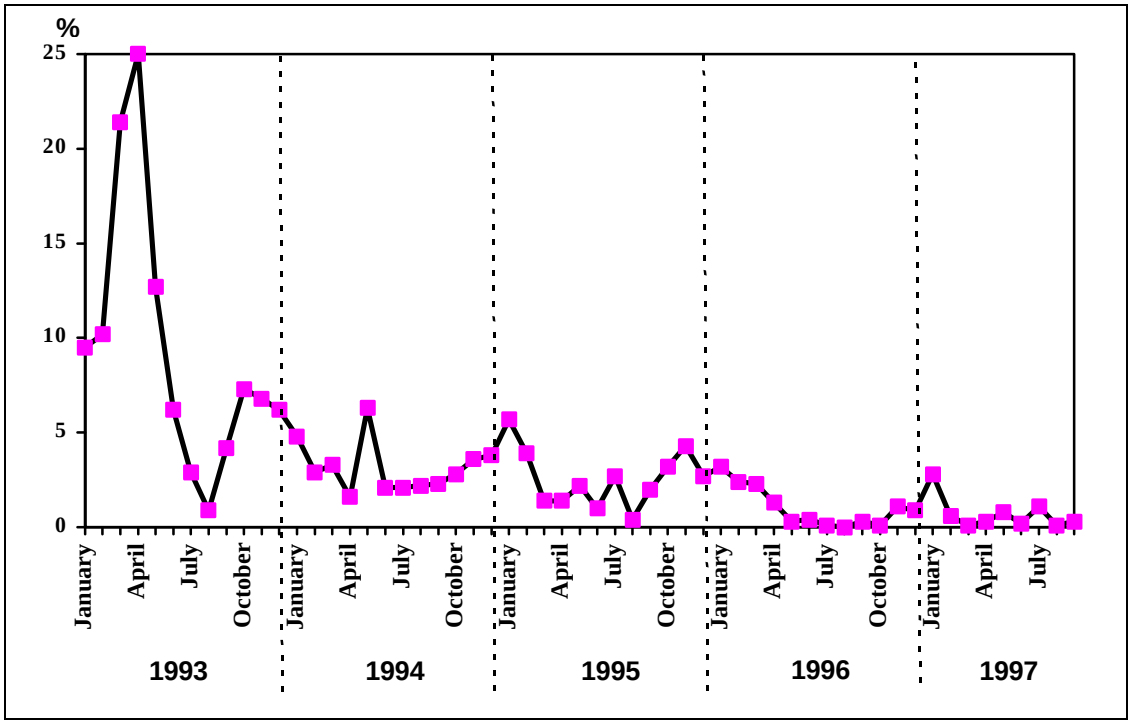
Figure 6: Annual rate of inflation, 1990-1997



Note: * preliminary data.

Source: DEPARTMENT OF STATISTICS (No. 9, 1997d, p. 8).

Figure 7: Monthly changes in inflation, January 1993 - September 1997



Source: DEPARTMENT OF STATISTICS (1997d, p. 8).

The Bank of Lithuania was established in March 1990 to carry out the functions of a central bank in addition to its commercial activities. In early 1993 it became solely the Central Bank and all its commercial activities were taken over by the State Commercial Bank. In 1995 the banking system experienced a major crisis, when almost one third of 28 licensed commercial banks became insolvent. In 1996 the Lithuanian government, acting in conjunction with international lending organisations, introduced new measures to strengthen the financial system.

Of the three Baltic countries, Lithuania was the last to leave the rouble zone and to formulate independent monetary and exchange rate policies. As a first step towards monetary sovereignty, Lithuania established a provisional currency, the talonas, in May 1992, which circulated alongside the rouble for one year. In mid-1993 the national currency, the litas, was established, which has been the sole legal tender in Lithuania since August 1993. The establishment of a national currency largely contributed to fiscal and monetary stability.

Lithuania maintained a floating exchange rate system until 1 April 1994, when a Currency Board established by the Litas Stability Law started to operate. A fixed exchange rate system was adopted at the same time, under which the litas was pegged to the US dollar at a rate of US$ 1 = 4 litas. This brought an extra element of stability to the economy. The real exchange rate has appreciated substantially relative to convertible currencies, while also depreciating relative to currencies in the Commonwealth of Independent States (CIS). Due to the decline in inflation in Lithuania during the last year, real appreciation relative to the US dollar has been small; but the dollar's strength has contributed to the appreciation of the litas relative to European currencies. This is one macroeconomic development that has put more competitive pressure on Lithuanian agricultural and food products.

The difficulties experienced during the transition period, and the general economic decrease influenced investments adversely. Capital for investments was not even sufficient for the maintenance of the capital stock, not to speak of its improvement. Enterprises' capital decreased because their circulating capital depreciated. This was a vicious circle, where only

expansion of production could have helped to accumulate investments, but only investments could have increased production and helped to modernise the production capacities. In order to improve this situation, the government has recently introduced tax breaks for profits that were used for investments. Preferential loans were also granted.

During the transition period, the rather weak financial regulations and banking institutions contributed to the low level of foreign investments. Foreign direct investments were lower than in other Baltic countries. A new law on foreign investment was passed in mid-95, providing better conditions to attract more foreign direct investments to Lithuania.

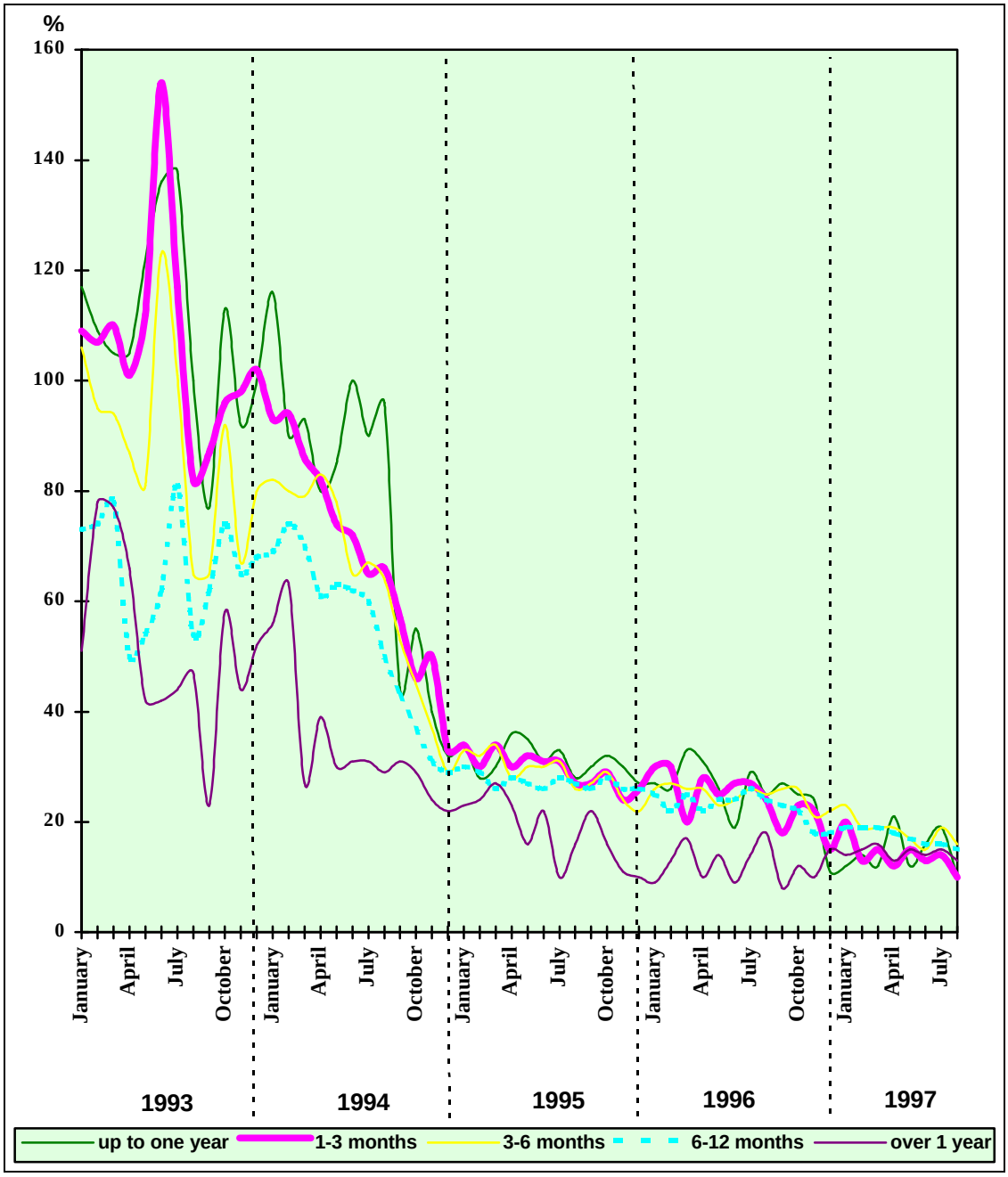
High interest rates on loans stopped economic entities from using long-term loans for investments. In addition, commercial banks only granted short-term loans. In 1992 short-term loans accounted for 95.2 per cent of total loans. High interest rates were caused by tight fiscal and monetary policies and a lack of resources for loans. Nominal average monthly interest rates on loans in litas during the 1993 - August 1997 period are presented in Figure 8.

Integration of the Lithuanian economy into the EU requires Lithuanian firms to be able to apply modern technology. In order to accomplish this foreign investments are needed. Although a number of joint ventures have been founded and the amount of investments has grown since 1994, these developments were not sufficient to help a successful development of Lithuania's industry.

Foreign loans were also obtained by the Lithuanian government. They served a variety of purposes, including currency stabilisation, capital projects in agriculture, energy and other sectors, and the development of small and medium-sized businesses. About one third of these foreign loans was allocated to investment projects. The largest part (about 20 per cent) of loans from EU PHARE programmes was allotted for the development of food production. State investment policies and strategies with the aim of strengthening the economy have been put into practice according to the State Investment Programme.

For the 1998-2000 period, the government of Lithuania plans to stimulate economic activity and to improve and adjust the tax system. There are plans to adjust taxation for all economical entities and to cut income taxes for natural persons. Profits used for investments should become tax-free. The objective, however, is that the Lithuanian budget does not decrease as a result of these taxation adjustments.

Figure 8: Nominal average monthly interest rate on loans in litas in credit institutions, in per cent



Source: Data provided by the Bank of Lithuania.

3.2 Privatisation in the Food Industry

The speed and the form of privatisation are crucial to the success of economic transition towards a market economy. The privatisation process determines the initial horizontal and vertical industry structures of a transition economy, and establishes an essential part of the economic constitution. Moreover, with the restoration of property rights, privatisation provides proper economic incentives for entrepreneurs to increase the efficiency of individual enterprises, and thus branches, and the economy as a whole.

3.2.1 Legal Framework for Privatisation

The first steps for the privatisation of the food industry were taken in 1991-1992. Privatisation had a slow start, and to speed up the process, employees were given preference in the

acquisition of shares in their enterprises. Many of the enterprises were not attractive to investors, as they were over-valued, and many needed substantial capital investment to modernise outdated equipment and facilities.

Privatisation took place in accordance with the following principal laws and government resolutions:

Law on the Initial Privatisation of State Property (28 February 1991). This law set out the fundamental legal framework for privatisation of the manufacturing and construction industries, transport, engineering, trading and commercial companies, with the exception of the assets of agricultural enterprises, land and rented property.

Government Resolution on Privatisation Rules for Agro-service and Agro-processing Enterprises (22 July 1992).

Government Resolution on Privatisation Rules for Agro-service and Agro-processing Enterprises on Preferential Terms during the Third Stage of Privatisation (8 June 1995).

Other legislation establishing the regulatory framework for privatisation and further activity of enterprises includes: Law on Foreign Investment (1990); Law on Small Enterprises (1991); Law on the Procedures and Conditions for the Restitution of the Rights of Ownership of Existing Property (1991); Law on Competition (1992); Law on Bankruptcy (1992); Law on Bankruptcy for Agro-Processing Enterprises (1993); Law on Joint Stock Companies (1994); Law on Foreign Capital Investment (1995).

3.2.2 Privatisation Process

Most food processing enterprises were privatised under the Law on the Initial Privatisation of State Property. In general, the privatisation of the food sector proceeded rather slowly and was mostly effected through the way the shares of the enterprises to be privatised were issued. Employees were given preference and could acquire up to 30 per cent of the company's capital. A list of enterprises designated for privatisation in hard currency was drawn up, which included several enterprises in the food sector. But only two food companies were privatised under this law, the Confectionery Factory in Kaunas and the Tobacco Factory in Klaipeda. All other enterprises were not attractive to foreign investors, in some cases because their assets were over-valued, and because substantial investments would have been required to update much of their ageing plants and equipment.

On 22 July 1992, the government adopted a resolution for the privatisation of agro-service and food processing enterprises (Privatisation Rules for Agro-service and Agro-processing Enterprises). Under this resolution, the shares of agro-service and food processing enterprises were offered for sale on preferential terms to all agricultural producers (including agricultural companies), with a maximum of 95 per cent of the value to be paid in investment vouchers and a minimum of 5 per cent in cash. The number of shares that agro-producers could acquire was linked either to the value of raw materials they supplied to these enterprises, or to the value of services received from agro-service enterprises. The aim of giving preferential treatment to agricultural producers is, firstly, to dilute monopsonistic power in the downstream sector and secondly, to guarantee processors the supply with agricultural raw materials.

The first stage of privatisation under these new provisions started on 15 September 1992. The list of agro-food processing enterprises to be privatised included 33 dairies, 8 meat processing companies and 21 grain processing enterprises. The response to this process was disappointing and only a small proportion of these companies' assets was sold. The shares purchased by private investors represented about 30 per cent of the capital of dairy, 13 per cent of grain processing, and 8 per cent of meat processing enterprises.

One of the main reasons for the low level of participation in the privatisation process was the rather complicated method of payment for shares in the enterprises being privatised. In order to acquire the required amount of investment vouchers, agricultural enterprises had to open special investment accounts and participate in auctions of investment vouchers. Moreover, the weak financial position of many agricultural enterprises made it difficult for them to purchase shares in those companies designated for privatisation. Inadequate information about privatisation procedures also contributed to the low rate of participation in this first stage of the process.

The resolution instituting the second stage of privatisation was passed on 8 April 1994 and came into effect the following June. In this stage, share prices were set at 2.5 per cent of their nominal value when sold to agricultural producers for cash. This procedure encouraged agro-producers to acquire more shares in processing enterprises. At the end of 1994, the degree of privatisation was over 50 per cent in more than two fifth of all enterprises.

On 8 June 1995, the government adopted a resolution for the privatisation of agro-service and agricultural production processing enterprises on preferential terms (The Rules of the Privatisation of Agro-service and Agricultural Production Processing Enterprises on Preferential Terms during the Third Stage of Privatisation). This regulation promoted a third stage of privatisation procedures for agro-processing enterprises that had not been privatised previously. Under this regulation, the price of shares was again set at 2.5 per cent of their nominal value for agro-producers. In addition, agro-producers now had the possibility of acquiring a higher number of shares than their quota (but not exceeding 5 times the quota). This development helped agro-producers to take a more active part in food processing. As a result of this privatisation process, more than 90 per cent of all enterprises intended for privatisation have now effectively been privatised. In general smaller processing companies were privatised more quickly than large ones.

In addition, a large number of new small food processing enterprises, especially in the meat and fish processing sectors, have been created in the new market economy (see Annex). Newly registered enterprises or firms have often emerged as a result of the disintegration of large-scale state enterprises. These enterprises supply a significant part of food products to the domestic market and they process about one third of total procured raw materials in the meat, fish and grain processing sectors.

3.3 Institution Building

An objective legal framework is the basis for the normal functioning of economic relations between market entities. The strategic aim of economic reform is to establish institutions that allow the private sector to operate efficiently. To speed up Lithuania's integration into the EU, these institutions must be designed so as to comply with the requirements of the EU. Legislation was revised and amendments added in order to meet these requirements.

3.3.1 Bankruptcy Law

As long as the legal framework does not include proper bankruptcy laws that are rigorously enforced, inefficient firms and their managers cannot be sanctioned and economic inefficiencies can persist despite price liberalisation. It is therefore essential that such laws are initiated as early as possible in the transition process, otherwise these enterprises run the risk of accumulating huge debts. The Law on Bankruptcy was adopted in September 1992. It governs the order of bankruptcy and the liquidation of enterprises that are unable to meet their financial obligations. The Law on Bankruptcy of Agro-food Processing Enterprises was adopted in 1993 as an addition to the Law on Bankruptcy. This law regulates bankruptcy procedures of

agro-food processing enterprises that fail to settle their accounts with the suppliers of agro-production on time.

The Law on Bankruptcy had some flaws. It was revised and adopted in June 1997 (Annex). A new period in the bankruptcy process began on 1 October 1997 when this law came into effect. The Law on Bankruptcy regulates bankruptcy procedure and applies to all economic entities that are registered in Lithuania, according to a set order in the legislation of the Republic of Lithuania. Bankruptcy action is instituted when an enterprise is insolvent. Creditors may apply to the court for bankruptcy proceedings one month after the expiration of the period established in the law. Article 12 of this law regulates the order of bankruptcy procedures of agro-food processing enterprises. The Ministry of Agriculture and Forestry may institute legal proceedings against a food processing enterprise when it is insolvent.

The Ministry of Agriculture and Forestry submits application to the court for instituting bankruptcy action against agro-food processing enterprises two months after insolvency has been declared, or one month after receiving notification from a supplier of agricultural production. If no action is brought against the agro-food processing enterprise, the Ministry of Agriculture and Forestry has the right to apply to the court for settlement of unpaid accounts for supplied agricultural production.

3.3.2 Anti-trust Regulation

According to the economic theory of industrial organisation, imperfect competition that is due to monopoly or monopsony market power of a single seller or buyer, or to the collusive behaviour of many sellers or buyers, severely impedes economic efficiency. It is the task of government competition policy to prevent such behaviour or to break up large monopolistic or monopsonistic firms. In Lithuania, competition policy and legislation prohibiting practices that restrict or impede competitive markets came into force on 1 November 1992. Under the Law on Competition (Annex) the Lithuanian government has removed legal barriers for new businesses to enter the market and eliminated restrictive licensing requirements for production and distribution. In 1995 additional legislation was introduced to allow distributors to trade without any geographical restrictions, and to split up large anti-competitive enterprises.

In order to enforce the Law on Competition, as well as the Law on Prices, the Agency of Prices and Competition was established in 1993. Its function was to examine and resolve all complaints relating to anti-competitive behaviour in the economy. The Agency could take legal action to close companies that engaged in illegal practices. In May 1995 the Agency of Prices and Competition was restructured and became the Agency for Competition and Consumer Rights Protection. Its main responsibility is to enforce the Competition Law, the Price Law and the Law on Consumer Rights in Lithuania. The Agency's main functions are:

- to formulate and implement policies that encourage competition and anti-monopolistic behaviour;
- to monitor prices on domestic and foreign markets;
- to formulate and implement policies for consumer protection;
- to participate in the preparation of price policy as regulated by the state.

3.3.3 Quality Standards

Quality can be defined as the congruence between consumer preferences for a particular set of characteristics of a good and the characteristics of the good that are actually available. Quality improvements are very important for all food industry sectors and for all levels of the food

processing chain. High quality increases home demand for domestically produced foodstuffs, and stimulates export demand. Quality standards set by public authorities specify the requirements for raw materials, products, equipment and technology and are approved in legislation on quality standards. Every producer must meet these requirements.

The Lithuanian Department of Standards was established in April 1990. Its main goal was to create a national system of standardisation, corresponding to international and European requirements. Since 1992 the Department of Standards has been a member of the International Standards Organisation (ISO). Quality standards have special importance in conquering foreign markets and in striving for Lithuania's integration into the EU. In 1996 a programme was drawn up to introduce international and European standards to Lithuania.

The process of reconciling quality standards and product certification regulations in Lithuania with those in the EU is continuing. The necessary testing and certification procedures and facilities will be developed. These are essential for preserving product quality throughout the processing and distribution system, as well as ensuring that products meet the standards for both foreign and domestic markets.

Since 1 January 1997, 262 quality standards for different food products have been published in the catalogue "Standards in Lithuania". They all apply to the manufacture of food products and beverages. 31 of them have adopted international standards (ISO, IDF, Codex Stan), of which 23 apply to milk processing. Currently there are in force 66 quality standards for different kinds of products in milk processing, 62 in meat processing, 6 in milling and 2 in the sugar processing sector.

There are both internal and external controls of quality standards. Milk as a raw material purchased in agricultural partnerships and enterprises is controlled at milk laboratories on livestock farms. Milk purchased from small farmers (i.e. farms that sell less than 10 tons of milk per year) is controlled at laboratories in processing enterprises. Processing enterprises in general control technology standards and quality standards of food products. External control of quality standards is organised at every stage of the food production chain by the State Veterinary Service, State Quality Service and State Hygiene Inspection.

3.3.4 Market Information System

Lithuania so far lacks a well-organised market information system. Information about prices on local markets are sometimes published in newspapers, but there is no system of regular data collection. In general, only information on price indices is publicly available, while data about the level of prices at the processor level is not accessible.

This lack of an effective information network has hindered market transparency, increased transaction costs and thus has been a major impediment for a more market-oriented production of food products. It can also lead to regional market power. Market information will thus intensify competition throughout the marketing chain. Enhanced competition speeds up the adjustment of supply to demand changes.

3.3.5 Foreign Trade Policy

Before becoming an independent country, Lithuania had limited experience in foreign trade. Its trade relations with the former Soviet Union were essentially confined to the obligatory supply of certain products with little regard to economic fundamentals. Specified quantities of goods were delivered to the central fund and little consideration was given to quality, price or transportation costs. Almost all Lithuanian exports of food products were then allocated to other republics in the former Soviet Union or sold on foreign markets in accordance with the

dictates of the centralised planning and trading system. Lithuania's agricultural sector has traditionally been strongly oriented towards exports which exceed imports by 20-30 per cent.

Since independence in 1991 Lithuanian trade policy has changed radically. The system of mandatory supplies to the central fund has been replaced by intergovernmental trade agreements which specify quantities, prices and other terms and conditions in considerable detail. These new trade policies initially consisted mainly of quantitative measures such as restrictions on exports and imports aimed at protecting the Lithuanian or the respective foreign market from shortages and price increases. These policies have hampered trade considerably. Import restrictions on processed food products helped protect the domestic food industry and decreased competition for local producers.

In recent years state trading monopolies have been abolished and many enterprises, including trading companies, processors and producers have started to engage in trading directly. Most administrative trading restrictions have been replaced by tariff-based import and export measures, but so far no consistent and coherent policies for specific product groups have been adopted.

Since 1994 trade policies have been aimed at adjusting the trade regime to world market conditions and constraints. The signing of bilateral and multilateral agreements was of great importance in bringing about this policy shift, especially the Memorandum of Foreign Trade Policy submitted to GATT (General Agreement on Tariffs and Trade) at the end of 1994 and the EU Free Trade Agreement, which came into effect on 1 January 1995.

On 1 April 1995 a government resolution established a different tariff system comprising conventional tariffs for Most Favourable Nations (MFN), preferential tariffs under free trade agreements, and autonomous tariffs, which are the highest and apply to trade with countries that are not signatories to a mutual trade agreement. Import tariffs for most food products are set at 20-30 per cent, excluding sugar, for which the import tariff is 87 per cent (Table 4).

Table 4: Import tariffs for main agricultural and food products in 1997, in per cent

Products	Conventional tariffs	Autonomous tariffs
Livestock and poultry,	20	25
Beef, veal and pork	30	30
Poultry	25	25
Milk products	20	20
Fat cheese	30	35
Grain and flour	30	35
Sugar	87	87
Confectionery	30	35

Source: EUROPEAN INTEGRATION STUDIES CENTRE (1997, p. 223).

Agricultural trade with the EU was regulated by MFN tariffs until 1 January 1995, when preferential treatment under the terms of the Free Trade Agreement came into operation. This agreement established a six year transition period for agriculture, during which Lithuania's relatively high import duties will gradually be reduced. Following the general principle of asymmetry in favour of Lithuania, greater tariff concessions are granted for Lithuanian exports to the EU.

The reduced EU trade barriers will not immediately increase Lithuania's export. It will take time to reduce obstacles associated with certification, quality, packaging and other product and marketing deficiencies. The development of trade with the EU also continues to be impeded by customs tariffs as well as hygiene and phytosanitary standards.

A free trade agreement between all three Baltic countries came into force on 1 April 1994. This did not include trade in agricultural and food products. The general objective of the Baltic Free Trade Agreement is the progressive integration of the three markets into a single economic area. Integration in agriculture turned out to be a difficult process, because Estonia had no import tariffs, while in Latvia and Lithuania they ranged from 20 to 60 per cent. In June 1996 the three Baltic states signed an agreement on free trade in agricultural products; it came into force on 1 January 1997.

The countries of the Central European Free Trade Association (CEFTA) have become Lithuania's second largest trading partners in Europe after the EU. Trade with the CEFTA countries is carried out under MFN conditions. The trade balance for Lithuania is positive. Lithuania exports meat and dairy products to CEFTA countries, and imports vegetables, fruits, grain, sunflower seeds, sugar, confectionery and pastry products.

The republics of the former Soviet Union were a long-standing market for Lithuanian products within the framework of the centralised all-union fund. In recent years imports of this region from Lithuania has been impeded by several factors. These include falling demand for food products due to a sharp decline in the purchasing power of the population; growing competition from cheaper food imports from Western countries or humanitarian aid programmes; payment settlement and price problems; increasing protection of markets through border protection measures; high transit fees and security problems in delivering products to the Eastern Markets. In spite of these problems, a substantial amount of trade still takes place between Lithuania and the CIS. Since January 1995, Russia has been applying MFN tariffs to Lithuanian goods, while until 1995 tariffs of double the MFN rates were levied on Lithuanians products entering the Russian market. Lithuania has trade agreements with Ukraine, Belarus, Russia, Kazakhstan and Tajikistan. Negotiations are underway with Moldova, Turkmenistan and Azerbaijan.

Lithuania has had observer status in the GATT/WTO since September 1992. Already major steps have been undertaken to bring Lithuanian foreign trade regulations into line with World Trade Organisation (WTO) requirements. This includes the liberalisation of exports, the removal of quantitative restrictions and the setting of customs tariffs, the adoption of legislation on competition and monopoly practices.

4 BASIC CONDITIONS

In order to understand the economic pressures on individual firms in the Lithuanian food industry that are forcing them to adjust, changes in demand, and also alterations in input supply need to be considered. This chapter will give a brief overview over those factors. In addition, recent developments in the food industry will be briefly outlined.

4.1 Demand

In 1990 food consumption levels in Lithuania were comparatively high because of low and subsidised food prices. The decline in purchasing power of consumers and the increase in food prices (Table 5) have changed the structure of food consumption. There has been a significant shift in consumption from the relatively expensive livestock products towards cheaper

foodstuffs such as vegetables, fruits and cereal-based products (Table 6, Figure 9, see also Annex).

Table 5: Consumer prices for selected food products, 1994-1996 (as of December; litas and centas; 1USD=4 litas)

	1990[1]	1991[1]	1992[2]	1993	1994	1995	1996
Beef, I category, per kg	2.02	18.66	209.50	6.27	7.43	9.65	9.91
Pork, I category, per kg	n.a.	n.a.	n.a.	n.a.	9.64	11.18	13.38
Chicken, I category, per kg	3.15	19.19	223.09	6.13	7.25	8.75	9.54
Butter, per kg	3.40	19.03	450.07	6.28	9.33	13.55	12.94
Milk, 2.5% fat, per litre	0.23	1.08	32.93	0.57	0.86	1.41	1.78
Sour cream, 25% fat, per kg	1.37	6.71	197.61	3.16	4.61	7.74	8.45
Curd, 9% fat, per kg	0.75	4.00	139.26	2.39	3.91	5.78	6.91
Eggs, per 10 units	1.40	9.75	100.61	2.64	2.61	3.77	3.77
Rye bread, per kg	0.40	2.51	40.98	0.92	1.11	1.45	1.90
Wheat bread, per kg	n.a.	n.a.	n.a.	n.a.	1.74	2.54	2.76
Sugar, per kg	0.79	7.29	119.79	2.37	2.40	3.39	3.35
Potatoes, per kg	0.19	2.06	26.08	0.28	0.97	0.88	0.61

[1] in roubles and kopecks, 1 USD = 34.8 roubles (in 1991).
[2] in talonas, 1 USD =170 talonas.
Source: DEPARTMENT OF STATISTICS (1997a, pp. 248 - 249, 1997b, p.35).

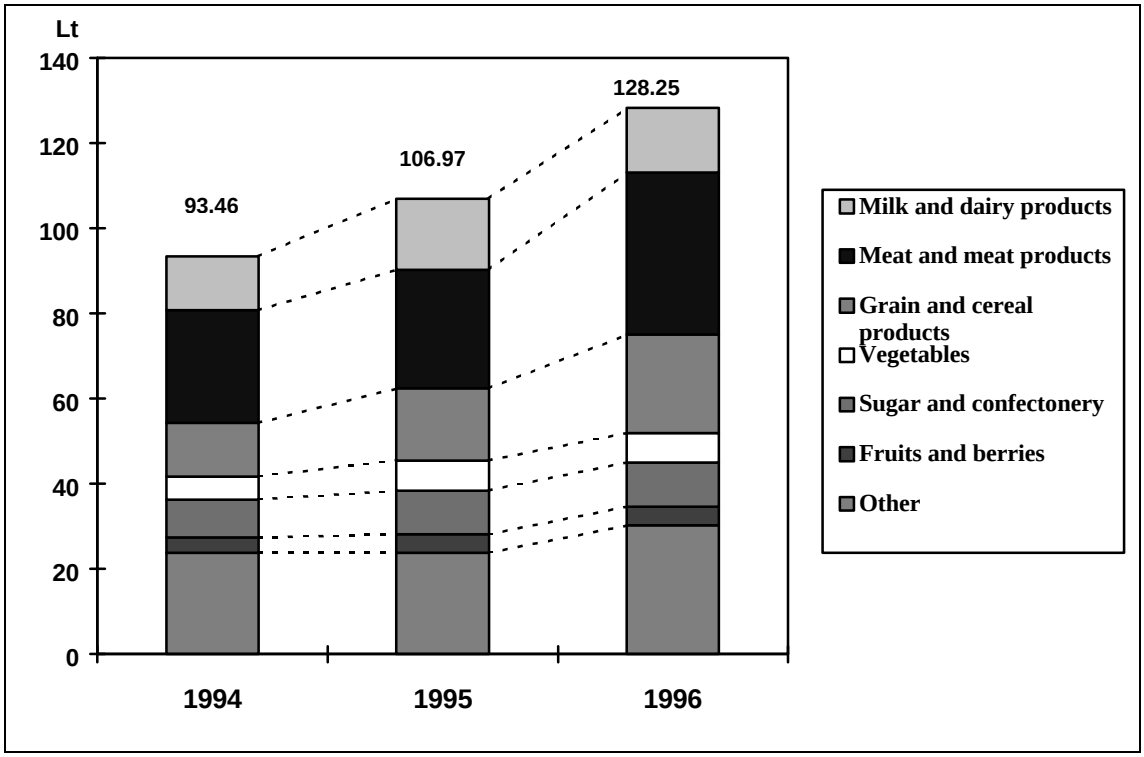
Table 6: Per capita consumption of selected foodstuffs, 1990-1996 (kilograms)

	1990	1991	1992	1993	1994	1995	1996	change 1996 to 1990 in %
Meat and meat products	89	66	65	56	50	52	51	-42.70
of which: pork	40	29	24	18	18	21	16	-60.15
beef	39	31	35	33	26	24	24	-38.11
Milk and dairy products	476	315	334	319	291	238	213	-55.25
Bread and cereal products	108	138	142	122	135	136	142	31.48
Sugar	43	31	23	25	23	22	24	-45.60
Potatoes	146	128	95	122	99	127	133	-8.90
Vegetables	79	83	65	69	65	65	71	-10.13
Fruits and berries	33	51	30	50	45	48	52	57.58
Oil and margarine	7	3	4	7	10	12	13	75.34
Eggs, units	304	293	207	143	167	172	167	-45.07
Fish and fish products	19	19	11	8	10	10	11	-39.04

Source: DEPARTMENT OF STATISTICS (1997c, p. 14).

Per capita consumption of some food products such as milk and dairy products fell by over 55 per cent during the 1990-1996 period, while that of meat and meat products, sugar and eggs declined by 40-45 per cent. In the same period, consumption of bread and cereal products increased by 31 per cent.

Figure 9: Structure of expenditure on different food products, 1994-1996, in litas



Source: DEPARTMENT OF STATISTICS (1995c, p. 30, 31; 1996a, p. 64).

4.2 Input Supply

The transformation from a planned to a market economy led to sharp decline in the volume of agricultural production thus adversely influencing input supply for the food industry. Between 1990 and 1996 production of livestock fell by half, while plant production dropped by one third. Major reasons for this development were a widening gap between output and input prices leading to a decline of profitability in farming, and the impact of the reforms which induced a high level of insecurity among other things. Table 6 shows the changes in per capita production of the main food products during the 1990-1996 period.

Table 7: Per capita production of selected agricultural products, 1990-1996 (kilograms)

	1990	1991	1992	1993	1994	1995	1996	change 1996 to 1990 in %
Milk	847	776	664	552	510	490	494	-41.68
Meat (carcass weight)	142	120	111	74	60	56	54	-61.97
of which pork	65	52	41	24	22	25	24	-63.08
Grain	876	891	592	723	575	526	729	-16.78
Sugar beets	n.a.	216	166	228	124	186	214	-49.29
Potatoes	422	402	287	473	295	429	551	30.57
Vegetables	79	106	69	100	76	99	117	48.10
Fruits and berries	23	73	31	70	14	35	26	13.04
Eggs, units	342	329	234	163	192	213	202	-40.94

Source: DEPARTMENT OF STATISTICS (1997c, p. 14).

The reduced agricultural production volume has limited the input supply for the food industry and thus is one reason for the high underutilisation of the production capacities in this sector.

However, it should be noted that even in 1996 self-sufficiency rates of basic agricultural and food products were greater than 100 (Table 8).

Table 8: Degree of self-sufficiency of basic agricultural and food products, 1990-1997 (in per cent)

Products	1990	1991	1992	1993	1994	1995	1996
Meat	172.3	181.1	170.3	131.8	117.1	107.8	106.9
Milk	179.1	229.2	180.4	160.7	147.5	157.4	162.0
Grain	103.3	118.2	91.1	118.5	98.8	91.2	128.0
Sugar*		129.1	101.2	97.2	52.6	89.0	98.7
Vegetables	39.5	127.7	106.6	145.7	147.0	113.8	117.0
Eggs	101.9	100.9	95.1	102.8	104.5	109.4	124.0

Note: * including sugar made from semi-product of sugar cane.
Source: DEPARTMENT OF STATISTICS (1997c, p. 14).

4.3 Development in the Food Industry

Food industry output has declined as a consequence of sharply increasing input prices, lower real output prices, and disruptions caused by farm restructuring. A reduction in raw materials and the limited market have also decreased the production of main foodstuffs. Most of the output decline has been in meat and dairy products. Table 9 gives the changes in total production of the main food products, beverages and tobacco products during the 1990-1996 period. The figures show that production in many branches of the food industry stabilised in 1995.

Table 9: Production of selected food products, beverages and tobacco, 1990 - 1996, in 000 t unless otherwise stated

Products	1990	1991	1992	1993	1994	1995	1996	change 1996 to 1990 in %
Meat, I category offal	431.5	338.3	264.8	135.4	91.8	94.7	94.1	-78.19
of which: beef and veal	177.1	167.4	160.3	93.0	55.5	46.4	43.2	-75.61
pork	162.0	120.7	71.8	21.8	17.2	25.5	27.5	-83.02
poultry	45.1	25.9	11.3	13.0	13.4	16.1	16.2	-64.08
Sausages	76.2	70.2	57.7	48.2	39.8	41.6	48.4	-36.48
Semi-processed meat products	54.6	41.0	25.4	16.1	11.3	9.2	7.6	-86.08
Edible fats	19.9	17.3	12.8	6.3	3.8	3.7	2.8	-85.92
Canned meat, mill. conventional cans	44.1	34.5	30.7	18.2	13.4	16.2	15.4	-65.08
Whole dairy products (in statistical units of milk)	831	714	401	285	297	310	313	-62.33
Whole dairy products (in natural weight):								
milk	169.1	164.2	122.1	92.2	83.5	86.6	85.2	-49.62
kefir and sour milk products	62.7	52.3	33.0	26.5	30.8	29.9	30.7	-51.04
cream	6.7	5.5	0.8	0.5	0.7	2.2	0.9	-86.57
sour cream	39.3	38.6	21.7	15.4	15.4	15.6	17.4	-55.73
fat curd	25.8	25.8	14.8	9.1	9.9	9.6	9.4	-63.57
cottage curd cheese	15.8	14.1	7.2	5.0	4.6	4.1	3.9	-75.32
Butter	73.9	67.2	49.2	45.3	31.2	32.3	34.8	-52.91
Fat cheese	26.3	24.5	17.6	19.7	18.5	16.6	21.5	-18.25
Ice-cream	20.1	15.3	8.5	7.4	10.4	8.3	9.0	-55.22
Canned dairy products, mill. conventional cans	89.3	77.5	45.0	26.2	12.9	32.0	28.6	-67.97
Skimmed milk powder	29.9	28.0	27.2	24.1	16.6	19.7	26.3	-12.04
Catch of fish and other marine products	352.5	317.0	187.0	115.2	44.9	8.2	9.2	-97.39
Fish products	201.6	199.7	113.2	72.2	38.9	8.0	10.5	-94.79
Canned fish products, mill. conventional cans	81.0	68.6	29.9	13.6	14.1	12.7	18.5	-77.16
Canned fruit/vegetables, mill. conventional cans	151.8	193.1	123.3	170.1	51.4	52.1	38.6	-74.57
of which: vegetables	50.7	36.8	31.9	17.8	9.6	4.4	4.4	-91.32
tomatoes	6.9	6.8	6.1	6.8	8.0	6.9	4.8	-30.43
fruits and berries	65.4	56.6	35.5	17.9	4.3	11.4	7.1	-89.14
Flour	466.9	406.3	396.0	291.6	253.7	237.1	228.5	-51.06
of which: wheat	214.5	201.6	188.4	164.0	164.4	139.7	131.5	-38.69
rye	168.8	154.0	130.0	112.8	81.9	90.4	96.0	-43.12
Groats	60.0	40.7	34.9	16.6	15.1	18.3	17.3	-71.17
Bread and pastry products	332.1	319.8	295.1	279.6	240.3	212.4	188.6	-43.21
Pasta	13.3	12.9	11.3	7.0	5.7	5.1	3.1	-76.69
Feed concentrate	2302	1738	828	562	484	500	429.9	-81.32
Sugar	158.6	150.5	87.7	90.9	51.6	105.2	136.3	-14.06
Confectionery products	75.1	64.8	41.5	30.1	33.2	36.4	38.2	-49.13
of which : sugary	48.8	39.5	24.4	19.0	24.7	29.3	31.9	-34.63
farinaceous	26.3	25.3	17.1	11.1	8.5	7.1	6.3	-76.05
Products	1990	1991	1992	1993	1994	1995	1996	change 1990 to 1996 in %
Plant oil	1.2	0.2	0.1	-	-	0.5	2.8	133.33
Mayonnaise	6.3	3.3	1.8	1.4	2.9	5.1	4.7	-25.40

Products	1990	1991	1992	1993	1994	1995	1996	change 1996 to 1990 in %
Vodka and products of liqueur, 000 dl	2943	3547	2696	2400	2166	2581	2776	-5.67
Wine, 000 dl	748	1236	1306	894	561	1305	1279	70.99
Champagne, 000 bottles	10070	8586	7884	7787	9314	11704	9802	-2.66
Beer, 000 dl	15017	14121	14258	11638	13529	10902	11079	-26.22
Non-alcoholic beverages, 000 dl	10461	8066	4842	2991	1325	1906	1627	-84.45
Ethyl alcohol, 000 dl	1793	1755	1584	1634	1778	1652	2642	47.35
Cigarettes, bn pieces	6.7	6.4	5.3	3.4	3.9	4.9	4.5	-32.84

Source: DEPARTMENT OF STATISTICS (1997a, p. 281 - 282).

5 STRUCTURE OF THE FOOD INDUSTRY

5.1 Ownership Structure

Competition, which enforces the efficient allocation of resources, is necessarily lacking as long as a single owner controls many food processing firms that supply the same range of products. In transition countries before privatisation, the state alone typically owned all industrial firms. A precondition for the efficient functioning of the food sector is therefore the establishment of private ownership, for example in the form of a joint stock company. In July 1994, the Law on Joint Stock Companies was adopted in Lithuania. According to the provisions of this law, state and state joint stock enterprises were reformed into private joint stock companies.

The degree of privatisation in the agro-processing sector varies considerably from one company to another. As a result of the privatisation process in the food industry employees and farmers have become the owners of enterprises, whereas the government's share of ownership has significantly declined. However, the government still holds an average of about 36 per cent of shares in the total food production, processing and distribution chain, and 14 per cent of shares in enterprises that were sold to farmers on preferential terms (Table 10).

Many new small enterprises in the milk, meat and grain processing sectors were established during the 1995-1996 period (see Annex). As a result, competition increased significantly. Unfortunately, the Department of Statistics has no disaggregated data on newly established agro-food processing enterprises in the individual sectors of the food industry.

Table 10: Results of privatisation, April 1997

Subsectors	Number of enterprises	Authorised capital stock (million litas)	Degree of privatisation, %	Capital share of agro-producers, %
Meat processing	10	86.7	80.6	32
Milk processing	40	282.3	77.9	31
Grain processing	21	147.3	94.7	44
Sugar beet processing	4	98.5	90.7	45
Total privatised share of agro-producers	234	794.4	85.7	
Total in food production, processing and distribution chain	1360	2671.8	64.3	

Source: EUROPEAN INTEGRATION STUDIES CENTRE (1997, p. 222).

5.2 Employment

Employment in the food industry has decreased by 17.6 per cent since the beginning of transition, while during the same period its share in employment of total manufacturing production has increased by 2.8 per cent (see also chapter 2). With 24.1 per cent, the largest share is engaged in the milk processing sector, while the meat processing sector accounts for 18.1 per cent of total employment in the food industry. Table 11 provides data on average employment numbers and its share in the main sectors of the manufacture of food products and beverages in 1996.[2]

Table 11: Average annual employment in the manufacture of food products and beverages in 1996

	Average annual number of employees	in %
Manufacture of food products and beverages:	57400	100.0
milk	13849	24.1
meat	10379	18.1
milling	2594	4.5
grain for fodder	2479	4.3
sugar	1871	3.3
fish	3153	5.5
fruit and vegetables	1369	2.4
plant oil	357	0.6
beverages	5735	10.0
other food products	15614	27.2

Source: DEPARTMENT OF STATISTICS (unpublished material).

5.3 Market Power

According to the economic theory of industrial organisation, profit maximising suppliers who posses market power will supply less at higher prices compared to a situation of perfect competition. Unfortunately, the actual degree of market power exercised by suppliers cannot be assessed or measured directly. The degree of horizontal concentration, however, can be measured. Where the distribution of sales is more concentrated, i.e. where the market is more horizontally concentrated, it is easier for the set of active producers to co-ordinate their output decisions and thereby to collude and act as a cartel. The degree of horizontal concentration, however, is only one of the factors that make collusive behaviour likely. Whether or not producers are able to collude depends, among other things, on the degree of homogeneity of their cost structures, on the threat of potential entry of other competitors, and on the enforcement of competition policies.

The Concentration Ratio (CR) and the Herfindahl Index (H) are widely used to quantify the degree of horizontal concentration. These indicators were calculated according to the formulas given below.

The Concentration Ratio (CR_k) shows the market share that is captured by the k (3, 4 and 10) largest firms in the sector. The Herfindahl Index considers all firms in the specified sector (n) and their market shares:[3]

[2] For employment numbers in different sectors for the food industry, the Department of Statistics could provide data only for 1996. Therefore, it is impossible to discuss the changes in employment in different sectors during the last three years.

[3] See, for example, SCHERER and ROSS (1990, p. 72).

$$CR_k = \frac{\sum_{i=1}^{k} X_i}{\sum_{i=1}^{n} X_i}$$

$$H = \sum_{i=1}^{n} \left(\frac{X_i}{\sum_{i=1}^{n} X_i} \right)^2$$

with:

X_i = procurement of firm i, where the procurements of different firms (X_1, X_2,..., X_n) are arranged in ascending order;

k = 3, 4, or 10, depending on the coverage of the Concentration Ratio (CR_k);

n = total number of firms in the sector analysed.

The CR and the H were calculated for the milk, meat, grain and sugar beet processing sectors on the basis of the procurement quantities of raw materials purchased by processing enterprises. The results are presented in Table 12.

The CR in the milk processing sector is relatively low and remained fairly stable over the 1994-1996 period. In 1996 the CR3, CR4 and CR10 amounted to 25, 30 and 57 per cent respectively. Similarly the H index showed only minor variation, its value of around 0.04 also indicating a relatively low degree of concentration.

The situation in the grain processing sector is similar. Concentration measured by the CR indices and the H index is relatively low and varied only slightly. It revealed a gradual increase in concentration. In contrast concentration decreased slightly in the period 1994-1996 in the sugar industry which, however, consists only of four enterprises. The situation in the meat processing sector is somewhat different from those previously analysed. In 1995 the CR increased, but then dropped considerably in 1996, due to the establishing of a large number of small meat processing units (see Table 12).[4]

The degree of concentration was evaluated on the basis of the procurement quantities of raw materials purchased by processing enterprises. The results reveal that horizontal concentration in the food industry was low during the 1994-1996 period and showed only moderate changes for the milk, grain and sugar beet processing sectors. A considerable number of new small enterprises in meat processing decreased the Concentration Ratio and Herfindahl index significantly in this sector in 1996.

Lately, competition among the major food processing enterprises has become stronger. A considerable number of newly established enterprises have intensified competition. Newly established enterprises are not assured economic success in the market, but they strive to develop their activity with the aim of gaining market shares. They exploit different ways of becoming competitive: they specialise in the production of new food products; produce goods in various assortments; concentrate more on attractive packaging, which preserves freshness, as well as on different kinds of advertising. When starting their commercial activity, they sell their products at relatively low prices in order to attract consumers.

[4] Statistical data to calculate the Concentration Ratio and Herfindahl Index for the food retailing sector were not available.

Table 12: Concentration indices of main food processing sectors

	1994	1995	1996
Dairy processing sector:			
CR3	24.5	24.0	24.8
CR4	29.7	29.2	30.5
CR10	55.7	55.7	57.4
Herfindahl Index	0.0433	0.0418	0.0449
Meat processing sector:			
CR3	50.2	56.1	34.9
CR4	60.6	63.0	40.6
CR10	85.4	88.0	55.1
Herfindahl Index	0.1166	0.1340	0.0536
Grain processing industry:			
CR3	34.7	35.5	37.1
CR4	42.1	43.1	43.2
CR10	68.0	68.4	71.2
Herfindahl Index	0.0630	0.0643	0.0698
Sugar beet processing sector:			
CR3	80.0	79.7	78.8
CR4	100	100	100
CR10	-	-	-
Herfindahl Index	0.2544	0.2540	0.2526

Source: Calculations carried out at the Lithuanian Institute of Agrarian Economics on data provided by the Milk, Meat and Grain Processors Associations, and the Association of the Sugar Industry.

5.4 Vertical Integration

In the centrally planned economies, food marketing chains were vertically co-ordinated by state planners and prices were fixed by the government. These facts ensured total state control of all activities relating to the food industry. Since wholesale markets did not exist under these conditions, services such as storage and transport activities had to be provided by the food industry as well.

With the introduction of economic reforms vertical co-ordination in the food marketing chain, until then organised by state planners, collapsed. This led to high levels of instability and insecurity for farmers, as well as for primary food processing enterprises. To hedge against these risk factors, some processors of agricultural raw materials have started to reinitiate vertical integration by offering farmers guarantees for forward contracts and future prices. They are thus able to secure the supply of high quality raw materials for their processing facilities.

Whereas this form of vertical integration is the result of a rational decision made by the individual economic agent who takes into consideration the specific economic factors and conditions valid in the individual cases, vertically integrated structures have also appeared as a result of political decision. Privatisation granted agricultural producers preference in the acquisition of shares in food processing enterprises, regardless of whether this is economically justified. Coase and Williamson's transaction cost theory, which is mainly used to explain vertical integration processes, shows that conditions for specific forms of vertical integration differ from case to case; they depend not only on the economic environment, but also on product specifications. In Lithuania agro-producers' shares in the main food processing sectors range from 31 to 45 per cent (see Table 9). Their future operation will show whether this institutional arrangement is able to increase efficiency in the agro-food chain, or whether it will have adverse effects.

With the aim of streamlining the marketing chain, eliminating middlemen, reducing transaction costs and becoming more profitable, agro-food processors have at the same time integrated forward by opening their own retail outlets where they sell their products directly to consumers at lower prices. The number of processor-owned retail outlets has increased and the biggest food processing enterprises supply their production to the major cities in Lithuania.

5.5 Marketing Channels

This also reveals that the channels for the marketing of food products have become far more diversified than they were in the Soviet period. This holds for marketing on the domestic market and on foreign markets. On the domestic market, food enterprises tend to sell their produce through retail outlets, direct deliveries to the consumer via local markets, and their own retail network.

Since the beginning of transition, many small private food retail enterprises have appeared. Often they emerged as a result of the disintegration of state enterprises and consumer co-operatives. The number of food retail outlets grew especially fast in 1995 and slightly decreased in 1996.

Direct sales of food products, such as meat and its products, or milk and dairy products on the local markets increased significantly. According to statistics almost half of the total quantity of fresh meat was sold on local markets in 1997. The quantity of sausages and smoked meat was slightly smaller. This phenomenon can be attributed to the increase in value added tax on food products from 9 per cent to 18 per cent on 1 January 1997, and to the fact that sellers on local markets are exempt from paying this tax; consequently prices on local markets are lower, leading to an increase in sales.[5]

With regard to sales of foodstuffs on foreign markets, the following development could be observed: the loss of traditional markets in the former Soviet Union and the restructuring of the agro-food sector caused a reduction in exports, leading to an increased share of sales on the domestic market at the beginning of transition. However in 1996, the share of food products exported increased again by 3.5 per cent compared to 1995 (see Table 13).

Table 13: Sales in industrial production by market, 1993 - 1996 (per cent) (Production sold=100%)

	Lithuanian Market				Export			
	1993	1994	1995	1996	1993	1994	1995	1996
Manufacturing	46.0	53.7	57.5	50.6	54.0	46.3	42.5	49.4
Manufacturing of food products and beverages	72.2	79.6	81.3	77.8	27.8	20.4	18.7	22.2
Manufacturing of tobacco products	57.9	60.9	99.9	99.5	42.1	39.1	0.1	0.5

Source: DEPARTMENT OF STATISTICS (1996d, p. 257, 1997a, p. 274).

Currently Russia and the EU are Lithuania's main trading partners for food products. Whereas in the pre-reform period about 50 per cent of total milk and meat products were delivered to Russia, this share has sharply declined. This was caused by the continued restructuring of the agro-food sector and the loss of traditional markets in the former Soviet Union. In contrast, the EU has gained importance as a trading partner. The greatest demand in EU countries has been for skimmed milk powder. Altogether the export of meat products decreased by a factor

[5] Further research will be undertaken to reveal the roles actors play in the food production, processing and distribution chain, as well as the share of marketing flows of different actors in the milk and sugar beet processing sectors. This will be based on detailed data which will be collected using questionnaires.

of ten from 153,700 t in 1991 to 15,200 t in 1996. The export of most other products has also decreased. However, in 1996 the export of butter, cheese meat and sugar increased (see Table 14 and Annex).

Table 14: Export of selected food products, 1991-1996

Products	1991	1992	1993	1994	1995	1996
Meat and meat products, 000 t	153.7	61.5	34.3	15.0	14.4	15.2
Dairy products:						
butter, 000 t	50.1	22.9	17.4	20.8	20.0	27.5
cheese, 000 t	16.1	7.8	12.5	20.6	11.7	14.3
Eggs, mill. units	12.1	2.6	4.9	8.0	45.7	41.7
Grain, 000 t	24.8	1.3	12.6	19.7	32.0	20.3
Skimmed milk powder, 000 t	4.6	19.4	25.2	79.1	76.5	55.7
Canned vegetables, 000 t	3.3	2.6	2.1	3.0	4.4	4.2
Canned fruits and berries, 000 t	0.4	0.1	0.4	0.4	0.7	0.3
Sugar, 000 t	1.6	0.9	4.3	8.1	2.4	10.8

Source: DEPARTMENT OF STATISTICS (1997a, p. 464).

6 CONDUCT OF THE FOOD INDUSTRY

6.1 Price Behaviour of Firms

The findings in section 5.3 have shown that horizontal concentration does not exist in the major food processing sectors such as milk, meat and grain processing. Unfortunately it is not that easy to draw conclusions from the market structure about the potential for market power. Even in the case of a low degree of horizontal concentration, markets do not need to operate perfectly. What matters for the degree of competition is the conduct of firms. A lack of data about input and output prices, quantities and other exogenous variables, however, make it impossible at present to analyse the conduct of firms in an econometric study.

Assuming, however, that the food industry market in Lithuania is indeed competitive, the prices are given for producers. Thus a profit maximising producer will adjust his production so that marginal costs of production equal marginal benefit.

In the Lithuanian food industry variable production costs have risen significantly since the beginning of transition. This increase can be attributed mainly to an increase in the costs for raw materials, energy, wages, and interest rates. Since producers were at the same time confronted with a decline in demand it was not possible to compensate this rise in variable costs fully by an increase in output prices so that food processors had to curtail their production.

6.2 Investment

Since the beginning of transition, investment in the food industry has declined. In 1995 it increased again slightly for the first time (Table 15). Reasons for the decline in investments are the lack of money in circulation, disruption in the banks' payment systems, a tax system that until recently did not encourage the introduction of new technologies in production (see section 3.1), and the existent ownership structure. As a result of privatisation agricultural producers have acquired between 30 and 45 per cent of the shares in food processing (see

Table 9). However, agricultural producers do not only lack capital themselves to finance restructuring measures in food processing firms; they also crowd out other investors, including foreign investors, who could inject much of the needed investment capital.

Table 15: Capital investment in industries (at current prices)

	1993		1994		1995		1996	
	mill. litas	%	mill. litas	%	mill. litas	%	mill. litas	%
Investment	316.4	100.0	512.1	100.0	566.5	100.0	846.5	100.0
Manufacturing	276.1	97.2	497.7	97.2	549.3	96.9	793.9	93.8
Manufacturing of food products, beverages and tobacco products	113.7	40.0	144.7	28.3	204.8	36.1	306.2	36.2

Source: DEPARTMENT OF STATISTICS (1997a, p. 342).

As a result only a small share of foreign capital came to Lithuania during or after privatisation. As of 1 January 1997, the share of foreign investments in food production, processing and the distribution chain was only 9.3 per cent on average. Meanwhile, in the tobacco industry, i.e. a small branch, the share of foreign capital reached 97.6 per cent (Table 16). The largest foreign investors in the Lithuanian food industry are Philip Morris (USA), Kraft Jacobs Suchard (Switzerland), Baltic Beverages Holding (Sweden), and Coca Cola (USA).[6]

Table 16: Foreign investment by activity (as of 1 January in 000 Lt)

	1996				1997			
	Number of enter-prises	%	Foreign invest-ment	%	Number of enter-prises	%	Foreign invest-ment	%
Total	742	100.0	1406388	100.0	956	100.0	2287254	100.0
Manufacturing	167	22,5	620706	44,1	212	22,18	920770	40,3
Manufacturing of food products, beverages and tobacco products	27	3,6	246075	17,5	41	4,3	394401	17,2

Source: DEPARTMENT OF STATISTICS (1997a, p. 347).

In order to attract more foreign investors, the Lithuanian government has passed several laws. Already in 1990 the Law on Foreign Investments was adopted. It was subsequently amended twice. The law permits foreign companies to repatriate all after-tax profits without any restrictions, and offers various tax incentives to foreign investors. Wholly foreign-owned companies that were registered before the end of 1993 are entitled to a 70 per cent reduction in profits tax for the first five years, and a 50 per cent rebate over the next three years. Companies registered after 1 January 1994 enjoy a 50 per cent reduction in profits tax for the first six years. In the case of joint ventures, the level of profits tax is proportional to the percentage of foreign ownership.

In mid-95, a new Law on Foreign Capital Investment was passed, which broadly retained the profits tax concessions granted under the earlier Law on Foreign Investment, but restricted tax relief in the future to investments exceeding US$ 2 million. In addition, a foreign investor must have acquired at least a 30 per cent share in the enterprise and be able to prove that the capital invested has come from abroad. Such new enterprises are completely exempt from profits tax for the first three years and pay a reduced rate of 50 per cent over the following three years.

Lithuania's basic advantage for foreign investors is its central geographical position. Additional advantages are the tax concessions discussed above, stability of the national currency, a highly

[6] This data was provided by the Investment Agency in 1996.

qualified labour force, low labour costs and favourable international agreements. Most of the problems and dissatisfaction on the part of foreign companies working in Lithuania are related to legislative instability. Changing conditions induce insecurity and hinder long-term planning.

6.3 Management and Market Orientation

Many food processing enterprises are facing problems in the areas of management and marketing. This is due a lack of experience and skills in these areas. Additional problems exist due to an inefficient trading systems and a lack of an effective market information system. In some processing enterprises the former heads of state of enterprises were appointed as new managers of the privatised firms. These managers not only lack managerial and marketing skills, but also perpetuate habits from the centrally planned economy. Management training programmes could be one measure to overcome the current problems in this area.

7 PERFORMANCE

Performance of the food industry has been unsatisfactory in almost all sectors during the last years. Following the sharp drop in milk production, the financial situation of many milk processing plants has deteriorated. Of the 41 major enterprises, 18 suffered serious losses in 1996. Some of those milk processing enterprises with modern technology and equipment have been acquired by economically effective enterprises. Less successful enterprises have reduced their scope and now only work as milk collection sites. In 1995 bankruptcy action was brought against two milk processing enterprises, and against another in 1996, but the process of bankruptcy is still going on. The equipment capacity utilisation rate in the milk processing industry was low and in 1996 amounted to only 43 per cent on average.

Competition intensified in meat processing as a result of the restructuring process and the establishing of many new small enterprises. In 1996 bankruptcy action, which is still continuing, was brought against one of the ten main enterprises. Not every enterprise is able to keep sanitary norms and quality standards. For this reason also some of the small meat processing enterprises had to close. The major problems facing the meat industry are a lack of investment and outdated and worn out equipment. The equipment capacity utilisation rate of many slaughter houses only reached 20 per cent, although for processed meat (sausages and smoked meat products) it was 45-50 per cent in 1996. The main meat processing enterprises could process 2 to 2.5 times more meat than they do at present.

The capacity utilisation rate in the grain processing industry is currently 50-60 per cent for flour and 20-25 per cent for feed concentrate. The capacity utilisation rate in the sugar beet processing sector was the highest of all processing sectors analysed; it reached- about 75 per cent in 1996 (see Annex).

No trends were recognisable in total profits in the different sectors of the food processing industry during the period of observation. In 1994 slight losses were reported in the grain and sugar beet processing sectors, but in 1996 their profits varied from 15 million litas to 50 million litas respectively. Total profits reached 31.8 million litas in the meat processing sector in 1994, but in 1995 and 1996, enterprises in this sector had losses of 12.1 million litas and 10.2 million litas respectively. The milling industry was the only sector within the food industry (among those observed) that was profitable during the whole 1994-1996 period, although profits varied over the years and amounted to 32.9 million litas in 1996.

Many food processing enterprises are in a weak financial situation, with a high level of debts. In 1996 processing enterprises in the milk, meat and milling sectors had accumulated debts of 8.3 million litas, 7.1 million litas, and 6.5 million litas respectively. The sugar beet processing

sector was in a more stable financial situation. However, in 1995 debts to sugar beet processors amounted to 3.0 million litas; for other years refiners had no debts.

Most food processing enterprises have outdated and worn out equipment, and their sanitary conditions are insufficient. According to the existing order in the Republic of Lithuania, veterinary services issue licences to new businesses in the food industry and periodically check sanitary conditions. Every year some enterprises lose the right to continue as registered businesses because of their insufficient sanitary levels.

8 CONCLUSION

The industry structure of the agro-food sector is an important determinant of its efficiency. This holds true both for the vertical and the horizontal structure. In transition countries such as Lithuania, the industry structures at the beginning of the transition period were inherited from the times of central planning and were therefore not adjusted to the needs of consumers on domestic and foreign markets. It was the central objective of this study to assess these market structures, their changes, and those factors that are important for determining their adjustment towards the requirements of an efficiently functioning market economy.

In a market economy it is the process of dynamic competition that adjusts the existing industry structure towards an efficient one. The load of adjustment that the process of dynamic competition has to bear depends on two sets of factors: the gap between the existing structure and an efficient industry structure, and the change of key macroeconomic parameters that codetermine the profitability of firms. Both sets of factors typically put industries in transition economies under much more severe pressure than in mature market economies. From Table 3 in subsection 3.1. it appears that the pace of change in the macroeconomic environment in Lithuania was especially rapid. Hyperinflation at the beginning of the transition period, deteriorating GDP and real consumer income put firms in all industrial sectors, including the agro-food sector, under severe pressure to adjust quickly. At the microeconomic level, Table 6 in subsection 4.1. shows the rapid changes in consumption patterns that firms in the agro-food sector were facing.

A high degree of horizontal concentration or collusive behaviour of suppliers or buyers in a market may lead to the well-known inefficiencies of monopoly or monopsony respectively. In a centrally planned economy, collusion between firms, or one should rather speak of the conformity of their actions with the central plan, is enforced via the central plan. The first step to introduce competition to a planned economy and to transform it to a market economy is the privatisation of formerly state-owned firms, because only privatised firms can decide and act independently and therefore compete. From Table 10 in subsection 5.1. it can be seen that the degree of privatisation as of April 1997 ranged between 78 per cent and 95 per cent for milk, meat, sugar beet, and grain processing. Therefore, the first precondition for introducing a competitive market structure appears to have been fulfilled. However, merely privatising firms is, of course, not sufficient to introduce efficient markets, if these firms have local monopsonistic or monopolistic market power.

The degree of potential market power in selected subsectors of the agro-food sector was examined empirically in subsection 5.3. With 41 dairy processing firms, the number of enterprises is relatively high for such a small country. As a result the concentration indices for the dairy processing industry are lowest of all four subsectors of the agro-food sector studied. However, the CR3 (around 24 per cent) may underestimate the local buying power of processing firms because of the high transportation costs involved in milk collection. In order to make a final assessment of the potential to exercise local monopsony power in procuring milk, further research would be needed. Horizontal concentration is higher in the milling

industry (the CR3 equalled 37 per cent in 1996), but with 21 firms in operation and a lower transport cost share than in milk processing, the potential for oligopsonistic market power appears to be relatively low. In the meat processing industry horizontal concentration was much higher in 1995 (CR3 equalled 56 per cent), but declined substantially one year later to about 35 per cent, as one would expect when new firms enter the market. According to the data provided by the Department of Statistics (see Annex), 59 firms were operating in the meat processing industry in 1996. The highest potential to exercise local oligopsonistic market power exists in the sugar beet processing industry, where the transport cost share is highest. In this industry only four firms divided the domestic market into roughly equal procurement shares (CR3 equalled 79 per cent in 1996). With more than 6000 retail firms (see Annex) it should be safe to say that the Lithuanian food distribution system is atomistically competitive at the retail level.

It is not easy to draw conclusions from the market structure about the potential for market power. It would not be correct to conclude from a high degree of horizontal concentration that the market operates inefficiently and that firms earn monopolistic rents. Neither would it be right to say that the market operates perfectly because the degree of horizontal concentration is low. What matters for the degree of competition is the conduct of firms. Unless there is proven evidence from legal prosecution of an anti-trust case, firms' conduct is typically not directly observable. It can, however, be inferred indirectly if sufficient data about input and output prices, quantities and other exogenous variables are available that allow an econometric study to be conducted. In transition countries the institution building in the area of statistical departments is only in its infancy, and sufficiently long and disaggregated data series are rarely available. Such an econometric study will be carried out later, when the relevant data have been gathered.

As to the vertical structures in the food industry two developments can be observed. Firstly, vertical integration has emerged as the result of self-co-ordination and self-organisation of economic agents. On these grounds, some food processors have started to initiate vertical integration with primary producers in order to ensure a constant flow of high quality raw products. Secondly, vertical integration has been the result of political decision-making. The Lithuanian government stimulates vertical integration between food processors and agricultural producers by granting the latter preferences in the privatisation of processing enterprises, regardless of whether this is economically justified in an individual case or not. As of April 1997, agro-producers' capital shares in the main food processing firms ranged between 31 and 45 per cent. While this regulation may contribute to avoiding an abuse of market power, it may also have some negative impacts, especially regarding attracting outside investment.

In transition countries there is urgent need for modernisation of the food system. Until now investments in this sector have been rather slow (see subsection 6.2.) and economic performance is poor (see section 7.). The low investment activity is not only due to the privatisation method, but also to high interest rates and a tax regime that does not encourage investments.

Although some sectors of the food industry have been stabilising since 1995, its performance as a whole continues to be quite poor. Major problems are still the low utilisation rate of capacities of the food processing enterprises, outdated and worn out equipment, and slow renovation caused by the lack of investment. As a result most processing firms lack competitiveness on internal and external markets, which again contributes to their weak financial situation.

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ANNEX

Input statistical data for the project

	1994	**1995**	**1996**
General data			
Inflation rate (CPI), % [14; p. 8]	45.1	35.7	13.1
GDP at constant prices, base 1993, in million litas [12; p. 28]	11217.0	11551.1	11963.4
GDP at constant prices of the food sector only (no statistical data)	n.a.	n.a.	n.a.
GDP at current prices, in million litas [12; p. 28]	16980.7	23829.0	31115.0
GDP at current prices of the food sector only (no statistical data)	n.a.	n.a.	n.a.
Interest Rate for short-term loan (one year) (see Figure 8, section 3.1) [14; p.8-9]			
Consumption			
Consumers' expenditure share for **food and beverages**, in % [6; p. 30]; [18; p. 37]	57.3	57.5	57.7
Per capita consumption (quantities) **of milk and dairy products**, in kg [13; p. 14]	291	238	213
Per capita consumption (quantities) **of meat products**, in kg [13; p. 14]	50	52	51
Per capita consumption (quantities) **of bread and grain products**, in kg [13; p. 14]	135	136	142
Per capita consumption (quantities) **of sugar**, in kg [13; p. 14]	22.7	22.2	23.5
Per capita retail food expenditures **for food products only** in litas, monthly [6; p. 30]; [10; p. 211]; [18; p. 37]	93.5 (57.0%)	109.6 (56.6%)	192.2 (55.2%)
Per capita retail food expenditures **for alcoholic beverages** in litas, monthly [10; p. 211]; [18; p. 37]	2.8	3.2	8.8 (2.5%)
Per capita retail food expenditures **for tobacco** in litas, monthly [10; p. 211]; [18; p. 37]	1.3	1.7	4.2 (1.2%)
Per capita retail food expenditures **for milk and dairy products** in litas, monthly [6; p. 31]; [10; p. 214]; [18; p. 65]	12.69	16.69	15.16
Per capita retail food expenditures **for meat products** in litas, monthly [6; p. 30]; [10; p. 213]; [18; p. 64]	26.51	27.88	38.04
Per capita retail food expenditures **for bread and cereals products** in litas, monthly [6; p. 31]; [10; p. 214]; [18; p. 64]	12.52	16.92	23.10
Per capita retail food expenditures **for sugar and confectionery** in litas, monthly [6; p. 32]; [10; p. 214]; [18; p. 66]	8.92	10.32	10.31
Per capita retail food expenditures **for sugar only** in litas, monthly [6; p. 32]; [10; p. 214]; [18; p. 66]	3.55	5.80	5.88
Employment			
Labour force, average annual number, in thousand [14; p. 7]	1740.7	1752.6	1783.5
Employees total **in economy** - Employed, in thousand [14; p. 7]	1675.0	1643.6	1659.0
Employees in agriculture, in thousand [5; p. 7]; [13; p. 7]	390.1	375.6	383.7
Employees **in food and beverage industry**, average annual, in thousand [11; p. 277]	58.7	60.6	57.4
Employees in **dairy** industry, average annual, in thousand (personal enterprises excluded) (data provided by Statistics Department)	n.a.	n.a.	13.8
Employees in **meat** industry, average annual, in thousand (personal enterprises excluded) (data provided by Statistics Department)	n.a.	n.a.	10.4
Employees in **milling** industry, average annual, in thousand (personal enterprises excluded) (data provided by Statistics Department)	n.a.	n.a.	5.1

Employees in **sugar beets** processing industry, average annual, in thousand (personal enterprises excluded) (data provided by Statistics Department)	n.a.	n.a.	1.9
Cost Structure in dairy industry, in % (data provided by Ministry of Agriculture and Forestry)			
Labour cost share	16.0	12.1	12.3
Input procurement cost share	55.0	60.1	60.4
Energy cost share	5.7	4.4	3.8
Capital cost share	3.0	2.9	3.0
Cost Structure in meat industry, in **%** (data provided by Ministry of Agriculture and Forestry)			
Labour cost share	3.5	5.5	8.4
Input procurement cost share	78.9	79.6	79.9
Energy cost share	3.9	3.8	3.9
Capital cost share	0.3	1.1	1.5
Cost Structure in the milling industry, in **%** (data provided by Grain Association)			
Labour cost share	7.7	6.3	5.1
Input procurement cost share	78.0	83.9	84.0
Energy cost share	2.8	1.8	1.8
Capital cost share	0.3	1.5	1.5
Cost Structure in sugar beet industry, in **%** (data provided by Ministry of Agriculture and Forestry)			
Labour cost share	3.0	3.0	3.2
Input procurement cost share	59.2	61.0	61.2
Energy cost share	7.5	7.5	8.3
Capital cost share	1.9	2.0	2.0
Foreign Trade[7]			
Imports (value) of **milk and dairy products,** in thousand litas. [4; p. 25 - 26]; [9; p. 62]; [16; p. 70]	18693.2	7494.2	211437.1
Exports (value) of **milk and dairy products**, in thousand litas. [4; p. 25 - 26]; [9; p. 62]; [16; p. 70]	433788.8	661306.7	763905.8
of which **reexport, %** [4; p. 14]; [9; p. 22]	36.4	39.3	n.a.
Imports (value) of **meat and meat products** (including edible meat offal), in thousand litas [4; p. 21 - 22, 37]; [9; p. 58 - 59, 73]; [16; p. 64 - 65, 88]	57558.0	40117.0	64216.7
Exports (value) of **meat and meat products** (including edible meat offal), in thousand litas [4; p. 21 - 22, 37]; [9; p. 58 - 59, 73]; [16; p. 64 - 65, 88]	148801.5	135938.7	121752.9
of which **reexport,** in % [6; p.14]; [9; p.22]	18.7	9	n.a.
Imports (value) of **grain**, in thousand litas [4; p. 14]; [9; p. 22]; [16; p. 25]	9726.4	70175.5	166434.7
Exports (value) of **grain**, in thousand litas [4; p. 14]; [9; p. 22]; [16; p. 25]	35393.0	15787.1	19016.2
of which **reexport,** in % [4; p. 14]; [9; p. 22]	1.0	40.0	n.a.
Imports (value) of products of the **milling** industry, in thousand litas [4; p. 33 - 34]; [9; p. 68 - 69]; [16; p. 82 - 83]	16586.5	30008.3	32562.2
Exports (value) of products of the **milling** industry, in thousand litas [4; p. 33 - 34]; [9; p. 68 - 69]; [16; p. 82 - 83]	6302.0	15200.4	8181.0

of which **reexport,** in % [4; p. 14]; [9; p. 22]	15.6	20.4	n.a.

Imports (value) of **sugar beets**	-	-	-
Exports (value) of **sugar beets**	-	-	-
Imports (value) of **semiproduct of sugarcane** (raw material), in thousand litas [4; p. 38]; [9; p. 74]; [16;p. 89]	0.2	43967.5	67246.0
Imports (value) of **sugar**, in thousand litas [4; p. 38]; [9; p. 74]; [16;p. 89]	1961.1	6727.9	9430.3
Exports (value) of **sugar,** in thousand litas [4; p. 38]; [9; p. 74]; [16;p. 89]	9657.1	4365.4	17536.8
of which **reexport,** in % [4; p. 14]; [9; p. 22]	38.6	51.3	n.a.
Imports (quantities) of **milk and dairy products,** in thousand tons [4; p. 25 - 26]; [9; p. 62]; [16; p. 70]	6.1	1.6	42.4
Exports (quantities) of **milk and dairy products,** in thousand tons [4; p. 25 - 26]; [9; p. 62]; [16; p. 70]	116.0	115.0	121.4
Imports (quantities) of **meat and meat products**, in thousand tons [4; p. 21 - 22, 37]; [9; p. 58 - 59, 73]; [16; p. 64 - 65, 88]	14.6	8.7	13.1
Exports (quantities) of **meat and meat products,** in thousand tons [4; p. 21 - 22, 37]; [9; p. 58 - 59, 73]; [16; p. 64 - 65, 88]	25.3	19.6	15.7
Imports (quantities) of **grain**, in thousand tons [4; p. 32 - 33]; [9; p. 68 - 69]; [16; p. 81 - 82]	17.7	175.6	261.1
Exports (quantities) of **grain**, in thousand tons [4; p. 32 - 33]; [9; p. 68 - 69]; [16; p. 81 - 82]	112.5	34.5	20.3
Imports (quantities) of products of the **milling industry**, in thousand tons [4; p. 33 - 34]; [9; p. 68 - 69]; [16; p. 82 - 83]	23.1	33.0	21.0
Exports (quantities) of products of the **milling industry**, in thousand tons [4; p. 33 - 34]; [9; p. 68 - 69]; [16; p. 82 - 83]	12.2	19.2	5.7
Imports (quantities) of **sugar beets**	-	-	-
Exports (quantities) of **sugar beets**	-	-	-
Imports (quantities) of **semiproduct of sugarcane** (raw material), in thousand tons [4; p.38]; [9; p.74]; [16;p.89]	0.0	30.6	50.0
Imports (quantities) of **sugar,** in thousand tons [4; p. 38]; [9; p. 74]; [16; p. 89]	1.5	3.6	5.0
Exports (quantities) of **sugar**, in thousand tons [4; p. 38]; [9; p. 74]; [16; p. 89	8.1	2.4	10.8
Market Structure			
Number of **land owners** (by 1 January 1995, 1996, 1997), in thousand [17; p. 8]	134.6	165.9	196.0
of which number of **farmers**[5] (registered) (by 1 January 1995, 1996, 1997), in thousand [13; p.22]; [8; p.16]	55.4[1]	70.8[1]	46.9[2]
Number of **agricultural partnerships and enterprises**[6] (by 1 January 1995, 1996, 1997) [13; p.65]	2880	2611	2328
Number of **agricultural partnerships and enterprises** (by 1 January 1995, 1996, 1997) (data according to Land Fund) [24; p.4]	2340	1957	1660
Number of **household farms (2 - 3 ha),** in thousand (by 1 January 1995, 1996, 1997) [24; p. 4]	396.7	378.4	342.7
Average **milk** output per year per **farmer farm**[3], in tons [13; p. 51]	6.14	5.26	6.84
Average **milk** output per year per **farmer farm**[3], (excluding farms that have no cows) in tons	n.a.	n.a.	n.a.
Average **milk** output per year per **agriculture partnership and enterprise**, in tons [13; p. 51]	208	207	221

Average **milk** output per year per **agriculture partnership and enterprise**, (excluding farms that have no cows) in tons [13; p. 51]	367	347	361
Average **milk** output per year per **household farm** (2-3 ha), in tons [13; p. 51]	2.75	2.90	3.54

Average number of **pigs** produced per year **per farmer**[3] farm (by 1 January 1995, 1996, 1997), [17; p. 12]	1.9	2.0	2.1
Average number of **pigs** produced per year **per farmer**[3] farm (excluding farms that have no pigs) (by 1 January 1995, 1996, 1997), [13; p. 49]	n.a.	n.a.	5
Average number of **pigs** produced per year **per agricultural partnership and enterprise** (by 1 January 1995, 1996, 1997), [13; p. 65]	242	263	210
Average number of **pigs** produced per year **per agricultural partnership and enterprise** (excluding farms that have no pigs) (by 1 January 1995, 1996, 1997), [13; p. 50]	794	1016	1160
Average number of **cattle** produced per year **per farmer farm**[3], (by 1 January 1995, 1996, 1997), [17; p. 12]	2.4	2.5	2.8
of which **cows** per year **per farmer farm**[3], (by 1 January 1995, 1996, 1997), [17; p. 12]	1.5	1.6	1.7
Average number of **cattle** produced per year **per farmer farm**[3], enterprise (excluding farms that have no cattle) (by 1 January 1995, 1996, 1997), [13; p. 49]	n.a.	n.a.	6
Average number of **cattle** produced per year **per agricultural partnership and enterprise** (by 1 January 1995, 1996, 1997) [13; p. 65]	179	162	153
of which **cows** [13; p. 65] p.	60	54	48
Average number of **cattle** produced per year **per agricultural partnership and enterprise** (excluding farms that have no cattle) (by 1 January 1995, 1996, 1997) [13; p 50]	370	388	406
of which **cows** [13; p. 50] p.	137	138	136
Average of **cereals** output per year **per agricultural partnership and enterprise** (excluding farms that have no cereals), in tons [calculations on data [13; p. 31]	422.2	452.2	642.4
Average of **cereals** output per year **per farmers' farm** (excluding farms that have no cereals), in tons [calculations on data [13; p. 29]	15.1	8.2	17.8
Average of **sugar beet** output per year **per agricultural partnership and enterprise** (excluding farms that have no sugar beet), in tons [calculations on data [13; p. 31]	613.6	1029	969.1
Average of **sugar beet** output per year **per farmers' farm** (excluding farms that have no sugar beet), in tons [calculations on data [13; p. 30]	3.1	3.26	7.11
Number of **food processing** firms (data provided by the Department of Statistics according to the Register)	1143	1494	1726
Number of **food processing** firms (that provide data about their activities to the department of Statistics) [11; p.275]	259	334	456
Number of **dairy** processing firms (that provide data about their activities to the department of Statistics)	n.a.	n.a.	103
Number of major **dairy** processing firms (that provide data about their activities to the Ministry of Agriculture and Forestry)	44	42	41
Number of **meat** processing firms (that provide data about their activities to the department of Statistics)	n.a.	n.a.	59
Number of major **meat** processing firms (that provide data about their activities to the Ministry of Agriculture and Forestry)	10	10	9
Number of **milling** firms (that provide data about their activities to the department of Statistics)	n.a.	n.a.	29
Number of major **milling** firms (that provide data about their activities to the Ministry of Agriculture and Forestry)	21	21	21

Number of **sugar beet** processing firms (data provided by the Ministry of Agriculture and Forestry)	4	4	4
Number of **food retailing** firms [19; p. 80]	6305	8094	6061
Number of newly founded firms in the dairy processing industry	n.a.	n.a.	n.a.
Number of newly founded firms in the meat processing industry	n.a.	n.a.	n.a.
Number of newly founded firms in the milling industry	n.a.	n.a.	n.a.
Number of newly founded firms in the sugar beet processing industry	-	-	-
Number of main enterprises against which bankruptcy actions were brought in dairy processing industry	-	2	1
Number of main enterprises against which bankruptcy actions were brought in meat processing industry	-	-	1
Number of bankrupt and closed firms in the milling	-	-	-
Number of bankrupt and closed firms in sugar beet processing industry	-	-	-
Number of privatised firms in the dairy processing industry (the degree of privatisation is given in table 9 in chapter 5.1 on Ownership structure)			
Number of privatised firms in the meat processing industry			
Number of privatised firms in the milling industry			
Number of privatised firms in the sugar beet processing industry			
Concentration indices based on the procurement quantities of individual processing firms			
CR3 (combined market share of the three largest dairy processing firms)	24.5	24.0	24.8
CR4 (combined market share of the four largest dairy processing firms)	29.7	29.2	30.5
CR10 (combined market share of the ten largest dairy processing firms)	55.7	55.7	57.4
Herfindahl-Index (sum of squared market shares) for the dairy processing industry	0.0433	0.0418	0.0449
CR3 (combined market share of the three largest firms in the meat processing industry)	50.2	56.1	34.9
CR4 (combined market share of the four largest firms in the meat processing industry)	60.6	63.0	40.6
CR10 (combined market share of the ten largest firms in the meat processing industry)	85.4	88.0	55.1
Herfindahl-Index (sum of squared market shares) in the meat processing industry	0.1166	0.1340	0.0536
CR3 (combined market share of the three largest firms in the milling industry)	34.7	35.5	37.1
CR4 (combined market share of the four largest firms in the milling industry)	42.1	43.1	43.2
CR10 (combined market share of the ten largest firms in the milling industry)	68.0	68.4	71.2
Herfindahl-Index (sum of squared market shares) in the milling industry	0.0630	0.0643	0.0698
CR3 (combined market share of the three largest firms in the sugar beet processing industry)	80.0	79.7	78.8
CR4 (combined market share of the four largest firms in the sugar beet processing industry)	100	100	100
CR10 (combined market share of the ten largest firms in the sugar beet processing industry)	-	-	-
Herfindahl-Index (sum of squared market shares) in the sugar beet processing industry	0.2544	0.2540	0.2526
CR3 (combined market share of the three largest firms in the food retailing industry)	n.a.	n.a.	n.a.
CR4 (combined market share of the four largest firms in the food retailing industry)	n.a.	n.a.	n.a.

CR10 (combined market share of the ten largest firms in the food retailing industry)	n.a.	n.a.	n.a.
Herfindahl-Index (sum of squared market shares) in the food retailing industry	n.a.	n.a.	n.a.

Vertical Integration			
Total quantity of **raw milk** domestically produced **in all farms,** in thousand tons [13; p. 51] (100%)	1896.4	1818.9	1831.5
Total quantity of **raw milk** domestically produced **in agricultural partnerships and enterprises,** in thousand tons [13; p. 51]; [10; p. 371] (24.6%)	466.1	352.6	300.3
Total quantity of **raw milk** domestically produced **in farmers' farms and household farms (2-3 ha)**, in thousand tons [13; p. 51]; [10; p. 371] (75.4%)	1430.3	1466.3	1531.2
of which **in farmers' farms**[3], in thousand tons [13; p. 51]	340.4	372.5	321.0
Total number of **pigs** domestically produced **in all farms**, in thousand tons [13; p. 55]	139.8	155.6	126.8
Total number of **pigs** domestically produced **in agricultural partnerships and enterprises**, in thousand tons [13; p. 55]	51.9	58.2	53.8
Total number of **pigs** domestically produced **in farmers farms and household farms (2-3 ha),** in thousand tons [13; p. 55]	87.9	97.4	73.0
Total number of **cattle** domestically produced **in all farms**, in thousand tons [13; p. 55]	150.6	136.3	141.1
Total number of **cattle** domestically produced **in agricultural partnerships and enterprises** in thousand tons [13; p. 55]	54.2	40.0	35.9
Total number of **cattle** domestically produced **in farmers farms and household farms (2-3 ha),** in thousand tons [13; p. 55]	96.4	96.3	105.2
Total quantity **of grains** domestically produced **in all farms**, in thousand tons [13; p. 32]	2137.8	1954.0	2702.5
Total quantity **of grains** domestically produced **in agricultural partnerships and enterprises**, in thousand tons [13; p. 35]	848.6	676.5	832.5
Total quantity **of grains** domestically produced **in farmers' farms and households (2-3 ha)**, in thousand tons [13; p. 33]	1289.2	1277.5	1870.0
of which **in farmers' farms**[3]**,** in thousand tons [13; p. 34]	837.5	581.2	834.8
Total quantity of **rye** domestically produced **in all farms**, in thousand tons [7; p. 32]	313.0	239.3	286.8
Total quantity of **rye** domestically produced **in agricultural partnerships and enterprises**, in thousand tons [13; p. 35]	115.1	81.2	82.5
Total quantity of **rye** domestically produced **in farmers' farms and households (2 - 3 ha)**, in thousand tons [13, p. 33]	197.9	158.1	204.3
of which **in farmers' farms**[3]**,** in thousand tons [13; p. 34]	146.3	84.1	102.3
Total quantity of **wheat** domestically produced **in all farms**, in thousand tons [13; p. 32]	549.4	637.3	936.2
Total quantity of **wheat** domestically produced **in agricultural partnerships and enterprises**, in thousand tons [13; p. 35]	255.7	300.6	370.7
Total quantity of **wheat** domestically produced **in farmers' farms and households (2-3 ha)**, in thousand tons [13; p. 33]	293.7	337.0	565.2
of which **in farmers' farms**[3]**,** in thousand tons [13; p. 34]	237.3	197.7	283.9
Total quantity of **barley** domestically produced **in all farms**, in thousand tons [13; p. 32]	1090.5	891.5	1176.6
Total quantity of **barley** domestically produced **in agricultural partnerships and enterprises**, in thousand tons [13; p. 35]	377.8	207.2	267.2
Total quantity of **barley** domestically produced **in farmers' farms and households**, in thousand tons [13; p. 33]	712.7	684.3	909.4
of which **in farmers' farms**[3]**,** in thousand tons [13; p. 34]	388.3	229.5	323.8

Total quantity of **sugar beets** domestically produced for industry **in all farms**, in thousand tons [13; p. 32]	461.5	692.4	795.5
Total quantity of **sugar beets** domestically produced for industry **in agricultural partnerships and enterprises**, in thousand tons [13; p. 35]	230.7	308.7	291.7
Total quantity of **barley** domestically produced **in farmers' farms and households**, in thousand tons [13; p. 33]	230.8	383.7	503.8
of which **in farmers' farms**[3]**,** in thousand tons [13; p. 34]	172.5	231.0	333.3
Total procurement **of raw milk** (quantity) **in all farms**, in thousand tons [13; p. 60]	1199.0	1215.5	1331.9
Total procurement **of raw milk** (quantity) **in agricultural partnerships and enterprises**, in thousand tons [13; p. 60]	420.8	330.0	302.2
Total procurement **of raw milk** (quantity) **in farmers' farms and households**, in thousand tons [13; p. 60]	778.2	885.5	1029.7
Total procurement **of pigs** (quantity) **in all farms**, live weight, in thousand tons [13; p. 61]	23.5	32.5	45.4
Total procurement **of pigs** (quantity) **in agricultural partnerships and enterprises**, live weight, in thousand tons [13; p. 61]	20.2	27.2	38.0
Total procurement **of pigs** (quantity) **in farmers' farms and households**, live weight, in thousand tons [13; p. 61]	3.3	5.3	7.4
Total procurement **of cattle** (quantity) **in all farms**, live weight, in thousand tons [13; p. 61]	116.7	90.2	104.3
Total procurement **of cattle** (quantity) **in agricultural partnerships and enterprises**, live weight, in thousand tons [13; p. 61]	55.6	40.8	39.0
Total procurement **of cattle** (quantity) **in farmers' farms and households**, live weight, in thousand tons [13; p. 61]	61.1	49.4	65.3
Total procurement **of grains** (quantity) **in all farms**, in thousand tons [13; p. 59],	505.8	488.6	639.2
Total procurement **of grains** (quantity) **in agricultural partnerships and enterprises**, in thousand tons [13; p. 59]	305.6	295.4	337.9
Total procurement **of grains** (quantity) **in farmers' farms and households**, in thousand tons [13; p. 59]	200.2	193.2	301.3
Total procurement **of grains** (quantity) (excluding sales in market), in thousand tons [13; p. 60], (100%)	383.9	397.8	560.6
of which **rye,** in %	27.6	22.3	15.8
wheat, in %	55.1	66.5	63.8
barley, in %	15.4	7.9	14.7
Total procurement **of sugar beets (**quantity) **in all farms**, in thousand tons [13; p. 59]	412.6	619.6	659.7
Total procurement **of sugar beets (**quantity) **in agricultural partnerships and enterprises**, in thousand tons [13; p. 59]	246.2	336.0	315.7
Total procurement **of sugar beets (**quantity) **in farmers' farms and households**, in thousand tons [13; p. 59]	166.4	283.6	344.0
Performance			
Indebtedness of **dairy** processing firms (by 1 January 1995, 1996, 1997) (data provided by Ministry of Agriculture and Forestry on main dairy enterprises), in million litas	4.5	3.7	8.3
Indebtedness of **meat** processing firms (by 1 January 1995, 1996, 1997) (data provided by Ministry of Agriculture and Forestry on main meat processing enterprises), in million litas	11.5	11.3	7.1
Indebtedness of **milling** firms (by 1 January 1995, 1996, 1997) (data provided by Ministry of Agriculture and Forestry on main milling enterprises), in million litas	0.1	-	6.5

Indebtedness of **sugar beet** processing firms (by 1 January 1995, 1996, 1997) (data provided by Ministry of Agriculture and Forestry on sugar beet processing enterprises), in million litas	-	3.0	-

Monthly farm gate (**procurement)** prices **for raw milk**, in litas/ton [13; p. 63]	273	482	598
Monthly farm gate (**procurement)** prices **for cattle,** in litas/ton[13; p. 63]	1812	2901	3479
Monthly farm gate (**procurement)** prices **for pigs,** in litas/ton [13; p. 63]	3990	4406	5534
Monthly farm gate **(procurement**) prices **for grain,** in litas/ton [13; p. 63]	268	480	685
Monthly farm gate **(procurement**) prices **for sugar beets,** in litas/ton [13; p. 63]	117	174	185
Monthly wholesale (**producer**) prices for **processed milk, 2.5% fat,** per litre, as of December, in litas and centas (data provided by the department of Statistics) [3]	0.70	1.10	1.53
Monthly wholesale (**producer**) prices for **butter,** per kg, as of December, in litas and centas (data provided by the department of Statistics) [3]	8.0	10.50	10.12
Monthly wholesale (**producer**) prices for **sour cream, 25% fat,** per kg, as of December, in litas and centas (data provided by the department of Statistics) [3]	3.43	6.41	7.21
Monthly wholesale (**producer**) prices for **curd,** per kg, as of December, in litas and centas (data provided by the department of Statistics) [3]	3.5	4.71	5.35
Monthly wholesale **(producer**) prices **for pork** I category, per kg, as of December, in litas and centas (data provided by the department of Statistics) [3]	7.80	8.85	10.70
Monthly wholesale **(producer)** prices **for beef,** I category, per kg, as of December, in litas and centas (data provided by the department of Statistics) [3]	5.1	6.30	6.55
Monthly wholesale **(producer)** prices **for wheat flour,** per kg, as of December, in litas and centas (data provided by the department of Statistics) [3]	0.76	0.97	1.37
Monthly wholesale **(producer)** prices **for wheat bread,** per kg, as of December, in litas and centas (data provided by the department of Statistics) [3]	1.07	1.84	2.18
Monthly wholesale **(producer)** prices **for rye bread,** per kg, as of December, in litas and centas (data provided by the department of Statistics) [3]	0.87	1.10	1.36
Monthly wholesale (**producer)** prices for **processed sugar,** per kg, as of December, in litas and centas (data provided by the department of Statistics) [3]	1.93	2.50	2.52
Monthly **retail prices** for processed **milk, 2.5% fat,** per litre; as of December; in litas and centas [12; p. 35]	0.86	1.41	1.78
Monthly **retail** prices **for butter,** per kg; as of December, in litas and centas [12; p. 35]	9.33	13.55	12.94
Monthly **retail** prices **for sour cream**, **25% fat**, per kg, as of December, in litas and centas[12; p. 35]	4.61	7.74	8.45
Monthly **retail** prices **for curd**, per kg, as of December, in litas and centas [12; p. 35]	3.91	5.78	6.91
Monthly **retail** prices **for pork**, **I category**, per kg, as of December, in litas and centas [12; p. 35]	9.64	11.18	13.38
Monthly **retail** prices **for beef, I category**, per kg, as of December, in litas and centas [12; p. 35]	7.43	9.65	9.91
Monthly **retail** prices for processed **wheat flour,** per kg, as of December, in litas and centas [12; p. 35]	0.91	1.52	2.08
Monthly **retai**l prices for **wheat bread**, per kg, as of December, in litas and centas [12; p. 35]	1.74	2.54	2.76
Monthly **retail** prices for **rye bread**, per kg, as of December, in litas and centas [12; p. 35]	1.11	1.45	1.90
Monthly **retail** prices **for processed sugar,** per kg, as of December, in litas and centas [12; p. 35]	2.40	3.39	3.35

Total profits (before taxes) of all firms of the **dairy** processing industry (data provided by Ministry of Agriculture and Forestry of main dairy enterprises), in million litas	-0.4	90.0	51.6
Total profits (before taxes) of all firms of the **meat** processing industry (data provided by Ministry of Agriculture and Forestry of main meat processing enterprises), in million litas	31.8	-12.1	-10.2
Total profits (before taxes) of all firms of the **milling** industry (data provided by Ministry of Agriculture and Forestry of main milling enterprises), in million litas	31.8	6.2	32.9
Total profits (before taxes) of all firms of the **sugar beet** processing industry (data provided by Ministry of Agriculture and Forestry of main sugar beet processing enterprises), in million litas	-0.8	20.2	15.7
Utilisation rate of capacities in the **dairy** industry, in % (data provided by Milk Association)	34	38	43
Utilisation rate of capacities in the **meat** processing industry, in % (data provide by Meat Association)	24	22	20
Utilisation rate of capacities in the **milling** industry, in % (data provided by Grain Associatio)	59.0	55.7	55.0
Utilisation rate of capacities in the **sugar beet** processing industry, in % (during 3 month season) (data provided by the Ministry of Agriculture and Forestry)	48.0	70.0	75.8
Average monthly **earnings in total industry,** in litas [11; p. 228]	369	527	688
Average monthly **earnings in manufacturing,** in litas [11; p. 228]	339	484	634
Average monthly **earnings in manufacture of food products and beverages**, in litas [11; p. 228]	444	529	673.0
Average monthly **earnings in manufacture of tobacco products**, in litas [11; p. 228]	726	961	x[4]
Monthly wages paid in the **dairy** industry (no statistical data)	n.a.	n.a.	n.a.
Monthly wages paid in the **meat** processing industry (no statistical data)	n.a.	n.a.	n.a.
Monthly wages paid in the **milling** industry (no statistical data)	n.a.	n.a.	n.a.
Monthly wages paid in the **sugar beet** processing industry (no statistical data)	n.a.	n.a.	n.a.

[1] Farmers farms have been registered in a regional agricultural offices of provincial administrative.

[2] Farms have been registered in the register of farmers farms.

[3] Data of the registered farms.

[4] Confidential data.

[5] Farmers' farm is a land acquired as private property as well as on lease for the period of more than 3 years if self-dependently used farming lands are not less than 3 ha. Farmers' farm has to be registered in municipalities by the procedure set in the Order of 4 August 1994 issued by the Ministry of Agriculture.

[6] Agricultural partnership is an enterprise established by natural persons for agricultural production and commercial activities where the partners provide all the capital and share the profit. In agricultural partnerships or enterprises agricultural products and services provided for agricultural activities come to more than 60% of revenue from sales.

[7] For the period 1993-1995, statistics of foreign trade were collected on the basis of shipment declarations to Lithuanian customs, so they include all officially registered exports and imports.

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