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The Agro-Food Sector of the Ukraine: Analysis of Transition by Means of the Global Commodity Chain Approach

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Abstract

The Ukrainian agro-food sector encountered a difficult transformation in the 1990s. The production of agriculture decreased to approximately a half in the 1990s. The same holds for the food processing industry. This study concentrates at the chain of various economic agents, the cooperation of which is required until the primary agricultural production is brought to the stage of final consumption in the food industry. These agents of the agro-food value chain were not, however, in equal bargaining positions when they had to adapt by restructuring during the previous decade of transition.

This report fulfils three tasks. First, it describes and analyses the basic changes that have taken place in the agro-food sector of Ukraine. Second, it introduces the global commodity chain (GCC) approach into studying the agro-food sector of the countries of the former Soviet Union (FSU). The major concepts of the approach, like producer-driven and buyer-driven dichotomy, chain governance and upgrading, are reviewed. Third, the study focuses on four value chains of the agro-food sector: sugar, sunflower, grain and dairy.

The report restricts its focus on the first nine years of independence, i.e. 1992-2000 and, in particular, on the second half of the 1990s. The material of the report was initially conducted during a research project on the recent development and future prospects of the Ukrainian agro-food sector financed by the Ministry of Trade and Industry of Finland in 2001.

One of the conclusions of this report is that a dual food market emerged in the 1990s and especially the traditional value chain – large farms, large processing companies and retail trade – found it very hard to adapt. This study explains what agents of the chain have been more likely to become the governors dominating the chain. The fundamental change of the agro-food sector was that new governing structures emerged gradually in the 1990s. Food processing enterprises and enterprise structures from outside the agro-food sector possessed several critical assets to overcome the inadequacies of transition economies. For example, these governors of the chain possessed access to capital and that was very important because the banking system was not working properly. On the contrary, one important reason for the unfavorable position of farms in the value chain was that they were not able to use land as a collateral, which denied the access to capital.

The GCC approach proved to be a suitable analytical framework for analysing the agro-food sector of Ukraine. One of the conclusions of the study is that the GCC approach can explain the differences in the performances of the different agents of the food chain. In addition, the constructed view of the Ukrainian agro-food sector established in the report contributes to the discussion about the GCC approach in general.

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The Agro-Food Sector of the Ukraine: Analysis of Transition by Means of the Global Commodity Chain Approach

Antti Helanterä

1 Introduction

The Ukrainian agro-food sector encountered a complete change in the 1990s. Upon becoming independent in 1991, Ukraine inherited an agro-food sector that had been planned to function as part of the national economy of the Soviet Union. Many important parts of its agro-food sector were based on functioning without competition in the protected market of the Soviet Union.

In the 1990s, it met tough competition in the domestic and market and the sector was unable to adapt. Moreover, it encountered competition in the Russian food market, which opened up for competition in 1992. The same holds for the other CIS countries as well. The change put the whole agro-food value chain in difficulty. Agricultural production dropped to about half in the 1990s, as did the production of food processing industry. Poor performance has been rooted both in the agro-food sector itself as well as the overall development of economy. In spite of the adverse development of the agro-food sector in general, the favorable development of certain sub-sectors in the 1990s demonstrated how the changed environment affects the sub-sectors in different ways. There have been sectors that have been hit hard, but also sectors that have adapted comparatively well. In a conditions of very limited government support, the competitiveness in the domestic and export markets has dictated the performance of the entire value-added chain including farm level and processing industry. This study focuses both on success stories as well as failures.

Despite the amount of people – approximately 50 millions - living in Ukraine and, in particular, the large amount and good quality of arable land and the importance of the agro-food sector to its national economy, a relatively limited amount of academic interest has been devoted to the agro-food sector of Ukraine. Of course, there are several studies (see, for example Bostyn & Boutsyn 2001; Gorton et al. 2002; Pugachov & Van Atta 2000; Striewe 2001) on the issue, but Russia's agro-food sector as well as the agro-food sectors of East European countries have attracted more attention (for example, Gardner & Serova 2002; Ioffe & Nefedova 2001a, Ioffe & Nefedova 2001b, Karlova et al 2001; Serova 2000; Wegren 1996). Most of the studies on Ukrainian agro-food sector focus on the agriculture perhaps including the procurement practices of food processing industry (see Gorton et al. 2003), what is a too narrow approach.

Most of the studies do not demonstrate a complete picture of the changes taken place in the agro-food sector. In particular, the entire value chain – including food market – must be given special emphasis. Not only the separate parts of the value-added chain are important, but also the institutions involved in the governance of the value chain.

The operational principles of the agro-food value chain in the Soviet Union had not been prepared for adaptation to changes taken place in the 1990s. Agriculture had specialized in production. Logistics and storage had been managed in separate organizations, and food processing by the food processing industry. The food market was seriously neglected. Nowhere in the chain were initiative, profitability or marketing skills required. The production scale was also large, demanding large amounts of inputs in primary production and industry. Also, the amount of production in Ukraine had not been targeted to its domestic consumption only but, instead, for the consumption of the entire Soviet Union. Purchasing power diminished and the demand for certain goods decreased substantially in the 1990s. As a result, the previous volumes of production were no longer needed. The agro-food value chain faced two tasks. First, it was obliged to downscale the production volumes. Second, it was obliged to adapt to compete in the retail market. Instead of focusing strictly on agriculture, this study stresses the importance of the entire value-added chain and explores the adaptation of the entire chain.

This study sets out to fulfil three tasks. First, it describes and analyses the basic changes that have taken place in the agro-food sector of Ukraine. The changed structures of agriculture, processing industry and food-market are reviewed. Second, it introduces the global commodity chain (GCC) approach into studying the agro-food sector of the countries of the former Soviet Union (FSU). Compared to other studies on the GCC approach, this study gives less emphasis on retail trade. The importance of food retail sales in the total consumption diminished in the 1990s and its structures do not resemble the retail trade in developed countries, mainly because the structure of the retail market is more fragmented. The GCC approach has mostly studied cross-border trade and, in particular, the position of the agro-food sectors of developing countries in terms of exports to the markets of developed countries. It is interesting to note that concerning Ukraine and FSU-markets we actually perceive a transformation process in which a value chain that once functioned within one country is being transformed to a cross-country one. This paper explores to what extent there are differences in cross-border value chains and their counterparts within one country and whether the concepts of the GCC approach can be used to study value chains within one country. In particular, the study focuses on issue of chain governance. In doing so, it seeks to answer following questions. How is the Ukrainian agro-food trade organized? What are its power dynamics like? In particular, it analyses what was the outcome of the reforms from the vantage point of chain governance. To sum up, the study focuses on the development of the agro-food sector in Ukraine and introduces the commodity chain approach to analyze it.

Third, the study focuses on four value chains of the agro-food sector. The volume of primary production, the production of processed goods and in three cases exports are described and analysed. Apart from reviewing these quantitative changes, these sub-sectors are analysed using the framework of GCC approach. The paper seeks to ascertain whether the framework of GCC is suitable for analysing the post-Soviet agro-

food sector. Moreover, it seeks to contribute to the GCC approach by enriching the discussion within it.

The paper is organized as follows. The second section reviews the literature about the GCC approach. The major concepts of the approach like producer-driven and buyer-driven dichotomy, chain governance and upgrading are presented. The third section presents, first, an overall picture of the development the agro-food sector and the food market in the 1990s. Special emphasis is given to the fragmentation of agricultural production, diminished purchasing power, the decreased volume of food industry production and dual structure of food market. The second part of the section focuses on the structural development of the agro-food commodity chain in Ukraine in the 1990s. It analyzes the possibilities of each part of the chain – mainly agriculture and food processing industry – to adapt to changed operating environment. The importance of the food processing industry in the recovery of the sector is stressed. Towards the end, the section discusses the need to extend producer/buyer driven dichotomy to meet the needs of the research concerning the FSU countries. In particular, the section argues that there are certain specificities in Ukrainian operating environment calling for an extension of the framework of the GCC approach. The fourth section focuses on the agro-food sub-sectors using the framework of the GCC approach. The sub-sectors studied are sugar, sunflower, dairy and grain.

The material of the study was initially conducted during a research project on the recent development of the Ukrainian agro-food sector financed by the Ministry of Trade and Industry of Finland in 2001. The task they set to the author was to analyze the major trends and overall development of the Ukrainian agro-food sector. Therefore, the material was compiled on most of the sub-sectors. The initial project did not allow concentrating on separate sub-sectors.

This report focuses on the development particularly in the late 1990s. The last year our statistics cover is year 2000. This particular year can be regarded as starting point of the recovery of the sector. It would perhaps have been fruitful to include the following year 2001 into this research to be able to compare the period of decreasing production to the period of recovery. The initial material, however, did not allow that. In the last section the development on the sector in this decade is very briefly discussed.

The structure of the research is rooted in the initial report. The task was then to explore the development in general and review as many of the sub-sectors as possible. Consequently, the initial research did not allow conducting very thorough research on any of the sub-sectors and, as a result, this report follows the same path.

In addition, this report does not set out to make exact calculations on the issues – like distribution of income within the chain – involved. Instead, it sets out to construct a structured analysis about the development of the Ukrainian agro-food sector and, in particular, to introduce the GCC approach to studies on the agro-food sector of the FSU countries.

Statistical data about the Ukrainian exports was acquired from State Committee of Statistics of Ukraine in Kiev. The statistical data on Russia's imports is mostly based on the Customs Statistics of the Russian Federation. The author is aware of the inadequacies of the statistics. Concerning sugar, however, additional sources have been

used (Hilz-Ward 2001). The differences between the sources are pointed out. In addition, in order to acquire an understanding of the transformation process of the Ukrainian agro-food sector in general, a number of interviews were conducted and a wide range of literature used. The list of interviewed is presented in the end. They represent a wide range of organizations involved in the agro-food sector including government officials, representatives of international organizations (World Bank, EBRD, IMF) and commercial organizations involved in the production and marketing of agricultural machinery and equipment for food-processing enterprises as well as food-processing enterprises and market analysts studying the agro-food sector.

2 Global Commodity Chain Approach (GCC)

2.1 GCC and Countries in Transition

Discussion of global scale economic trends is inherently a large and unwieldy topic. The same holds for the studies of economies in transition and their integration into the world economy. Research tools are required to block out some of the noise to be able to focus on the essentials. For the last ten years, the aim of the countries in transition has been to integrate into the world economy. The level of success has varied and, as a rule, the countries of the former Soviet Union have succeeded worse than most of the East European countries entering the European union. By numerous variables Ukraine has succeeded only modestly. For example, it has attracted much less FDIs than the Eastern European countries now entering European union and exports consist mainly of unprocessed goods. For example, metals and minerals accounted for 54 % of exports in 2000 (Derzhkomstat 2001a).

Upon coming independent, Ukraine had great hopes in its agro-food sector. After decades of supplying Russia and other Soviet republics with agro-food goods as a part of the system of the inter-republican exchange of goods, independent Ukraine was expecting to be able to conquer to new export markets and to rely on its agro-food sector. The harsh reality of the 1990s revealed that conquering new export markets was not easy and even maintaining position in the Russian market appeared to be difficult. Also, it met a stiff competition at domestic market.

If we want to shed light on the underlying reasons of Ukraine's performance in the agro-food sector and the export of agro-food goods and especially the impact of export in domestic agents of the value chain, we must choose research tools carefully. The statistics of the performance of agro-food sector and foreign trade offer an incomplete picture tending to hide a more detailed and intricate picture. There are significant differences between the different sub-sectors of the agro-food sector. Suitable research tool is required to be able to focus on separate value chains.

The global commodity chain (GCC) approach was originally introduced by Gereffi (Gereffi 1994; see also Gereffi 1999; Gereffi 2001). The first publication studied the impact of US supermarkets on food production in developing countries (Gereffi 1994). From the very beginning, its focus has been on the international trade and, in particular, on the exports of the developing countries. Although not all of his publications have

focused on agro-food sector, the sector has been given a special emphasis among the studies of the GCC approach by other scholars (Dolan & Humphrey 2000; Dolan & Tewari 2001; Fitter & Kaplinsky 2001; Gibbon 2001a; Gibbon 2001b; Gwynne 1999; Humphrey & Schmitz 2001; Kaplan & Kaplinsky 1999; Kaplinsky 2000; Raikes et al. 2000; Stevens 2001).

Although the GCC approach has mostly been used to analyze the integration of developing countries into the world economy and their export performance, it has several valuable and useful characteristics to be used in analyzing the integration of transition economies into the world economy and, in particular, the performances of their agro-food sectors. The approach will be briefly reviewed below, but some basic notes are necessary here. First, it focuses on the entire value chain, an issue being argued to be important in several studies on agro-food sector in Russia and Ukraine (Helanterä 1999; Helanterä 2001; Ioffe & Nefedova 2001a, Ioffe & Nefedova 2001b, Karlova et al. 2001; Serova 2000; Wegren 1996). These studies have not, however, been connected to the discussion of GCC approach. Second, the GCC has devoted special attention to chain governance, an issue also discussed more thoroughly below. Third, the GCC approach regards the level of value chain of separate commodities to be the proper level and scale of analysis. Therefore, the existing literature offers a good deal of comparison. Still, some particular goods and their commodity chains dominate the discussion and new goods and the new group of countries can contribute to discussion on the GCC approach.

The GCC focuses on the organizational aspects of international trade, on the whole range of activities from primary production to final consumption (for example, Fitter & Kaplinsky 2001), and to the linkages binding them. The GCC seeks to understand how the key or lead agents establish, co-ordinate, and control the linkages and flows of produce between input-suppliers, processors, primary-traders and wholesale and retail traders. True, these issues are relevant not only in foreign trade but also concerning trade and enterprise networks inside a country. To sum up, the views of the GCC approach differ from standard economic trade theory and even challenge it in several ways.

While studying the export performance and the value chain involved in it, GCC approach has been deeply connected to the (under-)development studies. True, the FSU countries are not traditionally regarded as developing countries. There are, however, similarities justifying the usage of the approach. In terms of market access, they encounter trade barriers in the most promising export markets and their negotiation power to ease market access is weak. The market access problem cannot be measured only by listing tariff and non-tariff trade barriers blocking the way of Ukrainian goods to the markets of European union, for instance. Instead, the description of the development of the Ukrainian agro-food sector presented below sheds light on the various difficulties and barriers that agents in the agro-food commodity chain have encountered. We must bear in mind that numerous crucial skills and forms of know-how were entirely lacking when the period of planned economy ended. The skills of operating in the market, how to acquire information, and whether all agents in the agro-food sector are in equal position in terms of access to information became suddenly very important. Further, the know-how of marketing and price formation in the market economy were something that the agents of the agro-food commodity chain did not

have to think about during the period of planned economy. In that sense, the FSU countries, Ukraine among others, can be even in a worse position than developing countries, which have had experience of markets and perhaps even access to foreign markets. To compare, the FSU countries could not have had the experience of exporting agro-food goods. Agro-food goods were produced for the domestic market and consumed there.

Several additional similarities can briefly be noted. First, the financial markets operate rather poorly both in developing countries and FSU countries. In addition, both group of countries are rather corrupted and they suffer from inadequate infrastructure and poorly defined property rights.

For the purposes of this paper a brief review on the GCC approach suffice. Even a limited review demonstrates the fundamentals of the approach and enables us to construct a structured analysis of the agro-food sector of Ukraine. In addition, the analysis of Ukrainian agro-food sector will contribute to discussion on the GCC approach. The starting point of using the GCC approach in analyzing the Ukrainian agro-food sector is an understanding of the fundamentals of the global agro-food trade.

There seems to be a consensus among the authors using the GCC approach about the fundamental characteristics of the world trade and the global commodity chains of the agro-food sector. Admittedly, there are significant differences between goods, but most authors among the GCC approach agree on the direction of the development and the changes taken place in the 1990s. The period when Ukraine has been trying to enter world markets has been a period of structural changes in the global agro-food markets. The nature of the agro-food sector has been transforming from a model based on family-based production for local and national markets to a complex global agro-food system (Gibbon 2001b; Gwynne 1999).

The agro-food sectors and individual agents within it have to determine what to produce, how much, for whom, where and by which technology. Previously, the questions have been answered and decisions made by farms and the entire commodity chain within one country and even in the local level. Decision-making in the national level and national organizations representing producers or regulating exports were able to shape the construction of the value chain and, what is more important, the distribution of income within the chain (Gibbon 2001; Gwynne 1999). The change towards the present forms of value chains took place in the 1990s.

The decision-making process has been changing and the questions are increasingly answered by global food processing companies, international traders and, even more importantly, by large supermarkets accounting for tens of percents of retail sales in some particular goods. However, the imbalance in the GCC case studies may stress the chains governed by supermarkets unnecessarily (see Gibbon 2001a).

The Ukrainian agriculture has not followed the path of the mainstream trends of the world agriculture, large farms having produced for the large Soviet market for decades in Ukraine. The issue that Ukrainian agro-food sector does have in common with other countries is the integration to the global agro-food systems. The integration Ukraine has been obliged to conduct has been quite sudden compared to many other countries having encountered more gradual integration and gradually changed environment.

The specificities of the change in the decision-making process – i.e. chain governance – in Ukraine will be analyzed more thoroughly later on but it seems to be clear that Ukraine has been going through a different transformation from different starting point but ending, however, to adapt to similar global operating environment as other countries with totally different starting points.

In this brief review, a special emphasis is given to three issues. First, the central issue in the GCC is the dichotomy to producer-driven and buyer-driven chains. Second, the chain governance is of particular importance for agro-food sectors of the FSU countries. Third, the upgrading is reviewed to present the framework used to study Ukraine’s possibilities to improve its position in the value chain.

2.2 Producer- and Buyer-Driven Dichotomy

The major pattern of the GCC is the dichotomy to producer- and buyer-driven GCCs. The dichotomy was first presented by Gereffi (1994). The leading firms in both producer- and buyer-driven chains use various barriers to entry to generate different kinds of rents. The producer-driven commodity chains are those in which large, usually transnational manufacturers play central roles in coordinating production networks, including their forward and backward linkages. They are characteristically capital and technology-intensive industries such as automobiles, aircraft, computers, semi-conductors and heavy machinery (Gereffi 1999). The required capital investments to enter sectors are huge and, as a result, barriers to entry are high. The profits are derived from scale, volume and technological advantages. The chains usually rely on technology rents which are rooted in asymmetrical access to key process technologies requiring huge investments. From the point of view of chain governance, chains are governed by the industrial firms at the point of production (Figure 2.2.1). The agro-food value chains are considered to be buyer-driven and, therefore, we leave the producer-driven chains aside and concentrate on the buyer-driven ones.

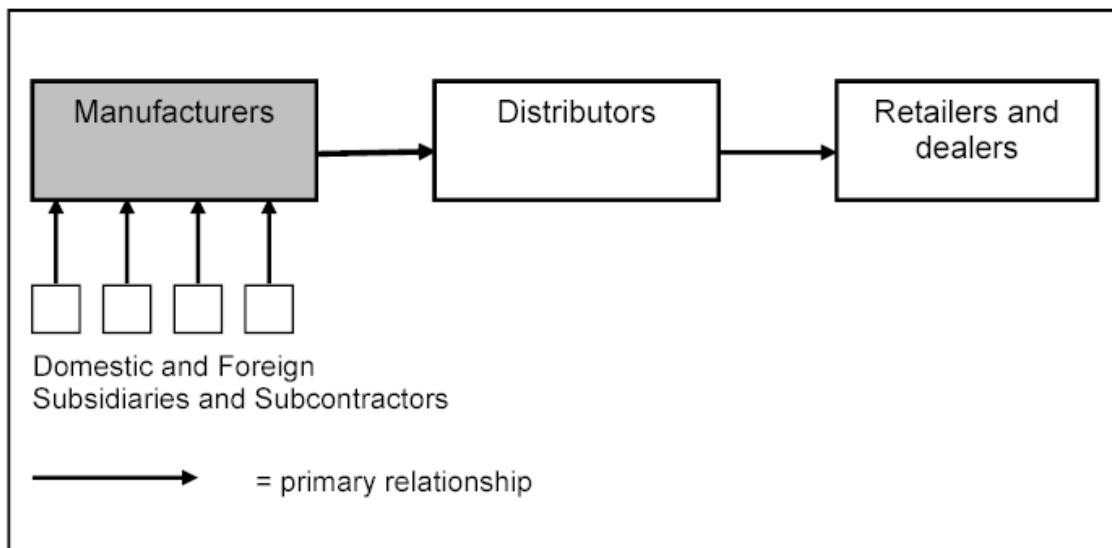


Figure 2.2.1. The producer-driven commodity chain (Gereffi 1999).

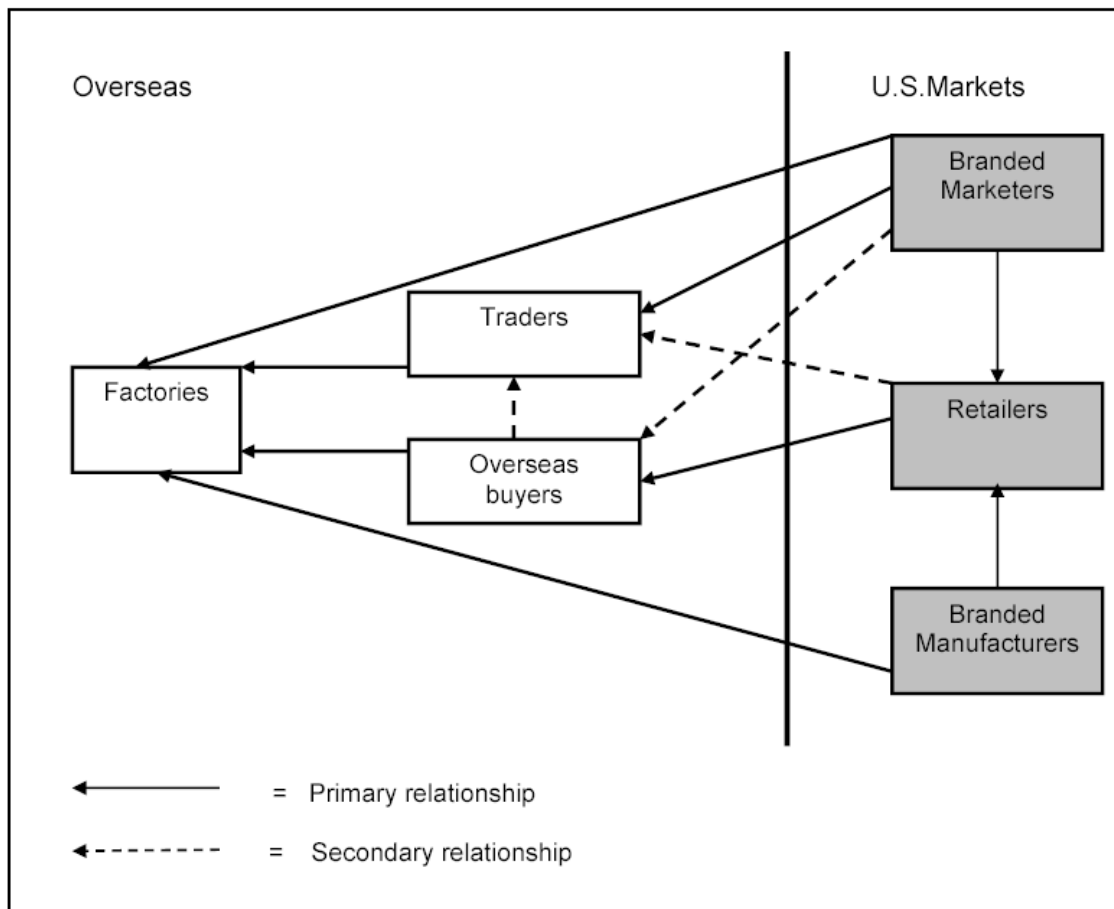


Figure 2.2.2. The buyer-driven GCC (Gereffi 1999).

The buyer-driven GCCs differ, first of all, from producer-driven chains in that they have low barriers of entry in production. Apparel industries are the textbook case of buyer driven industries (Gereffi 1999). Producers are subordinated to the agents controlling design and marketing and, in particular, the international brands and retailing, where barriers to entry are high and profits concentrated. To create an international brand is a huge investment but production itself does not require large investments.

Production is increasingly out-sourced, the overwhelming majority of the sub-contractors being located in developing countries. A paper by Kalantaridis et al. demonstrates the position of the textile industry of a Ukrainian region – Transcarpathia – in the buyer-driven commodity chain (Kalantaridis et al. 2003).

Because the barriers to entry to production are low, there must be different assets generating the rents. Relational rents refer to different kinds of inter-firm relations including supply-chain management linking assemblers with input suppliers (small and medium sized enterprises), organizational forms of alliances and clustering. In addition, trade policy rents refer to value created by trade policy measures and, finally, brand name rents refer the profits from the product differentiation techniques based on established brands.

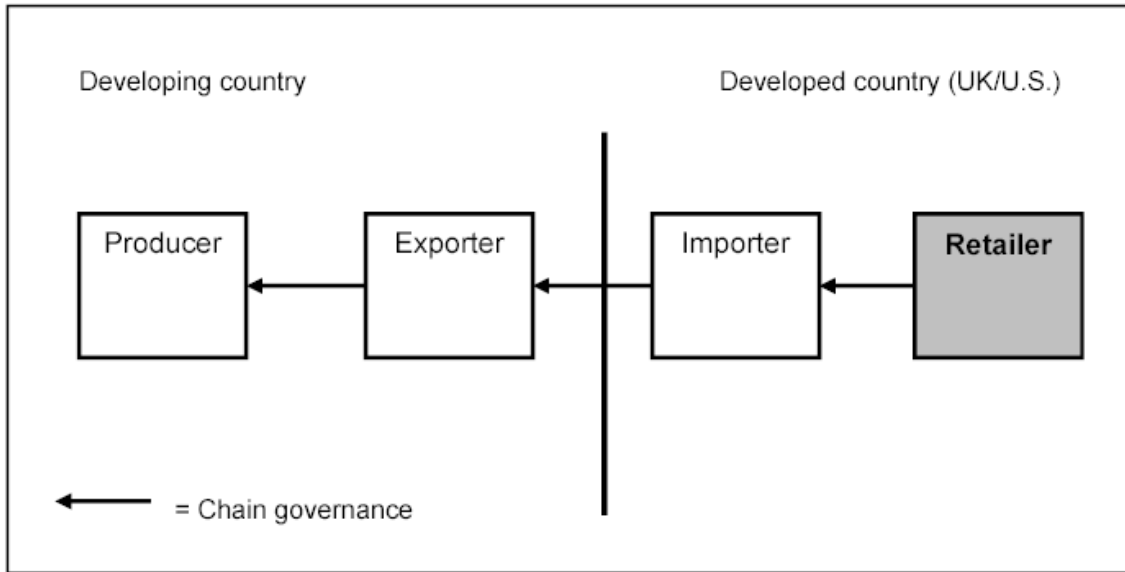


Figure 2.2.3. Buyer-driven GCC in agro-food sector.

In the case studies using the GCC approach, the access to the largest flows of goods to retailing – i.e. supermarkets – has increasingly dictated the success of agriculture and the entire commodity chain. This is, of course, a situation, where the value chain can easily be regarded as a buyer driven. Establishing production does not require investments comparable to the traditionally producer driven sectors. To start production either in agriculture or food processing or distribution does not require particularly large investments. In the same way, the required technology does not differ substantially between competing agro-food value chains. True, the volume of production may be essential in succeeding in competition. The importance of brands is huge in some of the agro-food goods and creating them is extremely costly.

It has been argued (Dolan & Tewari 2001) that within a chain the buyer is likely to exert power in following occasions and, consequently, a buyer driven chain occurs. First, the gap between market requirements and producer capabilities is high. Quality is by far not the only variable in which requirements can exceed the ability of supplier to meet the requirements. JIT (just-in-time) management technologies require flexibility and specific know-how. Reliability and product variety also typify market requirements, which are not easily met by suppliers. Second, the buyer-driven chain is likely to appear, to cite Dolan and Tewari (2001), where there is a wide gap between the knowledge required for production for the domestic market compared to what is required for the export market. Third, again citing Dolan and Tewari, where there are significant risks to buyers of poor supplier performance. Consumers or officials may set standards for the entire commodity chain and operating according to the standards may well require intense chain governance. Apparently, only the second argument includes an assumption that the chain is at some stage a cross-border one.

To conclude, the present understanding about the factors resulting in buyer-driven chains seems to be rooted to a large extent in asymmetrical availability of information about the requirements of markets as well as standards and rules faced by the agents operating in the retail markets. The changes in consuming patterns and, consequently, sudden changes in demand for agro-food goods mean that the information what to

produce is the decisive factor, more important than price. The efficiency of the supply chain, however, also requires chain governance.

Gibbon has made some valuable comments on the buyer driven chains (Gibbon 2001a). He notes that most of the studies on which the buyer-driven approach has been established, have explored rather special case of trade in agro-food goods, i.e. horticulture exports to UK (Dolan & Humphrey 2000, Gwynne 1999, Kaplan & Kaplinsky 1999)(Figure 2.2.3.). True, there are other studies as well as but their scope does not substantially differ from the referred group of studies (Fitter & Kaplinsky 2001). Gibbon asks whether the results can be generalized to represent, first, the trade in agro-food goods between developing and developed countries and, second, the logic of the buyer driven approach. This paper seeks also to contribute to that debate seeking to answer yet one more question: can the basic idea of buyer/producer driven dichotomy and chain governance assist us in explaining the development Ukrainian agro-food sector, and not only concerning its exports but the development of its agro-food sector in general.

Gibbon questions whether the concepts central to the entire buyer driven approach are valid if the buyer is not retailer or merchandiser or other brand-holder. The international markets of traditional agro-food goods differ markedly from the markets of horticulture goods. Typically, these goods are easily perishable and they are rarely processed. He lists some characteristics making difference between international traders (but not retailers/brand holders) and retailers usually typified by UK supermarkets. The chains driven or governed by the international traders are more loosely governed. Gibbon refers to Cramer's study on cashew nut production in Mozambique and argues that what is missing in Cramer's paper is "the glue that binds these elements (agents of the chain. A.H.) together, namely an account of the chain's coordinating agents, its forms of coordination and the historical dynamic which this embodies." Cramer simply stresses the absence of MNCs and that a free market exists in the chain. Gibbon argues that the main reason for the construction of the loosely governed cashew nut GCC is that international traders drive the chain. He argues that several international commodity chains are predominantly driven by international traders. True, the characteristics of the markets of agro-food goods traded by international traders vary.

According to Gibbon, international trader driven chains are most likely to be found with two or more of the following characteristics. First, if the commodities are of relatively low value-to-weight ratio, with labor-intensive direct raw-material production functions and with otherwise low barriers of entry. Second, in case the supply is dispersed globally and locally discontinuous. This means that availability varies annually and seasonally and only international traders can meet the supply requirements. Third, if there is a strong tendency to market saturation caused by a combination of partial substitution by "new" agricultural or manufactured products. Also, saturation can be rooted in new suppliers and low price-elasticity of demand. Forth, if final demand side is either dispersed or concentrated but segmented with respect to product variety. No individual supplier can meet the requirements of the market in terms of being able to procure continuously specific volumes and quality mixes for number of processors. The critical entry barriers to trading functions include high amount of working capital and accumulated market knowledge. The high amount of working capital is required to be able to trade in large volumes. The accumulated market knowledge includes the

knowledge about market-related services like transport, insurance and financial services. Gibbon also lists intangibles like reputation among the critical entry barriers (Gibbon 2001a). The main source of profitability is large volume rather than high margins.

Raikes et al. have also raised some questions and made valuable comments about the dichotomy (Raikes et al. 2000). First, are the commodity chains strictly either producer- or buyer driven? Further, is there really only one driver dictating the rules of the game for the others? These questions are not a problem if we regard the dichotomy only as a starting point for constructing a framework for analyzing the agro-food sector in Ukraine.

Instead of talking about either producer or buyer-driven chains, we could perhaps talk about buyer or producer dominated chains confessing that the distribution of power is not “all or nothing” but, instead, the power could be unevenly distributed and the uneven distribution can be explained by the unevenly distributed assets. In addition, the distribution of assets and, consequently, power within the chain is certainly not static, but can change over time. These issues will be discussed later on when we focus on Ukraine. However, even the relatively strict and simplified distinction between producer- and buyer-driven GCCs is a useful and valuable starting point in analyzing the agro-food sector of Ukraine bearing in mind the comments made by Gibbon (2001a) and Raikes et al.(2000).

2.3 Chain Governance

Gereffi identifies four dimensions of the GCCs: their input-output structure, the territory covered, their governance structures, and the institutional framework through which national and international policies and conditions shape the globalization process at each stage of the chain (Gereffi 1999). The input-output structure and the geographical coverage of the GCCs have been used mainly descriptively to outline the configuration of specific chains. Raikes et al (2000) argue that the governance structure has so far reached the most attention since this is where the key notions of barriers to entry and chain co-operation appear in the analytical framework, and where the distinction between the producer-driven and buyer-driven GCC governance structures has been introduced.

Governance within the chain refers to the key actors of the chain that determine the inter-firm division of labor and shape the capacities of participants to upgrade their activities. Why is governance required in the first place? First, the competitive strategy of the firms operating in the retail sales market in developed countries can be based on – apart from price – liability, product variety, quality and speed of innovation. The strategy requires supply chain management to ensure that those factors on which the competitiveness is based on are preserved and ensured. As was argued earlier, the success of buyer-driven is based on organizations of the value chain rather than on the investments in production, i.e. relational rents.

Second, chain governance may include the monitoring of quality and, often, measures to ensure that the quality requirements are fulfilled. In other words, the chain governance is often connected to inadequacies in same part of the chain. For example, some agent

involved in the chain can be incompetent to meet the quality requirements or they may have insufficient knowledge about the requirements of markets.

Both Dolan & Humphrey (2000) and Gwynne (1999; see also Kaplan & Kaplinsky 1999) have stressed the increased dominance of large supermarkets in the UK and in the US (Gereffi 1994) in the food retailing and, as a result, in the commodity chains connecting farmers in the developing countries to retail sales of developed countries. The competitive strategies of supermarkets are based not only on price but also on quality, consistency and the reliability of supply, product variety, processing, packaging etc. These requirements set norms for the primary producers of goods to be met. Apart from food quality requirements, there is an increasing trend towards labor and environmental standards that the entire commodity chain should honor. These cannot be met without chain governance.

The high degree of control is easiest to exercise when there is a power asymmetry between supermarkets and suppliers. Meeting the requirements set by the retailers is easier for large exporters. The need to develop post-harvest facilities and JIT management techniques also favors larger units because smaller enterprises are unlikely to be able to make the necessary investments and to carry the financial burden of the innovation and promotion of new goods. Again, we should bear in mind Gibbon's critique towards buyer-driven dichotomy. There are numerous agro-food goods in which the competition is based on price.

The concentration of activities in the commodity chain into larger units holds also for the primary producers. Exporters favor large farms in acquiring goods. They have also taken some farms under their control by acquiring land, for example. By doing so, they have prepared to respond flexibly to the requirements set by exporters. There are exceptions to the rule (Dolan & Humphrey 2000), but in general the GCCs tend to favor large farms.

There is evidence about local agro-food systems producing and processing mainly for local, regional and national markets that in terms of chain governance seem to differ from those orientating to global markets. They concentrate, however, on goods where national consuming habits prevail or which for some other reasons have maintained their regional or national character (Requier-Desjardins et al. 2003).

Some concluding remarks about agro-food commodity chains and their governance can be done. One must bear in mind that these remarks are based on limited number of case studies and, as Gibbon noted, is under question whether these assumptions can be generalized. The competition in the retail sales market drives the supermarkets to be innovative in offering goods. High requirements for quality necessitate the strict control and governance of the chain. Also, competition between the retailers and in every part of the chain makes them to compete. Although the price is not argued to be the most important factor in competition between supermarkets, at least in the case of horticultural goods, both large primary producers and exporters seem to be in the best position both concerning liability, quality and price. The specific needs of consumers and limited access to this information dictates the chain governance, the retailers having superior access to this information.

2.4 Upgrading

Even though the GCC approach has been criticized for being pessimistic and giving only little hope for developing countries' (DC) possibilities to upgrade, the argumentation running counter to criticism has stressed that the GCC, on the contrary, offers an approach which is focusing on individual value chains and the possibilities of DC firms to upgrade instead of analyzing the possibilities of DC on a more general level. The upgrading has been studied on the industry level and the level of individual value chain mostly concerning textiles. There are some studies exploring the possibilities of upgrading in the agro-food sector as well and this paper focuses, of course, on them.

In Gereff's argumentation (Gereffi 1999),

“industrial upgrading is a process of improving the ability of a firm or an economy to move to more profitable and/or technologically sophisticated capital- and skill-intensive economic niches. Industrial upgrading operates at several different levels of analysis. First, within factories when upgrading involves moving from cheap to expensive items, from simple to complex, and from small to large orders. Second, within inter-firm enterprise networks when upgrading involves a shift from mass production of standardized goods to flexible production of differentiated goods. Third, within local or national economies when it involves moving from simple assembly of imported inputs to more integrated forms of OEM and OBM production, including a greater use of forward and backward linkages at the local or national level. Fourth, within regions when it involves shifting from bilateral, asymmetrical, inter-regional trade flows to a more fully developed intra-regional division of labor incorporating all phases of the commodity chain from raw material supply, through production, distribution, and consumption.”

Industrial upgrading involves organizational learning to improve the position of firms (and farms) and nations in international trade networks. Gereffi argues that

“Participation in global commodity chains is a necessary step for industrial upgrading because it puts firms and economies on potentially dynamic learning curves. We need to address not only why industrial upgrading occurs in the GCCs but also how it occurs. A commodity chains framework that attempts to link international trade and industrial upgrading must specify: the mechanisms by which organizational learning occurs in trade networks; typical trajectories among export roles; and the organizational conditions that facilitate industrial upgrading moves such as the shift from assembly to full-package networks.”

Gereffi's works study apparel industry. Analyses on primary commodities like agro-food goods have gained less attention in his studies. The micro foundations of the upgrading pattern involve both forward and backward linkages from production and, in particular, the learning that occurs across the segments. Gereffi stresses the importance of information available within the chain.

Because this paper is interested in agro-food sector, a brief review of studies of upgrading in the agro-food sector will follow. Kaplan and Kaplinsky (1999) have studied the deciduous fruit canning industry in South Africa. The competitive environment they face looks briefly as follows. South African producers are low-cost

and high-quality producers that dominated the world market in the 1970s. Their position worsened in the 1980s and early 1990s, mainly because European producers boosted their production. The European union pays significant subsidies to (mostly Greek and Spanish) producers. In 1997, RSA ceased to subsidize production and the canning industry appeared to be in crisis. Both in US and Europe, South African exports face tariff protection favoring domestic producers. In addition, the exports from RSA are hampered by cross-subsidized exports from EU in third country markets.

Kaplan and Kaplinsky have listed several options for the South African producers to upgrade production and to improve their position. First, they can to introduce new value-added products. It requires the resources to do marketing and to take risk of innovating new products. The issue of introducing new products was referred to in other studies and noted that it requires investments and includes risks. In that case, there are only limited opportunities to launch new products.

Second option is to improve competitiveness and efficiency in the entire value-chain. The authors make evident how difficult it has been to improve competitiveness by, for example, introducing better value chain co-ordination, i.e. to create relational rents. Third option is to move up the value-chain. South African producers have, for example, tried to extend their activities to retailing by acquiring a well-known brand, though the most important markets excluded, i.e. to create brand name rents. To move up by value chain has not been successful either. To conclude, the main underlying reason for the unfavorable position of South African producers are, first of all, the subsidies paid to European producers. In addition, the ability of the value chain to adapt to strengthened competition by co-coordinating value chain domestically have not succeeded. Neither have the other options to upgrade.

In the study of Dolan and Humphrey (2000), the appeared upgrading opportunities arise from the re-positioning of fresh vegetables chain by the supermarket. Consuming trends stress product diversification and extensive processing, which, in turn, offers possibilities for upgrading for able farms. There is, however, more and more competition among the producers of horticultural goods.

And what does upgrading require? Instead of simply lowering costs, diversification of assortment, innovation and producing more value-added are required. A move into new functional areas in the production chain where to control a more complex bundle of activities, expanding backwards and expanding forwards are required. In the case of apparel industry, to quote Dolan and Tewari, expanding backwards has meant that some firms have created backward linkages to gain control over yarn variety and quality. Controlling product consistency and assuring timely input drives suppliers to control backward linkages. More common form of upgrading is expanding forward linkages of the chain, often to higher value added stages of production. Gaining control over logistics is one possible way of upgrading. The importance of logistics has increased and it is often one of the core competences in the chain. Expanding overseas by buying, for example, marketing and distribution channels to ensure market access are also possible ways to upgrade.

Apparently, different goods offer different possibilities for upgrading and upgrading is to a large extent dependent on the nature of the produce. In the case of horticulture goods, only limited processing is possible. On the other hand, there are agricultural

goods, which must be processed, but as far as the studies on buyer driven chains have focused on horticulture, the preconditions for upgrading by establishing processing have not been studied adequately. Other factors have their impact on upgrading. First, the stages of the chain requiring the largest investments differ. Second, the state involvement is different in different sectors.

As the above presented demonstrates, to do a complete description of upgrading is extremely difficult task because the conditions vary between sectors and, in particular, various institutional environments. To cite Dolan and Tewari, “[L]ocal practices, political arrangements, physical and human resources, infrastructure, extra-chain investment decisions and larger business environment all affect the capacity and desire of firms involved in value chains to upgrade” (Dolan & Tewari 2001). They consider whether there could be common features having facilitated the upgrading process. Upgrading is more likely to occur in quality than price-driven chains. Quality, reliability and product variety require chain governance. On the other hand, they also provide opportunity to able firms to upgrade.

2.5 Conclusions

The empirical foundation of the GCC approach is mostly based on apparel and agro-food goods but the amount of case studies is limited which is not to say that those studies are not sound. They, however, focus on a few goods and, what is more important, rather similar goods. Because the focus of this study is on agro-food goods, the concluding remarks deal with studies on agro-food sector. The studies cited most often focus on the horticulture exports from developing countries to the shelves of supermarkets in developed countries (Dolan & Humphrey 2000; Gwynne 1999; Kaplan & Kaplinsky 1999). The chain is buyer-driven, because the retailer has the critical information about the requirements of the markets. And the chain governance is required because quality requirements cannot be met without it. Because of the asymmetrical information, the retailers can dictate the rules of the game. These studies also demonstrate the poor ability of developing countries to upgrade (Kaplan & Kaplinsky 1999). The competitiveness at these markets is predominantly based on quality, not price.

Although the case studies have considered the agro-food sector as buyer-driven category, some critical remarks deserve attention. First, Gibbon argues that the conclusions made on the basis of the above mentioned case studies cannot be generalized to explain the international trade of agro-food goods. Instead, he stresses that a substantial part – if not the majority – of the trade can be regarded as international trader driven. Their ability to govern the chain is based on access to capital, large quantities traded and accumulated knowledge about markets. The competitiveness at these markets is predominantly based on price, not quality. We should also bear in mind the arguments Raikes presents. He argues that the dichotomy is too strict. Still, we can use the dichotomy as a starting point.

The buyer driven approach, however, includes some assumptions on the nature of economic interaction and agents that may not take into consideration certain specificities of the economy of the FSU countries. First, it clearly assumes that all the levels of chain have at least a basic understanding of how markets function. Second, it

assumes that there is certain experience of foreign trade and, in particular, export in the agro-food sector. Third, the very common phenomenon in Ukraine – barter trade – is non-existent in studies reviewed. These may necessitate an extension in the producer-driven/buyer-driven dichotomy.

One can argue that neither producer nor buyer driven approaches are exclusively for foreign trade. So far there has been virtually nothing in the approaches that is based on cross-border activities. True, a substantial share of the enterprise networks are international and contribute to international trade, but that does not mean that the approach used to study them can not be used to study development in one country.

Another concept used in the following sections is the chain governance. Some key issues deserve particular attention in studying Ukraine. Dolan and Tewari identified the most common cases in which chain governance is needed and only one of them – if the requirements between domestic and foreign differ substantially – includes the foreign trade aspect. The others can hold for development within one country. For the purposes of this study, one remark on this point is necessary. Market can be very different also within one country and requirements can vary in different markets in one country as well. One of the aims of the study is to study this point more thoroughly; whether the GCC approach can be used to study the development of the Ukrainian agro-food sector both concerning its export-oriented and domestic market oriented value-chains.

Third concept to be used in the following sections is upgrading. To put it briefly, upgrading requires investments and flexibility to quickly adapt to changes in the market.

I argue that the fact that the commodity chains studied have been cross border ones often connecting developing and developed countries, does not mean that similar patterns do not exist in commodity chains within a country or between two similar countries, in that case Ukraine and Russia. The FSU countries are, however, in several terms different from developing countries. It means that the following sections will test to what extent the GCC approach can shed light on the development of the agro-food sector and whether the GCC approach needs to be improved or extended to analyze the development.

3 The Development of the Agro-Food Sector in the 1990s

3.1 Agriculture, Food-Processing Industry and Food Market

Because the purpose of the study is not a general analysis of the Ukrainian agriculture but, instead, an effort to apply the GCC approach on separate value-chains of the Ukrainian agro-food sector, a brief review on the development of agriculture in general will suffice. After that, we focus on the food processing industry. To conclude the overall development of the agro-food sector, we then analyze the dynamics of the agro-food value chain in general. The next section investigates four value chains and provides a more in-depth analysis of the dynamics of the value chain and, in particular, seeks to contribute to discussion within the GCC approach.

Table 3.1.1. Total agricultural production, the production of large farms and the production of individual farms 1990-2000 (1990=100) (Derzhkomstat 2001c).

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total agricultural production	100	87	80	81	67	65	59	58	52	48	53
Production of large farms	100	83	68	67	53	48	38	37	31	28	26
Production of individual farms	100	97	107	114	102	105	108	108	103	97	117

3.1.1 Agriculture

Agriculture was hit hard in the 1990s and production decreased substantially. Compared to 1990, the value of agricultural production was 53 % in 2000. Apart from substantial decrease, several structural changes have taken place. The large farms accounted for 71 % of the agricultural production in 1990, the proportion of household plots being 29 %. Perhaps the most dramatic change in the agro-food sector in the 1990s has been the increased share of household plots in the total production. The share of the large farms in total production decreased steadily in the 1990s and was only 35 % in 2000. The value of their production in 2000 was only 26 % compared to production in 1990. However, they still account for the bulk of the production in grain, sunflower and sugar beet. The production at household plots has fluctuated but increased slightly in the 1990s. The increased share of production at individual farms (65 %) has meant, in other words, that the agricultural production has fragmented.

Another important shift in agricultural production has been the diminished share of livestock production in total production. Livestock production accounted for 50 % of the total agricultural production in 1990 but its proportion has decreased since then. It accounted for 40 % of the total agricultural production in 2000.

The increased proportion of crop production is demonstrated even better if we focus on large farms. The share of crop production in the total production of large farms was 53 % in 1990 but increased to 70 % in 2000 (Derzhkomstat 2001c). The shift from the fifty-fifty structure to a structure dominated by crop production, especially at large farms, can be considered as a positive change because it indicates the shift from loss-making production to more efficient forms.

Meat and dairy

In agriculture the livestock production of large farms suffered the worst, with production levels shrinking to about one fifth. Large farms accounted for 66 % of livestock production in 1990, household plots accounting for the remaining 34 %. In 2000, however, the proportion of livestock production of large farms was 32 % and household plots accounted for 68 %.

During the Soviet time, most of the animals were on the large farms. They accounted for 86 % of the cattle, 74 % of cows and 72 % pigs in 1990. At the same time, the

household plots accounted for 14 % of cattle, 26 % of cows and 18 % pigs. The amount of animals decreased substantially at the large farms in the 1990s while the amount of animals – apart from pigs – increased at household plots. Consequently, the proportion of animals at household plots increased. They accounted for 47 % of cattle, 63 % of cows and 68 % of pigs, the proportions at large farms being respectively 53 %, 37 % and 32 % in 2000.

The reasons for the fragmentation of livestock production are numerous. The reasons are rooted in the decreased purchasing power and poor competitiveness of large farms' livestock production and, in particular, decreased state support. It proved for one of the most unprofitable parts of agriculture during the 1990s. Due to inadequate income to farms, they have been unable to pay salaries in cash. Instead, cattle have been delivered to workers instead of salary. In addition, the prices of critical inputs rose. True, the poor performance of the livestock sector is also rooted in the inefficiency of the meat processing industry that has succeeded only modestly in competing in the retail sales market.

Crops

Compared to the livestock sector, crop production has performed better. The crop production as a whole decreased by approximately one third during the 1990s. The proportion of large farms in total crop production remained quite high. There have been, however, significant differences between goods. The most important cash crops: grain, sunflower and sugar beet are mostly grown at large farms. In 2000, the shares produced at large farms were 82 %, 88 % and 88 % respectively. These goods will be dealt more thoroughly in the next section. Potatoes and vegetables are mostly produced at household plots, 99 % and 83 % respectively.

3.1.2 Food industry and food market

The table below demonstrates the decline in the production of food industry in the 1990s. The production of all goods has decreased. The production has decreased most in meat and milk. There are several goods in which the production is still more than half of the level in 1990: sunflower oil, margarine, confectioneries and chocolate. The sunflower oil has performed by far the best with a production of more than 90 % compared to 1990. There has been an increase in several goods either in 1999 or 2000, sausages, butter and cheese, tinned goods, confectioneries and chocolate demonstrating this recovery. Obviously, these goods have superseded imports after the devaluation of Ukrainian currency when the prices of imported food increased.

It is also easy to notice that the official per capita production volumes in the food processing industry are very low. For example, the production of milk is only about 14 kilos (liters) per capita and the volumes of production of meat (8.1 kilos) and sausages (3.5 kilos) are also extremely low.

Table 3.1.2. The volume of production in food industry (thousands of tones) 1990, 1995-1996, 1998-2000, production per capita in 2000 (kilos) and production in 2000 compared to 1990 (1990=100) (Derzhkomstat 2001a).

	1990	1995	1996	1998	1999	2000	Production per capita, 2000, kilos	Production in 2000 compared to 1990
Sugar	6791	3894	3296	1984	1858	1800	36.4	26.5
Meat	2763	957	760	396	420	400	8.1	14.5
Sausages	900	277	213	155	160	176	3.5	20.0
Butter	444	222	163	113	108	135	2.7	30.4
Milk	6432	1293	915	691	700	699	14.1	10.9
Cheese	184	74	59	52	53	67	1.4	36.4
Vegetable oil	1070	696	705	511	577	972	19.6	90.8
Margarine	289	109	89	97	120	161	3.3	55.7
Tinned goods	4836	1444	1014	1118	1186	1283	25.9	26.5
Flour	7671	5319	4965	3890	3354	n.a.	62.0	43.7*
Cereals	962	532	456	409	342	293	5.9	30.5
Bread	6701	4114	3452	2676	2505	2461	49.7	36.7
Confectioneries	1111	315	283	401	515	667	13.5	60.0
of which chocolate	675	185	180	255	327	431	n.a.	63.9*
Pasta	360	223	172	165	154	116	2.3	32.2

*=production in 1999 compared to 1990

There is, however, a significant difference between the amount of food produced in the food processing industry and the food consumed (see Table 3.1.3). To explain the decreased production in the processing industry, it is fruitful to investigate the pattern of food consumption and, in particular, the differences between them. The **table below** demonstrates that the food consumption has not decreased as much as the production in the industry. The consumption of nearly all goods presented in the table has decreased. For example, the table demonstrates that the meat consumption in 2000 is less than one third compared to 1990. It is a marked decrease but the amount consumed is still much more than the production of meat in the food processing industry. True, some meat has been imported (see Table 3.1.5) but it explains only partly the difference between domestic production and consumption.

Although the overall trend in consumption has been a decrease there are goods in which the consumption has either decreased a little or remained the same, potatoes and vegetables typifying this. In addition, the consumption of bread, pasta and cereals has not decreased as much as other goods. There are obvious explanations for the changed patterns. The consumption of the cheapest foodstuff has not decreased whereas the consumption of the more expensive goods has decreased more. Processed meat and milk have been especially hard hit by this trend.

Table 3.1.3. The per capita consumption (kilos) of major foodstuffs in Ukraine in 1990, 1995-2000 (Derzhkomstat 2001a).

	1990	1995	1996	1997	1998	1999	2000
Meat and meat products	68	39	37	35	33	33	32
Milk and milk products	373	244	230	210	213	210	198
Eggs	272	171	161	151	154	163	163
Fish	18	4	4	5	6	7	8
Sugar	50	32	33	31	32	33	34
Vegetable oil	12	8	9	8	8	9	9
Potatoes	131	124	128	134	129	122	133
Vegetables	102	97	92	91	94	96	101
Fruits, berries and grapes	47	33	35	40	28	22	30
Bread, cereals and pasta	141	128	124	127	126	122	123

The following table tells virtually the same story as the table above. It demonstrates the volume of retail sales and the proportion of food in overall retail sales. In addition, the table demonstrates the proportions of various foodstuffs in total food retail sales. The table demonstrates that the proportion of food in the overall retail sales decreased towards the end of the 1990s, a trend indicating a slight increase in living standard and purchasing power. The five major goods acquired at retail market are meat and meat products, oil, confectioneries, bread and bakery and the others, which includes, for example, spirits and beverages. It is very important to note the low value of per capita food retail sales (109 USD/year). True, this figure obviously does not take into account (at least all) the sales at market places and is unreliable even concerning other retail outlets.

Table 3.1.5 demonstrates the pattern of food imports in 1996–1999. The per capita value of food imports was 18 USD in 1999. At the same time, the per capita food retail sales were 59 USD. In other words, the value of food imports was quite substantial in total food retail sales. We also notice, however, that in food imports certain goods dominate. We see that cigarettes and meat and meat products are the most important goods imported. The value of meat imports is 2 USD per capita and, at the same time, the value of meat retail sales per capita is 7.3 USD. Although the proportion of food imports can be considered substantial, it does not explain the difference between the domestic production of food processing industry and consumption.

We can conclude the message of the four tables presented here by saying that official volume of food retail sales is very low. Similarly, the production of food industry decreased markedly in the 1990s and the per capita production is also very low. The food consumption has not, however, decreased that much and import cannot explain the difference. It means that there are a lot of goods entering the consumption unprocessed and that the importance of household plots is extremely important in the food supply and consumption. In other words, we are sure to misunderstand the development of the agro-food sector if we focus only on the value chain consisting of large farms, food processing industry and retail market.

Table 3.1.4. The volume of the retail market sales (million USD), the proportion of foodstuffs in total retail sales (million USD) and the distribution of food retail sales by goods and the value of per capita sales by goods in 1999 (Derzhkomstat 2001a) (top five groups bolded).

	1995	1995	1998	1998	1999	1999	USD per capita
Value of retail sales	8139	100 %	7884	100 %	5363	100 %	109
Of which food	5134	63	4627	59	2917	54	59
Meat and meat products, of which	815	15.9	606	13.1	356	12.2	7.3
-meat	286	-5.6	224	-4.8	129	-4.4	2.2
-sausages	496	-9.7	361	-7.8	216	-7.3	4.3
-canned meat	20	-0.6	21	-0.4	11	-0.4	0.2
Fish and fish products	167	3.2	163	3.5	47	1.6	0.9
Canned fruit and vegetables	81	1.6	56	1.2	35	1.2	0.7
Oil/fat	325	6.3	207	4.5	126	4.3	2.7
-animal fat	200	-3.9	86	-1.9	54	-1.9	1.1
-vegetable oil	48	-0.9	51	-1.1	31	-1.1	0.6
-others	78	-1.5	70	-1.5	41	-1.4	0.8
Milk and milk products	239	4.7	173	3.7	126	4.1	2.4
Cheese	80	1.5	58	1.3	34	1.2	0.7
Eggs	93	1.8	68	1.5	46	1.6	0.9
Sugar	178	3.5	93	2.0	53	1.8	1.1
Confectioneries	381	7.4	422	9.1	253	8.7	5.1
Tea and coffee	41	0.8	56	1.2	42	1.4	0.8
Bread and bakery	905	17.6	665	14.4	354	12.1	7.3
Flour	81	1.6	82	1.8	46	1.6	0.9
Pasta	79	1.5	54	1.2	31	1.1	0.6
Cereals	84	1.6	65	1.4	37	1.3	0.8
Potato and vegetables	167	3.3	85	1.8	53	1.8	1.1
Fruits and berries	71	1.4	50	1.1	28	1.0	0.6
Others	1348	26.2	1724	37.3	1214	41.6	25

The structures of the entire agro-food sector and the agro-food value chain have changed so fundamentally that a more detailed analysis is required to take into account the various channels of goods supplying consumers with food. Figure 3.1.1 demonstrates the structures of the food market. The bolded arrows demonstrate the flows of goods which have become more important in supplying the consumption.

Table 3.1.5. The total food imports to Ukraine 1996-1999 and the value of the eight most important goods (million USD). (In brackets customs codes) (Agroperspektiva 2001a).

	1996	1997	1998	1999	Import per capita 1999, USD
Cigarettes (24)	150	175	206	152	3.1
Meat and meat products (2)	151	84	68	99	2.0
Fish (3)	117	80	130	74	1.5
Vegetable oil and animal fat (15)	37	40	94	76	1.5
Sugar and confectioneries (17)	307	16	43	70	1.4
Other food products (21)	108	56	41	69	1.4
Cocoa and cocoa products (18)	56	73	83	61	1.2
Fruits and nuts (8)	80	40	39	60	1.2
Other	366	320	348	241	4.9
Total import	1372	884	1052	902	18.3

The second half of the section focuses on the adaptation of the agro-food value chain. What have been especially important for the adaptation are the diminished volume of retail sales and the division of retail market into processed and unprocessed goods. A significant amount of food sold at the retail market is unprocessed. This holds especially for milk and meat. The possibilities of the agents of the chain to adapt have differed and the following part of the section reviews the preconditions for the adaptation.

3.2 The Agro-Food Sector in Ukraine in the 1990s: Introducing the GCC Approach

From the brief description presented above, it is quite easy to recognize the main changes of the sector and, consequently, the main challenges that the agro-food sector faced. The fundamentally changed operating environment in every level of the chain – agriculture, processing industry and food market – stresses the importance of adaptation by the entire value chain with a special emphasis on the structures connecting the separate parts of the chain. Before analyzing the chain it is necessary to briefly review some factors having impact on the possibilities of separate parts to adapt and, perhaps, to become the one who is governing the chain.

3.2.1 The Soviet heritage: A plan-driven commodity chain

In terms of the GCC approach the Soviet system of agro-food sector is rather difficult to fit into the producer/buyer driven dichotomy. Obviously, the dichotomy developed to analyze market economies and, in particular, foreign trade cannot be expected to fit into totally different economic system. However, as far as the agro-food system faced a transition to market economy in the 1990s and this study seeks to explore its development within the framework the GCC approach, an effort to briefly describe the starting point using the same framework is grounded.

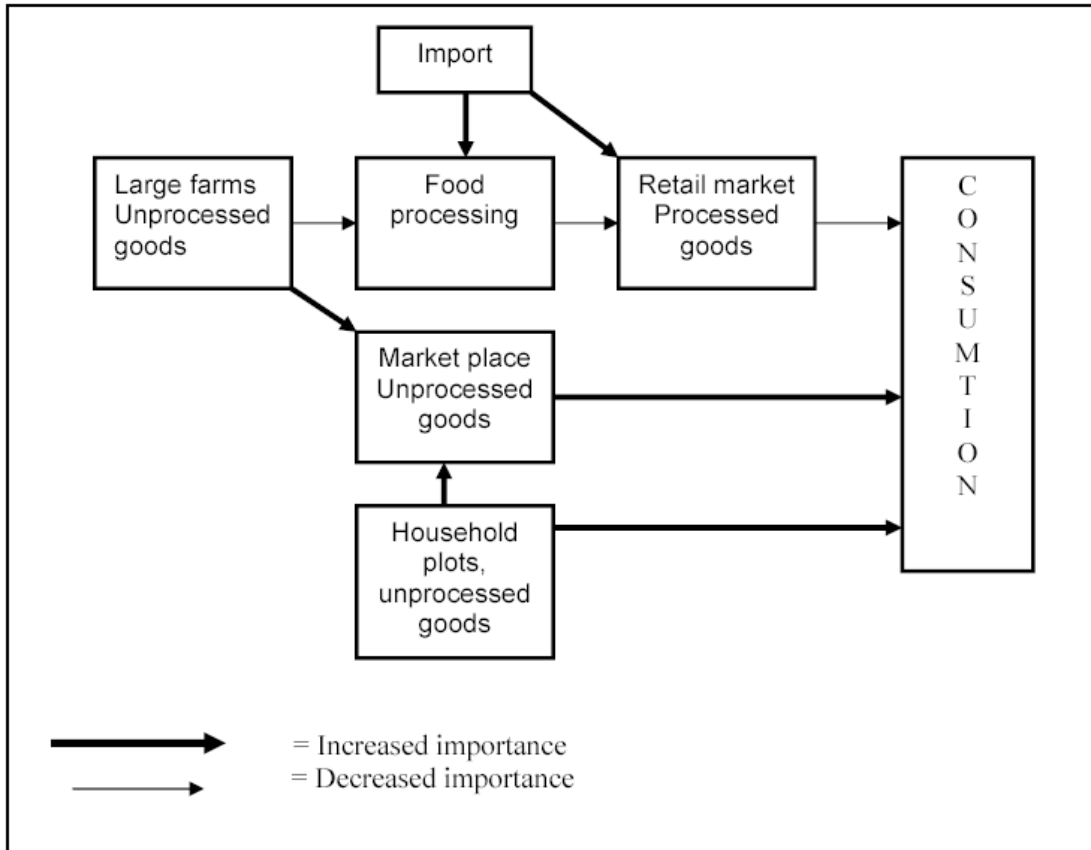


Figure 3.1.1 The changed structure of supplying food consumption in the 1990s.

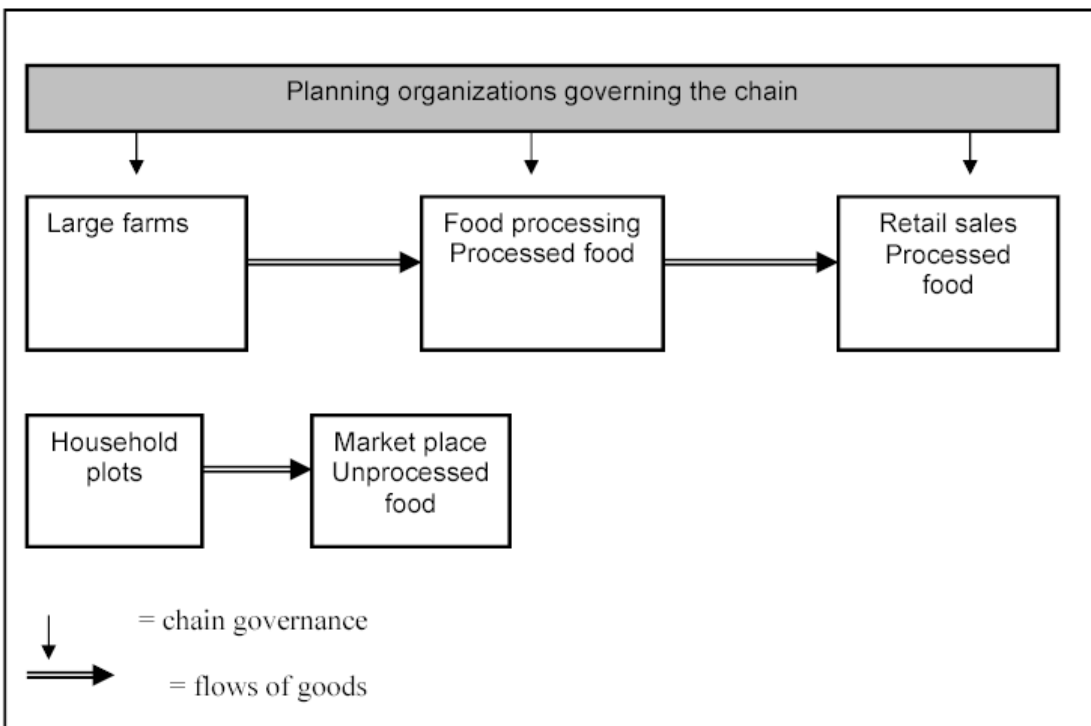


Figure 3.1.2. The agro-food value chain, food market and chain governance during the Soviet time.

If in the case of the buyer-driven GCC the decisive factor in shaping the strategy of supermarkets and other retailers are consumers' preferences, they had a negligible impact on the functioning of the agro-food chain in the Soviet Union. Large farms and even the food-processing enterprises had a very limited power to make decisions concerning what to produce and to whom deliver goods. Outlines and priorities were set from outside the chain. The enterprise and farm level plans and production tasks to be fulfilled were not set by the farms and enterprises themselves but, instead, by the planning organizations.

The position of large farms in Soviet agriculture was moderately good and stable. They received annually large amounts of inputs (pesticides, fertilizers and machinery) and were financed on a stable bases. What is important for the livestock sector, imported grain was used as a cheap fodder.

What is important when comparing the present position of farms is that there was a guaranteed demand for their produce. Everything produced was needed and consumers were competing for the food produced. Further, there was no competition among farms. Or if there was competition, they were rather competing for inputs. The same holds for the processing industry. If there existed a competition among them, it was rather for raw materials. Similarly, consumers were competing for the food produced.

Large farms mostly delivered their produce to processing industry and there were very few alternative channels available. There is, however, evidence suggesting that other channels would have been better, had the farms have an opportunity to choose. Household plots accounted for 29 % of agricultural production in Ukraine in 1990. They had alternative delivery channels available and they used them, mainly sales at market places where the prices were dictated by supply and demand. Also, a substantial share of household plots' production was consumed by the owners of the plots or their families and relatives.

3.2.2 The value chain in the 1990s

Compared to Soviet period, several fundamental structural changes having impact on agro-food value chain took place. First, food market opened up for competition and even the domestic agro-food chain and its separate agents were forced to learn how to operate in the market. Second, the structures of the food market changed and the traditionally dominating value chain: large farms – food processing – retail market was not the only one any more. The household plots became more important in agriculture and market places and other delivery channels of unprocessed goods increased their importance. A dual structure of the agro-food value chain emerged.

The GCC approach reviewed in the second section has studied – especially the studies under the buyer driven label – how the agro-food value chain is governed to meet the changed requirements in the retail market. Compared to changes in the Ukrainian food market, the studied changes in consumer behavior or the changed requirements of retailers have been minor. Still, the processes have enough common to justify the usage of the GCC approach.

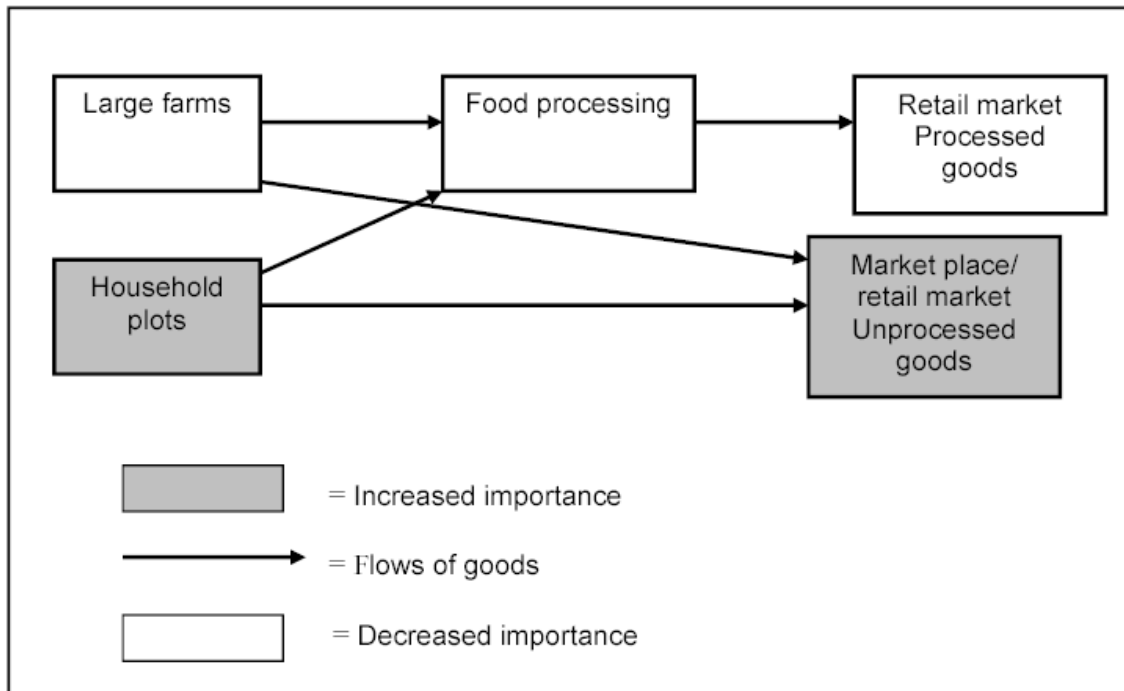


Figure 3.2.2 The dual structure of the agro-food value chain in the 1990s.

When the changes started in the beginning of the 1990s, it was obvious that all the agents were obliged to look for new ways to operate. The second part of this section focuses on their possibilities first, to adapt to new operating environment and, second, to become the governors of the agro-food chain. Third, it analyses their ability to upgrade.

Agriculture

The development of farms in the 1990s demonstrates a rather uncontrolled and non-governed adaptation. True, we must make a difference between large farms and household plots. Several issues indicate the unfavorable development at large farms and only some of them can be reviewed here. The unfavorable position of farms in the value added chain is a combination of several problems (see Bostyn 2001; Bostyn & Boutsyn 2001a). Some of them are directly linked to the agro-food sector but several are rooted in wider problems of Ukrainian economy, the weakness of the banking sector being a good example. To understand the position of farms in the beginning of 1990s it is useful to sum up changes they faced. Reduced budget support from the state made them dependent on the cash flow from selling produce. There was, however, no experience at the farm level to organize marketing. Management skills and know-how were lacking. Moreover, the farms did not possess the necessary infrastructure to be able to govern the value chain. Concerning several critical functions farms have been dependent on other agents of the value chain (Striewe 2001). Agriculture and the food industry were privatized, but the entire value chain and all of its actors were not privatized. The storage and transportation functions so critical to a system based on specialization (for example grain storage) were left under the direct or indirect control of the government or monopolies (see Agroperspektiva 2001b; Agroperspektive 2001c; Korchinskaia & Kucher 2001; Sedik 2001; Striewe 2001). Since the farms could not invest, they

remained dependent on the services offered by other agents of the chain, on the conditions that they dictated.

As was noted above, the production of large farms decreased substantially. A decreased production does not necessarily mean that development has been adverse. In the conditions of diminished purchasing power and dual-structured food market, decreased production at large farms may have even meant a successful adaptation. Several indicators, however, reveal that adaptation was not successful. First, the farms accumulated serious debts. Second, they were not profitable but, instead, have made losses. Third, their ability to invest was seriously deteriorated. Moreover, they had continuous problems in carrying out their annual tasks like sowing and harvesting. To sum up, they had problems with both short-term operations and long-term structural things and they were not able to govern the change. After a brief review on indicators we focus on the reasons of the failure to govern the change.

The two most revealing issues demonstrating the unfavorable position of farms in the value chain and their failure in adaptation to changed operating environment are their debts and losses as well as the amount and distribution of debts. According to the official statistics, agriculture in general was profitable in 1990-1995 but made losses in 1996-2000 (Derzhkomstat 2001c). The reliability and value of this information can be questioned. First, the differences between goods have been tremendous. Second, despite the relatively successful years 1990-1995 the farms were not able to make necessary investments and accumulated serious debts. To conclude, although the official statistics about the economic performance of large farms show some good years, the large farms on average have performed very modestly and got involved in serious economic difficulties.

According to several interviews, the proportion of large farms able to acquire the necessary farm machinery is no more than 10 % (Biba & Supikhanov 2001; Kuzmenko 2001, Lisitsja 2001; Maksaev 2001; Nedvigin 2001). It is understandable that machinery investments require credits for several years and in a country in transition with a poorly working banking system and high interest rates it has been especially hard to receive credits for several years. The difficulties in receiving long-term credits are to some extent understandable. Until recently, the farms have not been able to receive even short-term credits, at least not from banks (Biba & Supikhanov, Kaliberda 2001; Lavrova 2000; Lavrova 2001; Marchenko 2001). One obvious reason for the credit problem has been the failure of land reform.

When the economic reforms started in 1992, agricultural land was privatized. However, the legislation regulating and defining the property rights of land has had several serious inadequacies. The legislation has not yet enabled free buying, selling and the use of land as collateral. The ineligibility of land as collateral in loans has been the greatest flaw of land reform. Due to the negligible collateral value of other property on large farms, the ability of large farms to receive loans has been extremely limited (see Csaki & Lerman 1997; Csaki & Lerman 2001; Lavrova 2001).

Ukraine has not been an exemption with its difficulties in agricultural land reform. Moreover, the credit problems have been a common phenomenon in all the countries in transition, including the EU accession countries. A very clear conclusion from studies analyzing land reforms, agricultural credits and the overall success of agricultural

reforms is that those countries, which have privatized land and legalized ownership transactions, have performed better (see, for example, Lerman 2001). Because farms have been unable to use land as a collateral, their possibilities to acquire credits have been deteriorated. As a result, they have become dependent on other ways of acquiring credits. For example, input suppliers have become the creditors of agriculture. These other ways have been called “financial innovations” by Swinnen and Gow (1999). Although the financial innovations solve the acute problem of the funding of annual seasonal works like harvesting, they have certain consequences from the vantage point of the GCC approach.

The distribution of debts demonstrates the logic of the problems of agriculture in receiving credits. By the end of 1999, the total amount of debts was approximately 3 billion USD. Private input-suppliers have been the most important creditors of agriculture. They accounted for 45 % of debts. The amount of debts for inputs in 1998-1999 was 650-700 million dollars. The total accumulated debt of farms to input-suppliers was 1.4 billion USD in 1999 (Striwe & von Cramon-Taudabel & Sirin 2001).

At the same time, of the total debts of farms 38 % was to state. Wage arrears to workers accounted for approximately 10 % of the debts. Only about 3 % of agriculture’s debts were to banks at the end of 1999 (Striwe & von Cramon-Taudabel & Sirin 2001). The reason is not that banks have been more successful in getting their money back but instead, banks have been unwilling and also unable to provide credits to farms (see Lavrova 2001). The amount of capital in banks was modest in the 1990s and banks preferred not to operate with agriculture and industry.

The total debt is not, however, huge if we compare it to the annual revenue to farms. The amount of debt per large farm was approximately 200 000 USD at the end of 1999, no more than the price of one western middle-class combine. Moreover, the amount of debt was only 40 % of their annual revenue. To compare, this is less than the total debt of German farms, which need their entire income of two years to pay their debts. The total amount of debts is, therefore, not the most important obstacle to the development of agriculture.

The unwillingness to provide agriculture with credits has much more to do with the reputation of farms and their liability than the accumulated amount of debts. Because commercial banks have been unwilling to deal with agriculture, other creditors have become more important. First, private input-suppliers have become the most important lenders to agriculture. The ability of farms to get loans for sowing and harvesting has been limited. That is why large farms have been in a difficult position in relation to input suppliers. The suppliers of fertilizers and fuel have begun to sell their products through bartering, and with the government’s blessing. In terms of terms of the GCC approach, this means that the input suppliers or traders providing farms with inputs can often dictate the prices of goods. Because farms do not possess the necessary infrastructure (logistics, storage, transport) they are almost totally dependent on other agents of the chain. Logistics, storage and transport would have been an obvious part of the value chain to upgrade but farms have been unable to upgrade; they have not possessed the necessary resources to invest.

Second, the state has been an important creditor and, consequently, it has been able to do the most harm to agriculture with unsound support practices. The state has sought to

support agriculture with very limited resources and in conditions where farms had accumulated a serious debt burden and were not able pay back previous credits. The state has sought, however, to promote agricultural production.

The agricultural policy of state has contributed to the unfavorable position of farms in the value chain. Commodity credits were a very common form of support in the 1990s. It should have enabled farms to acquire inputs with subsidized prices. The subsidies, however, were paid to input-suppliers. Worse, regional administrations were made responsible for payments. In case a regional administration could not acquire the required amount of grain – which was used as a payment – they faced, at least in theory, sanctions. Under such circumstances they restricted the outflow of grain outside their region. The restrictions were imposed on all farms in a region, not only on those with unsolved debts. This example demonstrates how regional administration have become involved in chain governance limiting the flow of goods and the free transactions of farms. In addition, the implemented practices in the farm support approved the use of barter (Chomiak 2001). From the farms' vantage point, barter very often resulted in dependence and even higher prices of inputs than trade in money terms would have resulted.

The monopolies in production and distribution of inputs have been one important reason for the debts. The prices for inputs have in many occasions been higher than the prices at the world market. On the other hand, poorly working marketing structures and, often, monopolies have cut the revenues reaching farms (Sedik 2001; Striewe 2001).

High prices for inputs and low farm-gate prices for the goods produced have partly been rooted in the practices of agricultural policy, not only in the decreased purchasing power at the retail market (about farm-gate prices, see Sedik 2001; Striewe 2001). In other words, the state has preferred some agents of the agro-food chain and, consequently, dictated who is in the best position to govern the value chain. In other words, who has the assets to govern the chain.

To conclude, the indicators reviewed here reveal that although farms are indebted their financial position in terms of sums of money is actually not as gloomy as it seems to be at first sight. Rather, the problems of the farms seem to have a lot to do with liability and management practices. The unfortunate position the farms are in has been further escalated by the inefficient way in which the farms have been run. Large farms changed their official form of ownership, but generally maintained their working methods as they had been. The slow change of management practices holds for the state and regional authorities as well. Both authorities and farm level managers have been slow to adapt to new operating environment. They have tried to conserve as much of the previous practices as possible but without the previous high level of support.

Large farms were not used to marketing the products themselves, since there was no existing previous tradition. The adverse financial position of the farms, a direct result of inadequate working capital and the inability to build a connection with a paying client, have created a dependency that is not easily removed. Producing agricultural products has not been as profitable as selling them. This demonstrates the importance of chain governance. The one who is governing the chain can easily dictate the prices.

As long as farms have not been able to use land as collateral, they have been forced to pledge future production as the only collateral for a loan. Since the land does not belong to its farmers, the production does not belong to its producers. The agricultural policy measures intended to support agriculture have mainly benefited the businesses tied to agriculture, not the agriculture itself. It would have required substantial investments to adapt to altered circumstances but attracting funds for investments appeared very difficult.

To conclude, it appears that the unsuccessful adaptation to altered structures of demand have been rooted in the inadequacies of agricultural policy, which, in turn, has led to a situation where input suppliers became the primary lenders to agriculture and, as a consequence, the governors of the chain because they possessed the agricultural goods produced. This structure of the chain will be analyzed more thoroughly on a good-by-good basis later on.

As was noted above, individual farms have survived much better than large farms. Individual farms have not become heavily indebted and they have found their niche in the restructured food market producing for the marketplaces and for themselves. Their production has slightly increased. There is, however, at least one issue where we can notice that even large farms have been able to adapt to market environment. The sown area of most profitable goods has clearly increased whereas the sown area of the least profitable goods has decreased (Derzhkomstat 2001c). Although large farms have been in a very difficult position and perhaps slow to actively adapt, some adaptation has taken place. Therefore, it is – to some extent – misleading to say that farms have been completely unable to adapt. They have perhaps sought to do what has been the easiest way to adapt; to change the goods grown but their operational principles have not changed.

The traditional buyer driven approach stresses the importance of market information in chain governance. In the case of economies in transition, a wider approach to the issue of market information must be taken. It includes much more than mere consumer preferences. We must bear in mind that even the basic understanding about markets and their logic was lacking in the beginning of 1990s. The market information includes not only information about prices and preferences as such but also the entire system of price formation. Farms have not been used to acquire and analyze such information. Also, they have been unable to govern the chain and upgrade. This is to a large extent because they have been unable to invest.

Food processing industry

During the Soviet time, most of the enterprises in the food processing industry were large requiring large amounts of raw material and producing large quantities of food. Everything produced was hoarded without any marketing effort either in the domestic (Ukrainian) market or by consumers in other Soviet republics. Consumers' preferences did not have to be taken into account in issues such as quality and product packaging. Plans substituted consumer preferences. The same holds for farms: command economy insulated them from market signals (see Lerman 2001).

When the operating environment changed in the beginning of 1990s, changes occurred both in backward and forward linkages as well as in the food industry itself. First, the

backward linkages necessary to ensure raw-material supply altered when the basic structures of the agriculture changed. Raw-material supply and, especially, supply of high quality raw material was not guaranteed any more. Second, the forward linkages – wholesale and retail sales – changed. From the industry's vantage point, a mere production was not enough to ensure the success in the market. Everything produced was not hoarded any more but both to establish marketing and retail trade became the preconditions to compete successfully (Boltina 2001; Krikun 2001). In other words, the food market opened up for competition. Moreover, purchasing power diminished markedly and the structure of food-market changed when the dual structure emerged. The changes called for governance of the entire chain; to restructure the food industry itself was not enough.

However, the food industry itself was also restructured. The enterprises were privatized but in the beginning they mostly remained in the hands of the workers and/or managers (see Chernyshova et al. 2001; Gorton et al. 2002; Kaliberda 2001; Kuzmenko 2001). Food industry was slow to adapt to new conditions where the cash flow from retail sales became the only source of income. The volume of production decreased.

The large enterprises with traditionally large volumes of production and ample labor force were not in a good position to adapt. The decline in purchasing power, the new structures of food market and the opening of the markets to competition caused problems. As a whole, the food processing industry has succeeded only modestly in adapting to the changed patterns of food consumption and market. Despite the drastic decrease of production, the amount of labor force has decreased only modestly. The amount of workers in food industry was 683 000 in 1990. The amount of workers was still 516 000 in 1999 (Derzhkomstat 2001a). However, behind the gloomy overall picture there is a more intricate picture including both failures and successes.

Despite the gloomy figures, the food industry has been an attractive sector throughout the 1990s, invested in by both foreigners and Ukrainians. The attractiveness is partly explained because other sectors of the economy have succeeded even worse (Marchenko 2001). The food processing industry ranks second after telecommunications in FDIs in 1994-2000. The total amount of investment to food processing industry was 769 million USD (EBRD 2001). At the same time, telecommunications attracted 899 million USD. Concerning domestic investments, the sector ranked fourth.

The relatively high amount of investments demonstrates that despite the steady decline in production persistent towards the end of the decade, there has also been simultaneous, positive development. Apart from large enterprises having operated already during the Soviet time, new types of enterprises emerged. New companies and operational models have surfaced, and old malfunctioning structures have withered away. The decreased amount of food sold at the retail market and the new dual structure of food market have called for new operational models to be able to adapt to altered conditions. This holds for the entire chain, i.e. chain governance has been required.

There are roughly four types of enterprises in food industry. First, there are large enterprises originating in the Soviet times. They have been privatized but have been struggling with large production capacities and decreased demand. Second, there are new enterprises owned by Ukrainians who have invested in them. They are not as large

as the first group. Third, there are enterprises founded by FDIs. Forth, there are small enterprises employing only several employees (Chernyshova & Skripnik & Vinichenko 2001). The first group has certainly succeeded worst.

Despite its difficulties, the food processing industry has stood the best chance of all parts in the agro-food value chain to govern the chain, not only in Ukraine but in Russia as well (Ioffe & Nefedova 2001a). As has been noted before, the position of retailers in governing the buyer driven chain is based on market information. To compare with the agro-food value chain in Ukraine, we see a more intricate picture.

The position of food industry in governing the chain has been based on several factors. First, it possesses a constant cash flow enabling investments. Second, food industry has attracted entrepreneurs and investments and even received loans from banks. The barriers to entry are relatively low and the constant demand for food and, consequently, constant cash flow has attracted entrepreneurs. In addition, it has received credits because it has something to offer as a collateral (Lavrova 2000; Lavrova 2001). Third, it has better information about consumers' preferences and other things essential to compete in the retail market. Although food processing industry is in the best position to govern the change, not all enterprises have succeeded.

Adjusting to new circumstances has demanded a structural change in the food industry. Privatization alone has not been a strong enough incentive to change the operational methods. The food industry operational model, based on very large production quantities both in primary production and processing, proved to be virtually unsuitable for the new environment, at least if not restructured. Several company examples show that simple measures – emphasis on high quality raw material, a correct production scale, sound marketing and production quality – can help to achieve a good position, profit and growth in the food market (Boltina 2001; Derevjanko & Ladoga 2001; Gagarina 2001; Kononevich 2001; Kovalenko 2001; Krikun 2001; Kuzmenko 2001; Marchenko 2001; Svjatkivska 2001a; Svjatkivska 2001b). In other words, the governance of the entire chain from primary production to sales has been required. Old and very large companies, on the other hand, have been faced with great difficulty. Success has often demanded either building an entirely new value chain or considerably restructuring the old (Boltina 2001; Kononevich 2001; Krikun 2001; Kuzmenko 2001). Both methods have called for investment.

The recovery was closely linked to so called second wave of privatization, in which new owners took over the enterprises. The structural changes in the food processing industry and the growth in production over the last few years have been the consequence of new owners in the food industry, who have invested in companies and brought necessary know-how in marketing and management (Belov 2001; Boltina 2001; Kaliberda 2001; Rudenko 2001). The purchasing power has also developed favorably, particularly in larger cities. These issues have been of central importance to the development of the entire food processing chain.

To sum up, it seems obvious why processing industry could become the governor of the chain. Compared to agriculture, it possessed much better possibilities to adapt. It had relatively stable money income, it attracted investments and it became quite soon aware of the requirements of the opened food market. Moreover, it attracted entrepreneurs able and willing to restructure not only the industry itself but also the entire value chain.

Apparently, it was the combination of all these factors enabling the food processing industry to become the chain governor. Not all food processing companies, however, succeeded. There are several reasons for that. The ones who succeeded realized the importance of competitiveness, an issue totally neglected during the Soviet period. In addition, the successful companies used the opportunity of emerging markets and changing condition in the retail market. However, the in-depth analysis of successful upgrading needs to be done by value-chain basis, not on the level of industry.

4 Four Case Studies

4.1 Sugar

4.1.1 Sugar production

Sugar beet production and entire sugar refining value chain have been one of the most important value chains in Ukraine for decades. Apart from producing for the domestic market, Ukraine accounted for roughly a half of the sugar production in the Soviet Union in the late 1980s (Statisticheskii komitet sodruzhestva 1992). The export of white sugar to other Soviet republics in 1990 was 3.3 million tonnes of which 2.5 million tonnes went to Russia. In 1991, Ukraine exported 1.6 millions of tonnes of sugar to other Soviet republics, roughly one third of its production. The rapid decrease in exports is rooted in Ukraine's own measures; one moment it prohibited the export of sugar to other Soviet republics when the inter-republican system of exchange of goods was on the verge of the total collapse in 1991 (Gaidar 1996). It needed something to trade with other Soviet republics and ceased temporarily to supply other republics with sugar in the inter-republican system of exchange of goods. To sum up, Ukraine clearly had an excess capacity for its domestic market when the trade with other former Soviet republics ceased to be inter-republican and turned into foreign trade.

The loss of guaranteed demand in the most important export market was not the only change encountered by the sugar sector. The entire value-added chain of sugar production, processing and distribution was obliged to adapt in entirely new operation environment. Large farms producing sugar beet had been used to huge subsidies having enabled an ample use of inputs including fertilizers, pesticides and machinery. During the Soviet period, the large farms accounted for almost 100 % of sugar beet production and the pattern has remained quite stable throughout the 1990s. The proportion of large farms has decreased gradually but was still 88 % in 2000 (Derzhkomstat 2001c).

When the Soviet period became to end and the economic reforms started in 1992, sugar beet growers as well as all the other agricultural producers encountered totally altered conditions. The ample supplies of inputs halted and, more importantly, subsidies were cut. What is more important, the importance of competitiveness and the ability to establish a competitive value-added chain to compete either at the retail sales market or to supply sugar for processing industry started to dictate the amount of income. In other words, both the input side and marketing changed completely. The chain governance would have been needed to downscale the volume of the production of the entire value-chain. The adaptation process appeared to be very difficult and production decreased.

Table 4.1.1 Production of sugar beet (million tonnes), yield/hectare (tonnes) and sown area (million hectares) in 1990-2000 (Derzhkomstat 2001c).

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Production	44	36	29	34	28	30	23	18	16	14	13
Yield/hectare	27.6	23.4	19.4	22.2	19.2	20.5	18.3	17.6	17.4	15.6	17.7
Sown area	1.6	1.5	1.5	1.5	1.5	1.4	1.3	1.0	0.9	0.9	0.7

The production of sugar beet in Ukraine was 36 million tonnes in 1991. Since then the production has declined. During the period 1996-2000 the production was on average 1.7 million tonnes a year having declined towards the end of the period. There are two simple reasons for decreased production. First, the sown area of sugar beet has decreased. Second, the use of inputs has reduced (fertilizers, pesticides) having caused the decreased yields per hectare. In addition, the agricultural machinery at farms deteriorated (Jakel 2001; Derzhkomstat 2001e). The yield on average was 23.4 tonnes/ha in 1991 but decreased during 1990s and was only 17.7 in 2000 being roughly one third of the average harvest per hectare in Western Europe. The decreased sown area typifies the farm level adaptation when they reduce the sown area of sugar and prefer other – more profitable – crops.

The production of white sugar has also decreased. The white sugar production was 6.8 million tonnes in 1990 of which approximately a half, 3.3 million tonnes, was exported to other Soviet republics. The production decreased in the 1990s and was only 1,8 million tonnes in 2000. Simultaneously, the consumption of sugar decreased in Ukraine. The per capita consumption of sugar was 50 kilos a year in 1990 decreasing after that and being at the record lowest 31 kilos in 1997 (see tables 3.1.2. and 3.1.3). The consumption increased slightly towards the end of the decade and was 34 kilos per capita in 2000, meaning that the total domestic consumption was 1.7 million tonnes (Derzhkomstat 2001a). To sum up, the production of white sugar matches quite well with the amount consumed in the domestic market. On one hand, the sugar sector downscaled production as far as the volume of production matches with the consumption. On the other hand, the diminished yields per hectare in agriculture and the existing excess capacity in the processing industry demonstrate that the downscaling has not been governed properly.

4.1.2 Sugar exports

Because as much as a half of the sugar production was exported during the Soviet period and the sector was highly dependent on exports in the beginning of 1990s, it is worth having a closer look on the exports and, in particular, on the exports in 1996-2000. Exports continued mostly by bilateral agreements until the mid-1990s. The exports in general and exports to Russia in particular peaked in 1996 and 1997. After that, the volume of sugar exports then diminished towards the end of the 1990s and ceased almost completely in 2000.

When Ukraine's sugar exports reached a peak in 1996, Russia was accounting for 75 % of exports. According to the statistics of Ukrainian Statistics Committee the value of exports was 422 million USD, the Russian statistics giving a larger value (see below).

Table 4.1.2. The value of sugar* exports from the Ukraine in 1996-2000 and the five most important export destinations (Derzhkomstat 2001b).

	The value of sugar exports, million USD	The 5 most important export destinations (million USD)
1996	543	Russia (422) Belarus (29) Uzbekistan (27) Azerbaijan (19) Turkmenistan (17)
1997	243	Russia (162) Belarus (24) Azerbaijan (16) Turkmenistan (9) Georgia (7)
1998	38	Russia (19) Azerbaijan (9) Turkmenistan (4) Belarus (3)
1999	22	Russia (13) Turkmenistan (5) Azerbaijan (2)
2000	6	Turkmenistan (5)

* white sugar customs code 17.01.99.100

The value of total white sugar imports to Russia was 670 million USD in 1996, the proportion for the Ukraine being (according to the Russian Customs Committee Statistics) 570 million USD (85 %). After that, the overall value of Russia's white sugar exports decreased and was only 139 million USD in 2000, when import from the Ukraine had already ceased. By then, Belarus had become the most important importer.

Russia has traditionally had three options to meet the needs of sugar consumption. First, to import white sugar. Second, to import sugar cane for processing. Third, to grow sufficient amount of sugar beet for processing and meeting domestic demand. The third option is not realistic, because the amount of land suitable for growing sugar beet is limited and there are alternative crops, often more profitable, to be grown. Russia has been able to cover no more than approximately one quarter of its production by processing sugar from domestic beet. Already during the Soviet period, Russia was dependent on imported sugar. The requirements were fulfilled by white sugar imports from Ukraine and sugar cane imports from Cuba, which was processed in Russia. For

example, Russia produced 2,6 million tonnes of white sugar both from sugar cane and beet, importing additional 2,5 million tonnes of white sugar from Ukraine in 1990.

In the early 1990s, Russia continued to import approximately 1.5 million tonnes of white sugar annually. Until 1994 there was no effective regulation of the Russian sugar market or foreign trade (Karlova et al. 2001). Up to 85 % of sugar cane was imported from Cuba by bilateral clearing-system. Russia introduced an import tariff of 20 % for white sugar in 1994 and it was increased to 25 % in 1995. The introduction of those measures did not, however, have any desired effect on white sugar imports. On the contrary, the import of white sugar increased, the reason being decreased sugar import from Cuba, which had unilaterally changed the conditions of bilateral agreements. The demand for sugar remained, however, at the same level and the decreased imports of sugar cane were compensated by imports of white sugar. In addition, white sugar, unlike sugar cane, was exempted from 10 % of VAT. Because of the difficulties with imports from Cuba, Ukraine became again the largest importer of sugar to Russia in 1995. Apart from favourable tax regime for white sugar as a whole, Ukraine and the other CIS countries benefited from the duty-free import regime. Due to duty-free import regime, a significant amount of white sugar from third countries was (re-)exported to Russia via Ukraine (Karlova et al. 2001).

In 1996, Ukraine was by far the most important importer of white sugar accounting for 85 % of imports. At the same time, seven countries accounted for virtually (99 %) all sugar cane imports, Cuba accounting for 69 %. Because of the devaluation of Brazilian currency and a drop in world market prices, the proportion of Brazil in Russia's imports rose markedly and it became the largest importer in 1999 (tables 4.1.3. and 4.1.4). Simultaneously, a clear shift from white sugar imports to sugar cane imports took place. White sugar imports continued, but the volume decreased. This is typified by the decreased import from Ukraine. The change was rooted in a clear shift in Russia's trade policy that was lobbied by the domestic sugar industry to improve the competitiveness of sugar refining from both sugar cane and domestic sugar beet (Karlova et al. 2001: Hiltz-Ward et al. 2001).

In May 1996 Russia introduced an import duty for white sugar to protect domestic sugar production, including sugar beet and white sugar, the amount of tariff being one percent for raw cane sugar from CIS countries and 25 % duty on white sugar from CIS countries. Additional measures were implemented in 1998 when imports were licensed. Ukraine was guaranteed an import quota of 600 000 tons of duty free sugar exports to Russia. Ukraine could not, however, export the amount the quota would have allowed. The reason was that the price of Ukrainian sugar was higher than the price of sugar in the world market and the companies having the licenses to import the duty-free sugar were not interested in it (Karlova et al. 2001). The table below demonstrates the altered pattern of sugar imports to Russia, the most important change from Ukraine's vantage point being the shift from white sugar imports to sugar cane imports for processing in Russia.

Moreover, the pattern of white sugar imports changed. The proportion of Ukraine decreased whereas the proportion of non-CIS countries increased, Poland, France and the UK strengthening their positions. In addition, the volume of sugar imports from Belarus increased markedly.

Table 4.1.3. The volume and value of raw cane sugar and white sugar imports to Russia 1996-2000 (Hilz-Wrd et al. 2001).

	1996	1997	1998	1999	2000
Raw cane sugar					
Million tones	1.7*	2.6 (2.5*)	3.7 (3.7*)	5.8 (5.8*)	4.5 (4.5*)
Value, million USD	592*	853 (806*)	1089 (1082*)	1137 (1132*)	690 (690*)
White sugar					
Million tones	1.44	1.07	0.57	0.34	0.47
Value, million USD	668	398 336*	214 127*	104 36*	139 75*

*= Russia Customs Committee Data which does not show imports from Belarus.

Russia introduced in 1998 seasonal restrictions and regulation measures for all kinds of sugar imports to prevent the simultaneous imports of sugar cane when domestic sugar beet was harvested and processed. A seasonal import duty of 74 % was introduced beginning in August and ending in December. The duties were increased in 1999 and 2000. The ultimate goal of the sugar refining industry – the increase of sugar production – was achieved. Already during the first half of 1998, the production of white sugar increased twofold, simultaneously the import of sugar cane increased by 600 %. At the same time, the production of sugar beet and the sown area decreased. As Karlova et al. (2001) argue, the increased production of sugar did not benefit the sugar beet growers.

To further decrease the volume of imports, a new tool of regulation was introduced in 1999. The ultimate aim of licensing the imports and selling the quotas by auctions was to encourage the sugar processors to replace sugar cane imports by domestic sugar beet. This would have meant, however, that domestic processors would have taken the burden of improving and developing the sugar beet production on themselves. Already the devaluation of rouble in 1998 had encouraged increasing the use of domestic raw material. Trade policy measures taken to restrict sugar cane imports were implemented to extend this practice (Karlova et al. 2001).

To conclude, there are several simple reasons for the reduced Ukrainian exports to Russia. First, Russia has replaced imports from the Ukraine by increasing domestic sugar production. Second, both consumption and volume of the retail sugar trade decreased approximately 10% during the second half of the 1990s.

Table 4.1.4. The distribution of sugar cane and white sugar imports to Russia and price per tonne by countries in 1996 and 1998-2000 (Hilz-Ward et al 2001).

	1996		1998		1999		2000	
	% of imports	Price/ tonne	% of imports	Price/ tonne	% of imports	Price/ tonne	% of imports	Price/ tonne
Sugar cane								
Australia	0	811	2.0	299	-	-	-	-
Brazil	19.4	361	38.0	303	51.4	197	40.2	153
Columbia	-	-	0.6	290	1.7	199	5.7	169
Costa Rica	-	-	1.1	321	0.8	180	0.5	159
Cuba	69.1	348	41.0	285	31.6	199	45.0	148
El Salvador	-	-	1.6	298	1.3	213	1.5	169
Guatemala	3.7	343	8.3	292	1.9	193	-	-
India	1.5	379	0.3	363	-	-	-	-
Mexico	-	-	2.9	291	-	-	-	-
Nicaragua	-	-	0.2	265	1.2	198	-	-
RSA	1.8	372	2.0	297	2.3	176	-	-
Thailand	2.4	384	2.1	337	7.3	184	6.1	152
Zimbabwe	1.2	349	-	-	-	-	0.4	135
Others	0.9	375	0.0	274	0.0	217	-	-
Total	100	353	100	295	100	196	100	152
White sugar								
Belarus	-	-	35.2	-	63.3	-	42.0	-
Brazil	2.0	217	2.5	289	1.5	261	-	-
Czech rep.	-	-	1.2	328	-	-	-	-
Denmark	0.0	546	3.2	311	-	-	0.8	265
Germany	2.7	394	3.1	337	0.1	748	5.7	274
France	0.7	378	10.5	324	0.1	433	17	261
India	2.3	362	-	-	-	-	-	-
Kazakhstan	1.6	571	-	491	-	-	-	-
Latvia	0.7	292	-	-	-	-	-	-
Moldova	4.5	529	1.2	483	0.4	319	0.0	400
Poland	0.1	411	12.8	319	13.1	253	13.0	288
Slovakia	-	-	0.7	312	0.1	433	17.3	261
Sweden	0.1	467	2.2	314	-	-	4.0	289
UK	0.1	545	13.3	322	1.9	329	0.1	-
Ukraine	83.7	474	7.6	374	18.2	294	-	-
Others	1.1	511	6.4	374	1.7	433	-	-
Total	100	465	100	359	100	303	100	297

This decrease does not, however, explain that big decrease in exports from the Ukraine. Obviously a more important reason is that Russia has imported raw sugar cane for processing from other countries, Cuba and Brazil being the most important.

4.1.3 GCC and sugar

Now that we have described the overall picture of the sugar production and exports, it is time to have a closer look at the value chain using the GCC approach; whether it can assist us in understanding the changes and, in particular, ceased export. As was noted in the second section, the GCC approach has traditionally been used to study cross-border trade and, in particular, trade between developing and developed countries. The Ukrainian agro-food exports provide an interesting case where domestic commodity chain (inside the Soviet Union) turned into a cross-border one.

When the Soviet Union collapsed, sugar beet and white sugar production in Ukraine was one of the commodity chains supplying Russia with sugar (Figure 4.1.1). The other major chains were processing white sugar in Russia by using Russian sugar beet and sugar cane imports from Cuba, processed in Russia. The white sugar imports from Ukraine to Russia were 2.5 million tones in 1990 and sugar refining in Russia 2.6 million tones. Ukraine produced additional 3.5 million tones for its domestic market. The sugar commodity chain was governed, as was the entire agro-food sector, by central planning monopolies. Their priorities were dictated by ideology having sought for self-sufficiency i.e. to produce as much of the required food as possible inside the Soviet Union.

For analyzing the sugar commodity chain in 1990s by using the GCC approach we can focus on two periods of time. First, a period until 1996-1997 when Ukraine was still the most important importer of white sugar to Russia and, second, beginning in 1998 when the exports to Russia ceased. The key feature of the operating environment has been the decreased production of both sugar beet and white sugar, the ceased imports to Russia being the most important single reason for the decrease. The challenge encountered by the sugar sector has been the obvious need to downscale production.

The analysis using the GCC approach should give special emphasis on the position of farms in the value chain. The reasons for the unfavorable position of farms growing sugar are common with other sectors of crop production. To put briefly, the input markets have not functioned properly, support has decreased, demand for its produce has decreased and farms have been unable to adapt (Bostyn & Boutsyn 2001b). The demand for sugar decreased more than demand for several other goods because of the large proportion of production was exported and the exports ceased. The income from domestic retail sales has been inadequate to cover the costs of production and to maintain the excess production capacity. The profitability of the sugar production has been among the lowest in agriculture. At the farm level, the sown area has decreased which can be considered as adequate response to low profitability compared to other goods. Apart from the diminished sown area, the decreased production can be explained by the decreased yields per hectare. The decreased yields demonstrate the diminished use of inputs, which, in turn, demonstrates the poor financial position of farms.

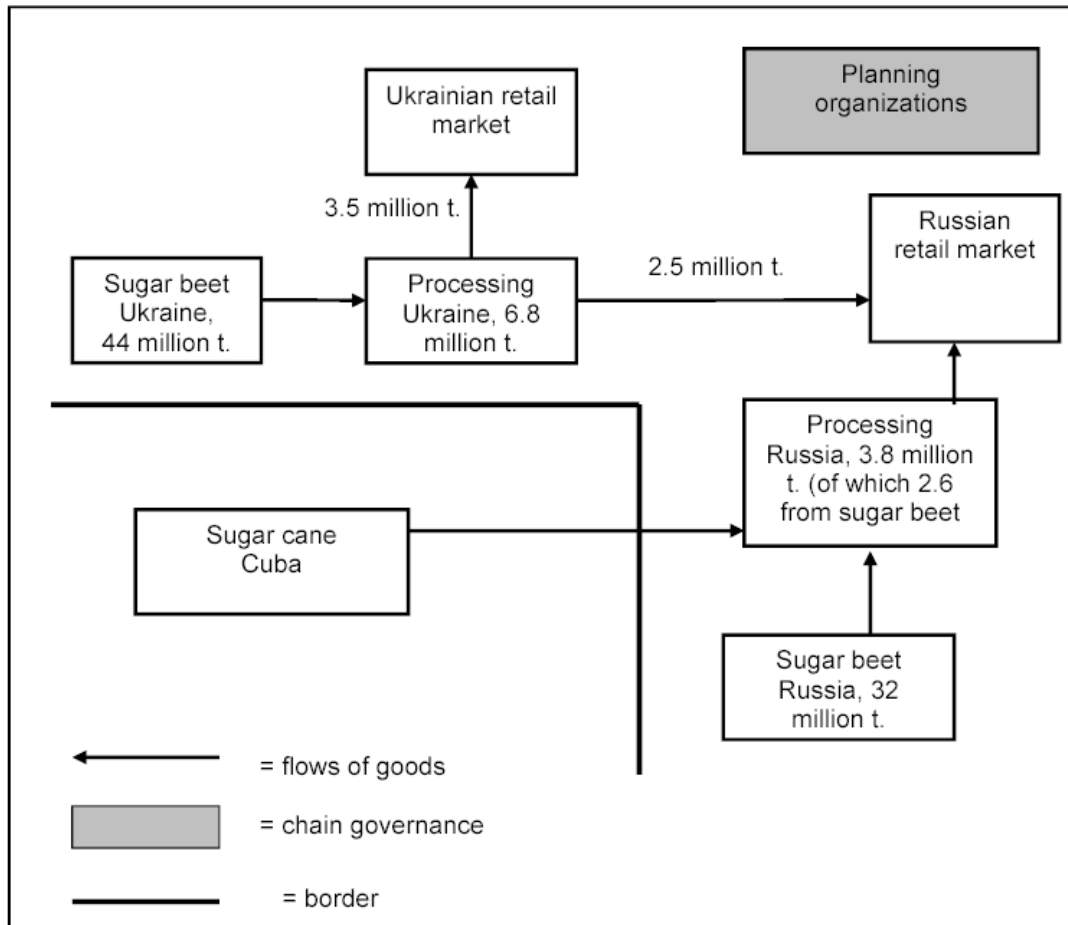


Figure 4.1.1. The GCC of sugar production in the Soviet Union in 1990.

Compared to the goods to be analyzed in the following chapters, the production of sugar beet and especially its deliveries to processing companies have not fragmented. In 1990, the share of deliveries was almost 100 % and, compared to other agro-food goods, the share delivered by other channels has increased only modestly. The proportion of sugar beet delivered to processing companies was more than 90 % throughout the 1990s (Derzhkomstat 2001d).

There are, however, some features in the value chain deserving our attention. First, the deliveries of sugar beet to processing are so called “davalheskie”. It means, first, that the producer of sugar beet does not receive any money for the beets delivered. Instead, they receive certain amount of the refined sugar. Second, it may mean that the refinery receives only certain amount of the sugar and the rest goes to the provider of sugar beet. The share of those deliveries was 98 % in 1995 meaning that virtually all deliveries from farms to processing industry were in these terms (Derzhkomstat 2001d). Of course, farms could have sold the sugar themselves in the market and to some extent they certainly did. We must, however, bear in mind the unfavorable position of farms in terms of input-suppliers. Sugar beet production as a rule has been unprofitable and has led to substantial debts. Therefore, it is possible that farms have been obliged to deliver the sugar beet or the refined sugar further to input-suppliers or other middlemen. In addition, the ability of farms to acquire information about the sugar markets is modest in case they want to sell the sugar they have received.

Why the “davalcheskie” terms have become so widely used? Being on the verge of bankruptcy, neither farms nor processing companies can show money on their accounts but, rather, they get involved into barter and “davalcheskie” transactions. To tax production delivered by “davalcheskie” terms is more difficult. It is interesting to note that the amount of sugar produced in Russia by using “davalcheskie” terms has also been as high as 90 %. However, of the deliveries of sugar beet to processing by farms only 50 % are “davalcheskie” (Avdasheva 2001). It means that there are traders acquiring sugar beet from farms and delivering them to processing companies operate by “davalcheskie” terms. We have reason to believe that pattern can be quite similar in Ukraine meaning that there are traders between farms and processing companies.

As was noted above, Ukraine was able to maintain its position in the Russian market until 1996-1997 and the picture in terms of the GCC looked as follows. There were still three channels supplying Russian market with sugar: white sugar imports from Ukraine, Russian sugar beet production processed in Russia and sugar cane imports processed in Russia. As was noted above, the value chain and the market were governed neither by the Ukrainians nor Russians (Karlova et al. 2001; Analiticheskaja sluzhba “Sahara Ukrainy” 2001). No efficient trade policy measures were implemented by Russians and the domestic efforts to regulate Ukrainian domestic market failed (Bostyn & Boutsyn 2001b). This holds especially for the governance of market as a whole by using trade policy measures by authorities. Processing industry was not able to govern the chain by, for instance, improving the efficiency of agriculture by investing.

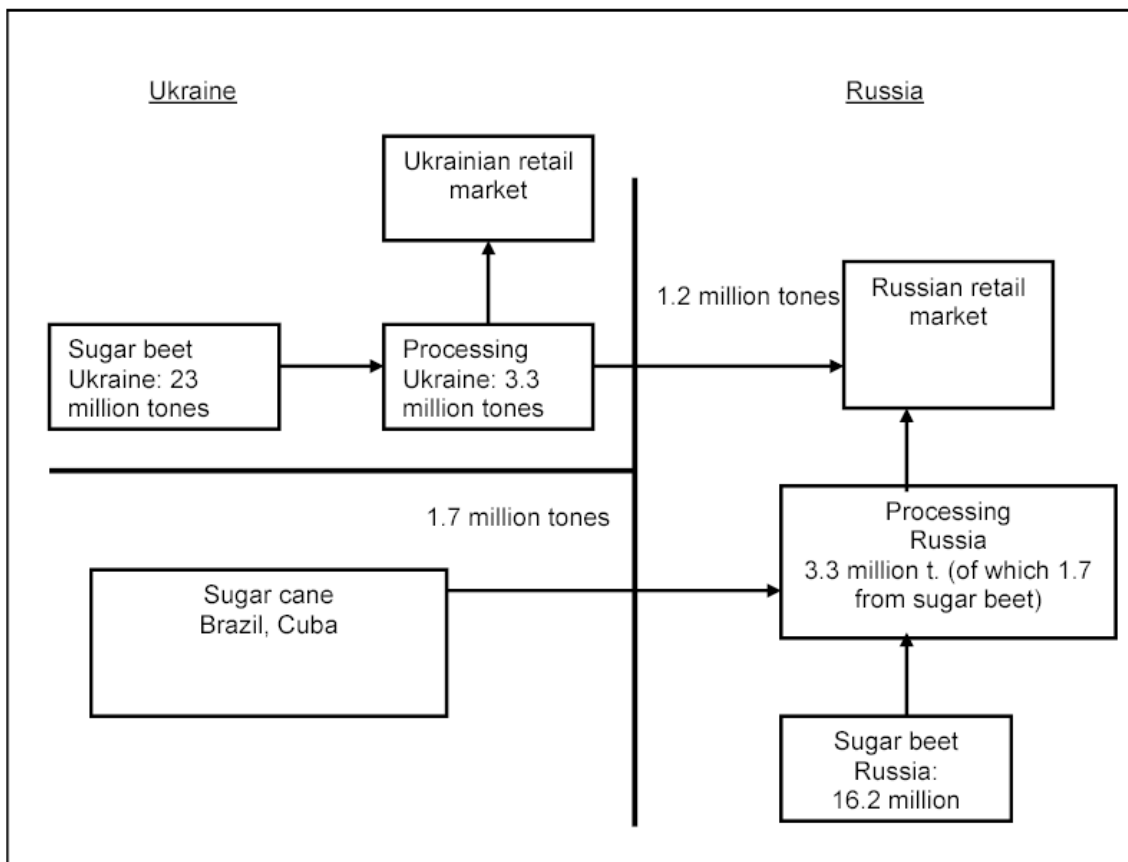


Figure 4.1.2. The GCC of Ukrainian and Russian sugar in 1996.

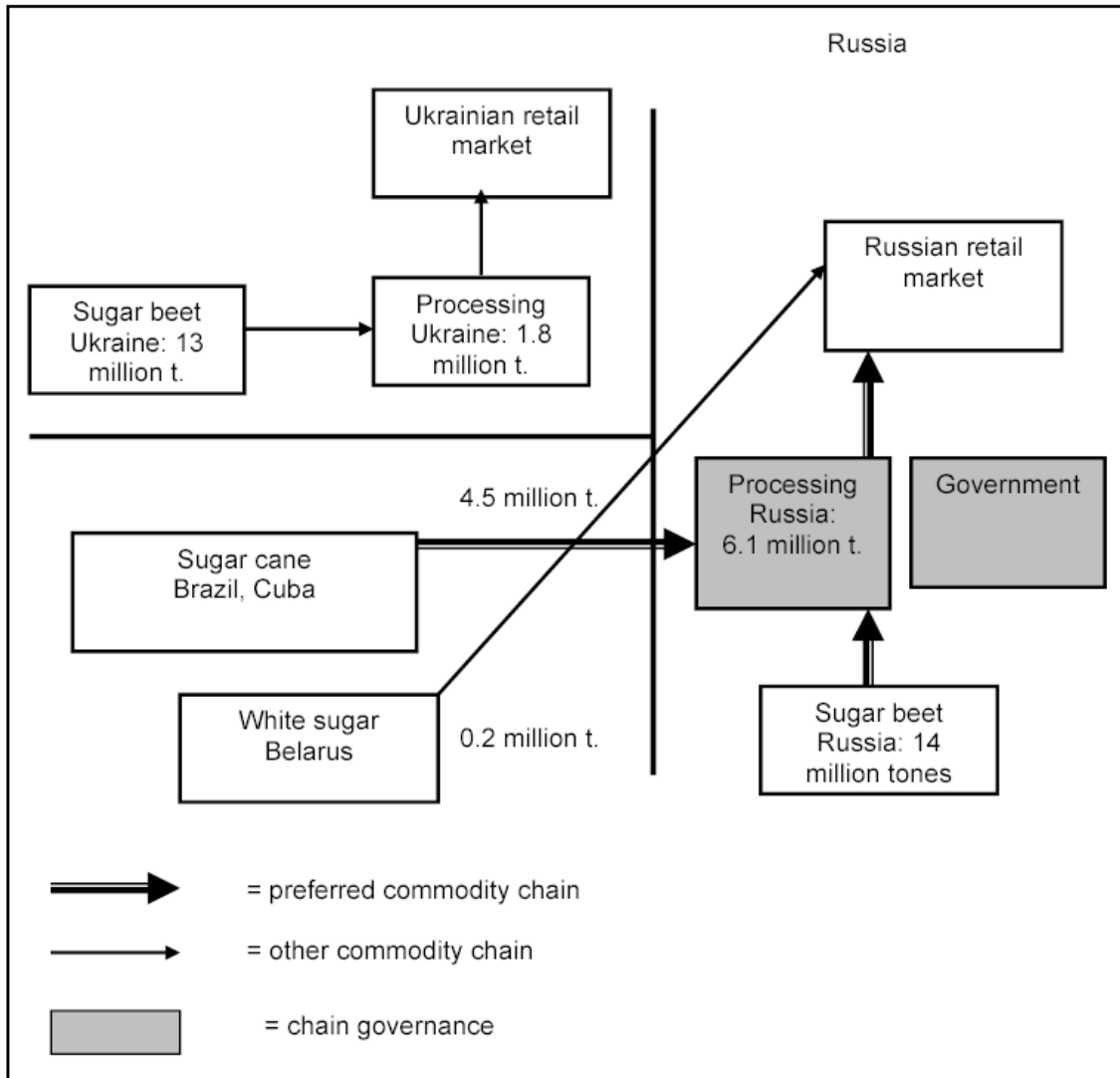


Figure 4.1.3. The GCC of Ukrainian and Russian sugar in 2000

Towards the end the decade the decline of the sugar sector continued. The production in Ukraine continued to decrease. The most important change was, of course, that exports ceased. The main structures of the domestic value chain remained the same. The proportion of sugar beet delivered to processing companies from farms was 85 % in 2000. At the same time, the proportion of sugar beet sold at the market place was only 9 %, the proportions of sugar beet delivered by barter and to workers (mostly instead of salary) were 5 % and 1 % respectively.

The “davalchekie” transactions continued to dominate the deliveries from farms to processing industry but their share leveled off to 52.9 % in 2000, a sudden change after the shares being 90.3 % and 93.0 % in 1998 and 1999 (Derzkomstat 2001d).

The figure demonstrates that exports from Ukraine have ceased. The preferred value chain includes domestic sugar beet and, first of all, sugar cane imports and the refining of them in Russia. Moreover, the imports from Belarus increased and it superseded Ukraine. Obviously, the Russian processing industry and the government responsible

for trade policy were the ones who were able to govern the chain. They changed the conditions so that domestic processing industry and sugar beet growers were provided trade policy rents and Ukraine was superseded.

The entire sugar sector in Ukraine was unable to adapt to altered operating environment. It was unable to downscale the production and to find the proper ways to restructure the sector. The production decreased but the excess capacity remained. The sugar beet production was not profitable and both farms and processing companies got involved in “davalcheskie” transactions. Both farms and processing companies were unable to govern the chain to enable the adaptation. Moreover, the Ukrainian government was unable to govern the change and to restructure the sector although it introduced several plans and measures to restructure (see Bostyn & Boutsyn 2001b). The GCC approach should enable us to analyze the cross border dimension of the sugar value chain linking Ukraine and Russia and Ukraine’s failure. Who was governing the chain and can the ceased exports be explained with the assistance of the concepts of the GCC approach?

During the communist period, the position of Ukraine was to produce sugar to supply Russia and other Soviet republics with sugar. Governance was implemented from outside the chain. The entire structure dictating the exchange of goods changed in the 1990s. Markets gradually replaced planning organizations. This holds for both domestic and foreign trade in Ukraine as well as in Russia. As was argued above, neither Russia nor Ukraine could govern the sugar market and production in the early 1990s. As a result, the basic pattern of the three supply channels of Russian sugar market continued and exports from Ukraine continued. None was able to take role of the governor of the chain. Both agriculture and industry were weak in economic terms and authorities could not introduce the necessary measure to bring trade policy rents to any of the agents.

Focusing on the development during the second half of the 1990s we should be able to find the agents governing the chain and the reasons for ceased imports. The government of the Russian Federation implemented effective measures to govern the sugar market and production in 1997 (Karlova et al. 2001; Hiltz-Ward et al. 2001). Trade barriers were erected and certain supply channels were preferred. Ukrainian sugar was no more competitive in the Russian market even though it was guaranteed an import quota for some time.

Russia sought to boost domestic sugar production by encouraging processing companies – often holding companies with several sugar refineries (see Tsentr politicheskoi informatsii 2002) – to assist agriculture. In other words, to intensify chain governance. However, the processors opted and lobbied for imported raw material rather than increased involvement in domestic commodity chain (Karlova et al. 2001). Trade policy measures shaped the preconditions for competition so decisively that Ukraine was unable to compete. In terms of GCC approach, competing supply channels benefited decisively from trade policy rents but Ukraine lacked any.

Ukraine did not lose its position in the Russian market because of inadequate information about the prices or other requirements of the market: quality, JIT supplies etc. Rather, it lost the market because there were several alternative suppliers available and Russia and the Russian importers preferred to deal with them. In that case, the sugar value chain is certainly not a buyer driven in a sense that retailers can govern the chain because they have the necessary information about consumers’ preferences and they can

exclude those suppliers who cannot meet the quality requirements. Sugar – no matter where it is produced – is virtually similar everywhere and the requirements of consumers and retailers are dominated by price, not the product variety or other things typical of horticulture goods. Further, there are numerous alternative suppliers available. These remarks about sugar market bring us quite close to Gibbon's views about international trader driven chains. Both Russia and Ukraine became a part of the world market and could choose from various locations to acquire raw materials. Russia has preferred to support domestic sugar beet production and Russian traders have preferred the most efficient ways to acquire raw materials. Traders might have preferred Ukraine had it been competitive. To remind, Gibbon argued that international trader driven chains occur if, first, the supply pattern is either globally dispersed or locally discontinuous. Second, if there is a strong tendency “toward market saturation, brought about by a combination of partial substitution by new agricultural products, accelerated entry by new suppliers and low price-elasticity of demand”. The second point holds quite well for sugar. The Ukrainian sugar was easily substituted by sugar cane imports.

Although the GCC fails to substantially contribute to our understanding of dynamics of the sugar exports to Ukraine, it still has something to offer. The imbalance of market information or other conditions leading to buyer driven chains listed by Dolan & Tewari (2001) and, consequently, the need to implement chain governance can be present also in value chains inside one country. The barter and “davalcheskie” terms of trade stress the unfavorable position of farms in the commodity chain. It hinders their possibilities to upgrade and reach any authority in chain governance. In case they are obliged to use middlemen in delivering their produce because of inadequate information about markets, the case of Ukrainian sugar may also stress the importance of market information in chain governance. Also, to be able to trade sugar access to capital has been required. The case differs, however, from the traditional buyer driven case of horticulture, because price dictates the success in sugar markets. The market information is important not only in buyer driven chains. Gibbon stresses the importance of market information also concerning international trader driven chain. To conclude, the GCC of Ukrainian sugar – both concerning export and domestic markets – seems to be in tune with Gibbon's international trader driven chain although the GCC of Ukrainian sugar turned into a predominantly domestic commodity chain in the 1990s. I argue, however, that we find international buyer driven chain very fruitful in explaining the ceased sugar exports of Ukraine and it can contribute in our understanding of the dynamics of value chain even inside one country, especially in terms of market information.

4.2 Sunflower Seed and Oil

4.2.1 Sunflower seed and oil production

Sugar production and processing provided an example of a failed value-added chain and deteriorated competitiveness. The sunflower is something different. The conditions for growing sunflowers are very favourable in Ukraine. True, that is the case for sugar, too. Growing sunflower has been one of the few success stories of the Ukrainian agriculture and it became the most profitable and attractive sector of agriculture in the 1990s (APK-Inform 2001a; Derzhavnii komitet statistiki 2001c; Striewe 2001; Von Cramon-

Taubadel & Striewe 2001). Moreover, Ukraine is one of the leading producers of sunflower in the world accounting for approximately 10 % of the total world production.

It typifies quite well the adverse development of the agro-food sector that even the production of the most successful good – sunflower – did not increase in the 1990s with the exception of year 2000. However, compared to most of the agricultural goods, sunflower production survived well. The production of sunflower seeds was 2.3 million tonnes in 1991. The production fluctuated in the early 1990s and was 2.1 million tonnes in 1996. The fluctuation continued, but a collapse was avoided. The production reached a peak of 3.5 million tonnes in 2000.

The proportion of sown area under sunflower increased in the 1990s demonstrating the profitability and, consequently, willingness to grow sunflower at the farm level. The sown area of sunflower was 1.6 million hectares in 1990. The sown area increased steadily towards the mid-1990s and was 2.0 hectares in 1996. The growth continued and the sown area in 2000 was 2.8 million hectares. The increased sown area indicates that farms have decided to allocate resources from other crops to sunflower. The use of inputs, however, decreased and the increased harvests towards the end of the 1990s were achieved because the sown area increased.

Growing sunflower was the most profitable form of agricultural production in 1992-1995 and 1998-1999. Growing grain was more profitable in 1996-1997 but sunflower ranked second. The reliability of the statistics concerning farm level accountancy and profitability must not be taken literally. A far better indicator of profitability is the increased sown area.

The dynamics of sunflower oil production did not follow the same successful path of sunflower seeds. The production of vegetable oil – which is mostly sunflower oil – was 1.10 million tonnes in 1990. During the early 1990s production decreased and was 0.70 million tonnes in 1995. The production was at its lowest in 1998 and 1999, only 0.51 million and 0.57 million tonnes respectively, but recovered rapidly in 2000 being 0.97 million tonnes. In addition, the production of margarine increased quite rapidly in 1999 and 2000 (see Table 3.1.2). The reason for the rapid increase was rooted in improved raw material supply that will be discussed more thoroughly later on.

Table 4.2.1. The production of sunflower seed (million tonnes), yield/hectare (tonnes) and sown area (million hectares) in Ukraine 1990-2000 (Derzhkomstat 2001c).

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Production	2.6	2.3	2.1	2.1	1.6	2.9	2.1	2.3	2.3	2.8	3.6
Yield	15.8	14.6	13.0	12.7	9.1	14.2	10.5	11.5	9.3	10.0	12.2
Sown area	1.6	1.6	1.6	1.6	1.7	2.1	2.0	2.0	2.4	2.8	2.8

4.2.2 Sunflower seed and oil exports

Apart from domestic market, export became a decisive factor shaping the sector. Ukraine exported both sunflower seeds and oil in 1996-2000. The changed pattern of seed and oil exports demonstrates the upgrading of the production along the value chain. The table below demonstrates the changes in the seed exports. Throughout the entire period 1996-2000, the EU countries were the most important destination of exports, France, Spain, The Netherlands, Belgium and Italy being the most important.

The exports peaked in 1997 and 1998 but decreased markedly after that. At the same time, we notice a marked increase in sunflower oil exports in 1999 and especially 2000. Prior to the increase, Russia and Belarus and Switzerland dominated in the destinations of oil exports. The increase in oil exports meant especially increased exports to Russia. As far as the increase in oil exports seemed to have taken place at the expense of seed exports, investigating the case using the GCC should be particularly fruitful. What were the reasons that enabled the upgrading of the production and, in particular, exports towards more value-added goods?

Table 4.2.2. The value of sunflower seed exports 1996-2000 and the five most important export destinations (Derzhkomstat 2001b).

	The value of sunflower seed exports (million USD)	The 5 most important export destinations (million USD)
1996	173	France (23) Spain (23) The Netherlands (21) Turkey (16) Italy (12)
1997	223	The Netherlands (38) Turkey (32) Belgium (28) Spain (23) Italy (18)
1998	207	Turkey (35) The Netherlands (33) France (27) Spain (24) Belgium (17)
1999	100	Turkey (16) Spain (15) Morocco (9) Italy (9) Russia (7)
2000	136	The Netherlands (26) Spain (26) Portugal (15) Turkey (15) Georgia (9)

The changed export pattern included increased sunflower oil exports to Russia, which became the largest export market. It is fruitful to have a look at the position of exports from Ukraine in the Russia's total imports. Ukraine was the largest importer in 1996 but its proportion decreased markedly in 1997 when Argentina and Hungary superseded it. A significant change took place in 1999 when exports to Russia from Ukraine increased threefold. Argentina, however, remained the largest importer in 1999. The table below demonstrates that simultaneously with increased exports to Russia, Ukraine became the largest importer of sunflower in 2000.

To conclude, prior to 1999 Ukraine exported large amounts of sunflower seed and this should have enabled rather favourable development also in the farm level. At the same time, domestic processing had hard times. Then a sudden change took place and the marked upgrading took place and Ukraine increased domestic production and conquered a strong position in the Russian market.

4.2.3 GCC and sunflower

Prior to the change in export pattern the GCC of Ukrainian sunflower looked as follows. Large firms have accounted for most of the production (97 % in 1990, 87 % in 2000). In 1990, farms growing sunflower seed delivered virtually all their production to processing plants. This picture started to change rapidly when the Soviet period ended and the structure of seed deliveries became more diversified.

In the early 1990s, there were several characteristics that made the sunflower sector a special case in the agro-food sector. First, it was the most profitable good. Second, government intervention was moderate compared to grain market (Von Cramon-Taudabel & Striewe 2001). For example, the proportion of government procurements was low compared to grain. Von Cramon-Taudabel and Striewe even argue that the success of the sunflower seed production was rooted in the laissez-faire attitude of the government towards the sector (see also APK-Inform 2001a; Striewe 2001). The laissez-faire attitude was not based on true commitment on liberal economic policy. Instead, the sector was forgotten and neglected while more attention was paid on goods traditionally important in terms of food security, especially grain.

The third specific feature of the sunflower seed market has been the importance of the traders in marketing the seeds. During the 1990s, barter became a very common phenomenon. More than half of the seeds produced were delivered by barter (Derzhkomstat 2001d). The firms exporting or trading the seeds have often supplied agriculture with essential inputs (fuel, energy and fertilizers). In 1995, the distribution of deliveries of seeds looked as follows. Only 5 % of the seeds were delivered straight to processing companies. Other channels of deliveries were barter (55 %), to workers instead of salary (12 %) and to market (28 %), the latest apparently including money transactions with traders and middlemen.

Table 4.2.3. The value of sunflower oil exports from the Ukraine in 1996-2000 and the five most important destinations each year (Derzhavnii komitet statistiki 2001c).

	The value of sunflower oil exports (million USD)	The 5 most important export destinations (million USD)
1996	105	Russia (48) Belarus (25) Turkey (20) Switzerland (15) UK (11)
1997	109	Belarus (25) Russia (20) Switzerland (15) Turkey (14) Algeria (5)
1998	122	Switzerland (24) Russia (20) Belarus (14) Seychelles (9) Hungary (9)
1999	162	Russia (58) Belarus (14) Switzerland (9) Algeria (5) Hungary (4)
2000	233	Russia (61) Switzerland (47) France (21) Algeria (20) Egypt (10)

There have been several alternatives for the processing companies to acquire seeds. They have acquired seeds from farms, various traders and firms supplying farms with inputs. Many processing companies have operated on “daval’cheskie” terms paying for the raw material with sunflower oil they have processed (APK-Inform 2001a; Striewe 2001).

Towards the end of the decade but before the changed pattern of trade the GCC of the Ukrainian sunflower looked as follows. The production of seeds was 2.3 million tones in 1998. The farms delivered by different channels 1.7 million tones of seeds. The deliveries by barter accounted for 54 % of total deliveries, to market 28 %, to workers 12 % and deliveries to processing companies 6 %.

Table 4.2.4. The value of sunflower oil imports to Russia 1996-2000, imports from Ukraine and other major importers (Tamozhennaia statistika vneshnei torgovli Rossiiskoi federatsii 1996, 1997, 1998, 1999 and 2000).

	1996	1997	1998	1999	2000
Sunflower oil imports to Russia (million USD)	145	204	144	170	88
Imports from Ukraine (million USD)	70	17	20	59	62
Other major sources of imports	Argentina 34 Turkey 10	Argentina 94 -Hungary 55	Argentina 63 Hungary 37	Argentina 69 USA 16	Argentina 21 Yugoslavia 3

The traders and input-suppliers having acquired the seed from farms either exported it or delivered it to processing companies. One possible pattern has been that traders and middlemen had the seeds processed in processing companies in “davalcheskie” terms. The dashed arrows in the figure represent sunflower oil flows and the downward arrow from processing companies typify the deliveries from processing to traders. The suppliers of seeds often opted for exporting the seeds. For example, as much as 40 % of the seed production was exported in 1996 and the proportion was approximately 50 % in 1997. From the point of view of the farms or whoever was actually selling seeds it was more profitable to export than to deliver them to domestic processing companies (see Derzhkomstat 2001d). The value of seed exports was 207 million USD and the value of oil exports 133 million USD (figure 4.2.1).

At this stage, the processing industry was not able to find proper ways to adapt to competition and diminished purchasing power. The industry, by and large, was not able to govern the downscaling. One can argue that traders and input-suppliers governed the chain and they were in a better position to acquire seeds because they were able to supply the farms with inputs.

What was their ability to govern the chain based on? It was not based on information about consumers’ preferences at retail market, because as much as half of the seeds were exported unprocessed. Although they had certain amount of seeds processed for the domestic market, their power in the value chain was not based on information about retail markets. Therefore, we cannot regard the commodity chain as a buyer driven.

The ability to govern the chain was based on issues rooted in the inadequacies of the Ukrainian economy. First, because farms were unable to receive credits and, consequently, to acquire inputs, traders and input suppliers took the advantage of the situation by delivering necessary inputs and receiving the harvest. In other words, they fulfilled the role of banks in delivering credits and got involved in the marketing of

seeds. Second, they were in better position to receive information about prices in the market. Third, they were able to overcome the serious inadequacies of the infrastructure. Storage, transport and logistics have been based on inefficient monopolies (see Striewe 2001). Farms had no experience of organizing these necessary functions. The traders have had the means to acquire information and the economic and political muscles to deal with the monopolies. The farms would have suffered from insufficient income, even if they had been able to acquire credits, because the prices of inputs and infrastructure were high. An important reason for the inadequate income to farms has been the poor state of marketing infrastructure. As a result, farms have received only a modest share of the sales revenue (Sedik 2000; Striewe 2001).

Although the statistics show high profitability of seed production in the mid-1990s, it has been unclear to what extent farms benefited from the favorable situation. On the contrary, it is more likely that traders dictated the prices and farms were in an unfavorable position. Instead of fair competition among traders, there is information that at regional level traders and input suppliers have achieved a monopoly and the entry to markets has not been free and even organized crime has been involved in driving competitors away (Striewe 2001). There are also reports confirming that regional authorities have restricted flows of goods between regions (Sandul 2001).

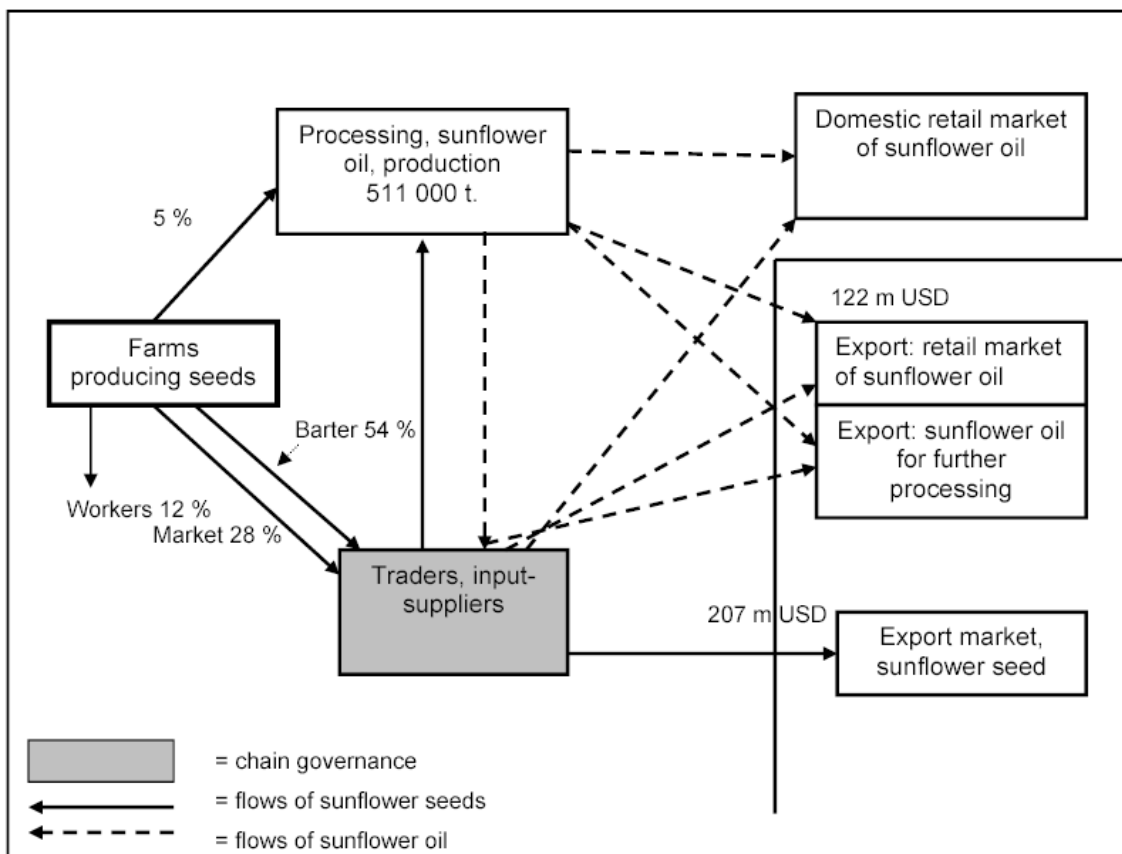


Figure 4.2.1. The Ukrainian GCC of sunflower prior to export tax (1998).

Although the regional monopolies have been maintained by harsh and unfair methods, the strong position of input suppliers and traders in general has not been based only on dubious methods. To act as middlemen in the sunflower seed market has required the ability to carry the financial risks because the seeds are received well after the inputs have been delivered. Energy and fuel companies have been major players in the market, for obvious reasons. Energy companies and other input suppliers have been able to carry the risk. Were banking sector able to operate decently, these middlemen would not have been needed. At least they would have concentrated on normal transactions with farms, not on barter transactions suppressing the farms. It seems to be the case that in a transition economy with poorly functioning financial sector the agents in economy with access to capital can easily achieve a position in commodity chain where they are able to govern the chain (Swinnen & Gow 1999). The position can be very profitable indeed because trade margins can be very high, up to 25 % (Striewe 2001).

Governance by traders is not necessarily a negative thing. If they can do the necessary investments, they can improve the efficiency of the chain. They can also assist farms in making investments in case farms due to the inadequacies in land legislation and banking system are not able to do so. This pattern can be regarded as a financial innovation referred to in article by Swinnen & Gow (1999).

I argue that the sunflower GCC at this stage of development reminds in terms of whether it is buyer, producer or international trader driven more the latter than anything else. Especially important are the high entry barriers to trading functions. The poorly working capital markets hinder the farms to upgrade. The lack of management skills further deteriorates the possibilities to organize new functions. Farms are unable to invest and organize the functions upwards the value chain: logistics, storage and transport (Kononevich 2001). Worse, the farms are dependent on prices set by monopolies blocking the entry of newcomers. The existence of monopolies is rooted in poorly functioning government unable to establish the rule of law in Ukraine leaving the playground open for the strongest. In addition, market information about prices and how to organize the value chain are also important and traders are in better position than farms to acquire it. One aspect in the high entry barriers is the working capital needed. To conclude, the sunflower GCC prior to export tax can be regarded as trader driven having a good deal in common with international trader driven chains presented by Gibbon. The obvious difference is, of course, that traders are not necessarily international but Ukrainian and operate in Ukraine and export mainly Ukrainian goods. The reasons why the traders have achieved such position, however, seem to be very similar to reasons behind the position of international traders.

Towards the very end of the 1990s a significant change took place in the sector. Processing companies had been in difficult position in the commodity chain. As a rule, they were not very efficient in creating value-added in processing and marketing and, consequently, were not able to pay sufficient price to farms or other seed suppliers. Export was the most attracting option. However, it was obvious that neither government nor processing companies were satisfied with the situation when unprocessed seeds were exported and domestic processing industry was suffering without sufficient raw-material for processing. To solve the problems in acquiring raw material and to keep the oil processing companies operating, interest groups representing processors lobbied for

export duty and succeeded. Ukraine introduced an export duty for sunflower seeds in September 1999.

It is understandable that both the government and the processing industry preferred to process seeds in domestic companies. This goal was supported by the belief that Ukrainian companies could do it as efficiently as foreign ones (Von Cramon-Taudabel & Striwe 2001). Despite the objections by the WB and the IMF (Lissovolik 2001), the intensive lobbying resulted in the introduction of an export duty. The decision included a promise that the lower price paid to farms by the processing companies would be compensated.

If the benefits of the export duty were so obvious from government and processors' vantage point, why it was not lobbied and implemented before (see APK-Inform 2001a). Prior to implementation, at least one important structural change took place. The largest sunflower oil processing companies attracted significant amount of FDIs and the largest enterprises producing sunflower oil became foreign-owned. The largest producer (the Dnepropetrovsk Oil-Extracting Plant, DOEP) as well as the third (Cargill) largest producers are foreign owned (APK-Inform 2001a). Cargill built its processing plant in summer 1999 and, at the same time in September 1999, the government introduced the export duty. The timing can be perceived as a coincidence, but, according to several interviews, it certainly was not a coincidence. Rather, foreign investors together with domestic processors lobbied for the export tax (Marchenko 2001; Rudenko 2001).

Thinking in terms of the GCC, by implementing trade policy measures the government created obvious trade policy rents for the processing industry and it was able to upgrade its position substantially. The processors were able to become the governors of the chain. It happened at the expense of farmers who lost when the domestic prices for seeds dropped (Sedik 2000). However, the export tax is considered a success in the Department of Food of the Ministry of Agrarian Policy (Sandul 2001; Shevtsov 2001).

The aim of the tax was achieved. The domestic production of sunflower oil increased and the exports of seed decreased. In addition, the export of sunflower oil increased. From the point of view of exports an important change took place. The export of oil to Russia increased whereas sunflower seed had previously been exported to EU countries. The tax resulted in decreased exports to EU countries.

After the introduction of export tax and increased exports the picture of the Ukrainian GCC looked as follows. The seed production was the record high 3.6 million tones in 2000. The deliveries by farms by different channels – total amount 2.3 million tones – had not changed markedly compared to year 1998. Deliveries by barter accounted for 36 % of production, deliveries to market 47 %, to workers 15 % and to processing companies only 2 %.

No estimates are available at this stage about the “davalcheskie” terms of trade. One can reasonably expect that their importance diminished because the processing industry attracted significant amount of FDIs and they should have been able to improve their position in the value chain. They are, however, still described in the figure. In fact, EBRD funded several oil processing plants and one of the reasons was that improve the position of farms as well (EBRD 1999a; EBRD 1999b; EBRD 1999c; EBRD 2001; Marchenko 2001).

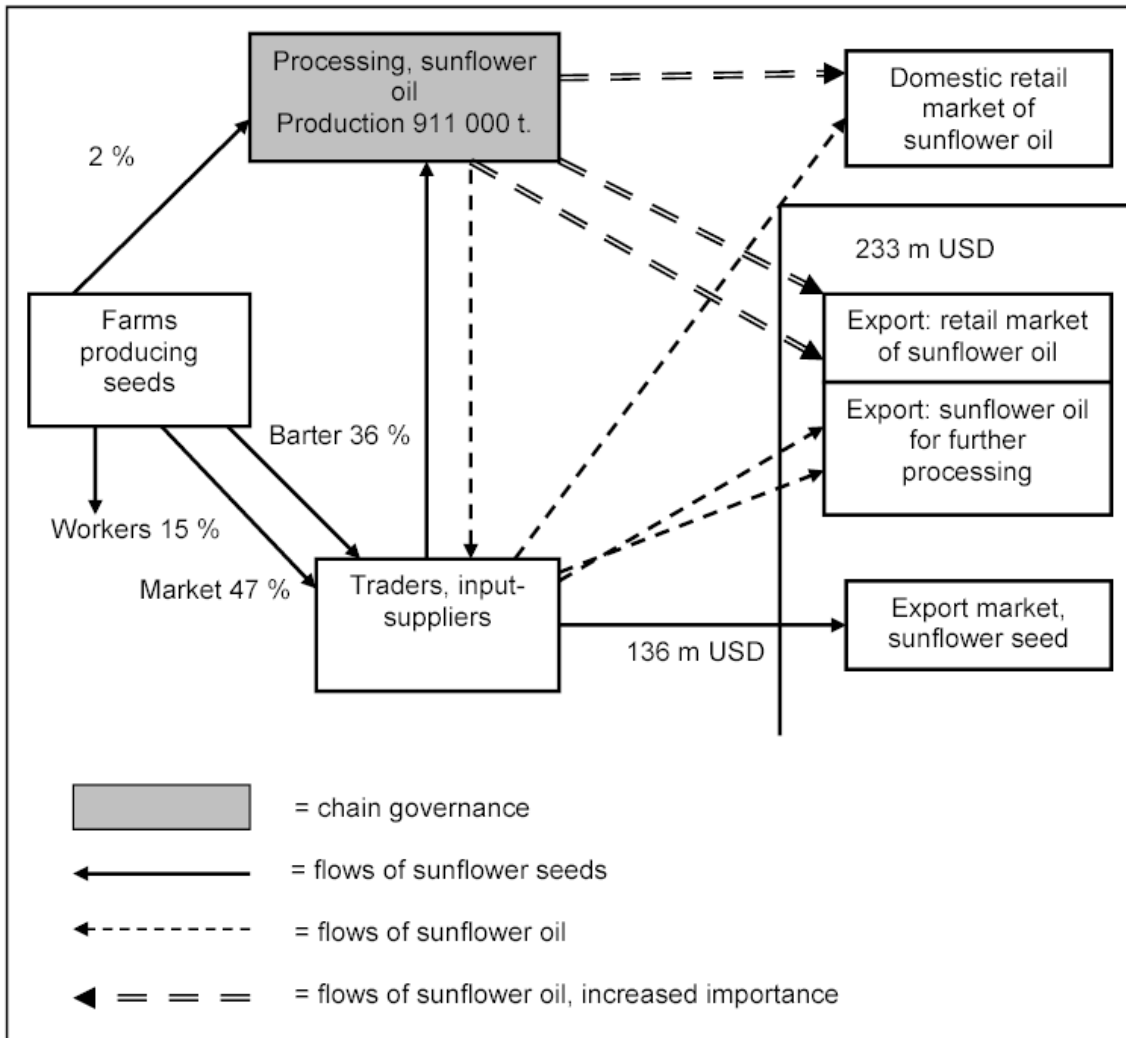


Figure 4.2.2. The Ukrainian GCC of sunflower after the export tax.

The tax resulted in oversupply of seeds in the domestic market and prices dropped. The processing companies were now in a position where they were able to dictate the prices. Ukrainian Agrarian confederation estimated that one year after the implementation of the tax the farms' losses amounted one billion hryvnas (190 million USD) (UAF 2000).

It is interesting to note that although the production of sunflower oil and exports increased and, one would expect, the cash flow to processing industry increased, that did not necessarily improve the position of farms because they continued to deliver the seeds by barter and to traders.

Sunflower oil exports increased and Ukraine became the largest importer of sunflower oil to Russia. At the same time, the seed exports decreased. The oil was exported both to retail market and to further processing. The sunflower oil is exported also by Ukrainian as well as international traders and purchased by international traders and Russian food processing companies (APK-Inform 2001b). Among the largest purchasers of oil, there are, for example, some of the largest margarine producers of Russia. The success in the

retail market is based on well-known brands and price. The importance of brands has something in common with the buyer driven chains. In case the oil is exported for further processing – for producing margarine, for instance – the brand is not important. Among the exporters of seeds there are both Ukrainian and international traders. Their role in chain governance requires, however, further research.

It is hard to estimate what is the power of traders and middlemen in the chain inside Ukraine after the introduction of export duty. Obviously, it would have been in their interest to continue to export seeds without the duty. They still play some role in governing the chain, because the amount of seeds delivered straight from farms to processing companies is modest. The most obvious shift in chain governance is, of course, the increased power of processing companies. They were able to upgrade and to improve the conditions of acquiring raw materials. This was achieved because their economic and political power increased. Processing industry attracted FDIs and was able to lobby for the trade policy rents necessary to upgrade. To achieve the position of the governor of the chain requires political power to acquire trade policy rents.

The Ukrainian GCC after the implementation of export duty has characteristics of several of the types of GCC. Part of the production goes to further processing and, consequently, certain quality requirements must be met that reminds the buyer driven chain. Sunflower oil and seeds are not, however, goods in which we could find something similar to the textbook example of buyer driven commodity chain. Rather, the sunflower GCC reminds the international trader driven chain. The strong position of traders in Ukraine is rooted in the inadequacies of Ukrainian economy. First, the financial markets function poorly. Worse, farms are dependent on “financial innovations” (Swinnen & Gow 1999) in receiving credits, mainly from the input-suppliers. Second, the marketing and logistic infrastructure are so inefficient and poorly developed that to organize those functions require both political and economic power. The inefficiency also diminishes the farm income. In these conditions, traders and middlemen have reached the position to govern the chain. They can be in even a better position than international traders because they have the social capital and personal networks required to successfully carry out transactions in Ukraine. To conclude, it seems to be the case for traditional (see Gibbon 2001) agricultural goods produced in Ukraine that the international trader driven type of chain is the closest comparison. Apart from the characteristics typical of those chains, there are, however, other factors enabling the chains to be governed by traders. The factors are rooted in the inadequacies of the Ukrainian economy.

4.3 Grain

4.3.1 Grain production and processing

Grain, together with sunflower, has been considered one of the most potentially successful sectors of the agro-food sector. Unlike sunflower, however, grain has demonstrated the obstacles that a potential successor can face in transition economy. The grain production fluctuated in the 1990s but the production in general decreased. Large farms still account for the majority of production but their proportion has decreased gradually. They accounted for 97 % of the production in 1990 but only 82 %

of the production in 2000. The volume of production at household plots has increased and is actually quite substantial (4.5 million tonnes). The yields per hectare have clearly decreased. It is important to note that the yields at household plots have been higher than at large farms. The sown area has slightly decreased but the proportion of sown area used for grain production has remained roughly the same during the 1990s. This typifies the farm-level adaptation when the farms opt for the profitable crops and continue growing them. Sugar demonstrated the opposite example and the sown area under sugar has diminished, because it has not been profitable.

Compared to sunflower and sugar beet, grain is used for larger amount of purposes. Because grain is the basis for numerous value chains and used for various purposes both in agriculture and food processing industry, we are unable deal adequately with all the value chains. Instead, we focus on the chain governance of grain trade in general. Still, a brief review on the food processing industry and the dual structure of food market is necessary.

Table 4.3.1. The production of grain, (million tonnes), yield/hectare on large farms and household plots and sown area (million hectares) in Ukraine 1990-2000 (Derzhkomstat 2001c).

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Production, of which	51.0	38.7	38.5	45.6	35.5	33.9	24.6	35.5	26.5	24.6	24.5
Large farms	49.6	37.2	36.8	43.0	33.1	31.1	22.0	32.1	23.8	21.6	20.0
Household plots	1.4	1.4	1.8	2.6	2.4	2.7	2.5	3.4	2.7	3.0	4.5
Yield on average	35.1	26.5	27.9	32.1	26.8	24.3	19.6	24.5	20.8	19.7	19.4
Yield on large farms	35.1	26.4	27.8	31.9	26.7	24.0	19.3	24.1	20.4	19.2	18.3
Yield on house-hold plots	35.8	32.3	31.0	34.8	27.6	28.0	23.9	29.0	24.5	24.8	26.9
Sown area	14.5	14.6	13.8	14.2	13.2	14.0	12.5	14.5	12.8	12.5	12.6

Table 4.3.2 demonstrates that the production of bread in the processing industry has decreased to approximately one third, the production of flour to less than a half and the production of pasta to one third. At the same time, we see that the consumption of those goods has decreased approximately 10 %, a negligible decrease compared to the decrease of production. Apparently, there are several explanations. First, these goods are used more efficiently and the consumption matches quite well with production. Second, bread is not used as fodder. The dual structure of the food market can be found here as well. Obviously, there are flows of these goods produced outside the processing industry reaching consumption.

Table 4.3.2. The production of bread, flour and pasta 1990, 1995-1996, 1998-2000, production per capita 2000 and production in 2000 compared to 1990 in Ukraine (Derzhkomstat 2001a).

	1990	1995	1996	1998	1999	2000	Production per capita, 2000, kilos	Production 2000 compared to 1990
Bread	6701	4114	3452	2676	2505	2461	49.7	36.7
Flour	7671	5319	4965	3890	3354	n.a.	62.0	43.7*
Pasta	360	223	172	165	154	116	2.3	32.2

Table 4.3.3. The consumption (kilos per capita) of bread, cereals and pasta in 1990, 1995, 1998-2000 (Derzhkomstat 2001a).

	1990	1995	1998	1999	2000
Bread, cereals and pasta	141	128	126	122	123

4.3.2 Grain exports

There has been no obvious trend in the value of grain exports in second half of the 1990s. The volume and value of exports have varied in an unexpected way. A small harvest has resulted in an increase in exports and a large harvest in the reverse. The value of exports reached a peak in 1999, the value being 473 million USD. The same year the harvest was the lowest in the 1990s. On the other hand, when the harvest in 1997 was the largest in the late 1990s, the exports were at their lowest. Admittedly, a good harvest can result in an increase in exports at the beginning of the following year. However, the harvest was low both in 1998 and 1999 while exports reached a peak in 1999. The trend in exports demonstrates the importance of domestic enterprise structures and the role of the government regulation in promoting or reducing trade, i.e. chain governance.

The CIS countries accounted for approximately a half of the grain exports of Ukraine in 1996. Since then their proportion has decreased. Some new destinations are obvious tax havens, such as Bermuda and the Virgin Islands. Geographically most of the countries mentioned in the table are quite easily accessible to Ukraine including Cyprus, Israel, Belarus and Hungary. The Ukraine has thus been able to find new export markets to replace the CIS countries, although Belarus has been among the five largest export destinations.

Despite the favourable conditions for growing grain, numerous factors make exporting difficult (see Striewe 2001). One obvious factor hindering free exporting is the inadequate infrastructure required for storage and transportation. Second, the government has sought to regulate the grain trade and exports. These issues closely related to chain governance and upgrading will be studied more thoroughly below.

Table 4.3.4. The export of grain in 1996-2000 and the five most important export destinations each year (Derzhavnii komitet statistiki 2001b).

	The value of grain exports (million USD)	The 5 largest export destinations, (million USD)
1996	329	Belarus (58) Turkmenistan (54) Poland (49) Russia (47) Israel (18)
1997	112	Belarus (27) Slovakia (18) Saudi Arabia (12) Israel (9) Cyprus (5)
1998	253	Israel (40) South Korea (29) Bermuda (28) UK (28) British Virgin Islands (19)
1999	473	Belarus (70) Israel (64) Turkey (42) Hungary (42) UK (24)
2000	104	Syria (16) Cyprus (12) Belarus (11) Saudi Arabia (10) Switzerland (9)

4.3.3 GCC and grain

During the Soviet time, the value chain was based on specialization. The task of the farms was to produce grain; other tasks and functions of the value chain were beyond their competence. They received necessary inputs and sought to fulfil the plans. Other organizations were responsible for storage, transport and processing (Striewe 2001). The elevators for storage and processing were huge requiring large amounts of grain. Often, the farms of certain regions delivered grain to one particular elevator. In other words, the value chain of grain resembled closely its counterparts in other the sub-sectors of the food processing industry. In addition, there was no infrastructure for grain exports, because grain was not exported. The existing infrastructure of the value chain was far from optimal in terms location. For example, storage capacity was located quite far from the majority of farms.

Compared to sugar and sunflower, the value chain of grain is more fragmented because of the numerous purposes grain is used. The table below demonstrates the purposes of

grain use and the distribution. A significant amount of the total supply is used as fodder meaning that it may never leave the farm. Seeds are also used in the farms. Therefore, the deliveries of grain from farms are much less than the production.

The pattern of deliveries of grain from the large farms has followed the same path with other goods analysed but was slightly more fragmented already in 1990. Of the grain produced by large farms in 1990, 81 % was delivered to processing companies, 13 % to workers, 3 % to market and 3 % by other channels. The pattern changed in the first half of the 1990s quite substantially. In 1995, only 37 % of the grain delivered was delivered to processing companies. At the same time, 13 % was delivered by barter, 30 % to workers and 20 % to markets (Derzhkomstat 2001d).

The fragmentation of deliveries continued and in 2000 the distribution was as follows. Of total deliveries, 25 % was delivered by barter, 35 % to workers, 36 % to market and only 4 % to processing companies. Of course, the very modest amount of grain delivered does not mean that only 4 % of the grain was processed. Instead, grain reaches processing by other channels. Unlike in other sections, there is no figure about the distribution of grain deliveries because grain is used for numerous purposes and sufficient information about the flows of goods has not been available. Still, we can make some observations. Compared to deliveries of sunflower, we see at least two important differences. First, the amount of grain delivered to workers is much higher. Second, the proportions delivered either by barter or to markets – obviously meaning also deliveries to traders – are high. Also, the grain is used as fodder to feed the increased number of animals at household plots. Moreover, the government has been deeply involved in grain procurements. The state and regional authorities have been more active in grain market than in sunflower (Striewe 2001). Grain has traditionally considered critical to food security and authorities have sought to guarantee large stocks to ensure food supply. They have also retained the control of infrastructure.

When the privatization started in the early 1990s, the Ukrainian government was intended to create a holding company to control elevators, processing facilities and bakeries. To create one holding company controlling the facilities did not succeed and the regional administrations were able to acquire the control of these facilities. Hence, regional administrations became major governors of the value chain.

Further, certain practises of delivering agricultural support resulted in the involvement of regional administration in the grain market. They were made responsible for controlling the payments for inputs and to ensure the payments they restricted the flows of goods outside their region. All these above-mentioned issues had their impact on the chain governance. Large farms were in an unfavourable position because they were often dependent on the monopolies in delivering their goods. Moreover, regional administrations were able to dictate to whom and by what prices farms had to deliver their produce.

One serious weakness of the reforms has been that several critical functions of the grain value chain were not privatised and farms have been dependent on these (often) monopolies in transport, storage and processing of grain. For example, Ukragrotrans continued to control road transport facilities and, similarly, the Ukrainian railways hold a monopoly over railways (Striewe 2001). Perhaps the most serious obstacle of exports have been, however, the inadequate and mismanaged port facilities.

Table 4.3.5. The supply and distribution of grain for different purposes in Ukraine in 1999/2000 (APK-Inform 2001b).

	1000 tonnes
Stocks at the beginning of year	2416
Production	26560
Import	564
Supply, total	29540
Export	3202
Fodder	11340
Processing in food processing industry	8502
Other industrial use	696
Seeds	3083
Losses	886
Consumption at domestic market, total	24506
Stocks at the end of the year	1832
Stocks, % of domestic consumption	7.5

In 1997, the efforts to establish more state control on the grain value finally succeeded and approximately hundred important enterprises were acquired by the Khlib Ukrainy, the state-owned holding company. It has had a clear government mandate to make a profit in the grain market and has been in a privileged position in terms of budget funding. Although it is difficult to get reliable information about the actual means it has used to dominate, it is obvious that there have not been equal opportunities in the grain market. There are conflicting opinions about its impact on fair competition. The government officials do not regard its position as problematic, but international organizations claim that it obstructed fair competition (Shevtsov 2001; Kaliberda 2001). It has been estimated that it controlled at least 20 % of grain processing capacity in the late 1990s. Moreover, it has been in a privileged position in terms of access to capital because it has been funded from the state budget. However, its financial position has not been good (Pirani 2002).

Apart from the intervention by state and regional authorities, another major problem in the grain commodity chain has been the serious inefficiency of the chain (Kompanets 2001; Striwe 2001). The table below demonstrates the costs and losses in Ukrainian grain production and distribution. The corresponding figures for Germany are presented for comparison. It is easy to notice the remarkable difference in terms of efficiency. Ukrainian grain commodity chain is substantially more inefficient in all stages of the commodity chain and, consequently, the income to farms is substantially lower (see also Sedik 2000). This state of affairs obviously calls for chain governance to make the chain operate more efficiently. Moreover, it calls for upgrading requiring investments. To upgrade and to take control of these functions would have been an obvious task for farms, but they have been unable to make the necessary investment, for the reasons explained in the third section.

Table 4.3.6. Costs and losses in Ukrainian and German grain production and distribution (all figures in percent) (Striewe 2001).

	Ukraine	Germany
Harvest losses	7.0	2.0
On-farm losses (Storage, Transport)	6.5	1.0
Transport losses	1.7	1.0
Total storage costs in elevators	12.0	6.5
Storage losses in elevators	2.2	0.2
Handling, Rail and River	4.0	3.0
Transport losses, rail and ship	0.7	0.0
Transport Costs (Ukraine: rail, Germany: ship)	3.0	3.0
Handling, Seaports	10.4	5.8
Trade Margin	10.4	4.9
Revenues for agricultural enterprises	40.5	72.4

Because farms have been unable to govern the chain and upgrade, other organizations have emerged to govern the value chain of grain processing and exports. One model of the chain governance in the grain market looks as follows. For example, there is a private holding company trading and exporting grain. The grain trading is not the only activity that the company is involved in. They may, for example, trade oil, fertilizers or even produce those goods. The initial connection to agriculture has often been established through input supplies.

The figure below demonstrates one model of the chain governance in the grain market. Holding company controls several large farms and their land. Officially the farms are subsidiaries of the holding company. This form of ownership has been chosen because it makes withdrawing easier if the farms fail. Holding companies make forward contracts with farms about buying the harvest and supplying them with fuels and fertilizers, obviously dictating the prices. The holding company organizes the storage and transport and sells the grain to the elevator in the port. Other firms organize export (Biba & Supikhanov 2001).

The practices involved in grain export stress the unequal competition in the grain market. As von Cramon-Taudabel and Zorya (2000) point out, there are bureaucratic procedures which can be used to hinder exports. It is obvious that bureaucratic procedures, demanding export licences, for example, can be used to establish unequal opportunities for potential exporters. There were a period when the state required certain exports licenses from the grain exporters. Apparently, the state company Khlib Ukrainy has been in a privileged position to deal with the bureaucracy.

To ensure the export income or income from the domestic market, it is necessary to control the infrastructure connecting farms with the export or domestic market as completely as possible. Also, one must be able to deal with the bureaucracy (Biba & Supikhanov 2001). This stresses the importance of certain assets to be able to govern the chain. The strong position of the holding companies is based on several factors.

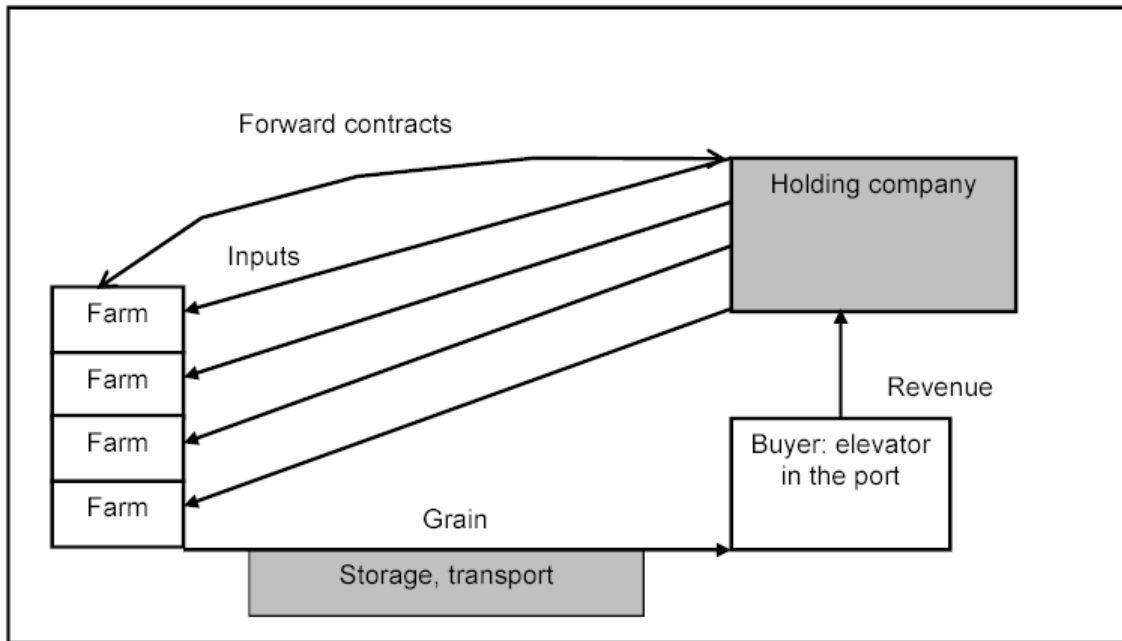


Figure 4.3.1 The chain governance of grain trade in Ukraine (Biba & Supikhanov 2001)

First, they have access to capital and they are able to arrange the funding of sowing and harvesting. Second, it is able to organize storage, transport and logistics. One must bear in mind that these functions are often based on monopolies and social networks and political and economic power assist in dealing with them. Another alternative, to establish or acquire new infrastructure for storage and transport requires investments. In addition, an accumulated knowledge about markets is also required to be able to govern the chain.

New infrastructure increased their importance in the late 1990s. Traders and other private companies either acquired existing storage facilities and elevators or invested in new ones. These companies were initially either from outside agro-food sector or processing companies. Aside with the huge and often state-owned existing elevators – which were seriously lagging technically – new elevators and storage facilities emerged (Kononevich 2001). They were better equipped and served better the interests of those processing companies that required high quality raw material. The huge state-owned elevators were mostly operating by “daval’cheskie” terms. Those companies that have invested in elevators and storage facilities are often investing in agriculture as well (Kononevich 2001; Olimpeks 2001). In other words, they seek to govern the chain as completely as possible. Those companies can operate either in the domestic or both domestic and export markets. Towards the end of the 1990s large international traders increased their activities in Ukraine (Pirani 2002).

We see quite easily that the grain market is not a buyer driven. The competition is not primarily based on the quality but, instead, on price. The grain value chain resembles more the international trader driven chain and towards the end of the decade, an increasing number of international traders started to operate in Ukraine. The traders clearly are the agents governing the chain.

The access to capital and accumulated knowledge about markets are the reasons why the traders have been able to govern the chain. Still, there are some other reasons resulting in the trader driven chain. They are rooted in the overall operating environment and, in particular, the inadequacies of the Ukrainian economy. First of all, to deal with the monopolies controlling infrastructure both social networks and economic and political power are required. In other words, the chain governance requires assets, which are connected to the agro-food value chain itself but also to the operating environment in general. To establish new facilities requires that company possesses capital or is able to acquire it without functioning banking sector.

Also, we perceive a picture where the relationship between the domestic traders and the farms resembles closely the relationship between farms and international traders. The chain governance carried out by domestic traders is based on similar assets with the international traders although the chain exists within one country.

4.4 Milk and Dairy Industry

4.4.1 Milk production

Milk production and dairy industry differ from other value chains studied above. They are predominantly oriented to domestic market. This chapter is an effort to introduce the GCC approach or, at least, some concepts of the GCC approach to a predominantly domestic-oriented value chain. As was argued in the second section, some key concepts of the GCC approach could be used to analyze the dynamics of the value chain within one country. In the value chains studied above, the large farms still dominate in primary production whereas in milk production household plots account for the majority of primary production. Therefore, it offers a case to analyze in which chain governance has to find the strategy to adapt to fundamentally altered conditions in input supplies.

During the Soviet period, 77 % of the milk was produced at large farms. They delivered their produce to processing units, which, in turn, delivered processed goods to consumers. Household plots produced for themselves and local markets, but not for processing. The functioning of the chain was based on large volumes in all stages of the chain, soft budget constraints and ample subsidizes to agriculture. In addition, the processing industry did not meet competition at the retail market. On the contrary, consumers were competing for the goods produced. Consequently, neither the processing industry nor retail trade were relying on the information of the requirements of the market and consumers' preferences in decision-making about what to produce and what to require from the farms supplying them with inputs.

During the Soviet period, household plots accounted for 23 % of milk produced. The milk was consumed by the producers or was sold at local market. During the 1990s, a significant change took place. The household plots accounted for 71 % of the milk produced in 2000 the large farms accounting for the remaining 29 %. The change was gradual as the table below demonstrates (Derzhkomstat 2001c).

Table 4.4.1. The total milk production (million tonnes) and the proportion of large farms (LF) and household plots (HP) in Ukraine 1990-2000 (Derzhkomstat 2001c; Derzhkomstat 2001d).

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total production	24.5	22.4	19.1	18.4	18.1	17.3	15.8	13.8	13.8	13.4	12.7
LF, total production	18.6	16.5	13.0	11.7	10.9	9.4	7.7	5.4	5.3	4.7	3.7
LF, total deliveries	18.0	15.6	n.a	n.a	n.a	6.8	n.a	n.a.	3.6	3.2	2.7
LF, share in total production	76	74	68	64	60	54	48	39	38	35	29
HP, total production	5.9	5.9	6.1	6.7	7.2	7.8	8.2	8.3	8.5	8.6	9.0
HP, share in total production	24	26	32	36	40	46	52	61	62	65	71

The production of milk and milk production in processing industry decreased dramatically in the 1990s. The total production of milk products in 2000 was only 10 % compared to production in 1990. We should bear in mind, however, that the consumption of milk did not decrease that much. The consumption of milk and milk products was 373 kilos in 1990. In 2000, the consumption was 198 kilos, a little more than half of the consumption in 1990. Still, consumption has decreased much less than the production of processed milk products. It means that there certainly is a dual structured market of milk and milk products. Apart from the goods produced in the processing industry, there have been a lot of unprocessed dairy goods as substitutes available. Also, the large amount of production at household plots accounts for a substantial share of milk consumption without the milk ever entering retail sales or market places. For example, of the 42 kilos of milk consumed (per capita) in Ukraine in 2000 only 4 litres was packed (Kovalenko 2001).

Table 4.4.2. The production of the most important dairy goods (thousand tonnes) in Ukraine 1990, 1995 and 1998-2000 (Derzhkomstat 2001a).

	1990	1995	1998	1999	2000
Milk products	6432	1293	691	700	699
Sour milk goods, of which	380	116	119	137	158
-Yogurt	-	-	6	10	18
-Sour cream	476	77	40	42	45
Milk powder	61	21	8	9	11
Cheese	184	74	52	53	67
Butter	444	222	113	109	135

Only a limited amount of people has been able to purchase the goods processed in the industry and the processing companies have competed with imports at diminished market. As a result, the previous amounts produced at processing industry appeared to be too large and, consequently, the previous amounts of raw materials appeared to be too much. Hence, the production by large farms decreased because previous amounts of milk were no longer required for processing. Household plots have been more competitive at the market places where unprocessed goods are sold than large farms, which in principle have equal opportunities to compete there. The structural change faced by the dairy sector has been so fundamental and many agents of the chain have found it hard to adapt. Chain governance has indeed been needed to adapt the entire value chain to meet the requirements of changed conditions.

4.4.2 GCC and dairy sector

When the economic reforms began in 1992, they had an immediate impact on the entire dairy value chain. Several important changes can be listed. First, the food market opened up for competition. The simple supplying consumers with dairy products was not enough to succeed in the new conditions. The food processing companies did not possess the critical asset, on which the position of retailers and food-processing enterprises as the governors of the chain is based elsewhere, i.e. information about the requirements of the market. Moreover, they had no experience of operating in the market. The foreign companies entering the market were used to acquire information about the requirements of the new markets and consumers were willing to try new produce having just entered the market. Both factors had adverse impact on the competitive position of Ukrainian milk and dairy value chain. Second, purchasing power decreased. Meat and dairy goods have been highly income elastic. When incomes have decreased, consumers have bought less meat and dairy goods. The chain has been obliged to cope with a diminished demand to processed goods. Third, the public support was cut dramatically.

To be able to construct a structured view of the milk value chain we need to know the structure of the deliveries. Concerning the deliveries from large farms, statistics exist, but concerning deliveries from household plots we must rely on estimates. In 1990, virtually all milk produced (99 %) by large farms was delivered to milk processing industry; processed there and distributed through retail sales. That was the primary flow of milk in the value chain. The secondary flow of milk came from household plots to market places (see figure 4.4.1).

The amount of milk produced and delivered by large farms decreased steadily throughout the 1990s. The share of milk delivered to processing industry has remained the largest channel throughout the 1990s but alternative channels have increased their shares. For example, deliveries to processing industry accounted for 87 % of the total deliveries in 1995. At the same time, deliveries to market(places) accounted for 9 % of the total deliveries and other channels of deliveries – to workers instead of salary and barter – accounted for 2 % and 2 % respectively. Towards the end of the decade the total amount of milk deliveries continued to decrease and so did the deliveries to processing industry and market(place) as well as deliveries to workers and barter. In 2000, the shares of channels of deliveries looked as follows. The deliveries to processing industry accounted for 66 %, to market place 21 %, deliveries to workers 8 % and barter 5 %.

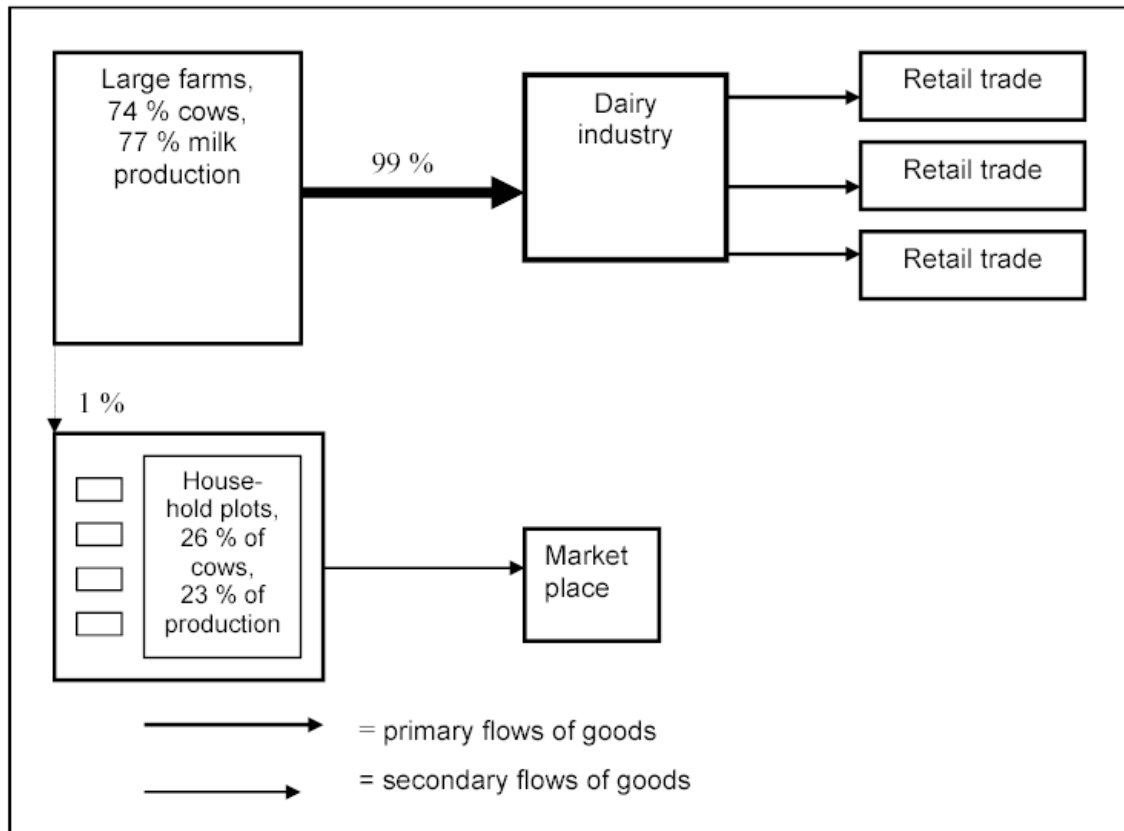


Figure 4.4.1. The milk GCC during Soviet time

The production of milk products by the dairy industry has decreased significantly and is only approximately 10 % compared to production in 1990. The deliveries of milk from large farms to processing industry were 17 million tones in 1990 but only 1.7 tones in 2000. The deliveries have decreased approximately as much as the output of processed goods.

Even though the amount of milk delivered to processing industry matches quite well with the amount of processed goods, there is information that household plots also supply dairy industry with milk and that they actually play a significant role in producing raw material for the dairy industry. According to estimates, they account for even 50 % of the raw material supplies for the dairy industry (Boltina 2001). As long as we do not have exact information about the milk supplies to dairy industry we should base our analysis on estimates, which seem to create an unclear picture of the deliveries. For example, it is likely that large farms acquire milk from household plots and sell it further to industry. This could explain the high estimates about the household plots' proportion in supplies.

Figure 4.4.2 represents the situation in the dairy sector in general. There is not necessarily any governance in separate value chains. Many value chains have unable to adapt to meet the changed requirements of the changed market. Some dairy enterprises have been, however, able to govern the chain. Such situation will be studied below. Household plots have survived better, on average. They have been able to increase their production. Moreover, they have in some cases been able to increase their sells at market places and even become raw material suppliers of the processing industry.

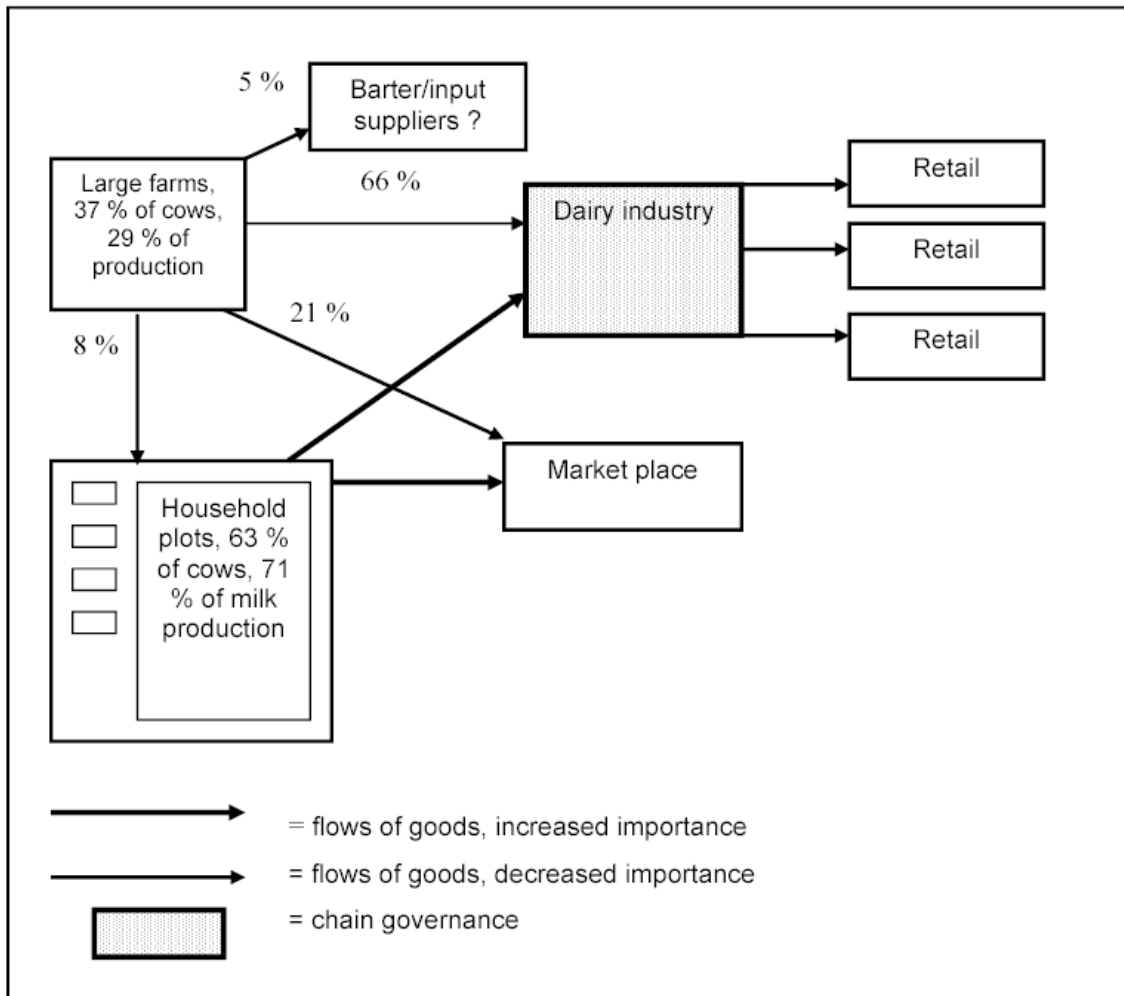


Figure 4.4.2. The GCC of Ukrainian dairy industry

The increased proportion of milk production at household plots and its use for dairy industry's raw material supply is an interesting case demonstrating the adaptation of the value chain in altered conditions and, more importantly, how the adaptation has been governed. One must bear in mind that there was no infrastructure connecting household plots and dairy industry. The milk value chain requires certain equipment to sustain the quality of milk during transportation, for example. The value chain of the milk and dairy production during the Soviet period was based on large farms. The adaptation has altered not only the acquiring of raw material, but the conditions in which the entire chain operates.

There have been certain requirements and aims for successful chain governance. Obviously, the production volume of the entire value-chain should have been downscaled which is hard to implement without sound governance. The dairy industry has been in a key position when solving the problems of the entire milk processing chain. Success and survival of dairy enterprises have required a total change in their strategies (Boltina 2001; Kovalenko 2001; Vintonjak 2001). In the beginning of 1990s, the dairy enterprises had no experience in operating in market conditions. Everything they produced was hoarded without any marketing effort and they enjoyed a guaranteed

raw material supply. In the industry itself, profitability and efficiency were not their primary goals. Instead, to fulfill the plan was the main imperative.

Since the beginning of the market reforms, food industry has encountered several changes. To govern the entire chain has become a necessity for several reasons. The necessity of governance has included both upward and downward linkages and the industry itself. The food processing industry has not needed the previous amounts of milk for processing since the purchasing power of the consumers has decreased and, consequently, the volume of market for their produce has decreased. In the course of the 1990s, the ability of the agricultural sector to produce a sufficient amount of raw material for the food processing industry was deteriorated, and the food processing industry has had difficulties in acquiring raw materials, especially in terms of quality.

The leading dairy enterprises have all been obliged to pay attention in raw material supplies either by directly investing to (large or small) farms or otherwise assisting them in acquiring equipment. For example, Galakton – the leader in Ukrainian dairy industry – encourages farmers to produce better milk by paying them dependently on the quality of milk. It has a special unit for taking care of the quality of milk. Galakton has also put great effort in marketing and creating brands etc.. In other words, to become the leading dairy enterprise, Galakton has been obliged to govern the entire value-added chain. One reason behind its success has been that it has able to produce what consumers have been willing to purchase, i.e. it has possessed the information about the requirements of the market. More importantly, it has been able to organize a functioning and efficient value-added chain including high quality raw material supplies. It has been able to assist the other parts of the value chain, especially farms, in reaching the quality it requires. The main reason for that has been that it controls the cash flow and receives its income in cash, an important asset in otherwise barter dominated economy (Boltina 2001).

The dairy industry has been able to acquire valuable material about consumers' preferences. New products have been launched for consumers, yogurt being the best example. However, the buyer-driven framework stressing the importance of the information about the requirements of the markets is clearly not enough to explain why the dairy industry has become the one governing the chain. To establish a successful value-chain obviously requires more than just information about markets. To meet the demands of the market – high quality production – requires high quality raw material supply and, in turn, investments, which the farms are not able to make. Therefore, the dairy industry's assets in being able to govern the chain have also something in common with international traders possessing adequate financial resources.

To conclude, the milk and dairy value chain seems to have a lot in common with buyer-driven type but the information the industry certainly possesses better than farms is not enough to explain its strong position. The importance of cash flow enabling necessary investment resembles Gibbon's argumentation about international traders concerning the factors in which their ability to govern the chain is based.

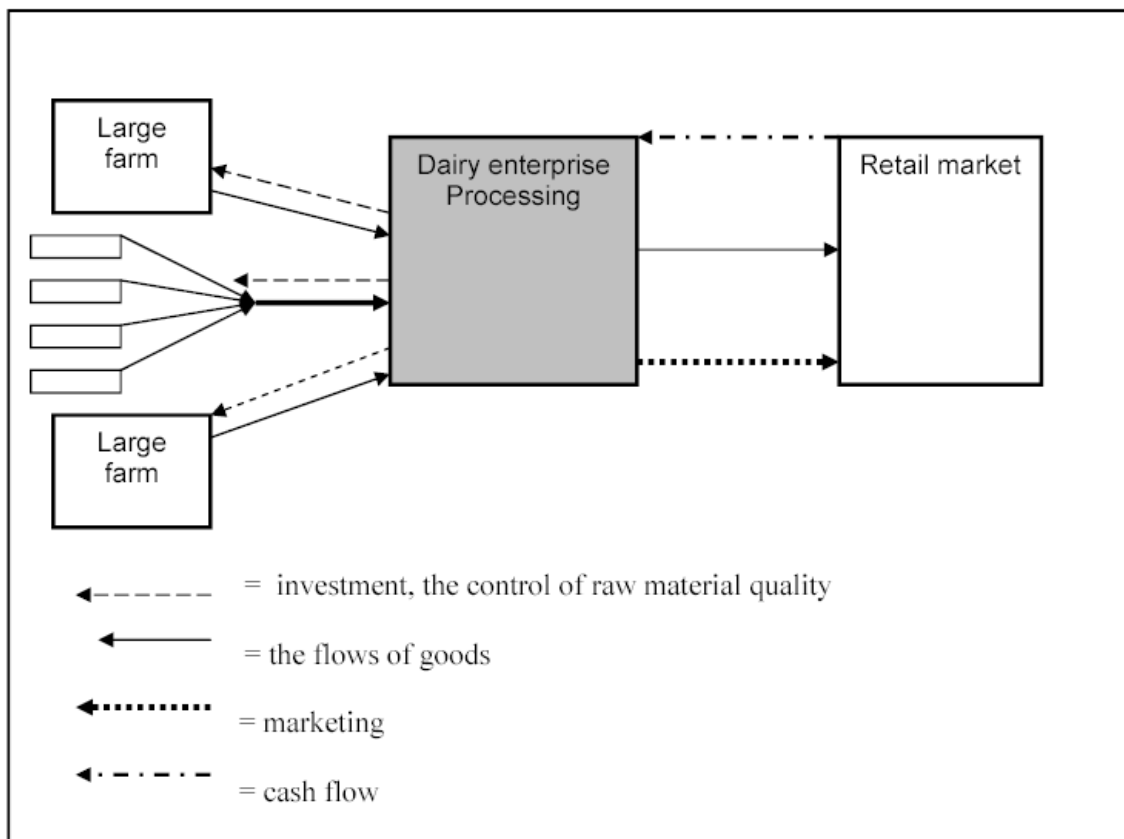


Figure 4.4.3. The governed milk and dairy value chain.

Some notes about the GCC approach in studying development inside one country are necessary. Dolan and Tewari argued that, first, differences in quality requirements in domestic and foreign market necessitate chain governance. Second, inability to meet the quality requirements of the markets necessitates chain governance. Third reason for the governance is the risk of poor supplier performance. Concerning the first point I argue that similar differences in possessing information on markets can exist even inside one country. One must bear in mind that we are studying a country where no market existed twelve years ago. Although the retail market is domestic, farms may still be unaware about the requirements and, therefore, unable to meet the requirements. Argumentation about the asymmetric information causing buyer-driven chain is true not only in foreign trade but also inside one country. There are markets of different requirements and to meet the requirements of the advanced, higher requirement market, the chain governance is required.

To sum up, the milk and dairy value chain proves that the concepts of the GCC approach originally introduced to study international trade are useful in explaining the dynamics of a value chain in one country. Further, the buyer-driven/producer-driven dichotomy should be extended to match better the conditions of Ukraine. Especially important seems to be the cash flow enabling the processing industry to assist farms in meeting the requirements for raw material. Also, the dairy industry attracts investments outside the chain – from banks, for instance – and redistributes resources to agriculture.

5 Conclusions and Discussion

5.1 Conclusions

The dimensions of the structural changes of the Ukrainian agro-food sector have been numerous in the 1990s and one study is unable to deal adequately with all of them. Therefore, this study set out to focus on the Ukrainian agro-food from the vantage point of the global commodity chain (GCC) approach. In addition, the study restricted its focus on the first nine years of independence, i.e. 1992-2000 and, in particular, on the second half of the 1990s. The year 2000 can be regarded as the starting point of a new period in the Ukrainian agro-food sector but such observation comes to the focus only if the analysis of the period before the recovery is considered.

The introduction of this study set out certain tasks. First, to describe the fundamentals of the development of Ukrainian agro-food sector. Second, to introduce the GCC approach to study the agro-food sector of the FSU countries. And third, to contribute to the discussion of the GCC approach.

The GCC approach has previously been used to study the agro-food sectors of developing countries, which have certain similarities but also differences with the FSU countries. In the 1990s, Ukraine was obliged to open up its market and integrate its agro-food sector into the global agro-food markets. It encountered the same challenges of the world agro-food market like any other country. The starting point was, however, totally different. During the Soviet time the agro-food value chain was based on large volumes and production units in all stages of the chain. It has been described as plan driven in this study. In other words, none of the agents of the chain was governing the chain because the planning organizations governed. In addition, there was no experience of operating outside the FSU.

The production of agriculture decreased to approximately a half in the 1990s. An important reason for that was the decreased public support. The major structural change in agriculture was the decreased production at large farms and, consequently, the increased share of household plots. Their production increased slightly. The livestock sector at large farms was hit hardest. The decreased production of agriculture – and food processing industry – could have been regarded as successful adaptation because the demand at the retail market decreased. The adaptation was not, however, successful. The farms became heavily indebted, were unable to use the necessary inputs and became dependent on traders and input-suppliers. The farms were obliged to deliver a substantial part of their production to them and, what is more important, in terms that did not benefit farms. One important reason for the unfavorable position of farms in the value chain was that they were not able to use land as a collateral because the legislation prohibited it. Of course, that was not the only reason. Large farms could not, by and large, find proper ways to adapt in the changed environment. They were used to operate in a stable environment with ample subsidies, inputs and, the most important, guaranteed demand for their produce. The understanding of the requirements of market and market economy in general were lacking and management skills did not enable successful adaptation. The lack of knowledge of the requirements of the markets has been regarded as one reason for chain governance in previous studies. Hence, the development of agro-food sector and the inadequate knowledge at the farm level in

Ukraine seems to be in line with these arguments, although the previous studies investigated international trade. The chain governance occurred because the farms have not possessed the necessary knowledge and experience about markets. Also, they were unable to receive loans to make the required investment to adapt because they did not possess the required assets: collaterals and management skills. Farms have been dependent on the other agents of the value chain, which started to govern the chain.

The food processing industry also found it hard to adapt to market economy. The diminished purchasing power resulted in the diminished demand for processed food and, as a result, the processing industry has had ample excess capacity, which had to be downscaled. Moreover, it had to learn to take the consumers' preferences into account and to compete with imported food at the retail market.

One of the conclusions of this report is that a dual food market emerged in the 1990s and especially the traditional value chain – large farms, large processing companies and retail trade – found it very hard to adapt. The dual structured food market consists of, first, retail market selling processed goods, both imported and domestic. Second, there are marketplaces selling unprocessed goods. Also, a substantial share of consumption never enters the market because household plots produce both for the owners of the plots as well as their relatives. The diminished purchasing power, the emerged dual structure of the food market and in some cases ceased exports have necessitated the adaptation but not all value chains have been able to adapt. Successful governance has been required. Certain value chains have been able to adapt to changed conditions. In most of the cases the food processing enterprise has been the agent that has been able to govern the chain and the adaptation process. The adaptation has required investments, successful marketing and fulfilling quality requirements. Also, the correct scale of the production has been important.

At the farm level, the household plots have succeeded better than large farms. They had functioning, although primitive, marketing channels already during the Soviet time and they have been able to govern their own value chain including production and selling and – sometimes – primitive processing. Concerning household plots, however, to become a part of the food processing value chain has required investments and chain governance by the food processing industry as the dairy industry typified. One important reason for the strong position of the processing industry and its ability to govern the adaptation has been the cash flow from retail sales. The agro-food sector demonstrates the importance of the access to capital as a precondition and important asset enabling the chain governance. The dairy sector also demonstrates that the information about the food market is important but by far not the only precondition for chain governance. Obviously, there have been marked differences between the sub-sectors of the food processing industry. Meat processing has been hit hard because the amount of consumers able to pay for processed meat has been limited and household plots have supplied market with unprocessed meat.

The second task set out for this report was to ascertain whether the GCC approach could be used to study the agro-food sectors of the FSU countries. I argue that the GCC approach proved to be a suitable analytical framework for that purpose. First, we were able to analyze the possibilities of the individual agents of the chain: farms and processing industry in particular. Moreover, the GCC approach also offered a

framework to study individual sub-sectors, i.e. sugar, sunflower, grain and dairy. In other words, the scale of the analysis proved to be correct and fruitful.

I argue that the GCC approach can be used to study value chains within one country although the word global is not necessarily needed in that case. Some concepts of the GCC assume that the value chain is a cross border one but similar structures can be found inside one country as well. For example, Dolan and Tewari (2001) listed cases when chain governance can occur. One case was that agricultural producers do not possess the information about the requirements of the foreign market. In Ukraine, however, we perceived a picture where the large farms have not possessed the information about the requirements of the market, the main reason being that they have never operated in the market. Therefore, distance and the location of the market in another country are not the only explaining factors.

The general assumption about agro-food value chains has been that they are buyer driven. This assumption is, however, based on a limited amount of case studies. This study sought to contribute to this discussion. The conclusions made concerning the four goods analyzed seem to be in line with Gibbon's arguments about whether the perception of agro-food value chains as buyer driven can be generalized to include the entire sector. The sub-sectors and value chain studied here cannot be considered buyer driven and, consequently, the agro-food sector as a whole cannot be regarded as buyer driven. Hence, this study supports Gibbon's arguments. The dairy sub-sector has some common characteristics with the horticulture chains studied by Dolan and Humphrey, but there are significant differences as well. The other three case studies resemble international buyer driven chains although they can be located inside Ukraine.

Of the most important sub-sectors, sugar performed less successfully. Until 1997, Ukraine exported large amounts of sugar to Russia. After that, the exports ceased because Ukraine was not able to compete in the Russian sugar market. Russia opted for cheaper alternatives, first of all, sugar cane imports from Cuba and Brazil. The buyer driven chains stress the importance of quality requirements rather than price in competition. The sugar sub-sector clearly demonstrates that there are goods in which price dictates the success and where other requirements such as quality have only secondary importance. Therefore, sugar cannot be regarded as buyer driven chain but, instead, resembles international trader driven chains. Russian traders were able to find cheaper substitutes to replace imports from Ukraine because the competition was based on price and Ukraine failed to compete. Russia created trade policy rents to competitors and Ukrainian value chain was left without assets to compete successfully.

The sunflower has been the most successful sub-sector. Although the development of the sector has been quite favorable and profitable, a closer look at the dynamics of the value chain revealed that the position of the farms has not necessarily been that favorable. Farms became dependent on traders and input-suppliers that governed the chain. There were several decisive assets enabling governance. First, they have access to capital and they can supply the farms with necessary inputs. Second, they have the necessary social networks, economic and political power to organize the functioning value chain in which many critical parts have been controlled by monopolies. Third, trading firms have accumulated knowledge about markets. The chain governed and controlled by traders cannot be considered as buyer driven. Instead, it resembles closely international trader driven chains based on Gibbon's studies. The sunflower sub-sector

also demonstrates how a successful upgrading takes place. Until 1999, Ukraine exported mainly sunflower seeds and the traders had the assets to control the chain. The processing industry lobbied for the export tax and succeeded. In 1999, Ukraine introduced an export duty and it boosted domestic processing. Ukraine started to export more sunflower oil. In other words, the Ukrainian government created critical trade policy rents for industry and enabled the upgrading. The critical asset that enabled the upgrading was the political and economic influence on decision makers. The change did not however improve the position of the farms. They had not been able to create assets to improve their position in the value chain.

The grain sub-sector resembles sunflower in terms of the position of the farms. They have been dependent on traders and input-suppliers. One important difference, however, existed. The state intervened on the grain market whereas the sunflower market remained mostly intact until 1999. The traders in the grain sector also demonstrate the importance of access to capital and the ability to organize certain critical functions in the value chain, including storage and logistics. In the grain market there has been a situation in which the state has created assets for one of the agents, i.e. state-owned trading company Khlib Ukraini.

To conclude, the Ukrainian agro-food sector encountered a difficult transformation in the 1990s. The agents of the chain were not, however, in equal positions when they sought to adapt. During the Soviet time the entire chain was governed from outside the chain. Especially in the early 1990s the government still sought to govern the entire sector, but failed to do so because the resources were inadequate and the previous methods of governance did not function any more. The fundamental change of the agro-food sector was that new governing structures emerged gradually in the 1990s. First, there were food processing enterprises that were able to govern the chain, mainly because they possessed the required resources to invest and, by doing so, to adapt. Second, there were enterprise structures from outside the agro-food sector that entered the sector. Some of them have been involved in agriculture supplying farms with inputs. They possessed several critical assets. First, they had access to capital and that was very important because the banking system was not working properly. Second, they had information about the markets: prices and requirements. They had got involved in agro-food markets perhaps by selling goods they received by barter from farms. Third, they often had the ability to organize critical functions of the value chain: storage, transport and logistics. Those parts of the value chain had been monopolies requiring political and economic power to deal with.

I argue that the GCC approach can explain the differences in the performances of different agents. In addition, the constructed view of the Ukrainian agro-food sector contributes to the discussion on the GCC approach. In particular, it seems to be in line with Gibbon's arguments that the agro-food sector in general cannot be regarded as a buyer driven. Moreover, this study points out some additional explaining factors when we try to explain who is able to govern the chain. And at this point the FSU countries are slightly different from the countries studied previously and, consequently, we should extend or redefine some concepts of the GCC approach. First, we should also focus on the operating environment surrounding the agro-food sector and what are the assets of the agents to deal with the poorly defined property rights, authorities in general and monopolies, i.e. ill-functioning markets. In other words, apart from the distribution of

assets within the agro-food value chain, we should take the overall operating environment into account. Second, the access to capital is important in the economy without functioning banking system. And finally, we should not forget that different agents learn to operate in a market in various paces. The market was something new in Ukraine and the quick ability to adapt was certainly an asset. We obviously need to introduce a new group of assets and rents to describe the importance of social networks and political as well as economic power enabling the chain governance. Perhaps they could be called influence rents.

As was pointed out in the introduction, the initial material set some limits to the research because the material had to cover the agro-food sector as widely as possible but without an opportunity to focus on some particular sub-sector. Still, I argue that as a first step to study the Ukrainian agro-food sector the approach has been fruitful even without focusing on some particular sector.

Some observations can be made for further research. It should include, first, numerous interviews along some particular chain to get an in-depth view on the dynamics of the value chain. Second, the theoretical foundations of the GCC approach could be enriched by linking the studies of value chains to studies on institutions (see Brooks 1995; Gellynck et al 2002) and the economic networks in the post-socialist economies (see Grabher & Stark 1997). As I argued earlier, one important issue in explaining the positions of different agents is their political and economic power. This study sought to explain what agents of the chain are more likely to become the governors of the chain. Do they have the assets to overcome the inadequacies of transition economies, the poorly working banking sector being the best example. One question especially requiring further research is the unfavorable position of farms. Why their political power has been inadequate to carry out decent land reform? One answer could be that there so striking conflicting interests among farms and that they do not actually have any common interests to lobby. Further, the GCC approach could be enriched by linking it more intensively with geography. Some efforts have been made, but there is certainly room for further contribution (Hartwick 1998; Leslie & Reimer 1999).

5.2 Discussion

During the last couple of years Ukrainian agro-food sector has been able to recover. After the period on which this study focused, both agriculture and food processing industry increased their production. The agricultural and food processing sector has clearly become more attractive in recent years. There are many reasons for this. The structural changes in the food processing industry and the growth in production over the last few years have been the consequence of new owners in the food industry, who have invested in companies and brought necessary know-how in marketing and management. The purchasing power has also developed favorably, particularly in larger cities. These issues have been of central importance to the development of the entire food processing chain.

One of the background factors has been the changes taking place in the surrounding economy. The economy has begun amassing capital in search of investment targets. The banks' willingness to lend money to the food processing industry has also increased. Agricultural policy has also been changed during the last few years, to less hinder the

activities in the agricultural sector. In December 1999, legislation concerning land and farm ownership was changed, improving the issue from the point of view of agriculture. Collective ownership of farms and land was discontinued.

The growth of agricultural production has been focused on the successful and profitable sectors. The government's possibilities to affect the profitability of production and the choice of produced goods, e.g. through agricultural support, are small. This is why production has been funneled into the profitable sectors, and the sown areas have increased. The growth in production within the profitable sectors has occurred mainly through an increase in sown areas; yield per hectare decreased for all significant cultivated plants. There is no change expected in the effort to focus production on the profitable sectors, since the freedom of the farms to decide for themselves increased further in 1999. Agriculture is increasingly guided by market mechanisms.

In the last few years, the agricultural sector has been able to receive short-term loans for seasonal work. The profitability of agriculture has improved, and the majority of loans have been paid back. The new players in agriculture have enabled the availability of loans for agriculture. Loans for a few years, necessary for machinery acquisitions, are however still difficult to come by.

The attractiveness of agriculture is based on good conditions for agriculture. The abasement of agriculture in the 1990s did not do away with many of the competitive advantages of agriculture. The land is still good and the climate favorable. During the last decade, the infrastructure inherited from the Soviet Union deteriorated, and showed the uselessness of the planned economy operational models for large farms. The prerequisites for large-scale farming have not disappeared, but they presuppose changing the operational methods of large farms. The farms themselves have not become significantly more attractive. Effective operations require efficient management and up-dated technology. A positive development is largely based on capital flowing from outside agriculture, and also partly from outside the entire food processing chain.

The operational models to be followed in agricultural markets are generally affected by the demand for wide-reaching control of the value chain. This applies to the food processing chain, as well as the sale and use of agricultural machinery. At the same time, the prerequisite for efficiency in primary production is making the whole production process more effective. These three issues affect the operational models that are applicable to the markets.

The most important factors affecting the future development of agriculture and the food processing sector are probably visible already, although perhaps not yet dominating. Many factors deteriorating the development of agriculture and the food processing industry have partly been corrected. The demand for foodstuffs and agricultural products has grown. The government has lessened its interference with agricultural operations, although not stopped entirely. The operations of the value chain are increasingly based on free interaction between companies. The biggest problem has been the slowness of change at the farm level operational procedures, but it is compensated by the ability of agriculture to attract new entrepreneurs. There are strong arguments for a positive turn of development in agriculture and the foodstuffs sector. The problems of the surrounding economy are likely to remain significant factors hampering the development of the agro-food sector.

The most significant, possible change in agriculture is the liberation of selling and buying of agricultural land, postponed until 2004. Land reform is also not a certain guarantee for positive agricultural development. It would improve the farms' possibilities of getting loans e.g. for machinery acquisitions, but does not remove other problems related to agricultural development. It does not make farming more profitable, nor does it increase demand for the final products. It also does not automatically make the farms any more honest debtors, even though the land would be accepted as collateral. The impact of the land reform would be positive, but successful operational models for agriculture have also been developed without it. The significance of company and farm-level solutions will also be emphasized in development during the next few years. A farm or company adjusting its activities to the current conditions can be profitable, but the operational models inherited from the age of planned economy do not have a future even if the agro-food sector as a whole were to grow.

All sub-sectors within agriculture will not grow, even though overall production would. Sugar production demands in-depth restructuring. Sunflowers and grain have the best growth expectations. Increasing the yield per hectare back up to the level it was ten years ago, with the current sown area available, principally offers the opportunity to considerable harvest growth in the next few years. It calls for investments and increased use of inputs. Increasing crops require increased processing capacity. It is also likely that agents in each field – for example a grain producer – want to manage the value chain themselves by owning storage and processing capacity. Agriculture has not been able to invest in these functions on its own, but anyone becoming an agricultural entrepreneur is likely to produce as much added value as possible, i.e. governing the chain as completely as possible.

The demand for foodstuffs in the domestic market is likely to undergo some positive development. This carries special significance for milk production. In order to increase production, the dairy industry must ensure primary milk production, which during the 1990s diminished to such a degree that investments became necessary. Now milk can be collected to dairies from large as well as small farms. The dairy industry sets quality demands for the milk to be processed, and these cannot be met by primary production without investment. The industry's position remains problematic regarding meat production and processing, since the self-sufficient production of meat from household plots and market place sales reduces the demand for meat and meat products processed by the industry. Growth and investments are expected in the sectors processing grain.

Export will remain a significant factor steering the development within the sector. The changes occurred in the export of different products exemplify the factors threatening exports in the future. The export of sugar has crashed due to the poor competitiveness. The reason for the decrease of the export of sunflower seeds is the export tax. The unpredictability of the authorities' operations and subsequent export limitations supported by domestic pressure groups will possibly occur also in the future. They limit the possibilities of the profitable sectors within agriculture to develop.

The uncertainty factor in growing grain, from the point of view of primary production, is the management and inefficiency of storage and logistics. This decreases the share of primary production in export income, and has a negative impact on development. The aging storage and delivery equipment is unlikely to cause the entire export to crash,

since many companies depend on export and there is a market-based export infrastructure emerging.

Export in the agricultural and foodstuffs sector is focused on products of a comparatively low level of processing. Ukraine is striving to raise the level of processing of the export, but is experiencing difficulty in retaining the competitive advantage in know-how- and technology- demanding processed goods. Grain has been exported to e.g. the Middle East, and sunflower seeds to EU countries. The most important export market for meat and processed goods has been Russia. The situation as a whole is unlikely to change without investments in the processing industry, which could raise the level of processing.

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