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Ukraine

Review of the Sunflower Oil Sector
Sector Review

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Food and Agriculture Organization of the United Nations

European Bank for Reconstruction and Development

UKRAINE

REVIEW OF THE SUNFLOWER OIL SECTOR

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Currency Equivalents

US$1 = UAH5.18 (2002)
US$1 = UAH5.10 (2001)

ACRONYMS AND Abbreviations

AMS	Aggregate Measurement of Support
BOD	Biological Oxygen Demand
CEE	Central and Eastern Europe
CAE	Collective Agricultural Enterprise
cif	cost insurance and freight
CIS	Commonwealth of Independent States
CO	Carbon Monoxide
COD	Chemical Oxygen Demand
DOEP	Dnepropetrovsk Oil Extraction Plant
EBRD	European Bank for Reconstruction and Development
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FAT	Fixed Agricultural Tax
FOP	Free On Board
FTA	Free-Trade Agreement
GMO	Genetically Modified Organism
IMF	International Monetary Fund
MFN	Most Favoured Nation
NOx	Nitrous Oxide
OEC	Oil Extraction Company
OEP	Oil Extraction Plant
p.a.	per annum
PCA	Partnership and Cooperation Agreement
SWOT	Strengths, Weaknesses, Opportunities, Threats
tpd	tonnes per day
UNDP	United Nations Development Programme
VAT	Value Added Tax
WTO	World Trade Organization

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EXECUTIVE SUMMARY

(i) In this report, we present a review of the oilseed production and processing sector in Ukraine. We begin by analysing oilseed, oil and meal supply and demand, and concentrate more specifically on sunflower seed. We then proceed to discuss the main policy issues that currently have an impact in the crushing sector.

(ii) Throughout this report, it will become apparent that three key issues affect the crushing sector: a severe lack of credit; the 17% export tax, which reduces the domestic price of seed; and the failure to reimburse value added tax for oil product exporters, which places a considerable burden on crushers.

SEED PRODUCTION

(iii) Sunflowerseed is by far the most important oilseed produced in Ukraine, and the country ranks as the third largest producer in the world, behind Argentina and Russia. We anticipate that improvements in sunflower yields over the next decade will enable Ukraine to reach an average output of around 3.0 million tonnenes of seed per annum. In recent years sunflower has been the most profitable crop in the regions where it is grown in Ukraine. Sunflower also requires lower inputs than alternatives and therefore has further benefits for liquidity in the farm system.

(iv) Inability to get sufficient credit is a major issue for Ukrainian farmers. For some farmers credit can be secured against standing crops and the physical assets of the farmer, with the ratios for collateral against credit varying from approximately 2:1 to 5:1 for the majority of farmers, depending on the perceived risk and credit history of the individual. The land reform is not yet completed, and the inability to use land asset as collateral considerably constrains farmers' access to credit. Some banks are currently making contracts with elevators that hold grain as collateral for loans taken by farmers. However, the Government has yet to implement the law permitting a system of warehouse receipts to develop, and this delay continues to prevent farmers from borrowing on stored seed.

(v) The Government has a scheme of subsidising interest payments on credit for expenditure on local inputs, though farmers find the processing of applications slow and time consuming, and the requested compensations often do not materialise.

(vi) Lack of credit often forces farmers to sell their crop immediately after harvest when prices are low. High costs and perceived mismanagement of independent elevators reinforce this tendency.

(vii) The profitability of sunflower seed relative to other crops has reduced the rotational periods between sunflower crops on many farms, which has affected soil fertility and increased disease risk. Fertiliser use has dropped due to credit constraints and thus soil fertility decline is directly reflected in yields.

CRUSHING

(viii) Sunflower oil output declined in the mid-1990s as difficulties in securing credit to pay for seeds compounded the problems caused by attractive seed export opportunities. Domestic processors were hit hard as seed was diverted to export markets. Seed exports increased dramatically in this period.

(ix) Crushing activity and vegetable oil output subsequently expanded after the imposition of a 23% export duty on sunflowerseeds in October 1999. However, the effectiveness of this tax was eroded by a loophole exploited by exporters, which enabled them to export seed under tolling contracts with foreign crushers. In July 2001, the export tax was reduced to 17%, but, at the same time, overseas tolling arrangements were banned. Therefore, while the tax was lower, it became more effective in limiting seed exports, and accordingly capacity utilisation in the sector has improved considerably, with a consequent boost to the economics of domestic crushing.

(x) At present, crushers tend to negotiate spot contracts with farmers during the harvest period, and the majority of the crushers' total raw material needs for the year are purchased between October and January. There is very little pre-financing of farmers by the crushers, since the risk of default is high. Private traders also play a role in seed procurement, buying large quantities, often in cash, when prices are low.

(xi) Domestic seed production in Ukraine is sufficient to support a relatively large crushing industry. Nonetheless, we estimate that, in the longer run, an average output of 3 million tonnenes per year could support domestic crushing from a maximum of 10 crushing plants, each with a capacity of around 1 000 tonnes per day. This is towards the lower end of the average scale in Western Europe, and would be the minimum that would enable the sector to remain competitive as trade barriers to Western Europe are reduced over time. Consolidation is thus likely to occur, since at present 17 major crushers operate in the sector.

DOMESTIC AND EXPORT MARKETS FOR SUNFLOWER OIL AND MEAL

(xii) The share of exports in total oil and meal production in Ukraine has increased over the past years, and currently exceeds 50% for oil and reaches 70% for meal. Main oil export markets are in Russia, Algeria, Turkey and the EU. At the domestic markets, three quarters of oil are consumed directly by population. As domestic purchasing power grows, bottled and refined oil produced by the main crushers are gradually replacing traditional products from small-scale rural oil factories. Driven by strong consumer demand and growth in confectionery and baking industries, domestic margarine and mayonnaise production is also increasing, and currently consumes one fifth of total sunflower oil output. Domestic meal consumption has been severely affected by the crisis in the livestock sector but a recovery can be expected.

GOVERNMENT POLICY

Finance

(xiii) Seasonal crop finance remains a constraint to both producers and some crushers. Farmers cannot use land as collateral because the processes of land titling and establishment of land markets are still incomplete. Furthermore, a legally supported system of warehouse

receipts is not yet in place, and this limits the ability of farmers and crushers to use stored seed as collateral.

(xiv) Interest rates are very high in Ukraine, with nominal rates at around 25-30% for local currency loans, and 14-20% for dollar loans. Inflation is relatively low and stable, and therefore real interest rates are high, currently exceeding 20%. Recently the Government has offered agricultural producers a 70% subsidy on the interest payments on loans. However, funds for this payment are limited and are allocated via local authorities. There is little transparency, and the process is therefore at risk of being exploited by corrupt officials.

(xv) In 1999, loans worth $53 million were provided by the National Bank of Ukraine and other local commercial banks to finance oilseed purchases by processors to avoid the need for further barter transactions, but this sum is sufficient to finance only a minority of annual seed purchases, unless revolving finance can be turned over very rapidly. Some crushers with international shareholders have also had access to loans from the European Bank for Reconstruction and Development.

Taxation of Agriculture

(xvi) Since 1999 the Government has supported farmers through a favourable taxation regime, known as the fixed agricultural land tax, which is expected to remain in place until 2004. The fixed agricultural tax (FAT) integrated twelve taxes (including taxes on land, profit, automobiles, and income, as well as pension, social security and unemployment payments) previously paid by the farms. Those eligible to pay the FAT are enterprises for which agricultural production accounts for over 50% of their revenues. The tax base is the value of agricultural land, which was fixed in July 1997, and takes into account the potential productivity of the land.

(xvii) The FAT is in effect a farm subsidy because it places a much lower tax burden on farms than on other sectors of the economy. According to the Ministry of Agricultural Policy of Ukraine, the estimated annual tax privilege of the FAT in 2002 represented an advantage to farmers of around UAH 1400 million ($265 million).

Value Added Tax

(xviii) The value added tax (VAT) acts as an implicit farm subsidy in Ukraine where agricultural enterprises are exempted from the payment of VAT to the national budget during the period 1999-2004. VAT is charged on sales of sunflowerseed at 20% of the purchase price. Farms do not pay these revenues to the Government but are entitled to use them only for the purchase of agricultural production inputs.

(xix) At domestic markets, a 20% VAT is charged on sunflower oil and meal sales whereas on exports, no VAT is charged. When crushers export oilseed products they are entitled to have their corresponding VAT payment on seeds reimbursed. The law on exports says that VAT should be refunded to exporters within three months, but Government arrears on VAT are now considerable and so in reality exporters have to wait much longer to be reimbursed, if, indeed, they are reimbursed at all. Late or non-payment of VAT places a large financial burden on the crusher, and the uncertainty created by this policy increases processors' de facto costs and is to the detriment of crushers and farmers alike.

(xx) Furthermore, the Tax Authorities have no central budget for VAT, and rely instead on the revenues from the regional offices. The regional budgets, in turn, are determined by an incentive system that establishes the offices' expenditures as a proportion of their tax receipts. This causes problems in the poorer regions, which tend to depend most heavily on agriculture. They do not receive VAT from farmers but have to pay out VAT refunds on exports as a net cost.

(xxi) The policy of VAT refunds on exports, and the problem of Government's VAT arrears, applies to all Ukrainian exporters, not only those of the agricultural sector. Government's failure to reimburse VAT has been strongly criticised by international financing institutions, in particular the International Monetary Fund (IMF), which recently decided to withhold several million dollar loan tranche because of Government inability to resolve problems in the fiscal sphere.

TRADE POLICY

Export Duties

(xxii) In 1998/99, about 35% of the harvested sunflowerseeds were exported. The openness of the sunflowerseed market had a detrimental impact on Ukrainian vegetable oil processors, which could not afford to buy sunflowerseed at export prices. In order to protect the local oilseed-processing sector, the Ukrainian Government introduced a 23% tax on sunflowerseed exports in October 1999. However, almost all sunflowerseed exporters managed to avoid the duty legally, using either tolling contracts with Western European buyers or the opportunities provided by bilateral free trade agreements with Georgia and other former Soviet Union countries, under which export tariffs were not applied.

(xxiii) In July 2001, under pressure from donors including the IMF, a new law was approved, lowering the export tax to 17% of the FOB customs cost. The law also rescinded the duty-free status formerly granted to exports made under tolling contracts. With the duty-free status no longer available, the new 17% export duty cut back exports of Ukrainian sunflowerseed dramatically.

(xxiv) There are no export duties on sunflower oil or meal exports.

Import Duties

(xxv) Despite a moderate supply deficit in protein feed and the presence of excess crushing capacity, Ukraine has not considered lowering the existing import duties on oilseeds. Therefore, softseed imports are mainly limited to seeds for sowing. While soybeans have a 0% import duty, the difficulty of obtaining access to finance prevents traders from importing beans for crushing, preferring to import soymeal (also with 0% duty) because of the faster capital turnover. Other protein meals are subject to a very high import duty of EUR 400 per tonne.

(xxvi) Sunflower oil also receives very high protection on the domestic market, with an import duty of EUR 800 per tonne. As would be expected, this virtually eliminates sunflower oil imports. The less favoured rapeseed and soy oil are also protected on the domestic market by

high duties of EUR 150 and 300 per tonne, respectively. Palm oil and coconut oils, which are not considered to be direct competitors to sunflower oil, are imported free of tariff.

(xxvii) Unlike Poland, for example, Ukraine provides significant protection for downstream processed products, and the duty on imports of hard fats, such as shortening, is 30%.

(xxviii) Imported commodities are also subject to 20% VAT.

RECOMMENDATIONS

(xxix) The main recommendations are highlighted below:

- *Reform the system of providing subsidised credit to farmers;*
- *Enforce ownership rights to land, so that land can be used as collateral;*
- *Improve the storage system, including implementing a legally supported system of warehouse receipts, so that seed in storage can be used as collateral;*
- *Make the prompt repayment of the value added tax arrears a priority;*
- *Reform the VAT system, aiming towards a transparent system disconnecting VAT from farm support and, as a first step, introduce differentiated VAT rates;*
- *Reduce gradually the export tax, to 10% as a first step;*
- *Begin the process of moving to a system of direct payments to farmers;*
- *Launch a discussion between sector stakeholders on the recommendations to confirm the analysis and move forward with reforms.*

Access to Credit

(xxx) The current system of providing subsidised credit to producers is inefficient, non-transparent, subject to corruption and has high transaction costs. It is recommended that Government efforts be instead focused on policies that reduce the risk of lending to the farming sector, thus driving interest rates down. The two most important ways in which this can be done are:

- *Speed up the process of allocating land entitlements and establishing land markets, so that producers have a legal right to own and sell land, and so that land can be used as collateral for loans;*
- *Push for the rapid implementation of a legally supported system of warehouse receipts, so that farmers can use seeds in storage as collateral.*

(xxxi) The above-mentioned efforts should, gradually, succeed in enhancing access to commercial loans at affordable rates and also create the preconditions for a wider use of pre-financing of farmers by the crushing companies. During the transition period, Government-subsidised credits may still be necessary but the system should be reformed to address the concerns discussed above. To be WTO-compatible, the new system should not be linked to the purchase of agricultural inputs but be an investment aid aiming to assist the farming sector in structural adjustment.

Storage System

(xxxii) The current storage system in Ukraine is inefficient, poorly managed, and lacks high quality facilities and an adequate legal framework. Besides affecting farmers' access to credit, the situation leads to storage losses, high storage costs and additional costs of managing uncertainty both for farmers and for crushers. Large quantities of seed are sold immediately after harvest, driving down farmgate prices and creating seed export pressures.

(xxxiii) Improvement of the storage system should be considered as a priority. Adequate legal framework on warehouse receipts and other related contracts should be put in place. Financing of warehouse receipt programmes should also be promoted. These reforms, as well as increased competition should lead into improvements in warehouse management and overall efficiency and upgrading of storage facilities.

Value-Added Tax

(xxxiv) It was clear from the mission that the issue of non-refund of export VAT is currently the most critical problem faced by the crushing sector.

(xxxv) Ideally, Ukraine should put in place a transparent VAT system, disconnecting VAT from farmer subsidy, avoiding distortions between agricultural sub-sectors and ensuring non-discrimination between market operators. However, at the present state of economic transition, the Government lacks the necessary resources and capacities to implement such a system and thus a VAT reform to that direction risks having negative impacts on agricultural producers who currently enjoy an implicit subsidy through VAT exemption. Our preliminary analysis points towards a transitional system under which:

- *VAT for sunflower oil would be kept at 20%[1] and export refunds promptly paid;*
- *VAT for sunflower seed would be significantly lowered, thus reducing the need for Government resources to reimburse oil exporters;*
- *Farmers' VAT exemption would initially be maintained but reduced gradually during the transition process, enabling the Government to move towards direct farm subsidies;*
- *Prompt payment of export VAT arrears would be made a priority. If resource availability remains a problem, other modes of implementation, such as credit on other taxes payable by the enterprises, could be considered instead of direct repayment.*

(xxxvi) At the same time, the VAT situation in other agricultural sub-sectors, and the feasibility of introducing similar reform measures should be explored, to avoid creating new distortions.

(xxxvii) These recommendations would be in line with those of the IMF in establishing the elimination of the tax exemptions as the final goal and stressing the need for prompt repayment of VAT arrears. The consideration of other forms of VAT repayment, such as writing off or restructuring other outstanding tax or debt servicing obligations of the beneficiary companies, is also agreeable to IMF.

[1] *Or 17% as suggested in the new Tax Code.*

(xxxviii) The proposed reform would bring the Ukrainian VAT system closer to WTO-compatibility since the present VAT exemption, granted to agricultural products only, could be considered an export subsidy under WTO rules. The proposed lower VAT rate for sunflower seed could, however, also be seen as a discriminatory subsidy. It would therefore be important to examine, as suggested above, the VAT situation in other agricultural sub-sectors in the same context.

Seed Export Tax

(xxxix) Our analysis has shown that the seed export tax would have the same effect on domestic prices within the sector even if it were considerably reduced. Many crushers interviewed during the mission suggested a tax of 5%, and our analysis showed that, in the case of low sunseed production, farmgate prices are only 3% below export parity. Reducing the export tax would have the benefit of achieving the Government's goals while also quietening the objections of trade partners and donors.

(xl) We recommend that, as the first step, the export tax be lowered to 10%, which would correspond to the maximum level acceptable to international financing institutions. The impacts of this reform on crushers' seed supply and farmgate price levels should be closely monitored. In the medium term, an export tax of approximately 5% should be sufficient to balance the needs of providing support to crushers without penalising farmers at times of high production. In the long run, as the domestic industry develops and its competitivity enhances, no tax on seed export should be necessary.

(xli) Under WTO rules, export tax is, in principle, considered to be a trade-distortive measure but it only becomes an issue if the importing country raises it. The proposed reform would thus bring Ukrainian seed export policy closer to WTO-compatibility.

Farmer Subsidies

(xlii) The current system of support to Ukrainian agriculture, based on agricultural taxation, VAT exemptions and interest subsidies, is problematic in many respects. In this light, and taking into account Ukraine's WTO and EU accession policies, it is advised that the country considers moving towards a system of direct income support to agricultural producers.

(xliii) Clearly, severe budget constraints in Ukraine limit the Government's capacity to provide direct support to agriculture. However, a system of direct payments would be more transparent and less distorting than some of the policies currently in place. As direct income subsidies are not production-related, the new policy would not distort farmers' crop choice. Unlike price support, it would also be compatible with WTO membership as a so-called green box measure under the Agreement on Agriculture. Moreover, it would bring Ukraine closer to the EU system where farmers receive a subsidy in the form of a fixed payment per hectare on the area they cultivate, irrespective of the type of crop. Finally, it would function as a kind of economic and social safety net for the Ukrainian farmers who are still suffering from worse competitiveness conditions than EU, US and other (subsidised) Western producers. As such, a policy of direct income subsidies would help the agricultural sector in Ukraine to successfully complete its transition process and to enhance productivity through modernisation.

(xliv) Increased availability of financing for the agricultural sector could come from various policy changes, including:

- *Reforming the system of favourable taxation to agriculture (fixed agricultural tax), making the tax burden on agriculture more proportional to that of other sectors of the economy.*
- *Reforming the subsidised interest payments and diverting some funds to direct support of agriculture.*
- *Gradually eliminating farmers' VAT exemptions.*

(xlv) Besides adequate resources, direct farm support also requires strong Government capacity to implement and monitor the system. The gradual move towards new support measures should thus be accompanied with efforts to strengthen these capacities in the Ukrainian administration. At the same time, the level and type of direct support should be carefully determined to ensure satisfactory compensation for farmers and foresee possible changes in cropping patterns and their long-term impacts.

Debate on the proposed reforms

(xlvi) The three last recommendations, reform of the VAT system, lowering of the seed export tax, and moving towards a direct income support in the agricultural sector, should be considered as preliminary and would need to be confirmed by more analysis and, above all, discussion with sector stakeholders. We thus recommend that an open discussion, in the form of a workshop or a seminar, be launched to discuss the reform proposals with crushers, farmers, Government and other sector representatives, and move forward with reforms.

RECOMMENDED AREAS FOR FUTURE INVESTMENTS IN THE SUNFLOWER SECTOR

(xlvii) It is recommended that future investments by EBRD in the sunflower sector are targeted in the following three main areas:

- *Investments in value addition and downstream processing, including refining and manufacture of confectionery fats. These areas currently appear to be profitable in Ukraine.*
- *Investments in rationalisation schemes. To remain competitive in the future, and in the absence of Government support, the crushing sector in Ukraine will have to move towards fewer and larger crushers. This process will occur naturally over the next few years, but EBRD investments should aim to support such a process.*
- *Investments, supported by grant funding earmarked for environmental purposes, in modernising bioenergy equipment in the sunflower sector and in the introduction of bioenergy use in other agricultural and agroindustrial subsectors.*

1. OVERVIEW OF THE SUNFLOWER SECTOR IN UKRAINE

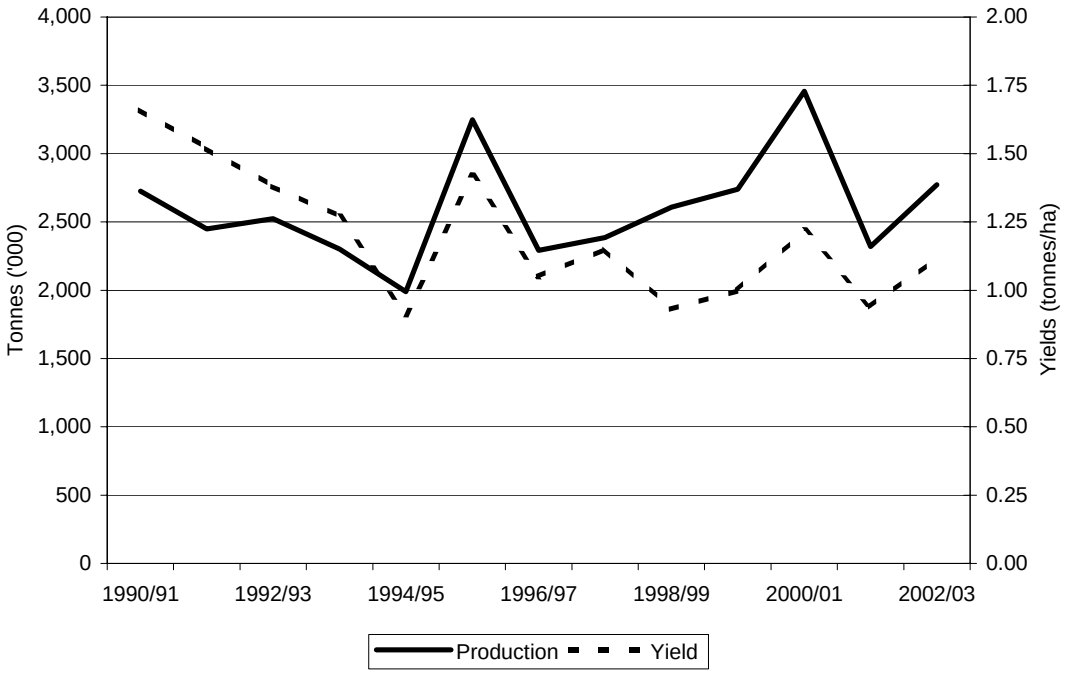
Production of Sunflowerseed

Production, Yields and Harvested Area

1.1 Sunflowerseed is by far the most important oilseed produced in Ukraine, and the country ranks as the third largest producer in the world, behind Argentina and Russia. Between 1986 and 1990 sunflower seed output was relatively stable at an average level of 2.6 million tonnes. The average yield in Ukraine during this period was 1.65 tonnes per hectare, compared to 1.4 tonnes in Argentina, 2.3 in France and 1.3 in Russia. During the next five years, between 1991 and 1995, yields in Ukraine declined sharply due a shortage of fertilisers and chemicals.

1.2 Diagram 1.1 shows the level of sunflower seed production and yields since 1990. The figures for the current (2002/03) crop year are a forecast. Production has recovered in Ukraine since the mid-1990s. However, weak vegetable oil prices on the world market, and the consequent weakness of oilseed prices reduced output in 2001/02 to 2.2 million tonnes.

Diagram 1.1: Sunflower Production and Yields in Ukraine, 1990/91-2002/03 ('000 tonnes)



Source: State Statistics Committee

1.3 There has been a slight increase in sunflower seed production over the period 1990/91-2002/03. Before the economic transitions of the past decade, sunflower yields were at a higher level, but uncertainties regarding land tenure, a lack of credit and reduction in the use of fertiliser and chemical inputs led to poorer agricultural practices and lower yields. Also, these

difficulties reduced the replacement of farm equipment, and as a result the average age of agricultural machinery in the Ukraine is high.

1.4 Currently around 2.8 million hectares are under sunflower in the country. However, the Ukrainian Academy of Agrarian Sciences' estimate of the optimal area under sunflower is 9-10% of the tillable area, equal to approximately 1.6-1.8 million hectares[1]. This compares with a harvested area averaging around 2.3-2.5 million hectares for the past five years. Table 1.1 presents the harvested area for sunflower since 1990/91.

Table 1.1: Harvested Area for Sunflower in Ukraine, 1990/91-2002/03 ('000 hectares)

	Area Harvested ('000 ha)
1990/91	1635.9
1991/92	1600.8
1992/93	1640.9
1993/94	1629.4
1994/95	1724.9
1995/96	2007.6
1996/97	2025.5
1997/98	2001.4
1998/99	2430.9
1999/00	2800.4
2000/01	2841.6
2001/02	2396.1
2002/03	2482.8

Source: State Statistics Committee

1.5 Such large acreages reflect the profitability of sunflower production and its importance to farmers for providing farm liquidity. Many farmers are encouraged by high sunflower seed prices to plant sunflower in shorter rotations than would be sustainable in the long term. For example, in order to maintain the nutrient level of the soil, and hold the threat of disease build up in check, it is recommended that sunflower is planted no more than every 5-6 years, but many farmers are planting sunflower every two to three years. We return to this issue later in the chapter.

1.6 Though there is some potential in expanding acreages into land that is currently unused, it is unlikely that seeded areas will expand significantly in the foreseeable future. The main prospect for increases in future production therefore lies with increased yields.

1.7 The experience of some farms suggests that sunflower seed yields can improve significantly with the application of:

- Up-to-date farm practices, including the application of inputs.
- Modern machinery; and

[1] An estimate based on the suitability of climatic, soil and other agronomic conditions and the need to maintain soil fertility through crop rotation.

- Improved seeds, particularly the use of high-yielding hybrids. Currently, just 30% of the overall seeded area are planted with hybrids.

1.8 We anticipate that improvements in sunflower yields over the next decade will enable Ukraine to reach an average output of around 3.0 million tonnes of seed per annum. Thus we expect sunflower output to grow at a faster rate than that experienced over the past decade.

Farming Structures

1.9 The Ukraine farming sector has undergone considerable changes since independence and the restructuring process is still underway (see details in Annex 4). Currently, three main types of farm can be distinguished:

- Small private family farms;
- Medium-sized enterprises (mainly private agricultural limited stock companies) and enlarged private farms renting agricultural land; and
- Large agricultural enterprises mainly of the corporate type, which extensively rent agricultural land and property.

1.10 In addition, small household plots play an important role in food production for household consumption and thus supplement rural family income. These plots cannot exceed 2 hectares by law, with the average plot being 0.5 hectares in 2000.

1.11 There were over 38 000 private small and medium-sized farms in Ukraine in 2001. In recent years, these farms have been significantly enlarged and now operate over 2.2 million hectares of agricultural land. On average, one private farm has 56 hectares of land of which 52 hectares is arable.

1.12 Approximately 13 500 agricultural enterprises and entities farm the remaining 24.9 million hectares of agricultural land. The founders of these enterprises own 2.4 million hectares and rent an additional 22.4 million hectares. The average size of these farms is 1 700-2 000 hectares.

1.13 Most sunflowerseed is produced by large agricultural enterprises. According to the Ministry of Agrarian Policy (www.minagro.kiev.ua), in 1999 large agricultural enterprises accounted for 88% of total production whereas family farms and household plots produced 6% each. A World Bank study (Lerman, Zvi; Csaki, Csaba: Ukraine: Review of Farm Restructuring Experiences. World Bank Technical Paper 459, 2000) does not show any significant difference in the cropping patterns of sunflower between family farms and agricultural enterprises: in both, sunflower represents 12-14% of the cropped area. Furthermore, sunflower yields in both farm categories were at the same levels whereas for many other agricultural products, the productivity of private farms is significantly higher than that of large agricultural enterprises.

Geography of Production

1.14 Sunflower is grown in all regions in the Ukraine, with the exception of Volyn, Lviv and Rivne. The most favourable conditions for cultivation are found in the Steppe zone, which includes the Crimea, Kherson, Odessa, Mykolaiv, Luhansk, Zaporizhzhia, Donetsk,

Dnipropetrovsk and Kirovohrad regions (see Map attached to this report). On average, around 75-80% of the total crop is provided by the Steppe climatic zone. Table 1.2 compares the yields and production averages for the past three years for the ten most important sunflowerseed regions of Ukraine.

Table 1.2: Regional Production and Yields of Sunflower Seed, Average 2000-2002

	Production ('000 tonnes)	Yield (tonnes/ha)
Ukraine	**2,826.3**	**1.09**
Dnepropetrovsk	387.9	1.16
Donetsk	376.0	1.30
Zaporizhzhia	385.0	1.14
Kirovohrad	237.7	1.10
Luhansk	194.3	0.93
Mykolaiv	200.3	0.95
Odessa	255.7	1.06
Poltava	153.3	1.13
Kharkiv	293.7	1.34
Kherson	464.7	0.72

Source: State Statistics Committee

Other Oilseeds

1.15 We also expect that moderate levels of growth will occur in both soybean and rapeseed output. One reason for this is that rotation patterns for sunflower cropping are sub-optimal at present, with sunflower occurring too frequently in the rotation. Other oilseed crops may provide an alternative to sunflower in the rotation and provide agronomic benefits against disease development.

1.16 Rapeseed is the second most important oil crop in Ukraine, though it is of relatively minor importance. Production has tripled over 150 000 tonnes since 1995, though this increase has been applied to a very small base. Soybean and rapeseed output declined in the mid-1990s, but have since made some recovery (Table 1.3).

Table 1.3: Ukraine — Oilseed Output and Forecasts, 1992/93-2011/12 ('000 tonnes)

	Soybean	Sunflower	Rapeseed
1992/93	120	2,523	110
1993/94	61	2,301	44
1994/95	31	1,989	18
1995/96	22	3,247	40
1996/97	15	2,292	23
1997/98	18	2,386	44
1998/99	36	2,607	92
1999/00	45	2,740	148
2000/01	64	3,457	180
2001/02	82	2,320	183
Projected Output			
2006/07	103	2,690	202
2011/12	130	3,118	223

Source: LMC International Ltd., Oil World

Profitability and Costs of Production of Sunflower Seed and Alternative Crops

1.17 Sunflower is by a significant margin the most profitable crop in the regions where it is grown in Ukraine, followed by winter wheat, barley and maize. Various farmers were asked this same question, and all expressed similar opinions.

1.18 The gross margins for sunflower and the main alternative crops demonstrate the profitability associated with sunflower production in Ukraine. Sunflower requires lower inputs than alternatives and therefore has further benefits for liquidity in the farm system. Table 1.4 derives the gross margins for sunflower seed, wheat, barley and maize in Ukraine[1].

[1] It should be noted that wheat prices in the period under consideration were relatively low and therefore the relative profitability of sunflower may be greater than in other periods. However, even with wheat prices nearer their trend, sunflower has clearly higher gross margin at present.

Table 1.4: Gross Margins of Major Crops, 2001-2002

	Sunseed (Spring)	Wheat (Winter)	Barley (Spring)	Maize (Spring)
Average Revenue (US$/ha)	173	187	151	214
- Price (US$/tonne)	*167*	*69*	*68*	*73*
- 2001 Yield (tonnes/ha)	*1.15*	*2.6*	*2.1*	*2.9*
- 2002 Yield (tonnes/ha)	*0.9*	*2.8*	*2.4*	*3*
Variable Cost (US$/ha)	72	105	88	163
- Seeds	*26*	*55*	*50*	*23*
- Fertilisers	*10*	*15*	*12*	*29*
- Pesticides/Herbicides	*15*	*12*	*3*	*33*
- Fuel	*17*	*19*	*19*	*39*
- Others	*4*	*4*	*4*	*10*
- Costs of Driers	*0*	*0*	*0*	*29*
Gross Margin (US$/ha)	**101**	**82**	**63**	**51**

Note: Exchange rates used are averages of $1:UAH 5.18 for 2002 and $1:UAH 5.10 for 2001.
Source: LMC International Ltd., State Statistics Committee, farmer interviews

1.19 The extension of the gross margin analysis to include estimates of overhead and fixed costs for sunflower and winter wheat confirms the above results, showing the relative profitability of sunflower production even more clearly. Table 1.5 presents estimates of the average net margins of wheat and sunflower production for 2001-02. When interpreting these figures it must be kept in mind that they are based on partial data available to the mission and should therefore be taken only as indicative.

Table 1.5: Net Margins of Major Crops, 2001-2002 (US$ per hectare)

	Sunseed (Spring)	Wheat (Winter)
Gross Margin (US$/ha)	**101**	**82**
Overheads		
- Sales Expenses	4.4	16.1
- Labour Costs (incl. casual)	9.2	14.1
- Electricity	0.4	0.4
- Repairs and Maintenance	6.3	6.3
- Storage	1.6	2.1
- Transport	5.1	5.1
- Other Expenses	9.4	9.4
Social Fund Payments	1.4	2.2
Land Rent	11.2	11.2
Land Tax	6.0	6.0
Total Overheads	55.0	72.9
Net Margin (US$/ha)	**46.0**	**9.1**

Source: UkrAgroConsult

1.20 Table 1.6 compares these figures with other Western European countries, and reveals that gross margins for all the crops are higher in the EU, but Ukrainian sunflower has the least comparative disadvantage. Also, much of the difference is accounted for by area payments in EU, except for in France, which has a significantly higher gross margin for all crops. When area payments are excluded from the calculation, sunflower gross margins in Ukraine compare reasonably favourably with the average in the EU, while the gross margins for wheat and maize are considerably smaller than for their European counterparts.

Table 1.6: Comparison of Ukrainian Agricultural Gross Margins with Selected EU Countries (US$ per hectare)

	Sunseed (Spring)	Wheat (Winter)	Maize (Spring)
Gross margin			
Ukraine	101	82	51
Austria	406	372	479
France	650	698	612
Italy	256	266	838
Spain	278	362	545
EU	*416*	*588*	*667*
- of which Agricultural Area Payments			
Ukraine	0	0	0
Austria	387	332	332
France	387	341	488
Italy	268	233	567
Spain	210	151	334
EU	*286*	*295*	*485*
Gross margin excl. Agricultural Area Payments			
Ukraine	101	82	51
Austria	19	40	147
France	263	357	124
Italy	-12	33	271
Spain	68	211	211
EU	*130*	*293*	*182*

Source: "European Arable Crop Profit Margins 2001/02" 1st Edition by Graham Brookes, LMC International Ltd.

1.21 Further attractions of sunflower production are derived from the relative reliability of the crop under adverse weather conditions due to its drought tolerance, and the prompt and reliable payment system operated by many crushers. Sunflower is valued because it is relatively insensitive to negative variations in the growing environment. Even in a dry growing season, yields may be reduced by less than one-third, while yields of maize may be lowered by 60% or more. On the other hand, while it does respond favourably to more inputs, yields do not increase as dramatically as for maize as inputs are intensified.

1.22 Lastly, the importance of sunflower in the farm rotation is of underlying importance for the continued harvesting of the crop. A classic five-year rotation in the sunflower regions of the Steppe is wheat, wheat, maize, sunflower and fallow. Farmers with less immediate credit arrears would typically follow this rotation, even extending to an optimum six years the period between sunflower crops. However, those farmers with more onerous credit commitments often

reduce the period between planting sunflower to three or even two years, due to its inherent profitability. There is evidence that rotations of less than three years may reduce yields by as much as 0.5 tonnes per hectare.

1.23 At present, the relative lack of Government interference in the agriculture sector means there are few distortions in the cost structures of farm units. While fuel represents a large proportion of costs in comparison with competitor producing nations, and can be problematic for growers, this merely reflects market fundamentals as they currently exist in Ukraine. Where the state does interfere, such as with land tax, the amounts under consideration are small and equitable between crops on a per hectare basis. As land taxes do not vary between crops, they do not alter the growing decision of the farmer and do not represent a distortion to the comparative cost structures of different crops.

1.24 The current relative profitability of sunflower may be gradually eroded in the future. There are two main reasons for this:

- Sunflower represents a favourable crop in conditions of low-input farming, where yields are more resilient than those of other crops. Such conditions are witnessed in Ukraine at present. However, as access to inputs increases over time and farming methods intensify, other crops, notably cereals, are likely to respond more effectively than sunflower, and current margin differentials are likely to be eroded. Nevertheless, sunflower is likely to remain profitable in the rotation.

- The frequency of sunflower in many current rotation practices is too high, and may be unsustainable without altered techniques. However, the intensification of farming methods may reduce the relative profitability of sunflower and lower the frequency of replanting, as described above.

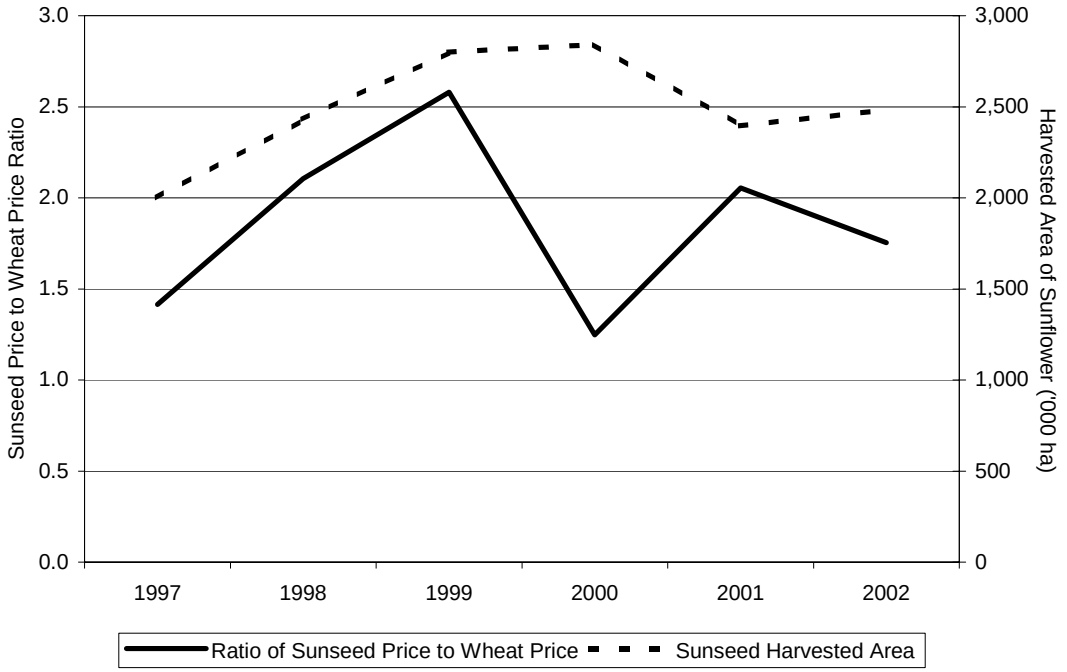
1.25 Despite these possible future erosions of the *relative* profitability of sunflower, it is highly likely that sunflower will remain a profitable crop for growers in the foreseeable future.

Price Response

1.26 The price ratio of sunflower to grain has a very important influence on the annual planting decision. This is demonstrated in Diagram 1.2, which plots the average annual price ratio of sunflower seed to wheat against the harvested area of sunflower. The diagram shows that sunflower harvested area increases in the year following an increase in the ratio of the sunflowerseed price to wheat, and vice versa. As the sunflower seed price rose relative to the wheat price in 1998 and 1999, so the area harvested for sunflower seed increased in 1999 and 2000. A corresponding positive lagged response is evident as the relative sunflower seed price fell in 2000 and rose again subsequently. Thus, farmers can be demonstrated to respond to market price signals in their planting decisions.

1.27 Other influences on the planting decision are agronomic and rotational considerations, plus the reliability of obtaining profit and liquidity from the sunflower crop. These latter considerations are addressed later in this chapter.

Diagram 1.2: Ratio of Sunflower Seed to Wheat Prices and the Harvested Area of Sunflower Seed



Source: LMC International Ltd., Oil World

Constraints to Production

Access to Credit

1.28 Inability to get sufficient credit is a major issue for Ukrainian farmers. Credit is secured against crops in the field and the physical assets of the farmer, with the ratios for collateral against credit varying from approximately 2:1 to 5:1 for the majority of farmers, depending on the perceived risk and credit history of the farmer. The existing land tenure system represents a major drawback to securing credit, as without clear ownership rights, the land asset cannot be used as collateral. All farmers interviewed on this mission expressed a preference for utilising land as collateral over standing crops and physical assets such as buildings and farm capital.

1.29 Rates of interest on credit have fallen over the past five years, with bank rates coming down from over 50% to less than 20%, depending on the banks' risk assessment. However, farmers often pay differential rates on different parts of their loans, as preferential rates are insufficient to cover all necessary credit expenditures. The Government has a scheme of subsidising interest payments on credit for expenditure on local inputs (this is explained in more detail in Chapter 2), though farmers find the system of application slow and time consuming and the requested compensations often do not materialise. As a result of this bureaucracy, some farmers have been put off applying for these interest subsidies in the coming season. Other factors hindering the process of securing credit include: lack of confidence on the part of farmers,

instability in the domestic banking sector, reluctance of many Ukrainian banks to lend for agriculture which they perceive to be riskier than other sectors of the economy and the related weakness of the banks' branch network in rural areas.

1.30 Pre-financing from crushers to farmers has decreased markedly over the past five years. In the late 1990s and early 2000 some crushers experimented with prepayment for seeds, but many had their fingers burned with significant defaults. Currently, pre-financing is rare, with no more than 5% of those farmers supplying a crusher considered eligible for prepayment, and for those that do receive it, the maximum period for the advance is close to six months.

1.31 The necessity of repaying credit often determines the timing of the sale of the harvest. Sunflower provides liquidity as well as profitability to the farm. Several farmers with a credit burden were compelled to sell sunflower seed early in the season, irrespective of price, in order to repay credit loans. Even where storage was available and farmers were aware of the seasonality in prices, the credit imperative often undermined the optimum release of the sunflower seed crop. Diagram 1.3 illustrates the seasonality of price movements for sunflower seed over the past five years, and reveals that, as would be expected, prices tend to be low during harvest, and to rise throughout the year.

Diagram 1.3: Average Monthly Sunflower Seed Prices, 1997-2002 (US$/tonne)

Source: State Statistics Committee, UkrAgroConsult, LMC International Ltd.

1.32 The lack of credit and working capital aggravates other farming constraints. Due to financing problems, the use of fertilisers and pesticides has dropped significantly since independence, even though Ukraine is a big agrochemical producer. As to farm machinery, lack of long-term credit significantly affects the ability of farmers to renew their equipment, and the

average machinery is therefore very old. Most irrigation systems were abandoned after the Soviet era and cannot be reconstructed due to investment capital constraints.

Rotational Considerations and Sustainability

1.33 We have mentioned the reduction of rotational periods between sunflower crops from an optimal six years to three or even two years for some farmers in the Ukraine. This is due to the importance of sunflower as a cash crop providing liquidity to the farm system. A typical six-year rotation follows the sequence of fallow (no crop is grown and weeds are controlled to allow for subsoil water recharge), winter wheat, winter wheat, sunflower, spring barley, and corn. Other combinations are possible, such as substituting sugar beets or sunflower in the fallow period, or replacing two to four years with a perennial forage crop for hay production.

1.34 The rotation system is critical for two reasons. First, it maintains soil fertility, and is especially useful in that regard if forage crops are grown in some years of the rotation; at the least, a long rotation does not deplete soil fertility as rapidly, because the different crops each have different levels of nutrient requirements. Secondly, it controls soil-borne diseases by lengthening the interval of availability of their preferred host species. Reducing the rotation interval allows rapid build-up of the pathogen in the soil, and presents the opportunity for a devastating outbreak of that particular disease, and loss of the entire crop.

1.35 There is considerable pressure to reduce the rotation interval, and thereby increase the frequency of planting sunflower. In addition to the cash crop imperative, the system of leasing land on a short-term basis without adequate enforcement of legislation regulating land use also discourages the practice of long-term rotation, and instead encourages year-on-year production of sunflower for short-term gain as a cash crop.

1.36 It is possible to improve soil fertility through application of commercial fertilisers. However, even though fertiliser is being produced in Ukraine, it is often being exported as a source of hard currency. Much of the fertiliser that is available on the market is accessible only to larger-scale producers who have adequate monetary resources. The small-scale farmer with fewer funds is thus forced to rely on longer rotation intervals for maintenance of fertility, although he is in the least favourable monetary position, and therefore the least likely to do so.

1.37 Disease control may be accomplished by using sunflower varieties that are resistant to the soil-borne pathogens. These varieties are available through several sunflower-breeding programs in Europe, and should be made widely available to farmers throughout Ukraine. Disease resistance is usually not 100% effective, but use of resistant varieties at least prevents explosive build-up of pathogen inoculum in the soil when rotation intervals are reduced.

1.38 Encouraging inclusion of another oilseed crop in the rotation may also help maintain the rotation interval by providing another cash crop that also has a meal by-product for livestock feed. Rapeseed production has been encouraged since the late 1990s, and some progress is being made in increasing the area under cultivation and in raising yields.

Farmers' Associations

1.39 Farmers' associations are present mainly at the local level and are generally viewed with some suspicion by farmers. Associations are perceived as a weak lobbying force and as pursuing the interest of relatively few members, rather than the collective interest. Local associations in the areas visited were most useful as a means of sharing information and providing limited help with credit line negotiations. However, they were again hindered in this respect by a lack of political clout and limited financing.

1.40 At a national and regional level, there are two different, parallel structures of farmers' associations, with overlapping membership. The larger and more powerful one, All Ukrainian Union of Agricultural Producers, represents the substantial farm enterprises (with areas of the order of 2 000 hectares) that are the successors to the former kolkhozes. Smaller private farmers' associations as well as organisations such as the Ukrainian League of Agricultural Entrepreneurs are grouped under the All-Ukrainian Agrarian Confederation. Although a few leaders of these organisations are represented in parliament, their influence on policy formulation is less than in many other European countries.

Summary of Sunflower Balance

1.41 Tables 1.7 to 1.9 present a summary of production, domestic consumption and exports of the sunflower complex in Ukraine in 1992-2002.

1.42 Table 1.7 shows a trend towards increased seed production, combined with large year-to-year variations. Seed exports peaked in 1996/97 at appr. 50% of total production and in 2000/01 at 30% of total production (see discussion on export tax later in this chapter).

1.43 As to sunflower oil (Table 1.8), both production and net exports have considerably increased since mid-1990s. The share of exports in total production shows a growing trend, exceeding 50% in the last two seasons.

1.44 Sunflower meal (Table 1.9) follows a similar pattern, with production recovering to early 1990s levels in 1999-2002. Net exports have grown from a negligible 1% in early 1990s to almost 70% in 2000/01.

1.45 In 2000/01, sunflower oil output reached a record level of almost 1 million tonnes, while sunflower seed exports were also very high, at around 1 million tonnes. The main reason for this was the expansion in sunflower seed planted area in 2000, which led to the large harvest of 3.5 million tonnes. Oil production in 2001/02 is expected to be lower than the previous year, because of a smaller sunflower seed harvest.

Table 1.7: Ukraine Sunflowerseed Balance 1992/93-2000/01 ('000 tonnes)

	Production	Crushing	Net Exports
1992/93	2,523	2,089	-19
1993/94	2,301	1,956	316
1994/95	1,989	1,690	116
1995/96	3,247	1,784	466
1996/97	2,292	1,029	1,085
1997/98	2,386	1,277	783
1998/99	2,607	1,389	890
1999/00	2,740	2,155	424
2000/01	3,457	2,292	1,017
2001/02	2,320	2,070	110

Table 1.8: Ukraine Sunflower Oil Balance 1992/93-2000/01 ('000 tonnes)

	Production	Domestic consumption and losses	Net Exports
1992/93	919	N/A	134
1993/94	861	N/A	59
1994/95	744	N/A	218
1995/96	740	426	219
1996/97	430	375	156
1997/98	505	349	149
1998/99	560	371	202
1999/00	881	406	433
2000/01	976	430	561
2001/02	849	413	448

Table 1.9: Ukraine Sunflowermeal Balance 1992/93-2000/01 ('000 tonnes)

	Production	Domestic consumption and losses	Net Exports
1992/93	878	N/A	N/A
1993/94	822	N/A	1
1994/95	710	N/A	4
1995/96	749	300	137
1996/97	432	303	129
1997/98	536	301	236
1998/99	583	358	225
1999/00	905	505	400
2000/01	963	301	662
2001/02	869	297	572

Source: FAO; Oil World

Post-harvest Operations

Seed Procurement

1.46 Until the mid to late 1990s producers frequently preferred to sell seed to trading firms through barter contracts against inputs, such as agricultural machinery and fuel oil, rather than to crushers. Because processors had poor access to credit, traders, equipment suppliers and even banks procured seeds for the factories, while many farmers retained ownership of their product, leaving the crushing plants in the role of subcontractors, who charged a tolling fee for processing seeds. In 1999, around 80% of the crushers' throughput of sunflower seeds were processed on a tolling basis.

1.47 Under the tolling system, crushers received 13-20% of the oilseeds delivered to them as their toll payment for crushing. The oil obtained from the rest of the oilseeds that they processed was returned to the farmers or traders, who sold this in the domestic market in competition with the processors or exported their share of oil and meal. Barter arrangements have not been used on a significant scale for the past four to five years. Tolling arrangements have also reduced considerably over the past few years.

1.48 Currently, crushers tend to negotiate spot contracts with farmers during the harvest period, and the majority of the crusher's total raw material needs for the year are purchased between October and January. There tend to be two methods of payment to the farmer:

- The crusher pays after delivery to plant, when weight and quality controls are carried out immediately, and the farmers are paid, normally with cashless settlement[1], on the same day, or within a couple of days.

- The crusher has a contract with a farmer to deliver to an elevator. The elevator gives the crusher a document stating that ownership was transferred from the farmer to the crusher, and stating the volume and quality of the grain. Payment for seeds occurs at the elevator or within a couple of days with cashless settlement.

1.49 Daily prices are posted at the elevators, and farmers normally telephone the crushers or elevators to check the latest prices before delivery. Farmers usually try to avoid paying for drying and cleaning the seeds. The crushers generally weigh and test the seeds delivered by the farmer, and the price is adjusted according to quality. State standards require that impurity levels do not exceed 10%. Certain plants have established special days for reception of poor-quality seeds, and during that period, the plant produces oil of lowest quality.

1.50 As mentioned earlier, prepayment contracts are rare since farmers'default rates have been high. According to crushers, prepayment is still used with longstanding, reliable partners. In these cases, farmers can be paid several months before seed delivery, sometimes even before planting so that the use of good varieties can be ensured.

1.51 Independent traders also play a role in procuring seeds for crushers. They generally have three ways of seed procurement:

[1] I.e. settlement via bank account or cheque.

- Purchase directly from the farmer and deliver to another trader or a crusher (this has greater quality risk and higher transport costs than options two and three, but the price is lower).
- Work with an inland elevator — when the farmer brings his commodity to the elevator, he enters into an agreement with the trader, and not the elevator. The trader is then responsible for storage and onward transport costs. The seed price is generally lower than in option three but this is more risky for the trader because they cannot anticipate their drying and storage expenses.
- The farmer takes grain to the elevator and pays the handling fee. The elevator assesses the quality of the seed, and it is then transferred to the trader. In this case the trader knows that they will get a certain quality and so they can anticipate their costs. This is the least risky strategy for the trader.

1.52 On-farm storage facilities on most Ukrainian farms are limited and therefore producers prefer to deliver seeds to the factories or to private elevators immediately after harvest. Farmers use their own transport to carry the seeds to the buyer. In some cases, when the seeds are purchased by a crushing plant, the factory collects seeds within a radius of up to 200 kilometres.

1.53 Some crushers still have tolling arrangements with traders, farmers or other crushers. These are mainly motivated by lack of own raw material or difficulties with selling oil. A slightly different tolling scheme is in place between one large international trader, Toepfer, and greenfield plant Chumak. Under this arrangement, Toepfer purchases sunflowerseed locally from farmers, local traders or elevators, and delivers it to the processing plant owned by Chumak for crushing. Chumak pays the processing costs and buys 80% of the oil from Toepfer (for mayonnaise production, ketchup, etc.). Toepfer trades around 20% of the oil and 100% of the expeller locally or internationally, depending on prices. This scheme minimises the risk of default of both parties and spreads the risk in the sunflower market between both parties.

1.54 The share of direct and indirect seed procurement as well as that of tolling vary considerably from plant to plant and from year to year so no average figures can be given. Many farmers prefer to deal with traders who pay cash, even if the prices are lower. For the crushing plants, risks of working with traders are normally smaller than that of working with farmers. In addition, intermediaries can often deliver large quantities of seed that they have bought at a low price during harvesting period. On the other hand, intermediaries add a margin to the price (in the order of UAH 50-70/tonnes ($9,7-13,5/tonne).

Seed Storage

1.55 Until 1992, the State controlled 70% of Ukraine's storage capacity through the State Committee of Food Production (*Ukrmaslozhirprom).* When Ukraine became independent these elevators were transferred to the State Company *Khlib Ukrainy*, and since then many have been privatised. Currently, there are appr. 600 elevators in Ukraine, 469 of which are engaged in grain storage, with a total capacity of 30 million tonnes. Of these, 100 enterprises are fully owned by the state, including 81 of Khlib Ukrainy's network. This company has designated capacity for storage of 7 million tonnes of grain. The few modern private-owned elevators in Ukraine are newly constructed in places of intensive agricultural production. These include elevators in Myronivka near Kiev, in the Dnipropetrovsk region, and Donetsk region.

1.56 Grain elevators receive grain from farms and then clean and dry it before storage. Many have railway access that enable grain to be loaded directly into grain railcars. These enterprises mostly represent small storehouses built from brick or stone. Facilities at many elevators are in a bad state.

1.57 Storage costs in Ukraine are around $1/tonne per month ($1,5 for sunflower and $0,8 for grain). Other costs charged by elevators include (average costs for 10 main elevators in the Kherson region):

- acceptance: $1,2/tonne;
- drying: $1,7/tonne;
- loading to railway car: $1,9/tonne;
- loading to truck: $1,4/tonne.

1.58 In the past, most sunflowerseed was stored in wheat elevators before crushing. Now the proportion of the seed collected by grain elevators has fallen dramatically, and producers instead supply seed directly to the oil factories or to other commercial firms. Farmers' interest to avoid high elevator costs reinforces their tendency to sell the seed immediately after harvest, when prices are at their lowest. Some farmers also prefer to deliver directly to crushers or traders because they do not trust the elevators. There are several reports of disagreements between farmers and elevators over the volume and quality of seed stored by the farmer. Many elevators are believed to cheat farmers or traders on volumes and therefore have surplus grain to sell for themselves.

1.59 Crushers also often face problems with elevators. Most Ukrainian crushers do not have sufficient capacity to store the seeds they require for the whole processing campaign, and therefore they store them in independent elevators. There is currently no law governing the legal responsibility of the elevators to the crushers. The document stating that ownership was transferred does not legally state that the seeds stored by the crusher in the elevator are the property of the crusher. For example, one crusher mentioned problems with elevators failing to deliver seeds stored by the crusher, and the courts ruled in this case that there was no criminal case of theft, but instead a debt, and determined that the elevator should pay the seeds back at some time in the future. Some crushers are trying to minimise these risks, and the high elevator costs, by constructing their own storage facilities.

1.60 There is currently no warehouse receipt system in Ukraine. The Government has recently adopted the Law on Grain, which sets the general framework for a warehouse receipt scheme, and detailed legislation on warehouse receipts is being developed, promoted *inter alia* by the European Bank for Reconstruction and Development. The Government is also implementing a pilot mortgage programme for grain aiming at alleviating farmers' working capital constraints. Under the pilot programme, farmers, at times of low prices, can deliver grain to selected elevators and receive 50% of the market price, continuing to be the owners of the grain. If farmers sell the grain later at a higher price, they gain, but also have to refund the mortgage programme. Only selected elevators are authorised to participate in the programme, and are credited by private banks to finance grain mortgages.

Transport

1.61 There are two main options for transporting seeds within Ukraine: by road and by rail. Rail transport is expensive since it is made up of two types of costs. The basic railroad tariff for transportation of goods is rather low in Ukraine compared to neighbouring countries. For distances below 600 km, the current base tariff is UAH 22,22/tonne ($4,17). However, the transport costs is greatly increased by a number of administrative costs and fees for local stations' services. These more than double the actual price of rail transport, bringing it above neighbouring countries levels. In addition, if the product is being exported and the export terminal cannot store it, then new arrivals must be stored in the rail car, at a very high charge. The oil processors' association, UkrOliyaProm, is currently lobbying with the Ministry of Transport to lower the administrative fees for rail transport.

1.62 Given the cost of rail transport, the majority of sunseed and sunoil transport is carried out by truck deliveries. However, the roads in Ukraine are in a poor state of repair, and road transport costs are also high. Truck is the preferred transport mode at distances up to 200 km whereas rail is still used for seed deliveries from remote areas and for export sunoil shipments. There are also some notable exceptions to cost differences. For example, the Cargill plant have a rail link at the factory, and they can transport oil to Kazakhstan, for example, and bring the train back within four days at a cost that is far more competitive than road transport.

1.63 Ukrainian port facilities for vegetable oil include three seaports, Berdyansk, Illichevsk and Kerch (for more details, see Annex 5). Port loading costs are expensive and capacity at times overloaded but new facilities are currently being planned/constructed and competition is likely to improve the situation.

Crushing

Oilseed Crushing Trends in Ukraine

1.64 Though sunflower oil production is widely believed to be among the most profitable activities in the food industry, Table 1.10 reveals that sunflower crushings in Ukraine have increased only moderately during the past ten years. However, sunflower is by far the dominant source of oil in the country. Among the alternatives, rapeseed crushings have grown from a very low base, as the availability of domestically produced rapeseed has increased, while soybean crushings have remained marginal. Nevertheless, soybean is expected to be crushed in significantly larger volumes in future. We consider this possibility at the end of this chapter.

Table 1.10: Oilseed Crushing in Ukraine, 1992/93-2000/01 ('000 tonnes)

	Soybean	Sunflower	Rapeseed
1992/93	87	2,089	64
1993/94	36	1,956	16
1994/95	17	1,690	6
1995/96	15	1,784	28
1996/97	13	1,029	9
1997/98	17	1,277	22
1998/99	25	1,389	47
1999/00	33	2,155	89
2000/01	50	2,292	107
2001/02	81	2,070	107

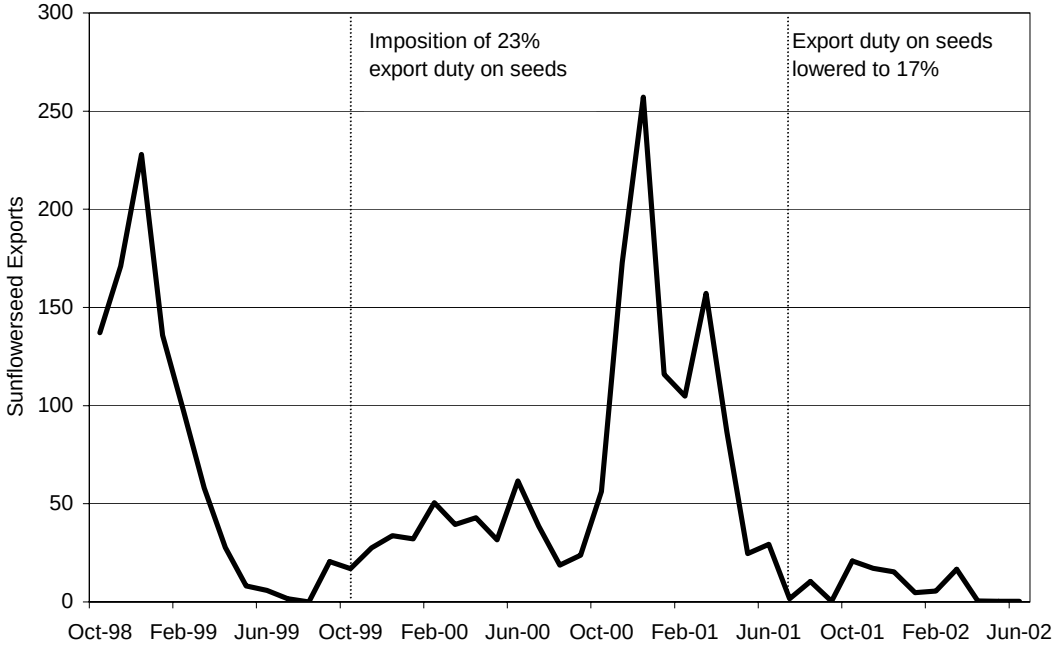
Source: FAO; Oil World

1.65 Oil production during the last 10 years was presented in Table 1.8. Sunflower oil output declined in the mid-1990s as difficulties in securing credit to pay for seeds compounded the problems caused by competition for seed from exporters. Domestic processors were hit hard as seed was diverted to export markets. Seed exports increased dramatically in this period.

1.66 Crushing activity and vegetable oil output subsequently expanded after the imposition of a 23% export duty on sunflowerseeds in October 1999. However, a loophole exploited by exporters, which enabled them to export seed under tolling contracts with foreign crushers, eroded the effectiveness of this tax. Under this arrangement, exporters were able to arrange for seed to be crushed overseas under the condition that the products or revenue from sales were returned to Ukraine. Many exporters thus sold the oil products overseas and returned the revenue to Ukraine without paying the export tax. In reality, therefore, exporters succeeded in continuing to export seed and avoid the taxation.

1.67 In July 2001, under pressure from donors including the IMF, the export tax was reduced to 17%, but, at the same time, overseas tolling arrangements were banned. Therefore, while the tax was lower, it became more effective in limiting seed exports, as illustrated in Diagram 1.4.

Diagram 1.4: Monthly Sunflowerseed Exports, 1998/99-2001/02 ('000 tonnes)



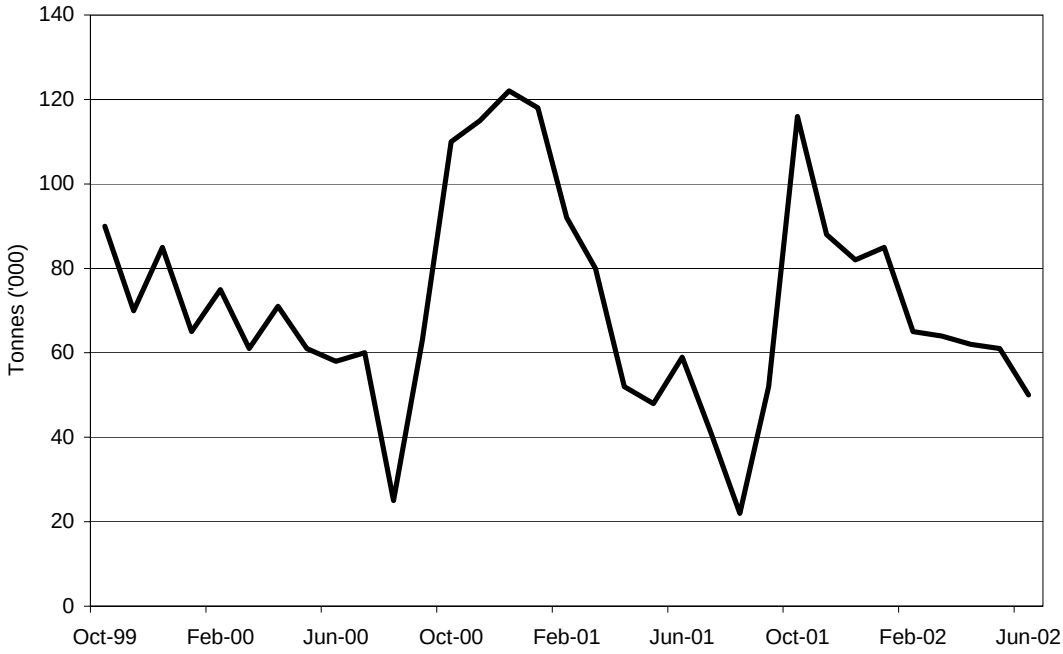
Source: State Statistics Committee, UkrAgroConsult, LMC International Ltd.

1.68 From the diagram we can see that the imposition of the first export tax of 23% in October 1999 was unable to prevent large-scale exports of sunflowerseed during the 2000/01 season as exporters utilised the tolling loophole. However, since the banning of overseas tolling arrangements in July 2001, exports have declined to a negligible level. Export tax has played a major role in this change, although decrease in seed production in 2001/02 (see Table 1.7) explains part of the decline. However, while crushing increased considerably between 1998/99 and 1999/00, it was not significantly higher between 1999/00 and the two following campaigns (Table 1.10). Thus it would appear from the data that crushing has been limited to a little more than two million tonnes, while exports were directly related to production in excess of this effective capacity. The theoretical capacity of the main crushers is around three million tonnes. The relative limitation in using this capacity may be linked to technical constraints, such as old equipment, but also to the difficulty of competing on the export market and finding outlets.

Seasonality of Sunoil Production

1.69 Diagram 1.5 shows the seasonality of sunflower oil production in Ukraine. The greatest output occurs in October and November, during the time of the sunflowerseed harvest. During August and September, when traditionally the crushing plants were idle because of a lack of raw material, sunoil output has been considerably higher in the past two seasons than since the mid-1990s.

Diagram 1.5: Monthly Sunoil Production, 1999-2002 ('000 tonnes)



Source: State Statistics Committee, UkrAgroConsult, LMC International Ltd.

Sunflowermeal Production

1.70 Like sunoil output, sunflower meal output of the last two seasons has considerably exceeded mid-1990 values. Meal output for sunflower, soybean and rapeseed is presented in Table 1.11. The protein content of the meal is typically 35-37%. In Ukraine, as in other countries, sunflower meal is not considered a very good source of proteins for livestock production, because of its poor amino acid profile. Therefore, sunflower meal trades at a significant discount to soy meal. Nonetheless, most meal produced in Ukraine is exported, but not at a significant profit. Development of poultry production in Ukraine will, however, lead to increased domestic sales of meal.

Table 1.11: Ukraine — Meal Output, 1992/93-2000/01 ('000 tonnes)

	Soybean	Sunflower	Rapeseed
1992/93	68	878	36
1993/94	28	822	9
1994/95	14	710	4
1995/96	12	749	15
1996/97	11	432	5
1997/98	13	536	12
1998/99	20	583	26
1999/00	26	905	49
2000/01	38	963	59
2001/02	62	869	59

Source: Oil World, LMC International Ltd

Crushing and Processing Facilities

In 2002 there were seventeen major oil factories in Ukraine, all of which crush sunflower seed, and they are located in a number of different *oblasts* (see Map attached to this report). The capacities of the individual plants vary from 250 to 1 100 tonnes of seed per day. These plants produce around 85% of Ukraine's overall sunoil output. The remaining 15% of production occur in minor crushing enterprises or at small on-farm crushers who press oil for village level consumption in the rural areas. The total capacity of these minor facilities is 250-350 000 tonnes of seed per year and they operate at 33-35% capacity.

1.71 The large plants were previously controlled by a part of the State Committee of Food Production (*Ukrmaslozhirprom*) that was under the Ministry of Economics. By the end of 1996, fifteen of the plants were fully privatised, and the other two were in the final process of privatisation. At that time, the industry as a whole was operating at a mere 30-40% of its full capacity, because of difficulties procuring seeds in the face of the attractions of export sales of seeds. Some of the smallest plants stopped crushing altogether. Meanwhile, the Dnipropetrovsk Oil Extraction Plant, DOEP, (in which Cereol is the main shareholder) succeeded in increasing its output.

1.72 Despite these difficulties in the mid-1990s, all the original crushing and refining plants remain in operation. Crushing capacity remained seriously under-utilised until 1998/99. However, following the introduction of the seed export tax in 1999, the crushing plants enjoyed considerably improved throughput and operated at around 60-70% of their total capacity. In 2000/01, however, the effectiveness of the tax seemed to diminish, with farmers willing to accept lower prices from exporters in return for prompt cash payments. Following the lowering of the export tax and the ban on export tolling contracts in 2001, seed supply problems were significantly reduced.

1.73 Total annual oilseed crushing capacity in Ukraine is estimated at 2.9 million tonnes in 2001. Despite improvements in seed supply, this capacity continues to be somewhat under-utilised, with 2.1 million tonnes crushed in 2001/02. This can be explained both by technical constraints (see below on quality of processing facilities) as well as by the difficulty of competing on export markets and finding outlets, in particular for the less competitive crushers.

1.74 A SWOT analysis on the Ukrainian crushing industry is presented in Annex 3.

Structure of the Industry

1.75 Table 1.12 presents the capacities and ownership of the major sunflower oil plants in Ukraine.

Table 1.12: Capacity of Major Crushing Plants in Ukraine, 2001/02

Plant	*Location*	*Owner*	Capacity ('000 tonnes p.a.)
Cargill Plant	Donetsk	Cargill	350.0
Polohy Oil-Extracting Company	Zaporozhje	Russian Capital	338.0
Dnipropetrovsk Oil-Extracting Company	Dnipropetrovsk	Cereol	280.5
Zaporizhzhia Oil and Fat Company		Agrocosm	252.0
Slavyansk Oil-Extracting Company	Donetsk	Ukragroproduct, Azovprodcompany	246.3
Odessa Oil and Fat Company	Odessa	Aval/Svitanok	229.9
Kirovohrad Olia	Kirovohrad	Zernotorgovaya Company	226.8
Vinnytsia Oil and Fat Company	Vinnytsia	KMT (Russian Capital)	166.9
Vovchansk Oil Extracting Company	Kharkiv	Evrotek	141.7
Poltava Oil-Extracting Company Soniashnyk			141.7
Svatove Oil-Extracting Company	Lugansk	Agrex	126.0
Chumak	Kherson	Chumak Company, South Food	110.3
Chernovtsy Oil and Fat Company	Chernovtsy	KMT (Russian Capital)	108.8
Prikolotne Oil-Extracting Company	Kharkiv	Evrotek	77.4
Melitopil Oil-Extracting Company	Zaporozhje	Tavriyskaya MZK, KievDonbas	77.4
Troitske Oil-Extracting Company	Lugansk		64.4
Milove Company of Vegetable Fats and Protein		Szhedryi Dar Corporation	54.9

Source: UkrAgroConsult, LMC International Ltd.

1.76 The following major large enterprises were present in the oil-and-fat industry by 2001/02. A brief profile is given for each company.

- **Cargill:** In May 2000, Cargill opened a greenfield factory in Donetsk; this is an oilseed crushing plant with 350 000 tonnes of annual capacity that will eventually be integrated downstream with refining, packaging and soap manufacture. Cargill is the only major crushing plant operating in an export zone, which brings various benefits to the plant. This status does not, however, exempt it from paying value-added tax on seeds.
- **Cereol:** The Dnipropetrovsk Oil Extraction Plant (DOEP), one of Ukraine's largest sunflower oil crushing, refining and packaging plants, with a capacity of 280 000 tonnes per year, was practically the only existing factory that was able to attract significant foreign investment, and Cereol is now the main shareholder with an 87% interest.
- **Chumak:** A Swedish-Ukrainian joint venture, Chumak, has also built a greenfield crushing and refining facility, and have consolidated the South Dolia and North Dolia plants into the new *Olia Chumak* company. This company also has sizeable interests in retail food products, including mayonnaise and canned fruits and vegetables.
- **Evrotek (Kiev):** This company owns two large oil extraction plants: Volchansk oil extracting company, and Prikolotnianskaya Oliya. Their combined capacity is 219 000 tonnes of sunflowerseeds per year. They produce crude sunflower oil and do not undertake refining.

- **"Svitanok" (Odessa):** Odessa fat and oil company and Kharkiv fat company. This company processes crude oil extensively, and is one of the leaders in the Ukrainian margarine products market. It plans to expand the production of bottled sunoil (up to 25-30 000 tonnes per year) using the "Solnechnaya Dolina" trademark.
- **Grain Trading Company (Kiev):** This group owns the oil extraction plant "Kirovograd Oliya" with a capacity of 226 800 tonnes of sunflowerseed per year and also the Kirovohrad modified fats plant. It is represented on the domestic market with the "*Blago*" trademark; however, its primary orientation is the export of crude sunflower oil (90-95% of its output).
- **"Schedriy Dar" Corporation (Kiev):** The company's interests include the Melovskiy oil extraction plant, Lviv fat company and two trade houses. It is primarily focused on the domestic market and is one of the leaders of the margarine products market. Its main direction of activity in the sunflower oil market is bottled oil, using the *Schedriy Dar* trademark.
- **KMT (Kiev):** This Russian owned company operates the Vinnitsa and Chernovtsy crushing companies with a capacity of 275 700 tonnes of sunflowerseed per year and is also a regular crusher of rapeseed and soybeans. It is the leading producer of margarine and hard fats in the local market.

1.77 As the company profiles above show, the crushing industry in Ukraine is increasingly characterised by vertical integration. Many of the main players are large complexes with specialised companies for raw material purchasing, storage, forwarding, crushing, foreign trade, distribution, and/or downstream processing. Some of them, motivated by seed supply concerns but also by the favourable tax regime of the agricultural sector (see Ch. 2), are also engaged in agricultural production.

1.78 It is clear from Table 1.7 that domestic seed production is sufficient to support a relatively large crushing industry. Nonetheless, the industry is currently over-capitalised. We estimate that an average output of 3 million tonnes per year would be sufficient to support domestic crushing from a maximum of 10 crushing plants, each with a capacity of around 1 000 tonnes per day, which is towards the lower end of the scale in Western Europe, and would be the minimum that would enable the sector to remain competitive as trade barriers to Western Europe are reduced over time.

1.79 Consolidation in the crushing industry is expected to occur over the next five years. The industry can be increasingly classified into strong and weak enterprises. This divide was evident during the 2001/02 season when medium-sized producers faced difficulties in competing with financially strong entities in the purchase of raw material during a period of high domestic prices for seed. Table 1.13 presents the oil output of the largest crushing plants in Ukraine. Besides plant efficiency, geographic factors may play a role in the consolidation process since most major plants are currently located in eastern parts of the country (see Map).

Table 1.13: The Largest Sunoil Producers in Ukraine ('000 tonnes)

Enterprise	1998/1999	1999/2000	2000/01	2001/02 (Oct-June)
Cargill	-	-	119.6	117.9
Dnipropetrovsk OEP	91.3	103.9	120.3	92.4
Polohy OEC	58.9	86.2	78.9	21.6
Kirovohrad Olia	31.4	86.7	76.3	63.3
Zaporizhzhia Oil and Fat Company	27.6	40.6	72.9	50.2
Odessa Oil and Fat Company	39.9	64.0	58.4	25.4
Vovchansk OEP	39.0	53.7	49.1	47.5
Soniashnyk	31.2	33.6	39.5	54.9
Total by enterprises	**309.2**	**467.7**	**615.0**	
Other enterprises	**149.1**	**312.9**	**295.4**	
Total	**458.3**	**780.6**	**910.4**	**840.0**

Source: UkrAgroConsult

1.80 There are two main leaders on the domestic market for bottled refined sunoil:

- The *Oleina* trade mark, which is produced by the Dnipropetrovsk Oil Extraction Plant, and which has a 40% market share; and
- The *Chumak* trademark, with a 23% market share.

1.81 Producers' association UkrOliyaProm (see below) estimates the total size of the labour force at the crushing sector (18 main plants) to be 10 738 (2001). While the number of employees in the modern plants is comparable with Western European standards, many of the older plants still maintain the legacy of very high labour employment. Many plants have decided that on balance, the costs and benefits of maintaining a high labour force are justified against the cost of investment in modern machinery that would enable them to substantially reduce the labour input. However, over time domestic and international competition will force the plants to reduce operating costs, and increased mechanisation will be a fundamental part of this process.

Quality of Processing Facilities

1.82 The many outdated Soviet-era facilities that remain in operation in Ukraine are in stark contrast to the new greenfield facilities built in 1999-2000 by Cargill and Chumak.

1.83 Equipment in most crushing facilities is old. The solvent extractors and toasters are French (Olier) and German (Sket), and the expellers are Russian. Some were installed over 30 years ago, and now there is a shortage of spare parts. Consequently, there is considerable downtime for repairs.

1.84 Most of the older plants are equipped for refining (having Soviet-designed bleaching and deodorising equipment, but without winterising facilities). Eight plants are equipped with some Western equipment, installed over the past 12 years. However, the final refined product is of a poor quality and most do not correspond to the export standards required in Russia, the main outlet for exports.

1.85 Buildings are generally in poor condition, with the crushing and refining units often situated too far from one other, resulting in higher processing losses and increased energy costs.

1.86 Extraction rates are typically around 41% oil and 42-45% meal. This is similar to Western European levels.

Processing Costs and Crushers' Margins

1.87 In the late 1980s and 1990s Ukraine had a very competitive crushing industry. However, problems of under investment in the sector as a whole have reduced the industry's ability to compete internationally, primarily because of the small scale of the operations and in many cases low capacity utilisation. We estimate that processing costs of sunflowerseed in Ukraine range between $20 and $40 per tonne, and would be still higher for the small plants. On average processing costs are high in Ukraine compared to Argentina and France, but are clearly less than in Yugoslavia, competitive with crushing costs in Russia, and probably lower than in Spain.

1.88 If the VAT refund were paid promptly and in full (see Chapter 2), crushing margins on exported products would be high by international standards, at on average $40-$60 per tonne over the past year. Without the VAT refund on exports, margins are much lower, at around $8 per tonne. Domestic crushing margins are high and were on average around $60 per tonne between October 2000 and April 2002.

1.89 In Table 1.14 we present the results of our calculations of average sunflower crushing costs in Ukraine in 2002. The costs have been calculated using a model developed by LMC International, which applies an engineering approach to costing. Starting from the detailed and disaggregated listing of the inputs that are used to process oilseeds, we have attached local prices to each of the inputs, to arrive at a true cost estimate. The base case scenario presented in the table assumes that capacity utilisation is reasonably high since the imposition of the export tax, at around 70%.

Table 1.14: Ukraine Sunflower Crushing Costs (per tonne of seed), 2002

	Capital & Sundries	Fuel & Chemicals	Labour	**TOTAL**	*of which variable*
Ukraine					
Base Case	27.8	5.4	3.1	**36.4**	12.1
90% Capacity Utilisation	21.7	5.4	2.4	**29.5**	10.6
Average daily Capacity of 1,500 tpd	12.4	5.2	2.2	**19.8**	8.3

Note: The model assumes 5% real interest rate
Source: LMC International Ltd.

1.90 The table reveals that Ukraine's processing costs are, on average, relatively high, at $36.4. The modern large scale plants have processing costs that are considerably lower than this, while some of the older and smaller plants that still have difficulty sourcing enough seeds as raw material will have costs that are higher than this.

1.91 The main elements of costs that make Ukraine's total costs so high are the capital costs, and crushing capacity and utilisation rates are the most important components of these costs. The same table shows how competitiveness would be improved if capacity utilisation were increased. If, for example, all the plants were able to source enough raw material to operate at 90% capacity, costs would fall to $29.5 per tonne.

1.92 Also presented in the table is a scenario in which average daily capacity is increased from around 500 tonnes per day (tpd) in the base case to 1 500 tpd (still assuming that crushers can access sufficient raw material to maintain capacity utilisation at 70%). This has a significant impact on competitiveness of crushing, with costs reduced to under $20 per tonne.

Processors' Associations

1.93 There is one association representing the interests of processors, UkrOliyaProm. This association includes all the major oil processing facilities, with the exception of Cargill, eight fat making factories and four soap makers.

1.94 The principal role of the association is to lobby the Government on behalf of the processors, and they have apparently had some success with the implementation of the seed export tax. They have also drawn up quality standards for trading oil and they provide research services via their research institute.

1.95 The fee paid by plants to be a member of the association depends on the volume on their production, but on average, the annual membership fee is a little less than $10 000.

Domestic Oil Consumption and Downstream Processing

1.96 Having discussed the production and processing of sunflowerseed, we now turn to the consumption of oil and downstream products within Ukraine.

Domestic Oil Consumption

1.97 Vegetable oil consumption constitutes 80% of total oil and fat use in Ukraine, with the remaining 20% mainly accounted for by butter. Tallow and lard production has fallen alongside livestock output, and most demand for these animal fats occurs in rural areas. Ukrainian vegetable oil consumption is almost entirely attributed to food uses, of which around 25% is consumed in the form of margarine, mayonnaise and other manufactured products produced from vegetable oil. Per capita vegetable oil consumption decreased from 11.6 kg in 1990 to 8.2 kg in 1998, in the wake of the economic crisis that followed the collapse of the Soviet Union and the reduction in the purchasing power of the population.

1.98 Sunflower oil is traditionally the favoured cooking oil in Ukraine. The crushing plants sell mainly crude oil to the domestic market and supply it in bulk for export. Many Ukrainian consumers prefer filtered unrefined oil for its colour and flavour, and there is a seasonal tendency for consumption of unrefined oil to increase in summer, when it is used for salads. A large part of the market, in particular rural consumers, is still supplied by small-scale or on-farm oil factories producing lower quality oil at prices corresponding to the weak purchasing power of the population. The share of bottled sunoil in overall consumption is, however, increasing and

forecasted to reach 40% in 2002. A market for high quality refined oil is also emerging. Therefore, some of the plants that are planning to install their own refining and bottling lines prefer to subcontract the processing abroad until their refining facilities are in operation. In the medium run, evolution of consumer preferences is likely to strengthen the position of major crushers, driving small-scale oil factories out of the market.

1.99 Rapeseed and soybean oils are not significant market players among domestic consumers. Refined palm oil consumption in Ukraine has been increasing recently, because of a growing consumption of palm products by the food industry, particularly in margarine and confectionery manufacture.

1.100 Oil consumption worldwide has a high income elasticity of demand. With steady economic growth, we expect a reasonable increase in oil demand, of around 3.0% per year over the next decade. This is nonetheless below the average annual long run global increase in oil demand over the past 25 years, which averaged 3.5%, because Ukraine has a difficult period of adjustment ahead, which will limit demand growth. Table 1.15 presents the trends in the consumption of vegetable oils in Ukraine since 1995/96.

Table 1.15: Ukraine — Vegetable Oil Consumption and Forecasts, 1995/96-2011/12 ('000 tonnes)

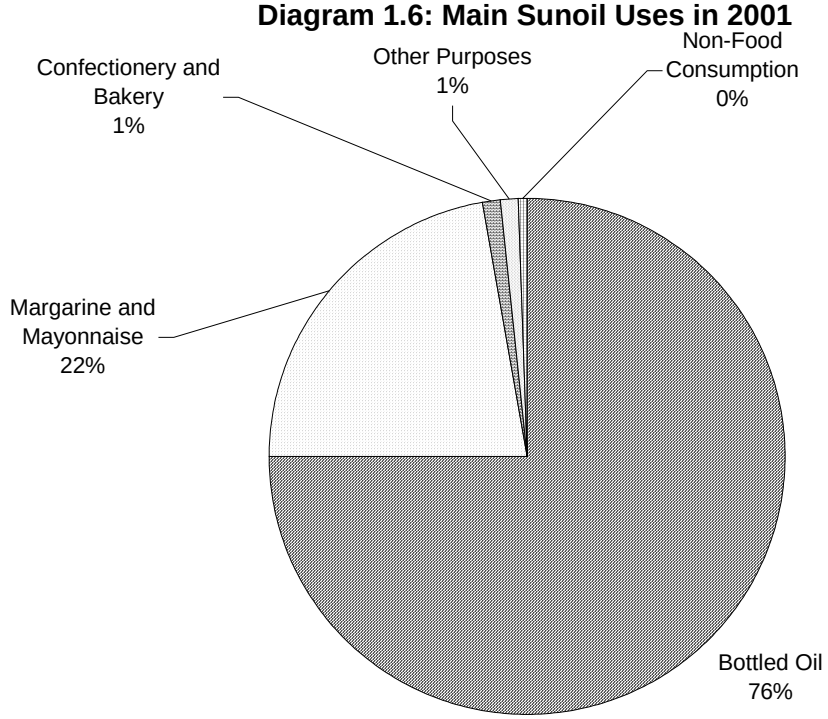
	Soybean	Sunflower	Rapeseed	Palm Oil
1995/96	3	426	13	-
1996/97	3	375	8	6
1997/98	6	349	11	27
1998/99	6	371	18	25
1999/00	5	372	31	34
2000/01	9	416	32	63
2001/02	16	413	39	108
Projected Consumption				
2006/07	11	497	38	80
2011/12	13	576	44	100

Source: Oil World, LMC International Ltd.

1.101 The principal end uses of the sunflower oil of main crushers on the domestic market are presented in Diagram 1.6[1]. Bottled oil consumption by the population corresponds to three-quarters of oil use, margarine and mayonnaise being responsible for most of the remaining share.

[1] These figures describe the usage of oil produced by main crushers only. However, it should be noted that over 50% of domestic oil consumption are satisfied by non-bottled oils produced directly on farms or in small-scale oil factories.

Diagram 1.6: Main Sunoil Uses in 2001



Source: UkrAgroConsult

Margarine and Mayonnaise Production and Consumption

1.102 Margarine and mayonnaise production together consume 22% of sunoil sold by Ukrainian crushers on domestic markets (see Diagram 1.6). During the mid-1990s, margarine and mayonnaise manufacturers used to stop operating in March due to the insufficient supply of crude sunflower oil as raw material. Between 1999 and 2002, the sunflower seed export duty increased the availability of crude oil and enabled producers of margarine and mayonnaise to maintain stable production throughout the season. The output of the seven major margarine producers is presented in Table 1.16.

Table 1.16: Top Margarine Producers in Ukraine, 1999-2001 ('000 tonnes)

Company	1999	2000	2001
Kharkiv Fat Company	44.8	48.7	48.7
Odessa Oil and Fat Company	24.9	36.1	44.3
Zaporizhzhia Fat Company	15.6	28.2	36.6
Kyiv Margarine Plant	8.5	15.5	19.5
Lviv Fat Company	12.0	9.8	18.3
Vinnytsia Oil and Fat Company	4.8	8.3	11.0
Marg-West, Donetsk	3.4	5.1	6.6
Sub-total	**114.0**	**151.7**	**185.0**
Other Enterprises	**6.4**	**10.0**	**13.3**
Total	**120.4**	**161.7**	**198.3**

Source: UkrAgroConsult

1.103 The market balance for margarine is presented in Table 1.17.

Table 1.17: Margarine Domestic Market Capacity, 2000-2001, ('000 tonnes)

	2000	2001
Production	161.7	198.3
Margarine, domestic market capacity	186.8	223.3

Source: UkrAgroConsult

1.104 The lion's share of the market belongs to domestic margarine producers, but there are nonetheless some margarine imports that reach Ukraine via 'unofficial' channels. Officially registered imports of margarine are about 2 500-3 000 tonnes per year, and these are imported under a duty of EUR 1 000 per tonne. These imports are principally of packed sandwich margarine (including trademarks such as "*Finea*" and Unilever's "*Rama*") from Poland, Germany and Russia.

1.105 Around 30% of margarine production are used by industry. Solid high-fat margarines are almost entirely consumed by the confectionery and baking industries, and soft low-fat margarines are mainly sold through retail trade. Within the next two to three years we anticipate rising consumption of fats for industrial processing in the baking and confectionery industries. The growing output of confectionery items, in particular, of pastry, will increase domestic consumption of margarine. These confectionery industries consume mainly table margarine. The recent evolution of the output of confectionery products is outlined in Table 1.18.

Table 1.18: Confectionery Products Production, 2000-2001 ('000 tonnes)

Products	2000	2001
Confectionery Products, Total	667	731
Including flour-based	236	268

Source: UkrAgroConsult

1.106 Low purchasing power in the domestic market has stimulated the demand for soft margarine, which is cheaper than butter. This trend is reinforced by a growing awareness of health issues. Soft margarine needs more palm oil in its production than hard margarine.

1.107 Mayonnaise production in Ukraine has seen strong rates of increase over the past few years, particularly since 1999 when the domestic supply of crude oil increased, and enabled mayonnaise manufacturers to produce a cheaper product than imported mayonnaise. Currently, Ukrainian mayonnaise producers would be able to cover all domestic demand. Table 1.19 summarises the top seven mayonnaise producers in Ukraine.

Table 1.19: Top Mayonnaise Producers, 1999-2001 ('000 tonnes)

Company	1999	2000	2001
Volynholding	12.4	20.1	31.0
Marg-West, Donetsk	6.2	10.2	9.4
Odessa Oil and Fat Company	3.2	5.1	8.2
Lviv Fat Company	4.5	6.4	8.0
Kharkiv Fat Company	5.4	6.9	6.4
Kyiv Margarine Plant	4.9	5.6	5.5
Chumak, Kerson	1.3	1.7	2.8
Sub-Total	**37.9**	**56.0**	**71.3**
Other Enterprises	**22.1**	**22.8**	**32.9**
Total	**60.0**	**78.8**	**104.2**

Source: UkrAgroConsult

Domestic Meal Consumption

1.108 The key domestic consumers of sunflower meal are compound feed mills. The Ukrainian compound feed industry has only a limited ability to pay premium prices for high protein feeds because of the collapse of the collective farms' livestock and poultry operations that were the major buyers. The reduction in livestock stocks throughout the 1990s is evident from Table 1.22. The emerging private sector also has limited financial resources to finance purchases. As a result, Ukraine is a large net exporter of sunflowermeal (Table 1.9). Nonetheless, in the past two years, there have been signs of a revival in domestic meal consumption (Table 1.21). The major sunflower meal consumers are presented in Table 1.20.

Table 1.20: Main Sunflower Meal Consumers in Ukraine, 2002

Region	Company
Donetsk	RozDon
	Uhlegoskiy experimental compound feed plant
Kyiv	Borispol experimental compound feed plant
	Mironivskiy khliboproduct
	Agromars
Odessa	Belhorod-Dnestrovskiy compound feed plant
Poltava	Poltava compound feed producer
	Novosanzharskiy compound feed plant
Kharkiv	Kharkiv compound feed producer

Source: UkrAgroConsult

1.109 The growing private poultry sector will be the main force behind increased protein meal consumption in the future, because of the high proportion of oilseed meals used in poultry feed. Private sector pork production is unlikely to create significant growth in the demand for protein meals as long as pork output continues to be based upon small scale farming, with relatively low average hog inventories per household, ranging from one to five pigs. Such farms

in Ukraine have historically reared their pigs on grains and potatoes produced on the farm in preference to commercial, high-protein combined feeds.

1.110 Global meal demand has grown at an average rate of 3.6% per year, very similar to that of oil, although meal demand tends to be much more volatile, because meat consumption, which drives meal demand, is highly income elastic. Meal demand growth in Ukraine will depend on the outlook for domestic meat output. Table 1.22 reveals that livestock stocks have fallen considerably, at a trend rate of over 6% for chickens, and a rate as high as 23% for sheep. As with oil, demand for meat, and therefore meal, will depend on income growth. However, there is scope for Ukraine to develop a meat export market, and thus domestic meal demand will not depend only on income growth within Ukraine, but will also be influenced by meat demand from abroad, particularly from neighbouring countries. We therefore expect a slightly stronger growth in meal demand over the next ten years than for oil, with an annual trend increase similar to the long run global increase in meal consumption, of 3.5%.

1.111 Growth in meal demand is likely to favour in the first place soymeal (see Table 1.21) which, being less amino-acid than sunmeal, is more appropriate for feed use. Soymeal is also favoured by the nutritional standards currently in force in Ukraine, which date from the Soviet era and are centred on soymeal. In the future, however, demand for sunmeal is also forecasted to increase, given the existing facilities, past experience and high level of sunseed production in the country.

Table 1.21: Ukraine — Meal Consumption and Forecasts, 1995/96-2011/12 ('000 tonnes)

	Soybean	Sunflower	Rapeseed
1995/96	43	300	4
1996/97	43	303	3
1997/98	27	301	11
1998/99	26	358	17
1999/00	27	505	42
2000/01	87	301	39
2001/02	143	297	50
Projected Consumption			
2006/07	104	359	46
2011/12	124	428	55

Source: Oil World, LMC International Ltd.

Table 1.22: Ukraine — Livestock Numbers, 1992/93-2001/02 (million head)

	Cattle	**Chickens**	**Pork**	**Sheep**
1992/93	23.7	202.1	17.8	7.3
1993/94	22.5	180.0	16.2	6.6
1994/95	21.6	159.0	15.3	6.1
1995/96	19.6	136.0	13.9	4.8
1996/97	17.6	123.0	13.1	3.2
1997/98	15.3	125.0	11.2	2.2
1998/99	12.8	118.0	9.5	1.5
1999/00	11.7	105.0	10.1	1.2
2000/01	10.6	122.0	10.1	1.1
2001/02	9.9	108.0	9.1	1.0

Source: State Statistics Committee

Trade

Sunflower Seed

1.112 Sunflower seed exports peaked at over one million tonnes in 1997/98 and remained high even after the imposition of a 23% export duty (see Table 1.25). In 2000/01, around 80% of all sunseed exported from Ukraine was sold through overseas tolling arrangements and thus without payment of the export duty. Sunflower seed exports have fallen considerably since the prohibition of exports under tolling contracts in July 2001, and commodity traders have mainly withdrawn from sunseed export markets. The EU is the predominant customer for sunflowerseed exports and the more limited volumes of rapeseed exports, and Turkey is also an important destination.

1.113 Commodity sunflowerseed is not imported into Ukraine, and the minor volumes of seed that currently enter Ukraine are for planting purposes.

Sunflower Oil

1.114 Sunflower oil exports have seen a dramatic increase, particularly since the imposition of the seed export tax, which encouraged domestic crushing (see Table 1.26). The majority of sunflower oil exports are destined for Russia, Algeria, Turkey and the EU (Table 1.23). Sunflower oil is exported by ship to Turkey and countries in the Mediterranean region and by rail to Russia, Belarus, Hungary and Lithuania. The largest sunoil exporters in the past two seasons were the major sunflowerseed crushers, as Table 1.24 reveals. Domestic trading companies as well as large international traders, such as Louis Dreyfus and Toepfer, are also involved in oil exports, often exporting oil processed under tolling schemes.

Table 1.23: Ukraine Oil Exports by Country

	1996/97	1997/98	1998/99	1999/00	2000/01
Algeria	3.1	7.7	10.8	75	65.2
Belarus	54.4	52	41.2	23	16.9
EU	3.5	4	9.2	82	80
Egypt	3.1	7.7	4.9	58	21.7
India	21	19	-	30	20
Russia	40	30	79	91	106
Turkey	29	30	9	74	85
Others	9.9	18.6	55.9	-	166.2
Total	**164**	**169**	**210**	**433**	**561**

Source: Oil World

Table 1.24: Largest Sunoil Exporters (volume, 000 tonnes)

Company	2000/2001 season	2001/2002 season (October-May)
Cargill	102.1	84.3
Dnipropetrovsk OEC	68.9	44.9
Grain Trading Company, Kyiv	65.0	34.6
Soyuz Victan, Simpheropol	52.6	23.8
Serna, Kyiv	27.0	13.1
Odessa Oil and Fat Company	19.7	11.2
Chumak, Kherson region	10.0	11.0
Unigrain, Kyiv	9.7	9.6
Agrex, Donetsk	9.4	9.5
Sub-total	364.4	242.0
Other Companies	196.8	317.6

Source: State Statistics Committee, UkrAgroConsult

1.115 Ukraine has recently increased its exports of refined and bottled oil, in particular the "Oleina" brand produced by the Dnipropetrovsk oil extracting plant and "Chumak", produced by the eponymous company, to its northern and eastern neighbours. Total exports of bottled oil vary between 80 000 and 90 000 tonnes per year.

1.116 High import duties on sunflower, rapeseed and soy oil mean that imports of these oils are insignificant and are limited to small shipments of consumer packaged refined oil. Refined palm oil imports into Ukraine have been increasing recently, because of a growing consumption of palm products by the food industry, particularly for use in margarine and confectionery manufacture, and the zero level of import tariffs on this particular oil.

Sunflower Meal

1.117 Ukraine is a net exporter of sunflowermeal, despite a domestic shortage of protein meal (Table 1.27). Exports of sunflowermeal are unregulated, and have also increased since the introduction of the oilseed export tax. This is because exports are attractive to traders since they receive payment immediately. The main destinations for sunflower meal exports are the Baltic countries, Belarus, Poland, Turkey, Italy and Israel. Like in the case of sunflower oil, main exporters are the processing plants.

1.118 Meal imports are very low, mainly because of the limited ability of the compound feed industry to pay for imported soybean meal. Therefore, small deliveries in lots of 2 000 to 3 000 tonnes are appropriate for the Ukrainian market, which provides a logistical advantage to EU suppliers over the US and South America. There is evidence of increasing demand for meal from poultry producers, who produce their own compound feeds from purchased ingredients.

Margarine and Mayonnaise

1.119 Table 1.28 reveals that, despite a very high margarine import duty of EUR 1 000 per tonne, Ukraine is a net importer of margarine. In the past this was partly a reflection of the imports that occurred free of duty under tolling export contracts. Presently imports mainly consist of packed sandwich margarine. Some Ukrainian margarine producers believe that there are promising prospects for exports of margarine to the CIS countries and in the EU.

Table 1.25: Ukraine — Oilseed Trade, 1992/93-2001/02 ('000 tonnes)

	Imports			Exports			Net Exports		
	Soybean	Sunflower	Rapeseed	Soybean	Sunflower	Rapeseed	Soybean	Sunflower	Rapeseed
1992/93	4	80	0	8	61	10	4	-19	10
1993/94	3	41	1	10	357	10	7	316	9
1994/95	0	8	0	5	124	21	5	116	21
1995/96	0	4	0	5	470	6	5	466	5
1996/97	3	3	0	5	1,087	21	2	1,085	21
1997/98	5	1	0	1	784	13	-4	783	13
1998/99	3	1	1	7	891	39	4	890	38
1999/00	8	1	0	9	425	58	1	424	58
2000/01	0	0	0	5	1,017	73	5	1,017	73
2001/02	12	0	0	1	110	60	-11	110	60

Source: Oil World

Table 1.26: Ukraine — Vegetable Oil Trade, 1992/93-2001/02 ('000 tonnes)

	Imports				Exports				Net Exports			
	Soy Oil	Sunflower Oil	Rapeseed Oil	Palm Oil	Soy Oil	Sunflower Oil	Rapeseed Oil	Palm Oil	Soy Oil	Sunflower Oil	Rapeseed Oil	Palm Oil
1992/93	0	2	0	0	0	136	0	0	0	134	0	0
1993/94	1	6	0	2	0	65	1	0	-1	59	1	-2
1994/95	0	1	0	19	0	219	0	1	0	218	0	-18
1995/96	0	5	2	13	0	223	1	0	0	219	-1	-13
1996/97	1	8	1	5	0	164	1	0	-1	156	0	-5
1997/98	3	20	4	31	0	169	2	0	-3	149	-2	-31
1998/99	2	8	5	22	0	210	5	0	-2	202	0	-22
1999/00	0	0	1	34	1	433	5	0	0	433	3	-34
2000/01	1	0	3	66	1	561	10	0	-1	561	7	-66
2001/02	3	0	4	115	1	448	7	0	-2	448	3	-115

Source: Oil World

Table 1.27: Ukraine — Oilseed Meal Trade, 1992/93-2001/02 ('000 tonnes)

	Imports			Exports			Net Exports		
	Soy meal	Sunflower meal	Rapeseed meal	Soy meal	Sunflower meal	Rapeseed meal	Soy meal	Sunflower meal	Rapeseed meal
1992/93	65	0	0	7	0	0	-58	0	0
1993/94	71	0	0	0	1	0	-71	1	0
1994/95	0	0	0	0	4	0	0	4	0
1995/96	115	0	0	0	137	2	-115	137	2
1996/97	33	0	0	1	129	1	-32	129	1
1997/98	13	0	0	0	236	2	-13	236	2
1998/99	7	0	0	0	225	9	-7	225	9
1999/00	2	7	0	1	406	7	-1	400	7
2000/01	51	18	0	2	679	20	-49	662	20
2001/02	82	8	0	1	580	9	-81	572	9

Source: Oil World

Table 1.28: Ukraine — Trade in Margarine and Shortening, 1992/93-1999/00 ('000 tonnes)

	Imports	Exports	Net Exports
1992/93	1.5	0.0	-1.5
1993/94	3.2	0.2	-3.0
1994/95	2.2	3.6	1.4
1995/96	4.1	7.8	3.7
1996/97	2.4	4.4	2.0
1997/98	12.9	0.9	-12.0
1998/99	15.1	0.1	-15.0
1999/00	7.7	0.9	-6.8

Source: State Statistics Committee, UkrAgroConsult

Potential for Product Market Development

1.120 It is in Ukraine's interest to concentrate on marketing oilseed products (oils, meals, margarines, hard fats, etc.) rather than seed, since in this way it will benefit from higher value added on the products traded. Oil accounts for 80-90% of the product value from sunflower seeds. Sunflower meal, which is produced as a by-product from crushing, trades at a considerable discount to soymeal and rapeseed meal, and is not exported at a significant profit. Furthermore, Ukraine's margarine and hard fats industry is not yet sufficiently developed to have a significant impact on the international market. In this section, we therefore concentrate on the potential for increasing sunflower oil exports from Ukraine. The main markets for sunflower oil are currently Russia, the EU and Turkey, and we anticipate that these markets provide the greatest potential for Ukrainian oil exports in future. We concentrate on the factors that will influence exports of oil from Ukraine to these countries over the next few years.

Russia

1.121 Russia is itself a major sunflowerseed producer and has also recently imposed a seed export tax to protect its domestic crushing industry. In 2001/02 it is expected to produce 1.34 million tonnes of oil, which exceeds domestic consumption, estimated at 1.2 million tonnes.

1.122 Russia was a net importer of oil before 2000, of volumes of around 200-300 000 tonnes. The imposition of the seed export tax increased crushing and domestic oil output, and in 2000 Russia became a net exporter by a small margin, and in 2001 had small net imports of around 17 000 tonnes. Russia imposes a 15% tariff on sunflower and soybean oil imports. Almost all of Russia's sunflower oil imports are from Argentina and Ukraine, and it also imports significant volumes of soybean oil from the EU and Argentina.

1.123 Russia's crushing industry remains in transition, as is that of the Ukraine, and as such it is difficult to predict the potential of this market for Ukrainian oil exports. If Russian processors invest in increasing capacity and competitiveness, then a significant share of the market will be satisfied by domestic supply. However, sunseed output in Russia is just a little higher than in Ukraine, and may not be sufficient to supply the domestic market with adequate volumes of oil. This will become more apparent as increasing incomes that result from economic development lead to greater per capita consumption of oil. With a population of around 150 million (compared with approximately 50 million in Ukraine), this suggests that Russia will become an important market for Ukrainian sunflower oil over the next decade.

EU

1.124 The EU has a significant sunflower crushing industry, and has historically favoured the import of sunflower seeds for crushing over imports of products. However, over the past five years the EU has grown in importance as a destination for oil exports from Ukraine, particularly since the imposition of the seed export tax. Oilseeds and meals can be imported duty free into the EU. EU base rate import tariffs under the WTO for sunflower oil are 10%, but the applied tariffs are generally lower than this.

1.125 The most significant changes within the EU over the next few years are the finalisation of the Agenda 2000 reforms and EU enlargement.

1.126 Prior to Agenda 2000, income support was paid to farmers via direct area payments. These were calculated per hectare and based on the commodity type, historical yields and prices. Changes made to the support of cereals and oilseeds under Agenda 2000 were designed to ensure that the area payments for grains and oilseeds are eventually equalised (to EUR 63 per tonne, multiplied by the regional reference yield for grain, by 2002/03), which means that payments for oilseeds are being decreased in relation those for grains. The previous system encouraged oilseed production in the EU, and the changes have already led to a decline in sunflowerseed output (although the immediate impact of the reforms is difficult to distinguish from the temporary effects of the recent period of weak vegetable oil prices). The domestic crush is always greater than domestic seed output, indicating that the industry is far from self-sufficient in its seed requirements. The reduction in oilseed output that is likely to occur as a result of Agenda 2000 will increase the dependency of the EU crushing industry on seed imports. We anticipate that as a result of the reforms there will be a decline in the Spanish and Italian crush, but that French crushers will continue to source adequate quantities of seed locally.

1.127 This has positive implications for Ukrainian exports of oil, and if investments in the domestic crushing industry can increase competitiveness of crushing, the EU is likely to become an important market for oil exports.

1.128 We do not anticipate that Ukraine will be directly affected by the first stages of EU enlargement, but an acceleration in income growth in the new member states will raise demand for oils, fats and meat. This in turn should raise demand for sunflowerseed and sun oil and meal from Ukraine.

Turkey

1.129 Turkey imports soybean oil and sunflower oil in roughly equal proportions, with total sunflower oil imports of 178 000 tonnes in 2001/02, nearly half of which was supplied by Ukraine. Turkey has a large oilseed crushing industry, with sunflowerseed crushings of over a million tonnes up to 1999/00, around half of which relied on imported seed.

1.130 The situation changed in November 2000, when Turkey's faced economic crisis, which it still experiences. While lack of credit and devaluation of the Turkish lira has made imported seed and meal relatively expensive for crushers and the poultry industry, a reduction in incomes caused local demand to decline for oil and poultry meat. Furthermore, the Government's policy of high sunflowerseed support prices causes local sunflower oil exporters to lose their competitiveness in foreign markets.

1.131 Turkey recently reduced its tariffs on sunflowerseed imports from 27.9% to zero, and also reduced the duty on sunflower oil imports from 37.2% to 12%, to prevent further domestic price increases.

1.132 As a result of its Customs Union Agreement with the EU and free trade agreements with Romania, Hungary and Bulgaria, Turkey is expected to import significantly larger volumes of sunflower oil from these countries. Total sunflower oil imports that can be imported on a duty free basis from these countries are 74 000 tonnes (compared to imports of 18 000 tonnes in 2001). Turkey will also import 15 000 tonnes of crude sunflowerseed oil Bulgaria with a fifty-percent reduction in the import duty.

1.133 In the short term, this will limit the potential for Ukraine to supply increasing shipments of oil to the Turkish market. However, in the longer term, once Turkey begins to recover from the economic crisis, increasing incomes could once again stimulate oil demand and this would provide important opportunities for Ukrainian oil exports.

By-products and Environmental Aspects

1.134 The environmental challenges of the sunflower sector are mainly associated with soil fertility decline, wastewater management, solvent explosion hazard, and energy use.

Environmental Impacts

1.135 As discussed earlier in this chapter, many Ukrainian farmers do not respect the traditional sunflower rotation cycle of five to six years but plant sunflower at two to three years intervals. According to the estimate of the Ukrainian Academy of Agrarian Sciences, the optimal area under sunflower in the country would be 9-10% of the tillable area, i.e. 1.6-1.8 million hectares, but, for the past five years, sunflower has been harvested on an area averaging 2.3-2.5 million ha. Repeated planting of sunflower leads to soil nutrient depletion and decreased productivity. No statistics are available on the role of sunflower in soil fertility decline in Ukraine but several farmers met during the mission confirmed that their yields have decreased since they are not following the normal rotation. Decline in yields is even more evident since the use of fertilisers has dropped significantly over the last 10-15 years due to constraints of on-farm working capital.

1.136 Oil processing generates approximately 10-25 m^3 of wastewater per tonne of product. In quantitative terms, most of this is wastewater from auxiliary systems (cooling water, vacuum water, water from boilers and softening plants, sanitary water) whereas most of the pollution load comes from actual process wastewater. Main problems are biological oxygen demand (BOD), chemical oxygen demand (COD), dissolved solids, oil and fat residues, organic nitrogen, pH and temperature. Ukrainian legislation requires all larger crushing plants to treat their wastewater before discharging it to – in the case of the many plants located in towns - municipal wastewater treatment systems, or directly to waterbodies. All major crushing plants have wastewater treatment facilities the level of which depends on the range of products of the plant and its location. Every plant also employs an ecologist. However, the generally low production efficiency results in high wastewater volume and pollution loads. The plants visited cited oil and grease and caustic soda from neutralisation, as the main problems with respect to compliance with national environmental standards. New stricter wastewater standards require at least one plant to upgrade

its wastewater treatment facilities. Pollution fines act as a strong incentive to comply with environmental requirements.

1.137 Hexane is used as solvent by most Ukrainian crushing plants. For the past two years, it has been produced by a domestic mineral oil processing plant and is thus readily available and relatively cheap, at a cost of 1 800 UAH per tonne (approximately $350 per tonne). Given the age and general quality of Ukrainian crushing facilities, it is not surprising that reported rates of hexane use per tonne are (except on greenfield plants) very high by Western standards: in the order of 0.4-0.5% per tonne of seed. This is up to ten times higher than current norms. Besides air emissions, this creates a risk of solvent explosion. In addition, high levels of caustic soda, a water pollutant, are required for neutralisation and still, residual hexane remains in the final products.

1.138 Solid waste generation from the oil mills is mainly in the form of sunflower husk. The majority of the plants use husk for energy production (see below), thus solving most of their solid waste management problems. This is mainly motivated by fuel saving since waste management and transport costs are relatively low.

1.139 As the majority of Ukrainian plants are located in towns, dust, noise and odour are issues of local environmental concern.

Energy

1.140 The first sunflower husk boiler in Ukraine was introduced at a crushing plant five years ago, using a local design prepared by the plant's own engineers. Currently ten of the seventeen large crushers have invested in husk burners, and while the modern crushing plants of Chumak and Cargill use imported husk boilers, many of the older crushing plants have managed to adapt existing fossil fuel boilers (by adding a pre-furnace) to work on biomass. Reconstruction costs are around UAH 1 million ($190 000) whereas imported specialised boilers cost $2-3 million.

1.141 A husk boiler typically consumes 5 tonnes of husk per hour to produce 20 tonnes of steam per hour, which corresponds to 12 MW of thermal energy. Efficiency of the reconstructed boilers is not very high, at approximately 70%. However, even with this relatively low efficiency, husk boilers are able to cover most of the processing energy needs of a crushing plant, in some cases even to produce extra steam. The low cost of adapting existing boilers means that the investment is recovered within a short payback period (as little as one year). Plants are strongly motivated to use husk for energy since fuel costs are relatively high in Ukraine (natural gas costs $60-80 per 1000 cubic metres).

1.142 One constraint in adapting existing fuel boilers is that the furnace size of a husk boiler needs to be bigger than that of a fossil fuel boiler. Using biomass boilers therefore requires large amounts of husk, and the plant thus needs to operate at high capacity. However, reconstructed boilers can also use fossil fuels when husk is in short supply (hybrid boilers). Husk-specific maintenance requirements are related to frequent cleaning of dust from the furnace. Ash from the boiler can be used as fertiliser. Environmental benefits of husk combustion are limited by the fact that air emissions of carbon monoxide and nitrogen oxide (CO, NOx) from smaller reconstructed boilers are relatively high.

1.143 The fact that seven crushing plants are not using husk for energy production can be explained mostly by the weak financial situation of these plants, affecting their ability to undertake any investments. Some of those companies that do not use husk themselves, sell it to other plants.

1.144 At the moment, sunflower husk is not used for electricity production. However, one plant is undertaking a feasibility study on installing a turbine to produce electricity from the excess steam generated by the husk boiler.

1.145 Energy efficiency at most Ukrainian crushing plants is low, due to the age of the facilities, poor condition of the buildings and the relatively long distance between crushing and refining units on the site.

Other Oilseeds

Soybean Production

1.146 Historically, there has been little attention paid to soybean cultivation in Ukraine. Nevertheless, soybean cultivation is potentially viable in the country, with favourable climate and conditions. Furthermore, there are additional agronomic benefits associated with including soybean cultivation in the rotation, such as soil improvements and improved grain yields. A distinctive feature of soybean consumption in Ukraine at present is that soybean is used mainly in the food industry rather than as an additive to compound feeds.

1.147 Table 1.29 presents the recent history of the production and yields from soybean cultivation in Ukraine. Current forecasts indicate that production may accelerate quickly to 2005/06, perhaps reaching 400 000 tonnes at the highest estimates. Many enterprises are currently displaying interest in growing soybean, particularly as the livestock sector emerges from its recent crisis. Positive trends in the livestock sector may stimulate interest in high protein feeds such as soymeal.

1.148 No genetically modified soybean varieties have been registered in Ukraine for planting but given the weak testing and monitoring capacities of the Government, actual situation regarding GMO use cannot be confirmed.

Table 1.29: Soybean Production and Yields, 1997/98-2001/02

	Harvested Area ('000 ha)	Yield (tonnes/ha)	Production ('000 tonnes)
1997/98	13	1.4	18
1998/99	31	1.1	36
1999/00	42	1.1	45
2000/01	61	1.1	64
2001/02	73	1.0	73

Source: Oil World

Soybean Crushing

1.149 Table 1.30 outlines the recent growth in soybean oil production in Ukraine from 1995/96 to the present day.

Table 1.30: Soybean Oil Production, 1995/96-2001/02 ('000 tonnes)

	Production ('000 tonnes)
1995/96	2.7
1996/97	2.4
1997/98	3.0
1998/99	4.5
1999/00	5.8
2000/01	8.7
2001/02	14.0

Source: Oil World

1.150 Soybean oil output was negligible in the mid-1990s, before increasing during 2000/01. The increase is explained by an expansion of the seeded area and the higher soybean crop (see Table 1.29). However, production at present remains insignificant in comparison with sunflower oil, and modern capacity for crushing soybean stands idle due to the lack of raw material. Thus, the soybean and soybean oil market remain undeveloped in Ukraine.

Rapeseed Production

1.151 Rapeseed is the second most important oil crop in Ukraine, though it is of relatively minor importance. Production has increased since 1997 although overall production is still at a low level (see Table 1.31).

Table 1.31: Rapeseed Production and Yields, 1997/98-2001/02

	Harvested Area ('000 ha)	Yield (tonnes/ha)	Production ('000 tonnes)
1997/98	41	1.1	44
1998/99	99	0.8	67
1999/00	221	0.7	148
2000/01	157	0.8	131
2001/02	108	1.2	135

Source: Oil World

Rapeseed Crushing

1.152 Rapeseed oil production has varied considerably from year to year, reflecting changes in rapeseed acreage. In 1996/97 Ukrainian crushers produced approximately 3 700 tonnes of rapeseed oil and output increased to 43 900 tonnes in 2000/01. Rapeseed oil is used mainly for margarine and mayonnaise production since Ukrainian consumers traditionally prefer sunoil.

1.153 A large portion of rapeseed is crushed by sunflower oil mills, in particular during the off-season period. Plants with the largest rapeseed oil output are currently Vinnitsia Oil and Fat Company and Chernovtsy Fat Company, both belonging to the same owner. Overall, four large producers corresponded to 95% of total rapeseed oil production in 2001.

2. GOVERNMENT INTERVENTION IN THE DOMESTIC OILSEED MARKET

2.1 In this chapter we describe the main aspects of Government policy that affect the domestic oilseed market. In Chapter Three the impact of these policies on the sunflowerseed production and crushing sector is analysed in more detail, and conclusions about the effectiveness of the policies are presented.

2.2 The Government does not give direct subsidies to oilseed or vegetable oil production. Instead, the thrust of recent policy in the sector has been aimed at reducing the tax burden of agriculture, subsidising it implicitly through VAT exemptions and in protecting the domestic sunflowerseed crushing industry through export taxes on seed.

Land Reform

2.3 Land reform in Ukraine has now reached its third stage (for details, see Annex 4). At the first stage of the reform, land was transferred from the Government to collectives. During the second stage, the collectives issued land share certificates to their members, giving each member the right to a given number of hectares. The third stage, which is currently underway, is titling, namely, the allocation of concrete land plots on the basis of the land share certificates. Titles within each collective are of a standard value, determined by size, quality and location, and are distributed via a lottery system. The Government estimates that 40% of certificate holders have already received their land plots. There are high transaction costs (UAH 50-360 per plot of land) involved in land titling, which are borne by the certificate holder, and this means that some holders do not want to apply for a title. Several donors have assisted in the land reform process, and the World Bank is currently planning a project to finance land titling for all remaining non-titled lands.

2.4 Unclarity regarding land ownership has been a major constraint to the development of land markets and farms' access to credit, although the possibility of land leasing has brought more flexibility to the system. Major progress in land reform was made by the adoption by the Parliament, in October 2001, of the Land Code, establishing the right of private ownership to land. Land markets, however, cannot develop yet since the Land Code allows for sale of agricultural land only from 1 January 2005. Moreover, private or legal persons can acquire ownership of a maximum of only 100 hectares until 2010. Other barriers to land market development include: (i) issuance of titles has not been completed; (ii) legislation on title registration is not yet in place; and (iii) decisions on the future of the land cadastre system have not yet been taken.

2.5 The completion of the land reform and the creation of land markets can be expected to facilitate the break-up of large farms in Ukraine. In the longer term, a bigger variety of farms of different sizes is likely to result from the process, which should also lead to improvements in sector efficiency. Already in the short term, the possibility to use land as collateral will improve farmers' access to credit and thus alleviate the most serious farming constraints (see below).

Crop Finance

2.6 Seasonal crop finance remains a constraint to both producers and some crushers.

2.7 Farmers cannot use land as collateral because of the incompleteness of land titling process and the establishment of land markets. Available collateral is therefore limited to equipment and machinery, the future crop, cattle and sometimes the private property of the owner of the business. Some banks are currently making contracts with elevators that hold grain as collateral for loans taken by farmers. However, a legally supported system of warehouse receipts is not yet in place, and this severely limits the ability of farmers and crushers to use stored seed as collateral.

2.8 Interest rates are very high in Ukraine, with nominal rates at around 25-30% for local currency loans, and 14-20% for dollar loans. Inflation is relatively low and stable, and therefore real interest rates are high, often over 20%. Recently the Government has offered producers a 70% subsidy on the interest payments on loans for all crops. However, funds for this payment are limited and are allocated via local authorities. There is little transparency in the method of allocation of these funds, and the process is therefore at risk of being exploited by corrupt officials who favour the granting of subsidies to family members or who accept bribes.

2.9 One example of the failure of this system was given by a farmer who had applied for this support last year. The paperwork required for the application was considerable, demanding a detailed business plan. Having invested a large amount of time in the application, the farmer received a subsidy for just 5% of his loans, and had decided not to reapply this year since the support did not justify the investment of time required to make the application.

2.10 In 1999, loans worth $53 million were provided by the National Bank of Ukraine and other local commercial banks to finance oilseed purchases by processors to avoid the need for further barter transactions, but this is sufficient to finance only a minority of annual seed purchases, unless revolving finance can be turned over very rapidly. Some crushers with international shareholders have also had access to loans from the European Bank for Reconstruction and Development. On farmer side, World Bank is currently planning a rural finance project, which would provide credits to farmers, and small and medium-sized enterprises in rural areas.

Taxation of Agriculture

2.11 Between 1991 and 1999 farms were part of the general tax system in Ukraine, with some exclusions, such as an exemption from profit tax. Since 1999 the Government has supported farmers through a favourable taxation system, which is expected to remain in place until 2004.

Fixed Agricultural Tax

2.12 In 1999 the fixed agricultural tax (FAT) integrated twelve taxes (including taxes on land, profit, automobiles, and income, as well as pension, social security and unemployment payments) previously paid by the farms. Those eligible to pay the FAT are enterprises for which agricultural production accounts for over 50% of their revenues. The tax base is the value of agricultural land, which was fixed in July 1997, and takes into account the potential productivity

of the land. The average land value in Ukraine is set, for tax purposes, at UAH 8,733 per hectare, but is higher in more productive regions, such as the Cherkassy oblast.

2.13 The tax rates are specified for two types of agricultural land:

- 0.5% of the value of arable land, hay meadows and pastures;
- 0.3% of the value of perennial plantations.

In several regions, where the land is considered to be less productive than average, the tax rates are lower than this.

2.14 The FAT is in effect a farm subsidy because it places a much lower tax burden on farms than on other sectors of the economy. According to the Ministry of Agricultural Policy of Ukraine, the estimated annual tax privilege of the FAT in 2002 is worth around UAH 1 400 million ($265 million).

2.15 The future of this system beyond 2004 is not known but it is likely that at least some benefits will remain given the broad support enjoyed by the agricultural sector among Ukrainian policy-makers. Currently, the favourable tax improves farmers' margins for all crops relative to the tax levied on other industries. However, it does not have an impact on farmers' decisions to grow sunflower vis-à-vis other crops, and therefore does not provide a direct benefit for crushers.

Value Added Tax (see also Annex 6)

2.16 Agricultural enterprises in Ukraine have special provisions for the payment of value-added tax (VAT). VAT is charged on sales of sunflowerseed at 20% of the purchase price. Farms are exempted from paying this VAT to the national budget during the period 1999-2004, and the accumulated VAT from sales of seeds must be deposited in special bank accounts and used by the farmer only to purchase five specially approved classes of agricultural production inputs.

2.17 The VAT system works in the following way. Crushers pay VAT on seeds when they buy directly or from traders. For example, if crushers pay UAH 1,200 for seeds, UAH 1,000 is the farmgate price and UAH 200 is VAT, though the farmer is paid the full 1,200, but with two invoices. Crushers charge a 20% VAT on domestic oil and meal sales but export at zero VAT rate. Those crushers whose VAT payments on seed exceed their VAT revenue from domestic sales are entitled to a refund from the Government. The law on exports says that VAT should be reimbursed to exporters within three months, but Government arrears on VAT are now considerable and so in reality exporters have to wait much longer to be reimbursed, if, indeed, they are reimbursed at all.

2.18 The VAT exemption of agricultural enterprises is an implicit but significant subsidy to the farming sector, financed mainly by domestic consumers but also by the Government (who refunds exporters) and by those exporters who are not reimbursed by the Government. When assessing the level of this subsidy, it should be taken into account that farmers pay the regular 20% VAT on agricultural inputs that they purchase with their VAT revenue. Table 1 in Annex 6 presents calculations on the amount of the subsidy and how its costs are divided between market operators.

2.19 While crushing margins in Ukraine are good if VAT reimbursements are given to crushers, without this, some crushers claimed that margins are negative. Also, in terms of cash flow, it is as if the crushers give the Government an interest-free loan during the period between the purchase of the seed and reimbursement of the VAT. Grain exporters are already threatening to discount local grain prices by 20% to make up for their losses caused by VAT refund arrears, and one crusher claimed that already grain prices would be $10 higher if there was full confidence in the payment of the VAT refund. This effectively reduced the subsidy enjoyed by the farmers under the current system. While the Government has finally shown signs of responding to crusher claims, with talk of UAH 400 million ($77 million) in restructuring finance for VAT arrears, there is unlikely to be sufficient funds in the budget to cover the shortfall given the dimensions of the VAT refund problem (see below).

2.20 The accumulation of overdue VAT-refund requests puts pressure on the VAT administration. The Tax Authorities have no central budget for VAT, and rely instead on the revenues from the regional offices and their regional budgets. The regional budgets, in turn, are determined by an incentive system that establishes the offices' expenditures as a proportion of their tax receipts. This causes additional problems in the poorer regions, which tend to depend most heavily on agriculture. They do not receive VAT from farmers but have to pay out VAT refunds on exports as a net cost.

2.21 The policy of VAT refunds on exports, and the problem of Government's VAT arrears, applies to all Ukrainian exporters, not only those of the agricultural sector. Overall, the VAT arrears amount to UAH 2,2 billion (1% of GDP). Government's failure to reimburse VAT has been strongly criticised by international financing institutions, in particular International Monetary Fund (IMF), which decided to withhold a US$-several-million loan tranche because of Government inability to resolve problems in the fiscal sphere. Besides addressing the issue of VAT refund, IMF has also urged Ukraine to broaden its tax base and reduce tax distortions and privileges in the context of the new Tax Code, expected to be adopted in 2002[1]. The draft Tax Code already contains a proposal to lower the VAT rate from 20 to 17 percent. In consultations with IMF, the Government has stated its preference - reflecting the tight cash-flow situation and need to meet revenue targets - for a gradual approach that consists of administrative and legislative improvements, while extending the settlement of these areas into 2003.

2.22 Decisions on the future of agricultural VAT system are likely to be taken in the context of the new Tax Code and that of overall agricultural tax reform in 2004.

2.23 The implications of the current system on the sunflower industry are examined in more detail in Chapter 3.

Trade Policy

Export Taxes

2.24 In 1998/99, about 35% of the harvested sunflowerseeds in Ukraine were exported, primarily to the EU. The openness of the sunflowerseed market had a detrimental impact on Ukrainian vegetable oil processors, which could not afford to buy sunflower at export prices. In

[1] IMF Staff Report for the 2002 Article IV Consultation, 29 March 2002.

order to protect the local oilseed-processing sector, the Ukrainian Government introduced a 23% tax on sunflowerseed exports in October 1999. The IMF opposed this duty, which was considered to introduce market distortions, and made its loans to Ukraine conditional on the reduction of this duty to no more than 10%.

2.25 However, almost all sunflowerseed exporters managed to avoid the duty legally, using either tolling contracts with Western European buyers or the opportunities provided by bilateral free trade agreements with Georgia and other Former Soviet Union countries, under which export tariffs were not applied. Under the tolling contracts, Ukrainian exporters shipped seed duty-free to Western Europe for processing, with payment due, not at the time of export, but within 90 days of export of the seeds, when the final oilseed products had been produced and sold.

2.26 In July 2001, a new law was approved, lowering the export tax to 17% of the FOB customs cost. The law also rescinded the duty-free status formerly granted to exports made under tolling contracts. Now that the duty-free status is no longer available, the new 17% export duty has cut back exports of Ukrainian sunflowerseed dramatically[1].

2.27 There are no export duties on sunflower oil or meal exports.

2.28 The sector representatives met by the mission did not foresee changes in the export tax regime in the near future.

Import Duties

2.29 The schedule for import duties in February 2002 is summarised in Table 2.1. Unlike Poland and Romania, Ukraine does not have preferential import duties for imports from the EU.

2.30 Despite a moderate supply deficit in protein feed and the presence of excess crushing capacity, Ukraine has not considered lowering the existing import duties on oilseeds. Therefore, softseed imports are mainly limited to seeds for sowing. While soybeans have a 0% import duty, the difficulty of access to finance prevents traders from importing beans for crushing, preferring to import soymeal (also with 0% duty) because of the faster capital turnover. Other protein meals are subject to a very high import duty of 400 Euros per tonne.

2.31 Sunflower oil also receives very high protection on the domestic market, with an import duty of EUR 800 per tonne. As would be expected, this virtually eliminates sunflower oil imports. The less favoured rapeseed and soy oil are also protected on the domestic market by a high duty of EUR 150 and 300 per tonne, respectively. Palm oil and coconut oils, which are not considered to be direct competitors to sunflower oil, are imported free of tariff.

2.32 Unlike Poland, for example, Ukraine provides significant protection for downstream processed products, and the duty on imports of hard fats, such as shortening, is 30%.

2.33 Imported commodities are also subject to 20% VAT.

2.34 Future developments regarding import duties are likely to be linked to Ukrainian WTO and other trade negotiations discussed in the next section.

[1] However, the decline in exports is also partly explained by the low sunseed harvest in 2001/02.

Table 2.1: Ukraine — Import Tariffs for the Oilseed Complex, February 2002

ITEM	MFN
Soybeans	Free
Rapeseed	EUR 20 /tonne
Sunflower	EUR 500 /tonne
Soymeal	Free
Sunmeal	EUR 400 /tonne
Rapemeal	EUR 400 /tonne
Crude Soy Oil	EUR 300 /tonne
Refined Soy Oil	EUR 300 /tonne
Crude Palm Oil	Free
Refined Palm Oil	Free
Crude Sunflower Oil	EUR 800 /tonne
Refined Sunflower Oil	EUR 800 /tonne
Crude Rapeseed Oil	EUR 150 /tonne
Refined Rapeseed Oil	EUR 150 /tonne
Coconut oil	0
Margarine	EUR 1,000 /tonne
Shortening	30%

Note: The only countries that are not MFN are Israel and Taiwan. Source: Directorate-General Trade, European Commssion

WTO, EU and Other Trade Agreements

2.35 Ukraine's request for accession to World Trade Organization (WTO) has been under negotiation since 1994 with negotiations completely stalled between 1998 and 2000. Joining the WTO is a high priority for the present Government, which aims at resolving the main negotiation issues by late 2003. A presidential decree was issued in February 2002, containing an ambitious "Program of Measures on Completion of Ukraine's Accession to the WTO". The programme calls for a comprehensive analysis of Ukrainian legislation on conformity with WTO requirements as well as a forecast of possible consequences of WTO accession to the country. According to the programme, revised legislation on agriculture should be submitted to the Parliament by the 3rd quarter of 2002. The Ministry of Agrarian Policy is also requested to shape up a commitment on downsizing public support to agriculture.

2.36 The specific impacts of WTO accession on the policies affecting the sunflower oil sector in Ukraine will be determined by the modalities of the accession agreement. In principle, when joining the WTO, Ukraine will commit herself to reducing all kinds of export subsidies with a view of phasing them out and to decreasing trade distorting support measures such as price support, input subsidies, and quantitative product support. These so called amber box measures could be replaced by "green box" measures (direct payments, decoupled measures, regional aid, general services, etc.). The following commitments would thus be likely: (i) gradual reductions of import tariffs on sunflower seed and oil: Uruguay Round agreements commit WTO members to reduce tariffs (36% on average) and to guarantee minimum access (5% of domestic consumption) for imports; (ii) reduction of domestic support to agriculture: Uruguay Round agreements commit the members to reduce the total aggregate measure of domestic support by 20%. This commitment covers the "amber box", and would thus apply, in the case of sunflower, to VAT exemptions and, partly, to the credit subsidy scheme; (iii) concerning export taxes, they are considered to be trade-

distorting measures by WTO and, although there are no explicit provisions in Uruguay Round agreements, can be challenged by an importing country. Export taxes will also be on the agenda of the ongoing WTO agricultural negotiation round, to be concluded by 2005. In general, it should be noted that transition economies can benefit from particular conditions under WTO framework, for example, limits on tariff reductions, longer implementation periods and less strict rules on production subsidies. As to the market access benefits of WTO accession to Ukraine, they will crucially depend on the results of the new WTO negotiation round which is expected to reduce the high trade barriers currently prevailing in the sector.

2.37 The overall implications of WTO accession on the sunflower oil sector in Ukraine will depend on the competitiveness of the sector faced with competition from heavily subsidised EU and US producers. As discussed in Chapter 1, the Ukrainian crushing industry is likely to undergo a consolidation process over the next five years, which will improve the competitivity of the sector as a whole. The accession to WTO would commit Ukraine to reduce some support measures to the sector but, as the EU example demonstrates, it does not mean that the total support to agriculture is likely to decrease. The adoption of new "amber box" policies will depend on the budgetary constraints of the Ukrainian Government as well as on its institutional capacities to administer the new support systems. Furthermore, Ukraine could negotiate technical assistance for the transition period to bring its policies in line with WTO requirements.

2.38 Although Central and Eastern European (CEE) countries are not among the main destinations of Ukrainian sunflower oil, their future accession to EU will affect Ukraine, to a certain extent, via the application of EU tariffs and sanitary standards to Ukrainian sunflower oil and meal imports to these countries. As to Ukraine-EU relationship, it is currently based on a Partnership and Co-operation Agreement (PCA), in force since 1998, whose provisions have not, however, been wholly respected by Ukraine. EU accession is one of the strategic priorities of the Government but delays in PCA implementation and the focus of the EU on CEE accession imply that membership is not likely to materialise in the short to medium term.

2.39 Ukraine has free trade or preferential trade agreements with many of the former Soviet Union countries, but sunflower oil and processed vegetable fats are normally excluded from these agreements. Ukraine is currently examining the inclusion of agriculture in these agreements but, compared to WTO and EU accessions, this is not a high priority. An FTA with Russia is also being negotiated, and could have a positive impact on the sunflower sector if Ukrainian sunoil exports were exempted from VAT in Russia.

Environmental and Energy Policies

Environmental Policy

2.40 The struggle against erosion and soil fertility loss is the main environmental objective of Ukrainian agricultural policy, and many programmes have been implemented to improve soil fertility. However, lack of financing has severely limited the effectiveness of these measures, and this situation is likely to continue in the future. Nevertheless, the strong correlation between yields and soil fertility encourages farmers to respect sunflower rotation cycles and increase fertiliser use, if they are economically able to do so. In the short term, improving farmers' access to credit and working capital is thus likely to reduce the soil fertility losses caused by sunflower production.

2.41 Ukraine has ambitious policies and a comprehensive network of institutions to deal with water management, although policy implementation is currently hampered by resource constraints. Industrial water use requires a permit that sets abstraction levels and effluent limits, and corresponding fees for freshwater abstraction and wastewater discharges. Effluent standards for sunflower crushing plants are set by national legislation (Water Codex of Ukraine). In addition, municipal water suppliers set wastewater parameters and regularly review the plant's compliance with them. High fines are charged in cases of non-compliance, and State authorities also have the powers to temporarily close down a polluting activity and sue the polluter.

2.42 The allowed limits for oil and fat residues in water have recently been lowered which requires some plants to upgrade their wastewater treatment facilities. In the future, given the extent of the environmental problems caused by heavy industries, it is unlikely that food industries became an environmental policy priority in the country. Gradual tightening of the standards and increase in water prices can, however, be expected, which should lead to reductions in water consumption and upgrading of treatment facilities at crushing plants.

2.43 There is currently no legislation regarding the development and utilisation of genetically modified organisms (GMO) in Ukraine. It is claimed that no GMO soybeans have been used in the country but this cannot be confirmed since the capacities of the authorities to monitor and test GMOs are weak. GMO legislation can be expected to develop in the short to medium term, and could reflect the strong consumer resistance to GMO food.

Bioenergy

2.44 No specific policy and institutional framework on bioenergy currently exists in Ukraine. Government subsidies to renewable energy only cover wind power. The law on alternative types of liquid and gaseous fuel (N 1391-XIV of 14 January 2000) does not apply to solid biomass and, besides, has no financial mechanisms for implementation. No emission standards for biomass boilers exist in the country, and the arrangements for selling greenhouse gas emission reductions under the Kyoto Protocol are not yet in place. The state of Ukrainian bioenergy market reflects the lack of policy and promotion efforts. Except for sunflower husk, biomass is hardly used for energy production even though its potential is estimated at 5% of overall energy needs. No large-scale production of biomass boilers exists in Ukraine, and foreign equipment is largely absent from the markets. Generally, information on, and awareness of, the potential of bioenergy is scarce.

2.45 Absence of supportive policy and weak markets imply that those Ukrainian crushing plants that still rely on fossil fuels are not encouraged to switch to bioenergy. In the longer run, these barriers will also affect the willingness and ability of husk-using plants to renew their equipment. Continued use of reconstructed boilers is questionable on both economic and environmental grounds since their efficiency is low and emission levels high. Lack of Government interest also affects the possibility of plants to sell eventual excess steam from husk boilers to outside consumers, which could constitute a new source of revenues.

2.46 Gradual development of a bioenergy policy can be expected in Ukraine but, given the budgetary constraints, it is unlikely that significant financing were attached to it. However, likely development of emission standards for biomass boilers in the next 5-10 years should lead into replacement of reconstructed boilers by new ones specifically designed for husk combustion, bringing both economic and environmental benefits.

2.47 The production of liquid biofuels (biodiesel) in Ukraine is not yet competitive since the costs of biodiesel per litre are twice as high as those for diesel. Therefore, a viable biodiesel programme would need to rely upon Government support in the form of subsidies or tax incentives. At a time of great budgetary stringency, this form of subsidy appears to be a low priority.

Policy Formulation Mechanisms

2.48 In the latter half of the 1990s, agricultural policy formulation in Ukraine was marked by tense relations between the Government, pushing for reforms, and the Verkhovna Rada, Parliament, taking more conservative positions. The sensitive issue of land reform was at the centre of the debate, with the Government often having to resort to presidential decrees and interpretations of existing laws to advance the process. The adoption by the Verkhovna Rada of a new Land Code in October 2001, which affirms the right of private ownership to rural land, might, however, represent a turning point in the relations between the executive and the legislative, but this was too early to judge at the time of the mission since a new Parliament was elected in March 2002 and had only started its work.

2.49 On the Government side, the main actors in agricultural policy-making are the Ministry of Agrarian Policy and the Governmental Committee of Agricultural Reforms. The Committee is chaired by Deputy Prime Minister for Agriculture and composed of Minister of Agrarian Policy, State Secretaries for Economy and European Integration, Healthcare, and Finance as well as the heads of State Committees of Forestry, Water Resources and Land Resources.

2.50 State Committee of Land Resources, a three-tier structure with oblast-and rayon-level offices, plays a key role in the implementation of the land reform. It is the authority which divides and registers land, and issues land titles. Currently, it also has the Cadastre Centre under its jurisdiction.

2.51 On the Verkhovna Rada's side, agricultural issues are mainly debated in the Parliamentary Committee of Agricultural Policy. One of the major policy decisions to be taken under the new Parliament is the future of agricultural taxation after 2004. Most of the stakeholders met by the mission considered the continuation of a preferential treatment, in one form or another, to be likely. Title registration law and mortgage law are also under discussion in the Parliament, and it remains to be seen whether their processing will suffer from the same delays as that of the earlier land reform legislation.

2.52 The Parliament's agriculture committee is traditionally dominated by parliamentarians from rural areas. Peasant parties are represented in the Parliament, but the political power of farmers is weakened by the fact that some of their national-level organisations tend to have strong links with the Government, and are thus not perceived as independent, whereas others suffer from a small membership base.

2.53 International donors are involved in the development of agricultural policy formulation mechanisms. A UNDP project, Agriculture Policy for Human Development, aims to strengthen the policy formulation, analytic, and co-ordination capacities of the Governmental Committee whereas a World Bank project under development, has as one of its objectives the

strengthening of the State Committee for Land Resources, notably to promote parliamentary approval of agricultural legislative proposals and facilitate the implementation of the land reform.

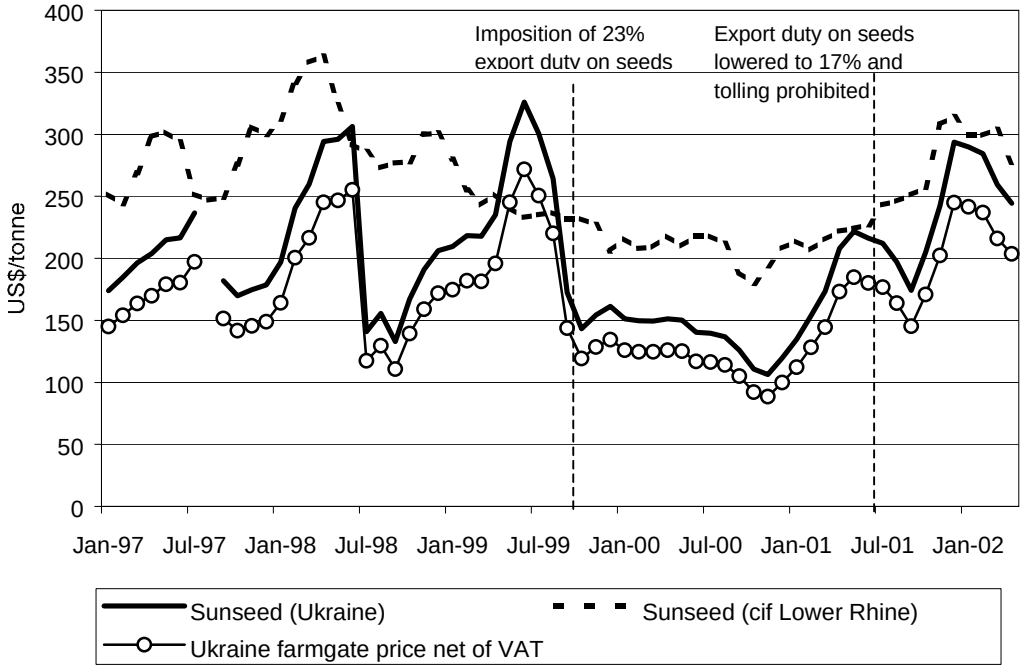
3. IMPACT OF THE EXPORT TAX AND VAT ON THE SUNFLOWER SECTOR

Seed Prices

3.1 Diagram 3.1 presents a comparison of Ukraine's farmgate prices (including 20% VAT), as published by the State Statistics Committee of Ukraine, with cif prices in the EU. The combined effect of freight costs, the Ukrainian farmers' desire to sell their crops soon after harvesting and the high export tax reduces the domestic sunflowerseed farmgate price to a level considerably below that in the EU. The exception to this is during the period May to August, directly before the harvest in Ukraine, when most crushers have covered their raw material needs for the season, or have shut down until the next harvest. During these months a domestic shortage of seed pushes up the price to close to, or even higher than, EU levels.

3.2 The average discount of Ukraine sunflowerseed between October 1999, when the 23% export tax on seed was introduced, and July 2001, when the tax was reduced to 17%, was $60 per tonne, which is larger than the allowance for freight costs. This discount is closer to $85 per tonne when we analyse farmgate prices without the VAT. Since the export tax was reduced to 17% and export tolling was banned, farmgate prices in Ukraine have traded at a smaller discount to EU cif prices, of on average $40 per tonne (a discount of $80 per tonne if we exclude VAT from the farmgate price).

Diagram 3.1: Sunflowerseed Farmgate Prices in Ukraine (including VAT) Compared to cif EU



Source: State Statistics Committee

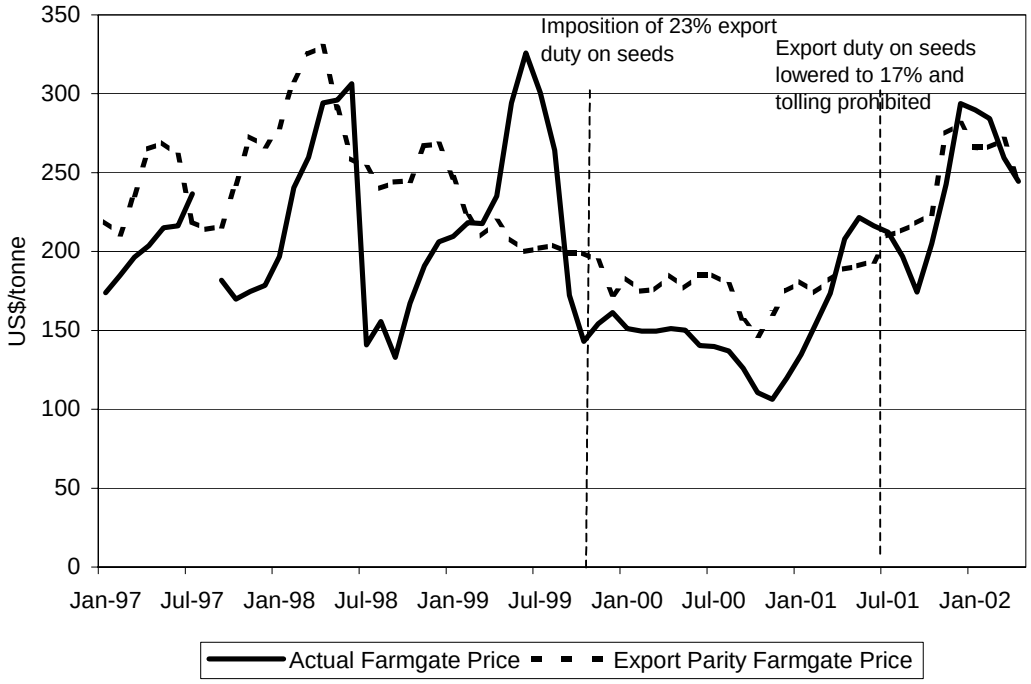
The Impact of the Export Tax on the Domestic Seed Price and Crushing Margin

3.3 The introduction of the 17% export duty in July 2001 and the ban on export under the tolling scheme had a radical impact on the oil industry including:

- Increased availability of sunflowerseed on the domestic market;
- Increased capacity utilisation in domestic crushing plants;
- Decreased sunflowerseed exports and increased oil exports;
- Increase in foreign and domestic investments in the production of sunflower oil, margarine, mayonnaise and the appearance of new brands in the market;
- Increased credit availability to crushers from private banks because of the reduced risk associated with acquiring raw material.

3.4 However, any export tax is to the disadvantage of farmers. Diagram 3.2 analyses the impact of the export tax on farmgate prices by comparing actual farmgate prices, as collected by the State Statistics Committee of Ukraine, with the price that would prevail in the absence of the export tax, i.e., if seeds were allowed to be exported freely. Since Ukraine is a net exporter of sunflowerseed in the absence of an export tax, the seed price that would be realised domestically in this scenario is an export parity price. This has been calculated using cif Lower Rhine sunflowerseed prices and subtracting an estimated $10 per tonnene freight from Ukraine, as well as $8 for loading in Ukraine and a further $15 for domestic transport to the port.

Diagram 3.2: Farmgate Sunseed Price in Ukraine Compared to the Export Parity Price

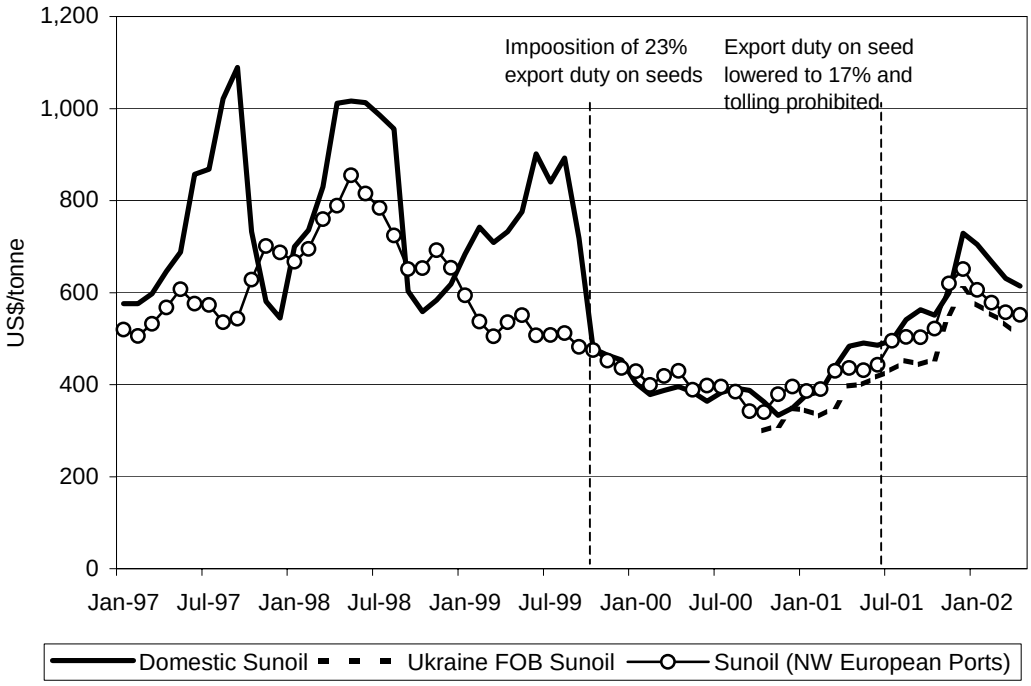


3.5 With the 17% seed export tax in place, if there were surplus seed in Ukraine, so that some seed was exported, we would expect the farmgate price to be 17% below the export parity

price calculated above. The interesting point to note from Diagram 3.2 is that while the 23% export tax prevailed, between October 1999 and June 2001, the farmgate price was on average 11% below the parity price, and since the 17% export tax has been in place, the farmgate price has been only 3% below the parity price. This suggests that internal competition in Ukraine is driving up the seed price to close to the price that would prevail even in the absence of the export tax.

3.6 Diagram 3.3 plots sunflower oil prices in Ukraine against EU prices.

Diagram 3.3: Sunflower Oil Prices in Ukraine Compared to the EU



3.7 It is interesting to note the impact of the 23% export tax on oil prices from Diagram 3.3. In the period before its imposition, only the strongest crushers were able to supply the market during certain months of the year, and during these months the domestic price for oil was very high. While the efficacy of the tax was limited by the continuation of export tolling contracts, it is nonetheless clear that, since its imposition, oil prices have moved much more in line with international prices, with less dramatic seasonal swings.

3.8 In conclusion, the export tax reduces the farmgate price, but by much less than 17%. This is because internal competition for seed drives up the domestic price. This suggests that a much lower export tax would be sufficient to have the desired effect of protecting the crushing industry. However, these conclusions on the right export tax level still need to be confirmed, given that the tax has only been effective for a very short period during which the seed production in Ukraine was at a low level. High seed production, forecasted for 2002/03, will imply stronger downward pressure on farmgate prices. This is reinforced by the inefficient storage system, in which farmers are selling their seed very soon after harvest, including at lower price to traders, as long as they pay cash. Under these conditions, crushers may not be able to absorb all seed available in the market. It should also be noted that the current application of the VAT system, in

which exporters are not reimbursed for VAT payments on seed, as they should be, also discourages seed exports. Thus the real export taxation rate on sunseed is higher than the nominal rate of 17%.

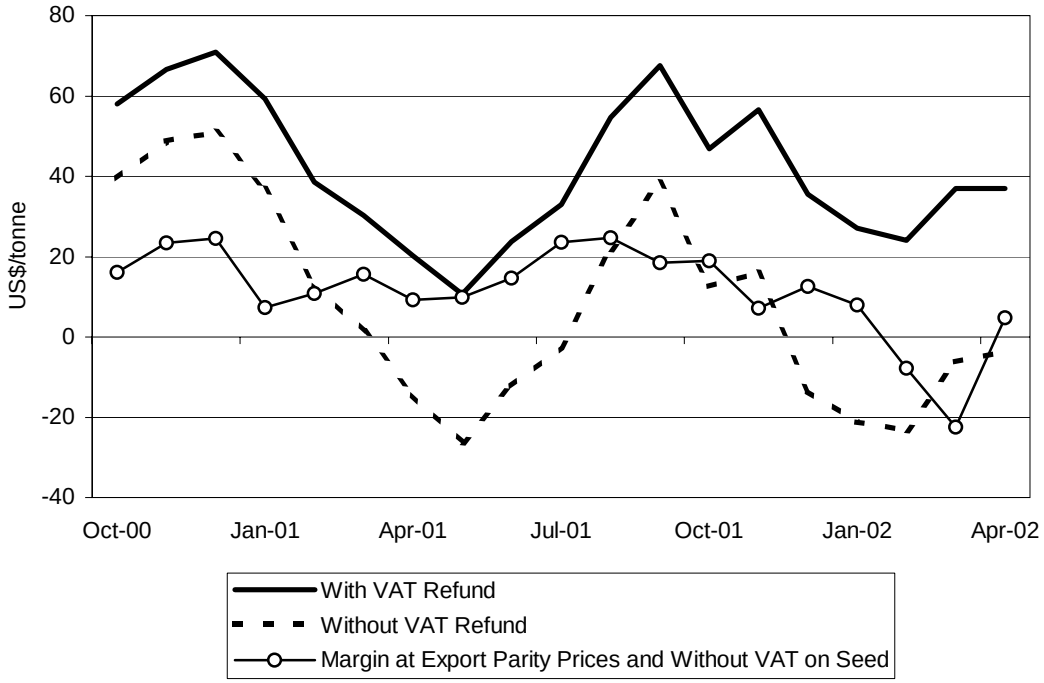
3.9 In the absence of free trade in oil, consumers in Ukraine may benefit in the short term from the imposition of the export tax on seed, since higher capacity utilisation has reduced crushers' operating costs. The benefits of this would therefore be distributed between the crushers and the domestic consumer, and the share received by either group will depend on competition on the domestic market, up to a maximum limit of the price received by crushers for oil exports. However, if crushers had to compete on the domestic market with imports of oil traded free of tariff, the price of oil would be internationally determined, and therefore an export tax on seed would have no impact on the domestic price of oil.

3.10 Besides its impact on farmgate price, the export tax also affects the structure of the sector. Hundreds of small traders used to be engaged in sunflower seed exports before the export tax was introduced. At present, these traders have difficulties compensating for lost export markets by increasing their participation in the domestic seed trade, since Ukrainian crushers often procure their seeds directly from farmers or use a their own trading companies. Many small traders are thus at risk of disappearing from the market, leaving it under stronger control of the main crushers.

The Impact of Export VAT Non-refund

3.11 According to official price data, the average sunflowerseed farmgate price in 2000/01 was $169 per tonne. This implies that the average VAT payment on sunflowerseed was $28 per tonne. For a crusher procuring 300 000 tonnes of seed, this means a total VAT payment per year of around $8.5 million, which would be refunded for the part of the resulting oil and meal that is exported. While by law this should be reimbursed to the crusher within three months of exporting the products, this clearly is not happening. Therefore the crusher must at best bear the financing costs of the VAT payment until the Government reimburses, and at worst, write off the VAT as bad debt. Diagram 3.4 presents our calculation of the crushing margins when the VAT payment on seeds is reimbursed, and when it is not reimbursed. In practice, when evaluating the losses of individual crushers, it has to be borne in mind that most crushers also sell on domestic markets, from where they receive regular VAT payments, which should be reimbursed to the Government.

Diagram 3.4: Crushing Margins for Exporters of Oil and Meal, with and without VAT Reimbursements



3.12 Diagram 3.4 reveals that the issue of export VAT refund is critical for crushers, and without reimbursement crushing margins can be negative for several months of the year. On average crushing margins without VAT reimbursement were similar to those in the EU over the period shown in Diagram 3.4, at around $8 per tonnene. Thus, it might appear at first sight that the margin is competitive with that in the EU, even if crushers do not get the VAT reimbursed. This would be true if the system in Ukraine were transparent with no exchange rate risk and no financing difficulties. In reality, however, higher crushing margins are needed than in the EU because of the greater risk of crushing in Ukraine. Average crushing costs are higher in Ukraine, partly because of the age of some of the crushing plants, and partly for other reasons beyond the factory's control, such as high financing costs and greater price risk. The uncertainty about VAT reimbursements itself increases costs to crushers. One example of this is that some of the crushing plants employ people with the sole task of chasing up the company's VAT entitlements.

3.13 As a comparison, Diagram 3.4 also presents the crushing margin calculated under the assumption of internationally competitive prices in Ukraine i.e., in the absence of the export tax and with no VAT. Since Ukraine is a net exporter of seed, oil and meal, this calculation is based on Rotterdam prices, from which Ukrainian farmgate prices for seed, and factory prices for oil and meal are calculated by subtracting an estimated $10 freight cost from Rotterdam to Ukraine, and deducting a further $8 loading cost and $15 internal freight cost. Under this scenario, crushers receive a lower and more stable margin than when they receive the full VAT refund paid on time, but a higher margin than they receive when the VAT refund is not reimbursed. Under this scenario, the margin was on average $12 per tonnene over the period.

3.14 Thus, the current system of non-refunding export VAT is penalising the crushing industry. There are also other problems caused by this system that we highlight below.

3.15 The uncertainty created by the current reimbursement system is factored into the price received by the farmers. For example, one crusher quoted that the wheat price is $10 less than it would be if exporters were certain that they would get their VAT reimbursed. When uncertainty distorts the market in this way, it is often the case that farmers are penalised by more than the actual cost to the other operators in the market.

3.16 The uncertainty of the system also acts as a barrier to oil and meal exports and is thus contradictory to the seed export tax policy discussed above. In addition, it adds to the seed export tax policy in discouraging seed exports, thus driving farmgate prices down.

3.17 There are other issues relating to the financial burden that the VAT reimbursement places on the Government. Under the current system, the farmers keep the VAT payment made by the crusher. Therefore when the crusher exports products and claims this VAT payment back, the reimbursement is actually a net cost to the Government. The tax authorities operate regionally and the budgets they receive are related to their revenues. The VAT reimbursements can be equivalent to a sizeable share of their budget, and therefore they have an incentive not to pay the VAT, since this effectively reduces their revenues.

3.18 Furthermore, the reimbursement system is lacking in transparency and is open to corruption. There have been reports that some exporters managed to receive their VAT entitlements if they accept a 20%-30% discount, negotiated with the tax authority. The question arises, therefore, as to what happens to the discounted amount, and whether 100% repayment is recorded in the books, while less is given to the crusher.

3.19 Moreover, the system discriminates between market operators: crushers who are more competitive, sell mainly to domestic markets or are located in an administrative area with more secure refunds are in a considerably better position than other crushing enterprises.

3.20 In the light of the analysis presented here, in Chapter 4 we present our main conclusions and policy recommendations.

4. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

4.1 Ukraine is, and will always be, a major sunflowerseed producer, and we anticipate that over the next decade, sunflowerseed output will average 3 million tonnes. Therefore, the crushing industry, particularly the efficient crushers with access to capital, will not have problems securing raw material for crushing.

4.2 The oil processing sector in Ukraine is currently highly protected by the export and import tariff regime, which reduces the domestic price of sunflowerseed to below world market prices, and provides protection via escalating tariffs for further downstream processing. Furthermore, the loophole in the export tax (tax-free toll crushing contracts abroad) was closed last year, which has increased the effectiveness of this tax, even though at the same time the export tax rate was reduced from 23% to 17%.

4.3 Nonetheless, the industry as a whole has been through a period of crisis, facing severe problems of high processing costs, caused by old and inefficient machinery, and a crippling lack of capital, both working capital for purchasing seed, and capital for investments in modernising the plants.

4.4 The multinationals are in a stronger position than most, since access to capital is not such an issue for these plants. Multinational involvement in the sector is limited to Cereol, Cargill and Chumak, and of these, Cereol is in the unique position of owning one of the old-style processing plants, albeit the most successful one. There is nonetheless a danger that the severe lack of credit in the country as a whole may seriously distort the market. Cash-strapped farmers rushing to sell seeds immediately after harvest may create artificially depressed conditions in the local market for the oil and meal, as well as for the seed. Those crushers that can obtain enough raw material to continue crushing throughout the year will be in a good position to increase profits.

4.5 The industry also faces some difficulties that do not trouble their EU competitors. For example, lack of on-farm storage, and poorly managed and expensive independent elevators means that seed must be stored by the crushing plants throughout the year, which increases their costs and price risk.

4.6 Ukraine will not be among the first wave of countries joining the EU, and therefore, it will not be harmonising its policies with those of the EU over the next five years, at least. We do anticipate that EU entry will at some point be an issue, however, and therefore future policy should be developed in anticipation of this.

4.7 At present, the non-reimbursement of value added tax (VAT) for exporters is one of the greatest hurdles to the development of the sector, leading to greater risk and uncertainty faced by crushers. In Chapter 3 we analysed the impact of this policy implementation failure on the crushing sector, and these can be summarised as follows:

- Crushing margins are reduced to unsustainable levels if the VAT reimbursement is delayed or not paid at all;
- The uncertainty created by the current VAT system is factored into the price received by the farmers;
- When the crusher claims export VAT payment back, the reimbursement is a net cost to the Government, since the corresponding VAT revenues are retained by VAT-exempted farmers;
- The reimbursement system is lacking in transparency and is open to corruption.

4.8 The problem of VAT non-refund applies to all sectors of Ukrainian economy and has become a contentious issue between the Government and the IMF, which stresses that all overdue refunds need to be repaid without further delay.

4.9 The 17% export tax that has been in place since July 2001 reduces the price received by farmers, but strong internal competition for seeds means that this price has been on average only 3% below the export parity price that would prevail in the market if there were no tax. Future development of this policy will need to examine critically the reasons for the export tax. For example, there is a somewhat weak case for arguing that the crushing plants are uncompetitive, and therefore need support. By how much, and for how long the farmers must cross-subsidise an inefficient industry must be seriously considered. A stronger case for the tax is that it is in Ukraine's interest to support value addition within the country. In this case, crushers will need some compensation in the short to medium term for operating in an environment where high finance costs, price risk and the inability to hedge this price risk increase the costs borne by crushers. Nonetheless, it would appear that this objective could be met with a tax considerably lower than 17%. This was also suggested by several crushers and would, moreover, have the benefit of being more acceptable to trading partners and donors. We anticipate that international pressure will encourage the Government to reduce the seed export tax. Therefore, the crushing industry must be in a strong position to benefit when it is removed. From our analysis, we believe that the most efficient crushers are already capable of operating without the tax.

4.10 The highly processed products, such as margarine and shortening (of which Ukraine is still a net importer), are protected by an escalating import tariff, which is levied at a higher rate on products further downstream. This is a sensible policy that is unlikely to change over the next five years.

4.11 Ukrainian crushing industry is relatively advanced in terms of energy use, with the majority of main plants using sunflower husk for energy production. However, old equipment reduces economic and environmental benefits from bioenergy use. Besides, the positive experiences from bioenergy use in the sunflower sector are not reflected in other sectors of the economy.

Recommendations

4.12 The main recommendations are highlighted below:

- Reform the system of providing subsidised credit to farmers.
- Enforce ownership rights to land, so that land can be used as collateral.

- Improve the storage system, including implementing a legally supported system of warehouse receipts, so that seed in storage can be used as collateral.
- Make the prompt repayment of the value added tax arrears a priority.
- Reform the VAT system, aiming towards a transparent system disconnecting VAT from farm support and, as a first step, introduce differentiated VAT rates.
- Reduce gradually the export tax, to 10% as a first step.
- Begin the process of moving to a system of direct payments to farmers.
- Launch a discussion between sector stakeholders on the recommendations to confirm the analysis and move forward with reforms.

Access to Credit

4.13 The current system of providing subsidised credit to producers is non-transparent and subject to corruption. Furthermore, it places a considerable burden on the farmer who must produce a significant quantity of paperwork to apply for the subsidy. Consequently, many of the targeted beneficiaries are unable to benefit from the system, which is also very difficult to administer for the State authorities.

4.14 It is recommended that Government efforts be instead focused on policies that reduce the risk of lending to the farming sector. Reduced lending risks for banks will be one way in which interest rates will be driven down. The two most important ways in which this can be done are:

- Speed up the process of allocating land entitlements and establishing land markets, so that producers have a legal right to own and sell land, and so that land can be used as collateral for loans;
- Push for the rapid implementation of a legally supported system of warehouse receipts, so that farmers can use seeds in storage as collateral (see below).

4.15 The above-mentioned efforts should, gradually, succeed in enhancing access to commercial loans at affordable rates and also create the preconditions for a wider use of pre-financing of farmers by the crushing companies. During the transition period, given the severity of financing constraints, Government-subsidised credits may still be necessary but the system should be reformed to address the concerns discussed above. To be WTO-compatible (“green box” measure), the new system should not be linked to the purchase of agricultural inputs but be an investment aid aiming to assist the farming sector in structural adjustment (e.g. land privatisation, introduction of new technology).

Storage System

4.16 The current storage system in Ukraine is inefficient, poorly managed and lacks an adequate legal framework. In volume terms, capacities are sufficient but high quality facilities are lacking. Besides affecting farmers’ access to credit, the situation leads to storage losses, high storage costs and additional costs of managing uncertainty both for farmers and for crushers. Farmers’ tendency to avoid dealing with elevators results in large quantities of seed being sold immediately after harvest, which drives down farmgate prices and creates seed export pressures.

4.17 Improvement of the storage system should be considered as a priority. Adequate legal framework on warehouse receipts and other related contracts should be put in place. Financing of warehouse receipt programmes should also be promoted. These reforms, as well as increased competition should lead into improvements in warehouse management and overall efficiency and upgrading of storage facilities.

Value Added Tax

4.18 It was clear from the mission that the issue of non-refund of export VAT is currently the most critical problem faced by the crushing sector. Our analysis in Chapter 3 and Annex 6 describes the numerous disadvantages of the current system.

4.19 Ideally, Ukraine should put in place a transparent VAT system, disconnecting VAT from farmer subsidy, avoiding distortions between agricultural sub-sectors and ensuring non-discrimination between market operators. However, at the present state of economic transition, the Government lacks the necessary resources and capacities to implement such a system and thus a VAT reform to that direction risks having negative impacts on agricultural producers who currently enjoy an implicit subsidy through VAT exemption. Our preliminary analysis (see Annex 6) points towards a transitional system under which:

- VAT for sunoil would be kept at 20%[1] and export refunds promptly paid.
- VAT for sunflower seed would be significantly lowered, thus reducing the need for Government resources to reimburse oil exporters.
- Farmers' VAT exemption would initially be maintained but reduced gradually during the transition process, enabling the Government to move towards direct farm subsidies.
- Prompt payment of export VAT arrears would be made a priority. If resource availability remains a problem, other modes of implementation, such as credit on other taxes payable by the enterprises, could be considered instead of direct repayment.

4.20 The proposed transitional system would represent a compromise between consumer, crusher, Government and farmer interest. It would support the Government in its efforts to support agricultural producers but reduce that subsidy to a level that the Government can afford, given the need for export VAT refunds. It would also be in line with other export policies in the sector. Finally, it would benefit crushers and domestic consumers, and enhance export competitiveness.

4.21 At the same time, the VAT situation in other agricultural sub-sectors, and the feasibility of introducing similar reform measures should be explored, to avoid creating new distortions.

4.22 These recommendations would be in line with those of the IMF in establishing an elimination of the tax exemptions as the final goal and stressing the need for prompt repayment of VAT arrears. The consideration of other forms of VAT repayment, such as writing off or restructuring other outstanding tax or debt servicing obligations of the beneficiary companies, is also agreeable to IMF[2].

[1] Or 17% as suggested in the new Tax Code.
[2] See IMF Staff Report for the 2002 Article IV Consultation, 29 March, 2002

4.23 The proposed reform would bring the Ukrainian VAT system closer to WTO-compatibility since the present VAT exemption, granted to agricultural products only, could be considered an export subsidy under WTO rules. The proposed lower VAT rate for sunflower seed could, however, also be seen as a discriminatory subsidy. It would therefore be important to examine, as suggested above, the VAT situation in other agricultural sub-sectors in the same context. As to VAT refunds to exporters, they can be considered an export subsidy under WTO rules if applied in a discriminatory way, e.g. by refunding producers of a certain product only but, in the case of Ukraine, the export VAT refund policy applies to all exporters.[1]

Seed Export Tax

4.24 Our analysis in Chapter 3 has shown that the seed export tax would have the same effect on domestic prices within the sector even if it were considerably reduced. Many crushers interviewed during the mission suggested a tax of 5%, and our analysis showed that, in the case of low sunseed production, farmgate prices are only 3% below export parity. Reducing the export tax would have the benefit of achieving the Government's goals while also quietening the objections of trade partners and donors.

4.25 We recommend that, as the first step, the export tax be lowered to 10%, which would correspond to the maximum level acceptable to international financing institutions. The impacts of this reform on crushers' seed supply and farmgate price levels should be closely monitored. In the medium term, an export tax of approximately 5% should be sufficient to balance the needs of providing support to crushers without penalising farmers at times of high production. In the long run, as the domestic industry develops and its competitivity enhances, no tax on seed export should be necessary.

4.26 Under WTO rules, export tax is, in principle, considered to be a trade-distortive measure but it only becomes an issue if the importing country raises it. The proposed reform, a gradual reduction of the seed export tax, would thus bring Ukrainian seed export policy closer to WTO-compatibility.

Farmer Subsidies

4.27 As discussed throughout this study, the current system of support to Ukrainian agriculture, based on agricultural taxation, VAT exemptions and interest subsidies, is problematic in many respects. In this light, and taking into account Ukraine's WTO and EU accession policies, it is advised that the country considers moving towards a system of direct income support to agricultural producers.

4.28 Clearly, severe budget constraints in Ukraine limit the Government's capacity to provide direct support to agriculture. However, a system of direct payments would be more transparent and less distorting than some of the policies currently in place. As direct income subsidies are not production-related, the new policy would not distort farmers' crop choice. Unlike price support, it would also be compatible with WTO membership as a so-called green box measure under the Agreement on Agriculture (i.e. not subject to any budgetary or quantitative

[1] It should also be noted that there is some room for interpretation in WTO on the issue of agricultural export subsidies since they are regulated by two agreements, Uruguay Agreement on Agriculture (1994) and GATT Agreement on Export Subsidies (1948).

limitations). Moreover, it would bring Ukraine closer to the EU system where farmers receive a subsidy in the form of a fixed payment per hectare on the area they cultivate, irrespective of the type of crop. Finally, it would function as a kind of economic and social safety net for the Ukrainian farmers who are still suffering from worse competitiveness conditions than EU, US and other (subsidised) Western producers. As such, a policy of direct income subsidies would help the agricultural sector in Ukraine to successfully complete its transition process and to enhance productivity through modernisation.

4.29 Increased availability of financing for the agricultural sector could come from various policy changes, including:

- Reforming the system of favourable taxation to agriculture (fixed agricultural tax), making the tax burden on agriculture more proportional to that of other sectors of the economy.
- Reforming the subsidised interest payments and diverting some funds to direct support of agriculture.
- Gradually eliminating farmers' VAT exemptions.

4.30 Besides adequate resources, farm support through direct payments also requires strong Government capacity to implement and monitor the system. The gradual move towards new support measures should thus be accompanied with efforts to strengthen these capacities in the Ukrainian administration. At the same time, the level and type of direct support should be carefully determined to ensure satisfactory compensation for farmers and foresee possible changes in cropping patterns and their long-term impacts.

Debate on the proposed reforms

4.31 The three last recommendations, reform of the VAT system, lowering of the seed export tax, and moving towards a direct income support system in the agricultural sector, should be considered as preliminary and would need to be confirmed by more analysis and, above all, discussion with sector stakeholders. We thus recommend that an open discussion, in the form of a workshop or a seminar, be launched to discuss the reform proposals with crushers, farmers, Government and other sector representatives and move forward with reforms.

Recommended Areas for Future Investments in the Sunflower Sector

4.32 It is recommended that future investments by EBRD in the sunflower sector are targeted in the following three main areas:

- Investments in value addition and downstream processing, including refining and manufacture of confectionery fats. These areas currently appear to be profitable in Ukraine.
- Investments in rationalisation schemes. To remain competitive in the future, and in the absence of Government support, the crushing sector in Ukraine will have to move towards fewer and larger crushers. This process will occur naturally over the next few years, but EBRD investments should aim to support such a process.

- Investments, supported by grant funding earmarked for environmental purposes, in modernising bioenergy equipment in the sunflower sector and in the introduction of bioenergy use in other agricultural and agroindustrial subsectors.

Map. Sunflower Production and Processing in Ukraine

TCI902-104/UKRAINE-SUNFLPROD

ANNEX 1

TERMS OF REFERENCE

ANNEX 1

TERMS OF REFERENCE

A. BACKGROUND

1. Sunflower is the one of the most profitable agricultural crops in Ukraine, which ranks among the world's largest producers of sunflower seed and oil. In 2001, gross production of sunflower seeds in Ukraine was 2,300,000 tons, and harvested area 2,100,000 ha (down from 3,457,000 tons and 2,842,000 ha in 2000). Most of the production originates from the world-renowned chernozem or *black soil* region, one of the richest agricultural areas in the world. Average yields (2001) were 10,952 hg/ha, lower than French, Yugoslav or Argentinean yields (respectively 24,000, 22,500 and 16,546 hg/ha) but above Russian and Spanish levels (respectively 8,158 and 10,192 hg/ha).

2. In 1998/99, about 40 percent of the harvested sunflower seeds were exported, mainly to the Netherlands, Portugal and Greece. A side effect of the sunflower seed market's openness was its negative impact on Ukrainian vegetable oil processors, which could not afford to buy sunflower at the export prices. In order to protect the local oilseed-processing sector, the Ukrainian Government introduced a 23-percent tax on sunflower seed exports in September 1999. The IMF opposed this export duty, which was considered to introduce market distortions, and made its loans to the Ukraine conditional on the reduction of this duty to no more than 10 percent. In July 2001, a law lowering the export duty to 17 percent of customs cost and making it a seasonal tariff from October 1 to February 1 was approved. The law also bans the barter-based trade of sunflower seeds, which was positively received by the local vegetable oil industry.

3. Despite a series of difficulties in the mid-nineties, a number of oil crushing and refining companies are operating in the sector. Following difficult times at the beginning of the 1990's, when they operated at 30-40% of the full capacity, local crushing and refining plants operated in 1999 at 60-70% of total capacity, following the establishment of the seeds export tax. In 2000-2001, however, the effectiveness of the tax seemed to diminish, and following its lowering in 2001, seed supply problems started to limit production again.

4. In 2000, Ukrainian sunflower oil processing plants processed a total of 1.5 million metric tons of sunflower seeds. In 2001, the local production of sunflower oil was 790,000 metric tons and that of sunflower seed cakes 765,000 metric tons. Ukrainian sunflower oil exports were 174,000 metric tons in 1999 and those of sunflower cake 56,618 metric tons. Raw sunflower oil was sold mainly to Russia, Switzerland, Algeria and Turkey.

5. The European Bank for Reconstruction and Development ("the EBRD"or "the Bank") has made two large investments in the sunflower seed-processing sector in Ukraine in the last seven years. In 1995, the Bank made an equity investment of USD 8.5 million in the Ukraine's largest sunflower oil production company, Dniepropetrovsk Oil Extraction Plant ("DOEP"), whose main shareholder is Cereol (Eridania-Béghin Say). The initial investment was followed by an additional USD 20 million financial package approved by the Bank in 1997 and an USD 41,5 million package approved in 2002. In 1999, the Bank also provided financing totalling USD 50 million to Cargill, for the construction of the new Cargill sunflower seed processing plant in Donetsk. The financing consisted of USD 15 million equity and USD 35 million working capital facility.

6. In the context of the above investments, the Bank requires a consultant to undertake a review of the sunflower oil sector in Ukraine.

B. OBJECTIVE

7. The objective of the assignment is to carry out a general review of the Ukrainian sunflower oil sector and the associated agricultural policies of the Ukrainian government ("the Government"), with a view to make recommendations to the Bank on policy measures that maximise the value added of this sector for the Ukrainian economy, while ensuring a fair remuneration of sunflower seed producers.

C. SCOPE OF WORK

8. The Consultant shall investigate/report on the following subjects:

Primary production of sunflower seeds

- Broad historic and present analysis of the production of seeds (area harvested, production, yields, exports/imports, employment). Role in agricultural production (rotation systems, link to livestock production). Main producing regions. Description of farming structures (ownership, management system) involved in the production of seeds (large state farms, private farmers, etc). Organisation of the sector and main actors (producers' associations, co-operatives, extension services, etc.). Identification of main constraints at the farm level (working capital, credits, equipment, inputs, etc.);

- Development of farm models establishing typical production costs of seeds. Identification of existing distortions in the cost structure. Description of the price formation mechanisms. Scenarios on the evolution of the situation. Relative attractiveness of sunflower seeds compared to other crops for the local farms;

- Demand for Ukrainian sunflower seeds in domestic markets and abroad, marketing channels and actors;

Seed and/or meal processing units and production of sunflower oil

- Broad historic and present analysis of the production of sunflower oil and meal in Ukraine;

- General statistics on the local processing sector (total capacity, total production of oil, meal, imports/exports and employment). Listing of main processing plants and companies involved (capacity and volume produced). Structure of the industry (ownership, management systems);

- Visits of the 2 or 3 main producers. General diagnostic on the technical level and overall efficiency of the operations (processing costs, etc.);

- Post-harvest operations: relationships between oil and meal processors and seed growers (contracts, determination of prices, payment terms, etc.), storage, transport and other facilities, intermediary operators and their role in the cost structure;

- Likelihood of disruption of sunflower oil and meal production because of change in the government policy and expected increase of the exports of seeds abroad;

- Domestic demand for sunflower oil and meal (direct consumption, use in the food industry, use for non-food purposes), marketing channels and actors. Current situation and likely scenarios;

- Export facilities and markets for Ukrainian sunflower oil and meal, marketing channels and actors. Current situation and likely scenarios;

- Imports of vegetable oils and meals. Competition for sunflower oil and meal from alternative oilseed products;

- Domestic processing of oilseeds other than sunflowerseed. The nature and extent of domestic competition from other oilseed processing industries;

- Downstream processing of sunflower oil. Value addition in refining, hydrogenation and the retail sector;

- Use, production capacities and markets for by-products (husk, biodiesel, lecithin production from sunflower seeds). Current situation and likely scenarios.

Government policies

- Description of the past and current Government policies in the sector, in particular (i) price support for seed, oil and meal producers; (ii) trade policies and trade protection mechanisms (tariffs, export taxes); (iii) other policies with a significant impact on the sector (e.g. credit, exchange rate, taxation, policies on other agricultural commodities, environmental);

- Assessment of the overall benefits of the Government policies for the Ukrainian economy as a whole and for the various groups involved in the sector (producers, processors, consumers), in particular the impacts of the lowering of the export tax on seeds, and assessment of remaining opportunities to encourage value addition. Description of current policy formulation mechanisms and recommendations on how to improve them;

- Description of the likely evolution of Government policies and their impact on the sector as a whole and on the distribution of benefits among different actors.

Regional comparisons

Whenever possible, the data gathered under the above sections should be put in perspective and compared to benchmarks in other countries of the region.

D. IMPLEMENTATION ARRANGEMENTS

9. The assignment shall start with a 2-week period in the field, where visits of the main production sites (farm and processing plant) will be organised as well as meetings with Government officials and other relevant institutions. All relevant information on the sector will be collected. Fieldwork will be followed by a 3-week report writing period.

E. DELIVERABLE

10. The Consultant shall submit a draft report to the Bank (in English, in four hard copies and an electronic version) covering in detail all points specified in Section 3-Scope of Work within 3 weeks after the field trip. The report shall include an executive summary, including recommendations

to the Bank on the Government policy and other measures in the sunflower seed sector, with data backing the conclusions in the main text. After receiving the Bank's comments, the Consultant shall submit the final report within one week.

ANNEX 2

PERSONS MET AND CONTACTS IN UKRAINE

ANNEX 2

PERSONS MET AND CONTACTS IN UKRAINE

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ANNEX 3

SWOT ANALYSIS OF THE UKRAINIAN VEGETABLE OIL INDUSTRY

SWOT Analysis of the Ukrainian Vegetable Oil Industry

Strengths	Weaknesses
Potential to be a highly profitable sector, with no shortage of domestically produced raw material	Most of the old-style plants have old machinery and overstaffing, which means that processing costs for many plants are very high
Crushing facilities of the major multinational plants are in good condition	Many crushing plants are too small to benefit from significant economies of scale, and are therefore not internationally competitive.
Lower labour costs and land rents than in the EU provide a good basis for becoming internationally cost competitive in crushing	
Crushing margin is high even in the absence of the seed export tax	
Opportunities	**Threats**
Seed export taxes, and the closing of the tax free export tolling loophole provides considerable support to the crushing sector	The export tax may be reduced in the short to medium term, although reducing the tax will not significantly reduce the level of protection
Multinational companies which have access to capital from abroad are not affected by the lack of credit in the country	Severe lack of credit in the whole country threatens crushers' ability to purchase seed for crushing and to invest in new machinery
Crushers able to purchase seed at harvest time for the whole processing campaign will benefit from less competition in later months.	Lack of professional intermediaries to purchase and store seed force crusher to bear all storage costs and risks, therefore less competitive than in other countries where other intermediaries specialise in purchase and storage.
	There is a high level of risk and uncertainty faced by the industry. This is caused primarily by: uncertainty over the VAT refund; high interest rates; inability to hedge margins

ANNEX 4

HISTORIC AGRICULTURAL PRODUCTION STRUCTURE

ANNEX 4

HISTORIC AGRICULTURAL PRODUCTION STRUCTURE

1. The process of land reform and farm restructuring in Ukraine legally began in March 1991, six months before the declaration of independence from the Soviet Union. The first stage of agrarian reform involved the creation of collective agricultural enterprises (CAE) based on the former *kolkhozes*, or collective state farms, and the denationalisation of land. Farmland was passed on to the collective ownership of CAE members so that it could be shared and, at the request of these members, divided into plots with private land status.

2. This collective land ownership by agrarian enterprises became an intermediate stage of agrarian reform in Ukraine, ensuring the gradual transition of land from state to private ownership. In 1995, this process was continued with a decree providing for the sharing of land (usually without its actual division into plots) that had been passed to the collective ownership of non-state farms (mainly CAEs), and the issuing of certificates to the members of these farms. These certificates guaranteed the members the right to shares of the collective owned land. In other words, the owners of these certificates could withdraw from their CAEs and receive a corresponding land plot.

3. By the end of 1999, over 6 million rural inhabitants had received certificates on the right to obtain private land shares (plots). The initial stage of Ukrainian land reform was therefore mainly finished. At the beginning of 1992, 100% of Ukrainian agricultural lands were state-owned. By the beginning of 2000, over 90% of agricultural land were in non-state ownership through agricultural enterprises and private plots.

4. The standard organisational forms existing amongst Ukrainian agricultural producers today can be classified into enterprises and persons. Enterprises are independent economic entities that have the rights and responsibilities of legal entities and operate in order to make profits. These legal entities are subject to property relations. Ukrainian law envisages the following types of enterprises:

- private, based on the property of a single person;
- collective, based on the property of the enterprise employees;
- company (limited liability or joint-stock companies); and
- municipal or state-owned enterprises.

5. The specific feature of household subsidiary plots is that they are privately owned by persons. These can take the form of commercial entities (such as private farms) or non-commercial holdings (subsistence farming) such as private household plots.

6. The buying and selling of land remains virtually non-existent in Ukraine, yet the legal framework allows transactions in land shares among individuals and between enterprises, thus creating a mechanism for adjustment of farm sizes. Individual farms may grow by leasing, and the state is no longer the sole source of leased land.

7. In late 1999, a presidential decree initiated a new stage in the reform of agricultural enterprises in the Ukraine. This stipulated that CAEs, as a form of land ownership not corresponding to the market economy, must be restructured into enterprises based on private ownership, such as private farm enterprises, private enterprises, agricultural companies and agricultural co-operatives. Within one year the number and share of non-state agricultural enterprises had been transformed as follows:

Table A1.1: The Number and Share of Non-State Agricultural Enterprises in Ukraine, 1999 and 2000

Organisation and Legal Form of Enterprises	Late 1999		Late 2000	
	Number	%	Number	%
CAEs	8,102	63.8	-	-
Agricultural Companies	1,803	14.2	6,761	50.0
Agricultural Co-operatives	284	2.2	3,325	24.7
Private Enterprises	470	3.7	2,901	21.5
Others	2,041	16.1	500	3.8

Source: Ministry of Agricultural Policy of Ukraine

8. The restructuring of agrarian enterprise following the presidential decree of late 1999 has led to the emergence of three main types of farm:

- small private family farms;
- medium-sized enterprises (mainly private agricultural limited stock companies) and enlarged private farms renting agricultural land; and
- large agricultural enterprises mainly of the corporate type, which extensively rent agricultural land and property.

9. In 2000, 5.6 million land lease contracts covering 22 million hectares of land were concluded. 46.5% of these contracts have duration of 1-3 years, 41.1% of 4-5 years, and 11.0% of 6-10 years.

10. Private small and medium-sized farms numbered over 38 000 in 2001. Significantly, these farms have been enlarged and now operate over 2.2 million hectares of agricultural land, including 2.0 million hectares of arable land. On average, one private farm has 56 hectares of land and 52 hectares of arable land. The share of rented land in the total land used by private farmers is 46%.

11. The 13 500 agricultural enterprises and entities farm 24.9 million hectares of agricultural land. The founders of these enterprises own 2.4 million hectares and rent an additional 21.4 million hectares. Almost half of the new agrarian enterprises were established by 2-10 founders, while 26% were established by a single person.

ANNEX 5

PORT FACILITIES IN UKRAINE

ANNEX 5

PORT FACILITIES IN UKRAINE

1. There are three seaports in Ukraine, which handle vegetable oils: Illichevsk, Berdyansk and Kerch.

ILLICHEVSK

2. Illichevsk is situated on the Black Sea coast, approximately 20 km south of Odessa. Illichevsk port is one of the largest in Ukraine and is a modern international seaport.

3. The port has a terminal that is designed for handling of liquid cargoes including vegetable oils, and has six oil tanks used for vegetable oil, with a total storage capacity of 14 500 tonnes. Four of the tanks are used for storage only and the two other tanks are used to pump oil into the vessel, at a loading rate of 2 000 tonnes per 24 hours.

4. The port is equipped to load vessels of up to 5 000 tonne capacity.

BERDYANSK

5. A Ukrainian company (F.L.A.S.K.) has invested in an oil terminal on the territory of the Berdyansk port. The port has oil storage capacity of 4 000 tonnes and can handle 2 000 tonnes of vegetable oil per 24 hours. The port is equipped to load vessels up to 4 000 tonne capacity.

6. Three tanks with total storage capacity of 7 000 tonnes of oil are planned. Once they are workable, a loading rate of 8 000 tonnes of oil per day will be achieved.

KERCH

7. Kerch is the main port in the Crimean peninsula. The port is equipped for loading and discharging grain. Loading is carried out by direct variant, i.e. the rail car is lifted by crane over the hold and then the cargo is released directly into the hold.

8. The port is also equipped to handle vegetable oil exports and has a total storage capacity of about 3 000 tonnes with a loading rate of 1 500 tonnes per 24 hours. The entire vegetable oil storage capacity of the port is leased by Cargill.

Prospects for Port Developments

9. Ukrainian seaports are controlled by the Ministry of Transport, whereas the port elevators are controlled by the Ministry of Agrarian Policy. In addition, a number of facilities are being constructed which will be privately owned. The river ports are privatised mainly as joint-stock companies.

10. The development of seaports is managed by Ukraine's Transport Ministry, and construction of new port facilities at coasts of the Black and Azov Seas are stipulated by the "Program of stabilisation of development of sea and river transport in Ukraine until 2005", which has been approved by the Government of Ukraine. The programme's projects, two of

which relate to vegetable oils, are described in Table A1.2. The programme does not provide for Government financing for reconstruction of these ports.

Table A1.2. Official Development Programme projects

The name of project	Port	Terms	Project costs, million UAH			
			Total costs	including:		
				Own funds of enterprises	Budget	Loan/ Investm.
Building of grain handling complex	Illichevsk port	1997-2003	72.5			72.5
Building of molasses handling complex	Illichevsk port	2000-2003	11.0			11.0
Reconstruction of vegetable oil handling complex	Illichevsk port	2000-2003	11.0			11.0
Building of vegetable oil handling complex	Odessa port	2000-2005	245.0	80.0		165.0

Source: Official Development Programme

ANNEX 6

OPTIONS FOR VAT REFORM

ANNEX 6

OPTIONS FOR VAT REFORMS

A. INTRODUCTION

1. The current application of the Ukrainian value added tax (VAT) system in the sunflower sector has a number of disadvantages, which affect all sector stakeholders. These disadvantages need to be removed or minimised to enable balanced sector development. This annex describes the current system analysing its disadvantages and benefits. It then proceeds to presenting assessment criteria for alternative options and studying the impacts of three specific alternatives. Finally, preliminary recommendations are given for a reform of the system.

B. CURRENT VAT SYSTEM

Description

2. The main features of the VAT system as it is currently applied in the agricultural sector in Ukraine are described in Chapter 2 and illustrated in Table A1.3 of this Annex. They include:

- A VAT is applied to sunseed and sunoil at 20% of the purchase price.
- Farmers are exempt from paying VAT to the national budget during the period 1999-2004 but can use their accumulated VAT revenues only to buy agricultural inputs (for which they pay a regular 20% VAT).
- According to the law on exports, the Government should reimburse the VAT to exporters, most of which are crushers, within three months.
- VAT reimbursement (from the Government to the processor or from the processor to the Government) is done on the basis of balance between received VAT and paid VAT, i.e. if the export refund to which the processor is entitled exceeds the amount of VAT it receives from domestic sales, the exporter does not pay any VAT to the national budget but is refunded by the Government.
- In practice, a significant part of VAT refunds is paid with a long delay or is not paid at all to exporters due to lack of Government resources. The Government's accumulated debt to exporters of agricultural products is considerable, and even if the Government plans to allocate UAH 400 million ($77 million) for restructuring arrears, lack of resources is likely to prevent full reimbursement of old debt. Besides, given the weaknesses of the system, new arrears are likely to accumulate in the future.
- A similar VAT system applies to other agricultural products except milk, meat and wool, which are VAT exempt. (For the latter three products, a VAT of 20% applies to processed products. The processors return two thirds of this VAT to producers and one third to the Ministry of Agriculture).

- The policy of VAT refunds on exports, and the problem of Government's VAT arrears, applies to all Ukrainian exporters, not only those of the agricultural sector. Overall, the VAT arrears amount to UAH 2,2 billion (1% of GDP). Government's failure to reimburse VAT has been strongly criticised by international financing institutions, in particular the International Monetary Fund (IMF), which decided to withhold several-million-dollar loan tranche because of Government failure to resolve problems in the fiscal sphere. These reforms should be incorporated in the new Tax Code, expected to be adopted in 2002. The draft Tax Code already contains a proposal to lower the VAT rate from 20 to 17 percent.

Disadvantages

3. Impacts of the current VAT system were discussed in Chapter 3 and can be summarised as follows:

- Crushing margins are reduced to unsustainable levels if the VAT reimbursement is not paid at all. If the VAT refund is paid promptly, crushing margins would be high by international standards, at on average $40-60 per ton. Without the VAT refund, the margins are only at $8 per ton. This corresponds to margin levels at the EU but does not take into account the higher risks of crushing in Ukraine (see Ch. 3.3.).
- The uncertainty created by the system is factored into the price received by the farmers. Some grain exporters, for example, are discounting local grain prices by 20% to make up for the lost VAT refund.
- The system also punishes oil exporters (since VAT is received for domestic sales) and is thus contradictory to the seed export tax policy, which aims, *inter alia*, to favour sunoil exports.
- VAT reimbursement is a net cost to the Government, which has not received VAT payments from farmers. The fact that VAT administration is decentralised at the regional level makes the situation even more difficult. In agriculture-dominated areas, VAT refunds can correspond to a sizeable share of the tax authorities budget who thus have weak capacity, and little incentive, to reimburse export VAT.
- VAT reimbursement system is lacking in transparency and is open to corruption. In some cases, the exporters are only refunded if they accept a 20-30% discount.
- The policy discriminates between crushers: (i) crushers selling mainly for domestic markets are in a better position than exporting crushers; (ii) competitive crushers are in a better position to manage the risk of non-refund than non-competitive crushers; and (iii) crushers who are located in economically prosperous areas, have headquarters in the capital or have good relations with local tax authorities may receive their refunds more easily than other crushers.
- The system is administratively complex at exporter and farm level. Crushers often have to make strong efforts to receive refunds. Farmers have to present a separate invoice for VAT and manage the VAT revenues separately from other revenues. Monitoring the appropriate use of VAT revenues places an additional burden on local tax authorities.
- Agricultural VAT exemptions erode the revenue base of the Government, thus reducing its margin of manoeuvre and placing an additional burden on other sectors of

the economy. During 1999-2001, total farm VAT exemptions equalled to UAH 3,6 billion ($695 million).

- Agricultural VAT exemptions are considered as a subsidy by World Trade Organisation (WTO) which Ukraine seeks to join in the near future. The level of total Aggregate Measurement of Support (AMS) for the farming sector in Ukraine is not fixed yet. If, as seems probable, the Government accepts a low farm support level as the base level, the pressure to reduce tax exemptions is likely to be high.

4. The main benefit of the current system accrues to farmers who receive a sizeable implicit subsidy through the VAT exemption. Under the current system, this subsidy is financed mainly (two thirds) by domestic consumers, partly by the Government (amount equivalent to the refund amount) and partly by exporters who are not refunded. The tendency of the crushers to discount farmgate prices reduces the value of the subsidy. Furthermore, the farmers are constrained to use the VAT revenues only for agricultural input purchases.

C. REFORM

5. The above analysis clearly shows that the current VAT system is not viable and should be reformed in the context of 2004 agricultural taxation reform at the latest. From this point of departure, three different VAT options were examined in the light of several assessment criteria presented below:

Assessment criteria

6. The assessment of different VAT reform options needs to weigh different objectives, including:

- economic neutrality (avoiding distortions);
- promotion of economic transition;
- ensuring adequate Government resources;
- WTO-compatibility;
- farmer support;
- avoiding distortions in farmers' crop choice;
- "enforceability" of the system, given prevailing institutional and capacity constraints;
- minimisation of uncertainty for market operators;
- administrative simplicity;
- prevention of corruption.

Option 1. Zero VAT

7. This option, illustrated in Table A1.4, would establish a zero VAT rate for sunflower seed and oil. This resembles the system currently in force in the UK.

8. Likely benefits of this system, compared to the current system, include:

- Increased transparency since a clear distinction would be made between VAT system, bringing revenues to the Government, and farmer subsidies.

- Benefits to domestic consumers and increase in domestic sunoil consumption due to the abolishment of 20% VAT payment.
- Lower sunseed prices would strengthen crushers' margins and would also likely be reflected in sunoil prices at export and domestic markets. This would further increase sunoil demand and would thus likely drive seed prices up.
- Elimination of hidden export barriers and less uncertainty for exporters who would no longer need to claim refunds from the Government. This should also increase seed prices.
- Strengthened financial position of the Government who would no longer need to refund oil exporters.
- Administrative simplicity.
- Reduced discrimination between crushers.
- WTO-compatibility.

9. The zero-VAT option would have one major drawback: farmers would loose the implicit VAT subsidy. Given the scarcity of Government resources, it is unlikely that this subsidy would, at least in the short term, be replaced by other farm support measures. Part of farmers' loss could be compensated through higher seed prices but this is unlikely to cover the shortfall.

10. If the seed export tax was lowered at the same time, lower seed prices could increase seed exports, thus adversely affecting Ukrainian crushers.

11. Applying zero VAT rate to sunflower only would create distortions between agricultural products. If, on the other hand, a zero VAT were applied to all agricultural products, Government would loose VAT revenues from processed agricultural products sold mainly on domestic markets. This would also place an additional burden on the other sectors of the economy.

Option 2. 20% VAT without farmer exemption

12. This option, illustrated in Table A1.5, would maintain the current VAT rate of 20% and the export refund policy but abolish the VAT exemption of seed producers. This resembles the system currently in force in Denmark where the overall VAT rate is 25%.

13. Likely benefits of this system, compared to the current system, include:

- Increased transparency since a clear distinction would be made between VAT system, bringing revenues to the Government, and farmer subsidies.
- Increase in Government revenues even after the export refunds were paid, enabling the Government to adopt other, more transparent farm support measures.
- Elimination of hidden export barriers and less uncertainty for exporters whom the Government could afford to refund. This should also increase seed prices.
- Reduced discrimination between crushers.
- WTO-compatibility.

14. Like option 1, this option would have the major drawback of eliminating the implicit VAT subsidy to farmers. Farmers would probably bear the major part of the loss although the change is also likely to increase seed prices. Farmers' loss could also eventually be compensated

by other farmer support system that the Government could put in place with strengthened resources.

15. As with option 1, abolishing VAT exemption for sunflower only would create distortions between agricultural products. If VAT exemption were abolished for all agricultural products, farmers' loss would be even more significant.

16. Establishing a system of regular VAT collection from farmers to the Government would put additional pressure on the capacities of local tax authorities who would have to monitor farmers' VAT revenues and ensure prompt payments. At the same time, Government capacities would likely be strained by the implementation of other types of farm support measures.

Option 3. Differentiated VAT

17. This option, illustrated in Table A1.6, would maintain the current sunoil VAT rate of 20%, maintain farmers' VAT exemption and enforce the export refund policy, but would reduce sunseed VAT rate to (e.g.) 13%. Several countries apply a differentiated VAT system to agriculture (without farmer exemptions). In Russia, VAT for major agricultural products is 10% compared to 20% for all other products whereas in France, VAT for food is 5,5% compared to a base VAT rate of 20,6%.

18. This alternative can be considered as an intermediary option between the current system and alternatives 1 and 2 presented above. It would represent a compromise between farmers', crushers' and Government's interests, aiming at reducing the disadvantages of the current system but without eliminating the farmer subsidy. Likely benefits of this system, compared to the current system, include:

- Strengthened financial position of the Government who would need significantly less resources to refund exporters. Depending on the differentiated rate, Government could even receive net revenues.
- Reduction of sunseed prices would strengthen crushers' margins but would also likely be reflected in sunoil prices on export and domestic markets. This would benefit consumers and enhance export competitiveness. Increased sunoil demand would likely drive seed prices up.
- Reduction of hidden export barriers and less uncertainty for exporters whom the Government could afford to refund. This should also increase seed prices.

19. This option would reduce the VAT subsidy to farmers but less than the other two options. The loss would be partly compensated by seed price increases. Untransparency, administrative complexity and risk of discrimination between crushers would persist, although at a lower level than at present.

D. RECOMMENDATION

20. In an ideal situation, a transparent value added tax system, separate from farmer subsidies, should be established. The main objective of this VAT system should be to bring revenues to the Government, which could then design an appropriate system of direct farmer

support, compatible with WTO rules. To avoid distortions, the VAT system should be applied equally to all agricultural products. It should also be effectively implemented, to avoid any discrimination between market operators.

21. In the Ukrainian transition economy, however, all preconditions for introducing a "pure" VAT system and a "pure" farm support system described above are not in place. Government lacks resources and may not be able to put in place direct farm support measures in the short-to-medium run, given other urgent needs of the society. Adequate Government capacity, in particular at the local level, to operate a "pure" VAT system and direct farm subsidies, given the need for detailed farm-level monitoring, is not guaranteed. Finally, proposals for drastic changes are likely to meet with resistance by many of the sector stakeholders and would thus be difficult to implement.

22. Our preliminary analysis thus points towards a transitory system along the lines presented for option 3 above. This system would represent a compromise between consumer, crusher, Government and farmer interest: (i) it would assist the Government in its objective to support agricultural producers but reduce that subsidy to a level that the Government can afford; (ii) it would also support the Government in its efforts to fulfil its legal obligations towards exporters; (iii) it would be in line with other export policies in the sector; and (iv) it would benefit processors and domestic consumers, and enhance export competitiveness.

23. The transitory system proposed above should not be considered a final one but one step in a continuous process towards sector reform and integration to world markets. A gradual process of reducing the implicit VAT subsidy should be envisaged whereby farmers would initially be VAT exempt but, as the transition proceeds, the level of exemption would be decreased. This would enhance transparency, strengthen Government revenues and enable it to introduce direct farm support measures.

24. The level of reduced VAT should be clearly above zero to minimise farmers' losses but, at the same time, sufficiently low to ensure that Government can meet its refund obligations. According to our calculations, 13% seems to be close to balance. More analysis would also be needed on the situation in other agricultural sub-sectors, and the possibilities for, and feasibility of, introducing similar reform measures for those products, thus avoiding creating new distortions.

25. Introducing the new VAT system should be combined with payment, by the Government, of the VAT arrears. If resource availability remains a problem, other modes of implementation, such as credit on other taxes payable by the enterprises, could be considered instead of direct repayment. The capacity of the decentralised tax administration to implement the new system should also be assessed and adequate institutional measures taken to ensure equitable implementation and prevent corruption.

26. This recommendation would be in line with those of the IMF in establishing the elimination of the tax exemptions as the final goal and stressing the need for prompt repayment of VAT arrears. The consideration of other forms of VAT repayment, such as writing off or restructuring other outstanding tax or debt servicing obligations of the beneficiary companies, is also agreeable to IMF[1].

[1] See IMF Staff Report for the 2002 Article IV Consultation, 29 March, 2002.

27. The proposed reform would bring the Ukrainian VAT system closer to WTO-compatibility since the present VAT exemption, granted to agricultural products only, would be considered an export subsidy under WTO rules. The proposed lower VAT rate for sunflower seed could, however, also be seen as a discriminatory subsidy. It would therefore be important to examine, as suggested above, the VAT situation in other agricultural sub-sectors in the same context. As to VAT refunds to exporters, they can be considered an export subsidy under WTO rules, if applied in a discriminatory way, e.g. by refunding producers of a certain product only, but in the case of Ukraine, the export VAT refund policy applies to all exporters.[1]

28. As pointed out above, our assessment is preliminary and more analysis and debate would be needed to confirm the conclusions. We thus recommend that an open discussion, e.g. in the form of a workshop or a seminar, is launched between sunflower seed producers, processors and the Government on the reform.

[1] It should also be noted that there is some room for interpretation in WTO on the issue of agricultural export subsidies since they are regulated by two agreements, Uruguay Agreement on Agriculture (1994) and GATT Agreement on Export Subsidies (1948).

TABLE A1.3: CURRENT VAT SYSTEM

VAT = 20%							Price/tonne	In		Out		VAT
								Total	VAT	Total	VAT	Balance
Farmers	Sell seeds	2320 tonne	sold to crushers	89%	2065	tonne	169	348951	20% 69790			
	TOTAL							348951	69790	0	0	**69790**
Crushers	Sell oil	849 ton	sold locally	49%	416	tonne	600	249606	20% 41601			
			exported	51%	433	tonne	600	259794	0% 0			
	Sell meal	869 ton	sold locally	34%	295.5	tonne	100	29546	20% 4924			
			exported	66%	573.5	tonne	100	57354	0% 0			
	Purchase seed				2065	tonne	169			348951	20% 69790	
	TOTAL							596300	46525	348951	69790	**-23265**
Consumers	Purchase oil				416	tonne	600			249606	20% 41601	
	Purchase meal				295.5	tonne	100			29546	20% 4924	
	TOTAL							0	0	279152	46525	**-46525**
Government	From farmers							0				
	From crushers							0				
	Refund to exporters /1									23265		
	TOTAL							0		23265		**-23265**

Implicit subsidy to farmers /2	58158.5
Share paid by the consumers	67%
Share paid by the Government/crushers /3	33%

/1 If all this amount was paid to crushers, it would offset their negative VAT balance. However, this is not the case at present.
/2 This takes into account the 20% VAT paid on farm inputs.
/3 Share of Government and that of crushers depend on to what extent export VAT is refunded.

Note: Production and sales data represent 2001/02 situation and are derived from tables 1.6-1.8 in Ch. 1 of the main report.
Prices are rough estimates for 2001/02 in US$.

TABLE A1.4: OPTION 1 - ZERO VAT

VAT = 0%						Price/tonne	In			Out			VAT
							Total	VAT		Total	VAT		Balance
Farmers	Sell seeds	2320 ton	sold to crusher	89%	2065 tonne	169	348951	0%	0				
	TOTAL						348951		0	0		0	**0**
Crushers	Sell oil	849 ton	sold locally	49%	416 tonne	600	249606	0%	0				
			exported	51%	433 tonne	600	259794	0%	0				
	Sell meal	869 ton	sold locally	34%	295.5 tonne	100	29546	0%	0				
			exported	66%	573.5 tonne	100	57354	0%	0				
	Purchase seed				2065 tonne	169				348951	0%	0	
	TOTAL						596300		0	348951		0	**0**
End users	Purchase oil				416 tonne	600				249606	0%	0	
	Purchase meal				295.5 tonne	100				29546	0%	0	
	TOTAL						0		0	279152		0	**0**
Government	From farmers						0						
	From crushers						0						
	Refund to exporters									0			
	TOTAL						0			0			**0**

Implicit subsidy to farmers	0

Note: Production and sales data represent 2001/02 situation and are derived from tables 1.6-1.8 in Ch. 1 of the main report.
Prices are rough estimates for 2001/02 in US$.

TABLE A1.5: OPTION 2 - REGULAR 20% VAT

VAT = 20%						Price/tonne	In		Out		VAT
							Total	VAT	Total	VAT	Balance
Farmers	Sell seeds	2320 ton	sold to crusher	89%	2065 tonne	169	348951	20% 69790		69790	
	TOTAL						348951	69790	0	69790	**0**
Crushers	Sell oil	849 ton	sold locally	49%	416 tonne	600	249606	20% 41601			
			exported	51%	433 tonne	600	259794	0% 0			
	Sell meal	869 ton	sold locally	34%	295.5 tonne	100	29546	20% 4924			
			exported	66%	573.5 tonne	100	57354	0% 0			
	Purchase seed				2065 tonne	169			348951	20% 69790	
	TOTAL						596300	46525	348951	69790	**-23265**
End users	Purchase oil				416 tonne	600			249606	20% 41601	
	Purchase meal				295.5 tonne	100			29546	20% 4924	
	TOTAL						0	0	279152	46525	**-46525**
Government	From farmers						69790				
	From crushers						46525				
	Refund to exporters /1								23265		
	TOTAL						116316		23265		**93051**

Implicit subsidy to farmers	0

/1 This offsets the negative VAT balance of exporters.

Note: Production and sales data represent 2001/02 situation and are derived from tables 1.6-1.8 in Ch. 1 of the main report.
Prices are rough estimates for 2001/02 in US$.

TABLE A1.6: OPTION 3 - DIFFERENTIATED VAT

VAT (oil) = 20%
VAT (seed) = 13%

							Price/tonne	In		Out		VAT
								Total	VAT	Total	VAT	Balance
Farmers	Sell seeds	2320 tonne	sold to crusher	89%	2065 tonne		169	348951	13% 45364			
	TOTAL							348951	45364	0	0	**45364**
Crushers	Sell oil	849 tonne	sold locally	49%	416 tonne		600	249606	20% 41601			
			exported	51%	433 tonne		600	259794	0% 0			
	Sell meal	869 tonne	sold locally	34%	295.5 tonne		100	29546	20% 4924			
			exported	66%	573.5 tonne		100	57354	0% 0			
	Purchase seed				2065 tonne		169			348951	13% 45364	
	TOTAL /1							596300	46525	348951	45364	**1162**
Consumers	Purchase oil				416 tonne		600			249606	20% 41601	
	Purchase meal				295.5 tonne		100			29546	20% 4924	
	TOTAL							0	0	279152	46525	**-46525**
Government	From farmers							0				
	From crushers							1162				
	Refund to exporters									0		
	TOTAL							1162		0		**1162**

Implicit subsidy to farmers /2	37803
Share paid by the consumers	100%
Share paid by the Government	0%

/1 This is paid to the national budget.
/2 This takes into account the 20% VAT paid on farm inputs.

Note: Production and sales data represent 2001/02 situation and are derived from tables 1.6-1.8 in Ch. 1 of the main report.
Prices are rough estimates for 2001/02 in US$.