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**The EU Settlement  
of Finnish Agriculture  
and National Support**

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Maatalouden taloudellinen tutkimuslaitos  
Agricultural Economics Research Institute  
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## Preface

The accession of Finland into the EU only lacks the final confirmation. The Accession Treaty has been negotiated, and the national support measures have been prepared on the basis of this. The referendum will decide whether Finland becomes a member of the EU or not.

The integration affects agriculture the most. Agriculture is one of the most closed sectors in Finnish national economy, and it has not faced international competition. Upon accession into the EU, the situation will change dramatically. The markets will be opened, and the prices will drop to the level of the EU.

The negotiations took a relatively short time. Yet, the outcome of the negotiations is an extensive document, which specifies the special conditions that make it possible for Finland to become a member of the EU. One of the most important parts of the outcome is the agreement that Finland is allowed to pay national aids to compensate for the income loss caused by the decrease of the market prices by 40-50 %. The support package includes many details. In this publication, the main outlines of the settlement are presented for the part of, in particular, agriculture proper. It will also be examined how the support package and the negotiation settlement will affect the incomes of farmers.

In addition, estimates have been made on the development of agriculture as a result of the accession into the EU. These concern both the extent and structure of agriculture, and so far they are preliminary. The general public has been very much interested in the changes in the consumer prices. The market prices of agricultural products will decrease considerably, which could be expected to lower the food prices. However, the value added tax rises slightly, which reduces the effect on the consumer prices.

The application of the Accession Treaty is still somewhat open, and the future is unclear in many other respects, too. Hopefully, this publication will help the readers in formulating their own view on how good or bad the Accession Treaty is for the part of agriculture, and how well the national measures have been planned. It is also hoped that the publication will provide a background for estimates on the development of agriculture in the near future. The authors want to thank Jaana Ahlstedt and Laura Alastalo for the assistance in preparing the publication, and Jaana Kola for the English translation.

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The authors

## THE EU SETTLEMENT OF FINNISH AGRICULTURE AND NATIONAL SUPPORT

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**Abstract.** Finland's accession to the European Union presents a serious challenge to Finnish agriculture and food industry, a challenge for which these sectors are not well prepared. In the membership negotiations on agriculture, the Finnish Government stressed the unique conditions prevailing in Finland, and called on the European Union to provide permanent support measures for the farming sector.

The outcome of the negotiations was that Finland will adopt, immediately on accession, the basic mechanism of the CAP, and border controls will be abolished in the trade with other Member States. However, considerable scope for national action is allowed in the Accession Treaty. There is a provision for national measures - to which the EU will make a substantial financial contribution - to compensate for the costs of adjustment. There will also be long-term aids, especially operating north of the 62nd parallel. To cover any outstanding problems, Finland was granted permission to pay direct national aid, to which certain restrictions will be applied.

Under the conditions of the Accession Treaty, Finnish government has prepared a long-term national support package for the farming sector. Direct payments will be paid to all agricultural areas and livestock units totalling about FIM 3.8 billion. In addition, agriculture will receive FIM 3 billion in compensation for directly aligning its prices with those of the Union from the first day of accession. This money will be paid out over a five-year transitional period, with a heavier weighting in the first years.

Under the support scheme, farmers' income level will be maintained at roughly the current level, but will be made up of a new combination of support measures. Price support is replaced by direct payments to the farmers. In the first year of accession, subsidies drawn up by the proposal would cost Finnish tax-payers FIM 10.8 billion, which is FIM 4.3 billion more than the current level. After the transitional period, subsidies will decrease to FIM 6.1 billion, which is FIM 1.0 billion less than the current level.

According to the farm models farmers' income will fall by 10-45% depending on the production line. The impact on production will be small, at least at the beginning of the transitional period. Retail prices are estimated to fall by 10%, on the average, due to the decrease of producer prices. Changes in consumption will be small due to the small price elasticities.

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**Key words:** EU-membership, Accession Treaty, agriculture, national aid, production, retail prices

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# I. BACKGROUND FOR THE INTEGRATION

## 1. Introduction

Finland has completed the Accession Treaty with the European Union. If this is approved in the referendum, which is held on the 16th of October, and, finally, in the Parliament, it will probably enter into force, after ratification, in the beginning of 1995.

The Accession Treaty has a great impact on agriculture. National agricultural policy is replaced by the common agricultural policy of the EU (CAP). The decision-making on the main outlines of agricultural policy will shift to the EU. In general, Finland will have to follow the agricultural policy of the community. However, Finland will have the right to influence the planning of the agricultural policy, but the possibilities of a small country are not very significant. The main task will be to take care of the realization of the CAP in Finland.

One of the main principles of the EU is that goods move freely from one country to another. The ideology of the integration must be fulfilled in agriculture, too: the goods are produced in areas where this is the most profitable. However, agriculture is not fully directed by the market forces, but agriculture of the less favoured areas is supported for reasons related e.g. to the environment and the social policy. Like in Finland, the development of the rural areas is mainly based on agriculture.

As a result of the accession to the EU, the producer prices in Finland will for the most part be the same as in the other member states. This is ensured by free competition. There are, however, differences in the prices of the different countries due to the transportation and processing costs. Differences in the quality and the national consumer preferences may also cause some differences in the prices.

To counterbalance the fact that the decision-making shifts to the EU, Finnish agriculture benefits from the support systems of the EU, which are intended to develop the income level of farmers and the structure of agriculture. The EU also carries the responsibility for the costs of possible overproduction. Finland will have a national milk production quota, and its realization is decided on in Finland. Other measures to restrict production are applied according to the current regulations of the EU, e.g. fallowing must be continued as determined in the CAP reform.

The negotiation objective of Finland was that the adjustment to the EU price level could occur during a transitional period of several years. This was not accepted, and thus border controls between Finland and the other member states will be abolished immediately, causing the Finnish producer price level to drop to the EU price level. However, Finland is allowed to pay national support to farmers, which is necessary for securing the possibilities for agricultural production.

Finnish agriculture will face great difficulties in integrating into the EU. The producer prices in Finland are a lot higher than in the EU, and the integration will



not result in any major savings in the costs. Farmers' incomes will decrease considerably without additional support. Regional income disparities are a great problem. Finland has applied for a regional support system to balance income disparities between different parts of the country. There is no similar extensive system in the EU, but a national support system must be created for this purpose.

Food industry has largely been protected against foreign competition. Although part of the food industry is very modern and competitive, opening the borders still threatens many enterprises, and an adjustment program has been formulated.

The Accession Treaty includes both long-term arrangements and arrangements concerning the transitional period, which aim at facilitating the adjustment of agriculture to the new competitive situation and ensuring the practicing of agriculture in Finland. Finland will be allowed to pay nordic agricultural national support north of the 62nd parallel, as well as for specific reasons in areas south of this parallel. The country will be divided into regions for the payment of the support.

The administrative structures of the EU do not cause any unsurmountable difficulties for Finnish agriculture or its administration. In the beginning of 1994 Finnish legislation was revised so that the shift to the CAP would be as easy as possible. Considerable changes will occur, however, as matters will be dealt with under the EU Commission.

This publication presents the main points of the EU settlement and the national support package related to it. In addition, the effects of the settlement on the whole food chain from the producer to the consumer have been examined. However, at this stage all factors influencing this are not known, or have not been decided - e.g. it has not been possible to get the approval of the EU to all programs - so that it is not possible for researchers to present any final estimates on the effects of the integration on Finnish agriculture. Besides, it seems likely that estimating the effects would be very difficult, even if all necessary information were available. In this connection no quantitative analyses on the effects of the integration have been made, but only general estimates on the effects on both agriculture and the food industry are presented. The report starts with a brief overview of the background of the integration and the negotiations.

## **2. Difficulties of agriculture in the accession into the EU**

Farmers have a quite negative attitude towards the integration of Finland into the EU, and the majority of them is against the accession. This is naturally caused by the fear of the collapse of the incomes. Natural conditions are unfavourable in Finland, and the yield level is only about half of the yield level in Central Europe. The structure of agriculture is not yet ready to face the increasing competition. The producer prices of the EU are 40-50 % lower, but there are no major differences in the prices of inputs, except the prices of fertilizers and feed.

*Table 1. Yield level in Finland and in some EU countries in 1991, kg/ha.*

	Finland	Denmark	Germany	Belgium	France
Wheat	3,620	7,040	7,170	6,530	6,850
Feed cereals	3,290	5,340	5,570	6,510	6,090
Potatoes	18,570	33,200	29,800	35,800	31,600
Sugar beets <sup>1)</sup>	5,000	7,200	6,770	8,240	9,400

<sup>1)</sup> amount of crystallizing white sugar per hectare

Source: COMMISSION 1993.

## **2.1. Nordic agriculture**

The preconditions for agriculture are in general much worse in Finland than in the present EU countries. The growing period is shorter and the effective temperature sum is lower than e.g. in the closest competing country Denmark. Winter cereals, which give a better yield than spring cereals, form the majority in Central Europe, but in Finland mainly spring cereals are cultivated.

The unfavourable natural conditions are the most clearly visible in the yield level. The yields of cereals in Finland are only about half of the yields in Central Europe (Table 1). Hay and grass grow quite well in Finland, but the pasture season is much shorter than in the EU countries.

Finnish farms are considerably smaller than farms in the most important EU states. In 1987 the average farm size in Finland was 12.4 ha (the size of active farms was about 4 ha larger), in Denmark 32.5 ha, in Germany 17.6 ha, in the Netherlands 17.2 ha, and in France 30.7 ha. Consequently, in Finland the capital cost is high, and the use of labour per product unit is also the greater the smaller the farm is. A major problem is that there are very few large farms in Finland. For Finnish agriculture to be competitive, the farms should be even larger than in the other countries.

## **2.2. Prices and support**

Like in Finland, administrative target prices are also used in the EU. The real producer prices the farmers get at the market are usually lower than the target prices, which is mainly caused by the high overproduction.

Price comparisons vary along with the floating of the value of Finnish markka. When the first estimates on the differences in the prices were made, Finnish producer price level was more than double compared with e.g. the price level in Denmark or Germany. Since then the value of markka has decreased by 25 %, which has changed the situation considerably.

*Table 2. The realized producer prices of the most important agricultural products with all additions in Finland and in some EU states in 1993 (in the exchange rates of May 31st, 1994), FIM/kg (milk FIM/l)<sup>1</sup>.*

	Finland	Denmark	Germany	Belgium	France
Wheat	2.19	0.98	0.96	0.89	0.85
Barley	1.63	0.98	0.85	0.83	0.77
Milk	3.21	2.23	2.09	1.97	1.95
Beef <sup>2)</sup>	29.34	18.57	19.47	19.72	21.11
Pigmeat	16.24	7.03	8.76	8.15	7.93
Eggs	11.58	5.41	8.56	4.18	5.84
Exchange rate	1.0	0.8443	3.3100	0.1608	0.9683

<sup>1)</sup>Source: EUROSTAT 1993

<sup>2)</sup>Beef cattle

In 1993 the producer price of milk in Finland was FIM 3.21/l, and in Denmark FIM 2.23/l, according to the present rate of exchange. The difference is about FIM 1, i.e. 30 % (Table 2). The price of feed cereals is 40 % lower than in Finland, and in the case of wheat the difference is even greater. The producer price of pigmeat is only 43 % of the Finnish price. On the average, the producer prices in Denmark are a little under 40 % lower than in Finland.

The comparison presented in Table 2 concerns the market prices. Various kinds of support are paid to producers both in Finland and in the EU. Finnish prices do not include the hectareage support and support according to the area and size of the farm, among other things, which amount to altogether a little under FIM 2 bill. The total amount of support paid through the state budget is about FIM 4 bill., i.e. about 16 % of the total value of production. The most important forms of support in the EU are the LFA support and the CAP reform support.

The remote location of Finland provides us a small natural border protection as the transportation costs increase the price of imports (perhaps about FIM 0.30-0.40/kg in the case of dairy products). Finnish markets are quite small, but it is necessary to be prepared, because the EU will strive to find markets for overproduction everywhere, and Finland cannot remain unnoticed by the export companies.

### **2.3. Factor prices**

The production factors of agriculture are manufactured products, and their prices are usually dependent on the costs of the manufacturing industry. In Finland the cost

level in general is high and enterprises are small. Because of this, the prices of the production factors of agriculture have been a little higher in Finland than in the EU states. The infrastructure causes high costs in a country with low population density, and they are a burden to agriculture, too. Trade and services are scattered in the large rural areas, which increases their costs.

The price of feed in Finland is about double compared to the prices in the EU, which is mainly caused by the difference in the price of feed cereals. The prices of feed, as well as those of fertilizers, include taxes, which have been collected for the export costs of the overproduction of agriculture. These will be abolished after the integration, and the prices of fertilizers will drop to a level that is close to the average in the EU.

The cold winter increases the costs of livestock production, because better buildings are needed than in warmer countries.

The prices of the production factors of agriculture have included a sales tax, which, according to estimates, has been the average of about 7 %. When Finland shifts to the value added tax, which is applied in the EU, this tax burden is removed from agriculture. However, this will not occur immediately, because it will be abolished from the depreciations of the capital only after a few years.

The price of land is an important cost factor in agriculture. It is, however, connected to internal factors of agriculture. High profitability increases the demand for land and thus raises the price. With respect to the productive value, the price of land has been much too high in Finland, but considerable decrease has occurred recently. Instead, close to population centers the price of land may be high due to factors not related to agriculture. The price of land seems to be high in the EU states, too.

## **2.4. Agricultural policy in Finland and in the EU**

The main principles of Finnish agricultural policy have not differed very much from the agricultural policy of the EU. Agriculture has been a strongly protected sector. Foreign competition has been prevented by means of efficient border controls, and the export of agricultural surpluses has been supported through subventions. This has made it possible to keep the domestic prices at a desired level.

The main objectives of Finnish agricultural policy have been

- self-sufficiency in food stuffs
- securing and developing farmers' income level and, at the same time, keeping food prices at a reasonable level
- developing the structure of agriculture
- securing the settlement of rural areas

These are quite similar to the objectives of the EU, although the emphasis may differ to some extent

Price policy has received particular emphasis in Finnish agricultural policy. The Farm Income Act has been used for this purpose since 1956. The main contents of the act concern the producer prices. Target prices have been set for the most important products, and in order to realize these, exports and imports have been regulated by means of marketing levies and duties, as well as export subventions.

An essential factor in setting the target prices has been that the increase in the costs resulting from the increase in the price of production inputs has been compensated in full to farmers. The intention has been to give the farmers a full benefit from the increase in productivity, which has made it possible to equalize the income disparities between farmers and other income earners. Because of the system, the producer prices have increased almost at the same pace with inflation. Consequently, in international comparison, Finnish producer prices are very high.

The production of the main products (cereals, milk, meat, and eggs) exceeds domestic consumption. The increase in overproduction has led to extensive measures to restrict production. Like in the EU, milk production is restricted by means of quotas. Instead, the dual price system for eggs and the restrictions on the expansion of livestock production units will be abolished. In Finland, grain production is restricted by means of fallowing, and this is the case in the EU, too. For the export of overproduction, marketing levies as well as taxes on fertilizers and feed have been collected from farmers, but these will be abolished after the integration. In general, agricultural production has been heavily regulated.

## **II. OUTCOME OF THE NEGOTIATIONS**

### **3. EU negotiations**

The accession negotiations were launched in February 1992, when Finland left the application for accession to the EU. The next stage was EU's reply to the application, i.e. the so-called avis, in which the EU examined the preparedness of Finland to start the negotiations. The EU Commission completed the avis in October 1992. It noted that accession to the EU is a great challenge to Finnish agriculture, because it leads to lower prices and level of support, and increasing competition. The view of the Commission was, however, that it was possible to find satisfactory solutions to the problems.

During spring 1993 negotiations were held at the official level, and in these Finnish legislation was compared with the corresponding legislation in the EU, and matters that require unification or negotiations were brought up by the Finnish or EU negotiators.

The negotiations began after Finland left the so-called position paper to the EU Commission in September 1993. The demands of Finland for the part of agriculture, among other things, were specified in this paper.

The Commission gave a statement to the EU Council of Ministers on the negotiation tenders of all four applicants, Finland, Sweden, Norway, and Austria in December 1993. The negotiations were continued next year, and they became tighter towards the end of February. The final settlement was reached on the 1st of March, 1994.

#### **3.1. Negotiation objectives of Finland**

Finland left its position paper in September 1993, after continuous discussions with the Commission. In the position paper it was stated that the disadvantages caused by the unfavourable natural conditions must be taken into account, and thus a so-called nordic support must be paid according to both the arable land area and the number of animals. The support according to the area should be 271-371 ecus per hectare, i.e. in the present rate of exchange (green ecu = FIM 7.60) FIM 2,060-2,820/ha for the total arable land area. These amounts are based on the maximum amounts of the LFA support (121 ecus/ha) and environmental support (154 ecus/ha for grain and 250 ecus/ha for grass).

In the case of livestock production the limits were set at the minimum of 250 ecus (FIM 1,900) and the maximum of 600 ecus (FIM 4,560) per animal unit. Finland also suggested that support could be paid to all animals, including pigs and chickens, which are excluded from the present support systems of the EU. The objective is to be allowed to pay support in five support regions, following the regional distribution

of hectareage subsidies.

The need for support was calculated on the basis of the idea of preserving the present income level. The support according to the area and the number of animals amounted to altogether about FIM 7.8 bill. According to estimates, the share of the EU would have been about FIM 2.6-3.9 bill., and the share of the support paid through the national budget would have been FIM 3.9-5.2 bill.

The objective of Finland was also to be allowed to pay national price policy support for milk, as well as for beef and mutton in the two northernmost support regions. In addition, the objectives included transportation support for milk, meat, and eggs. Support was also applied for the transportation costs of feed in the northern support regions.

In order to continue horticultural production, about FIM 0.5 bill. nordic support was applied. Various smaller forms of support that were considered necessary to maintain agricultural production in Finland were also negotiated on.

The objective of Finland was to obtain a milk quota of 2,992 mill. kg, of which 2,515 mill. kg would be the actual quota, and 477 mill. kg would be the quota of those who have given up production. For livestock quotas entitled to the EU production premiums the objectives were set at 254,000 bulls, 100,000 suckler cows, and 150,000 ewes. As the basic area of cereals entitled to the compensation for the price reduction of cereals according to the CAP reform, Finland demanded 1.8 mill. hectares. As the A quota of sugar beets Finland proposed 183 mill. kg sugar.

Of the 130 positions concerning agriculture that Finland sent to the EU, 30 concerned veterinary issues. The veterinary objectives of the EU correspond to a large extent to the national objectives of Finland. However, the veterinary policies of Finland and the EU differ in that in the EU the main emphasis is on promoting free movement of animals and animal products, but in Finland maintaining the good situation in terms of animal diseases is considered important. Most of the veterinary stipulations of the EU are already included in the EEA agreement or the supplementary package of the EEA. This has led to changes in the acts on veterinary diseases, meat inspection, milk inspection, fish and egg hygiene, and the practicing of veterinary medicine. For the part of the majority of the veterinary stipulations, the EEA agreement came into effect on July 7th, 1994. An important difference between the EEA agreement and the membership in the EU is that there are no internal border inspections in the EU. Instead, the border control of animals and products coming from outside the EU is tightened.

The problem of the EU legislation from Finland's point of view is that the measures to fight the diseases have not yet had the desired effects in EU countries. In the case of many diseases, it may be difficult to maintain the good situation in Finland. Still, this is an objective in the EU negotiations, and this is why Finland applied for certain exceptions to the EU veterinary stipulations. For example, because of salmonella, Finland wants to continue to inspect the imported animals as a member of the EU.

## **4. The Accession Treaty of Finland**

Finland set as a negotiation objective a level of support that would secure the present agricultural production. Unemployment is very high in Finland due to the economic depression, and in this situation any drastic reductions in agricultural production are not desirable. From the viewpoint of the social and regional policy, preserving agriculture is considered important in a country with low population density, like Finland. Agriculture forms the basis for the settlement, which makes it possible to maintain other industrial activities in rural areas even in a small scale, when the infrastructure exists because of agriculture.

### **4.1. General foundations**

The clauses and stipulations of the Accession Treaty can be divided into three groups: conditions concerning the production, agreements concerning the support regions and the level of support, and the arrangements concerning the transitional period.

The stipulations for the production concern the milk quotas, beef and mutton quotas entitled to the production premiums, the cereal cultivation area entitled to the CAP reform support, and the sugar beets quota. The agreements are mainly based on the present production quantities, and they are for the most part in accordance with the negotiation objectives.

It was important for Finland to reach an adequate level of support. LFA support was applied for the whole country, and Finland wanted to be allowed to pay nordic support, part of which would have come from the EU funds. For this part the negotiation objectives were not fully satisfied. The nordic support area covers the regions down to the 62nd parallel and some adjacent areas south of this parallel affected by comparable climatic conditions. The areas had to be determined taking into consideration, in particular, the low population density, the portion of agricultural land of the overall surface area, and the portion of arable crops intended for human consumption in the agricultural surface area used.

The nordic support is paid on the basis of the hectares of agricultural land or heads of animal. The support may not be linked to future production, or lead to an increase in production or in the level of overall support recorded during a pre-accession reference period determined by the Commission. The support may be differentiated by region. Seed production necessary for the nordic conditions may be supported within certain limits.

In the Accession Treaty it is emphasized, in particular, that the support is intended to maintain traditional primary production and processing naturally suited to the regions concerned. The support should improve the structures for the production, marketing and processing of agricultural products, and facilitate the disposal of these



products. In addition, it is required that the environment must be protected and the countryside preserved.

The support for the transitional period may be paid for only 5 years. The support must be regional and degressive. The normal support of the EU must be taken into account when the level of the national support is determined. The Commission defines the maximum initial level of the support and the rate at which they decrease. If changes occur in the CAP, these concern Finland, too.

The Accession Treaty also includes certain stipulations on a transitional period concerning the compensation for the price reduction of starch potatoes, suckler cow premium, support to living plants and flowers, production support to dry feed, and seed production of certain crops.

According to the Treaty, during the transitional period it is possible to pay support to individual farms that does not concern any particular crops. This must be degressive, and it must be abolished completely at the end of the transitional period. In the transitional period additional support may be paid to bread wheat, bread rye and malt barley, and investment support may be paid in pigmeat, egg, and poultry production, and in horticulture.

If serious difficulties resulting from accession remain after full utilization of all these forms of support, the Commission may authorize Finland to grant national support to facilitate the full integration of the producers into the common agricultural policy. This support is not specified in any way.

In the case of disturbances in the market, a protection clause was agreed on in the negotiations. According to this, Finland may request the Commission to take protective measures within 24 hours of detecting serious market disturbances.

In veterinary issues the EU did not, for the most part, grant any exceptions even for a transitional period. The reason was, in general, that this would be an obstacle in the operation of the common market. Only in the salmonella issue and certain technical questions the EU accepted the demands of Finland. It was agreed on in the negotiations that Finland may apply the same requirements in the case of both the domestic livestock production and animals imported from the EU countries and the products obtained from these. A special salmonella control program will have to be implemented already before the possible integration into the EU.

## **4.2. Decisions concerning production**

The negotiation outcome corresponds to a large extent to the present level of production. In the negotiations it was agreed that the area of cereals entitled to the CAP reform hectareage support is 1.6 mill. hectares. This is even larger than the cereal area in the past few years, but when the present area under fallow, which is almost 20 % of the total cultivated area, is taken into account cereal production may increase to close to 1.6 mill. hectares. Because farms with production of under 92 tons do not

## AGREEMENTS ON PRODUCTION QUOTAS

<b>Milk quota</b>	<b>2,342</b>	<b>mill. kg</b>
<b>+ SLOM</b>	<b>200</b>	<b>mill. kg</b>
<b>CAP-reform base area to arable crops</b>	<b>1.6</b>	<b>mill. ha</b>
<b>Special beef premium quota</b>	<b>250,000</b>	<b>pcs</b>
<b>Suckler cow premium quota</b>	<b>55,000</b>	<b>pcs</b>
<b>Ewe premium quota</b>	<b>80,000</b>	<b>pcs</b>
<b>A-quota for sugar beets</b>	<b>133</b>	<b>mill. kg</b>

2,4

have to fallow, the mandatory fallowing is expected to remain very small in Finland, perhaps only about 5 % of the cereal cultivation area.

Oats is almost as important a cereal for Finland as barley. However, oats is not an intervention product, and it was not included in these despite the demands presented by Finland. It was agreed in the negotiations, however, that export support may be applied for the export of oats. Support may be used in the production of barley starch up to 50,000 tons.

Negotiations on the sugar quota continued up to the last moment, but they concerned mainly the principles rather than any significant differences in the amounts. Finland's A-quota of sugar beets is 133,433 tons. B-quota, in which the price is 36 % lower than in A-quota, is 10 % of A-quota. The A-quota of isoglucose is 10,845 tons. 40,000 raw sugar may be imported. The quota corresponds largely to the present production, which covers 60-70 % of the domestic consumption.

In the case of cattle production, the quotas correspond to the present production level in Finland. The national delivery quota of milk is 2,342 mill. kg, and the direct sales quota is 10 mill. kg. The quota corresponds to the amount of milk delivered to dairies in 1992, and it is tied to the present relatively high fat content. If the fat content decreases, the quota grows accordingly.

The so-called SLOM-quota (200 mill. kg) concerns farmers who have made contracts of definite duration to reduce production to make it possible for them to return to production. This is likely to be difficult for many of them, if the production has been stopped completely. Finland increases slightly the pressures in the EU markets, because the overproduction is about 20 %. However, Finland has established export markets and e.g. a cheese exports contract with the USA, which will for some time remain a quota of Finland only. Part of the milk products have been exported to the EU states.

The special beef premium quota (250,000 animals) is equal to the present production. The production premium for bull meat is paid twice during the lifetime of the animals, at the age of 10 and 22 months. It is likely that in the case of Finland

## **AGREEMENTS ON SUPPORT**

- **Direct application of EU prices**
- **Mountain LFA status for 85 % of the agricultural area**
- **National nordic aid north of 62nd parallel and in the adjacent areas**
- **Opportunity to support the cost and structural adjustment for a period of five year**
- **FIM 850 mill. from EU for agri-environmental programs**
- **National aid can be granted for remaining serious difficulties**

there will be only one payment, because it is not profitable to raise the animals over 16 months. The farmer is entitled to the support if he has fewer than two animals per hectare of arable land. This requirement does not cause any problems for Finland.

In Finland there is very little actual beef cattle which is classified into the R3 quality class and can be bought into the intervention stocks. According to the Treaty, however, Finland may also sell meat of the O-class (68 % of the bull meat in Finland in 1993) into the intervention stocks.

The quota that entitles to the suckler cow premium will be 55,000 animals. In addition, in the case of suckler cows, the treaty includes a note on the possible need for increase.

There are quite few sheep in Finland, and thus the ewe quota is only 80,000 animals. There is hardly any room for increasing the production.

The production of pigmeat and eggs exceeds the domestic need slightly. Their production is not regulated in the EU, but it protects itself against competition from the outside by means of an import levy system. Investment support is not granted to increase production. The amount of pigmeat and egg production will depend on the competitiveness of the production in Finland.

### **4.3. Decisions on support**

The objective of Finland was to reach a support package that would guarantee the profitability of agriculture, although the producer prices will drop by 40-50 % when Finnish prices are adjusted to the EU level immediately upon accession, i.e at the beginning of 1995. Finland applied for the normal LFA support to the whole country and, in addition, so-called nordic support on the basis of the unfavourable climatic conditions compared with those of other EU states.

The first important decision was the determination of the limits for the LFA support. According to the negotiation outcome, 85 % of the area, i.e. about 1.9 mill. ha, is included in the mountain support of the LFA support, and Finland had to determine the 15 % that was excluded from LFA support. This area was determined on the basis of wheat production, and it includes cereal cultivation areas in Southern Finland, where wheat is mainly cultivated (see map 1).

Another important borderline is the 62nd parallel, to the north of which and in adjacent areas to the south permanent, so-called nordic agricultural national support can be paid. The national support is subject to certain restrictions. It must be tied to the area or the number of animals, as well as to fixed production ceilings, which are determined on the basis of earlier production. The support may not increase the production or its intensity.

The accession settlement also makes it possible to implement national aids to the south of the 62nd parallel, but the length of this time and the conditions are still open. Finland has started from the demand that this support should be permanent.

The Accession Treaty also includes a stipulation concerning agri-environmental support. The EU pays FIM 850 mill. agri-environmental support annually. As the amount of Finnish national environmental support should be the same, there is a quite big support package available for environmental support. This will be implemented, among other things, in the 15 % of the cultivated area that remains outside the LFA support. Finland has not yet, however, agreed with the Commission on the implementation of environmental support particularly in this area.

According to the Treaty, Finland is allowed to implement national support north of the 62nd parallel and, at least during a transitional period, in the whole country. The amount of the national support was not determined in the treaty, but it may not exceed the support paid earlier. A very detailed regional support, paid as an additional price per product unit, has been applied in Finland. It has increased towards the north.

#### **4.4. Food industry**

Finnish food industry has operated in a closed economy, except for a few areas in which the competition has been relatively free. Consequently, food industry faces a new situation when the borders are opened to the competition of the whole EU. Because of this, it has presented demands on special support for a transitional period in order to make it competitive after this period. The Accession Treaty includes a specific support package of food industry for a transitional period, which is financed from national funds.

In order to improve the competitiveness of the food industry, support is available for a) research and product development b) export promotion and marketing c) new investments and giving up production and d) rescue support.

There are various ways of improving the competitiveness of the food industry. Support may be granted for the development of products and production methods, preliminary surveys of projects and taking advantage of the results, programs related to purchasing and implementation of new technology, and joint projects. Granting the support is based on the current principles of the support.

Support is available for promoting export to countries outside the EEA if the project concerns the marketing of a new product, or launching exports to a new market area. The support is subject to the condition that the project must aim at long-term exports, and priority is given to new exports.

An allocation for the transitional period is reserved for new investments and giving up production, as well as for programs aiming at structural change in general. The support and the planned measures must lead to the viability of the enterprise in the long run. Special attention must be given to the competition effects of the support. The support may be directed to the normal enterprises processing agricultural products. However, priority is given to investments aiming at new applications. The general regulations of the EU are followed in granting the support.

According to the stipulations of the EU, rescue support may be granted when it is sensible to maintain an enterprise and make it viable again. The support consists of securities on loans and loans based on market terms. In general, the support can be paid for only six months, and it may not hinder the activity of other enterprises in Finland or in the other EU countries.

#### **4.5. Arrangements for the transitional period**

Finland will have to shift to the common EU market area immediately upon accession. In this connection, all border controls must be abolished. Producer prices will decrease about 40-50 %, which is a severe shock to the whole price system. In particular, the value of stocks will drop, which causes disturbances in the market already before the date of accession. Finland hoped for a long transitional period for agriculture and the implementation of an Accession Compensatory Amounts (ACA) system, but the EU did not agree to this. Instead, the EU will pay compensation amounting to altogether 457 mill. ecus, i.e. about FIM 2.9 bill., in four years for the reduction in the value of stocks and other costs resulting from the system. In the first year the compensation will be 150 mill. ecus, i.e. about FIM 1,000 mill.

All stocks of sales crops will be compensated for through a single payment according to the situation of January 1st, 1995. For this purpose, the enterprises and farms must make an inventory of their stocks. The possible decrease in the producer prices prior to the date of accession must be taken into account in the calculations.

During the transitional period Finland has the possibility to speed up the structural change without the restrictions that apply to the structural change by means of EU support in general. The stipulations of the EU investment support

restrict the investments to projects like land improvements and repairs because of overproduction. On the basis of the Accession Treaty e.g. expanding production at the farm level is allowed, subject to the condition that the production capacity of the whole country does not grow. On the whole, the size of enterprises is much too small in Finland, so that increasing it is very important to improve competitiveness. A transitional period of five years has been reserved for the structural change, and the reorganization of debts may continue for seven years.

The costs of livestock products will include costs of the earlier price system also after the integration. This is compensated for through an annual payment of a degressive additional price for livestock products and special crops. The additional support will stop completely at the end of 1999 at the latest.

A hectareage subsidy, which decreases annually, is paid in 1995-1999. The support to horticulture has also been phased out in stages, and it is degressive during the transitional period.

When the prices drop rapidly after the integration, the liquidity of farmers is endangered. Because of this, it has been planned that the livestock support could be applied for in December, 1994, so that the payments could be made already in January, 1995. National financing must be used if, for example, environmental support is not obtained immediately from the EU.

#### **4.6. Regional and structural policy**

Agriculture has a central position in the regional policy and in maintaining the viability of the rural areas in Finland. The regional support of agriculture is part of the overall regional policy, even if this connection has not in all times been so obvious. The significance of agriculture as a factor of the social and rural policy is also emphasized in the EU. Even if the objective of the common market is that the production would be concentrated in areas where the production costs are the lowest, special regional and/or structural support is paid to many poor agricultural areas in order to preserve the basic population.

When Finland integrates into the EU, the regional and structural policy of the EU will replace the present Finnish legislation concerning the regional and structural policy. Support from the regional and structural funds of the EU is directed to five special targets: the poorest areas (objective 1), declining industrial areas (2), preventing unemployment (3 and 4), alleviating the structural problems of agriculture (5a), and developing rural areas (5b). In addition, a new special objective 6 concerning the sparsely populated areas in the north, which corresponds to objective 1 in terms of its contents, was agreed on in the negotiations. The difference is the basis used in determining the target areas: in support area 1 it is the gross national product, and in 6 the low population density. The population density in area 6 can be the

*Table 3. Negotiation outcome concerning structural funds. Estimate of the distribution of the funds to different objectives, FIM mill.*

	1995	1996	1997	1998	1999
Objective 6 <sup>1)</sup>	567	599	636	693	725
- of which LFA <sup>2)</sup>	170	170	170	170	170
Objectives 2 and 5b					
- population share 37 %	347	410	466	536	573
Objectives 3 and 4					
- outside area 6	567	504	472	441	441
Objective 5a					
- outside area 6	504	554	567	567	567
- of which LFA	284	284	284	284	284
Total	1,985	2,067	2,141	2,237	2,306

<sup>1)</sup> The share of the measures and distribution of the funds of objectives 3, 4, and 5a are determined on the basis of the program for objective 6.

<sup>2)</sup> The share of financing from the EU of other parts of 5a is determined in connection with the program work.

maximum of 8 people/km<sup>2</sup>, and it was agreed that the support level in area 6 is about FIM 770/person<sup>1)</sup>.

Support according to objective 5 is structural and regional support of agriculture and the rural areas, and this aims at facilitating the adjustment to the changes in the agricultural policy of the EU by either promoting the structural change of agriculture (5a), or by granting support to developing the rural areas (5b). All structural support of agriculture in the EU is directed to development. Through this, improving competitiveness is supported (investment support, bookkeeping, management, training, start support), and compensations are paid for making production more extensive (support to extensive farming, fallowing), or giving up production (early pensions, afforestation). The only exception to this principle is the LFA support, compensating for the disadvantage caused by natural conditions. The main objective of the LFA support is to secure practicing agriculture in certain less favoured areas, and through this to preserve the minimum population and the viability of the

<sup>1)</sup> The target areas of the new objective (objective 6) concerning the sparsely populated areas in the structural funds include the provinces of Lapland, Kainuu, Northern Karelia, and Southern Savo, and the regions of Kuusamo, Ii, Pyhäntä, Nivala, Saarijärvi, Viitasaari, Kaustinen, and Nilsjä. In Finland altogether about 830,000 people live in the areas covered by objective 6.

countryside (KUHMONEN 1992). 25 % of the compensation for the natural disadvantage is paid from the EU fund for directing agriculture, but in areas according to objective 6 the share of the EU is 30-65 %.

The development support of rural areas, i.e. support 5b, is closely linked to the structural support of agriculture. However, this support does not concern the basic agriculture, but the diversification of the activity of farms and other rural industries.

It was agreed on in the negotiations that Finland will receive the average of 340 mill. ecus (about FIM 2 bill.) a year from the structural fund in 1995-1999. In the first year the so-called support 6 will amount to altogether FIM 567 mill., of which the share of the LFA support to the support 6 area is FIM 170 mill. The development support of agriculture (5a) to area 6 amounts to about FIM 80 mill. In other parts of Finland the amount of the structural support of agriculture (5a) is FIM 504 mill., of which the share of the LFA support is 284 mill. In the first year in the EU the structural support of agriculture amounts to altogether FIM 590 mill. in the whole country. Objective 5b, i.e. support to rural areas, is altogether FIM 233 mill.

The horizontal structural and regional support of agriculture can be used within the legislation on the measures and when the preconditions of the stipulations are fulfilled. Thus Finland can decide on the implementation of the support within the framework set by the EU. Only investment support and the programs for making production more extensive are mandatory. This is not the case for the part of the rural support. The condition for receiving the support is that acceptable programs and an adequate national financing share exist. The structural funds system of the EU is based on regional and structural activity on the basis of programs. The objective is that the regions themselves play a central role in the planning of the regional programs and in determining the development needs. Thus, the preparation of the programs starts from the needs, ideas, and suggestions of the Finnish areas. In the last stage, the Commission may decide which of the specifically defined areas fulfill the conditions for the support in question, and whether the development proposals are in line with the needs of the region.



### **III. NATIONAL SUPPORT MEASURES AND ESTIMATES ON THEIR EFFECTS**

#### **5. The national EU support package of agriculture and horticulture**

The national support package is an important part of the adjustment of Finnish agriculture into the EU. It was decided on in connection with the negotiations, and, at the same time, the principles applied in determining the level of the support and the regional distribution were agreed. The support package presented in the following was prepared by the Government. It has not yet been accepted in the Parliament or in the Commission, so that revisions are possible.

The principles and conditions that form the basis for the organization of the national support are determined in the Accession Treaty of Finland. The Accession Treaty makes it necessary to look into the past, because the support may not be linked to future production, but the earlier production of each farm must be taken into account in determining the support. Support may not lead to an increase in the production, and the amount of support may not exceed the overall support level of a preaccession reference period. The support may only be paid on the basis of hectares and animal units, aiming at maintaining existing production. It is differentiated by region, and degressive.

The starting point in preparing the support package was to determine a level of support by means of which the preconditions for the domestic agricultural and horticultural production can be secured. However, the support could not exceed the restrictions set by the state economy. According to the Accession Treaty, the calculation starts from the fact that the income loss due to the decrease in the prices is compensated to producers by means of direct support. The amount of total support has been estimated so that the production is assumed to continue at about the present level in all the main production lines in Finland.

##### **5.1. Foundations for calculating the need for support**

The need for support in agriculture and horticulture consists of the income loss resulting from the decrease in the market prices and abolition of the present national support. The need for compensation has been calculated per product unit and farm for all central production lines. The producer price of 1993, including all support, forms the starting point. The point of reference is the price farmers receive as members of the EU, including all EU support. The possible cost savings have been taken into account in the calculation, and the difference is compensated for through national support.

The support package is mainly constructed on the basis of the farm level, but then it has been aggregated to the total level. The extent of production is decisive in determining the support arrived at in the total calculation, in which the production and input quantities of 1993 are used. The volume of milk production (2,250 mill. l), feed cereals area (660,000 ha), and the base area to arable crops (1.6 mill. ha), in particular, are decisive.

An important factor influencing the necessary amount of support are the account prices paid by the processing sector in the EU. Estimating the average producer price level involves a great deal of uncertainty. E.g. the balance of the production and consumption in Finland and in the EU, the effect of the GATT agreement, and the competitiveness of the domestic processing industry have an impact on the prices, and so does the exchange rate. Strengthening of the Finnish markka increases the difference in the prices and, correspondingly, weakening of the markka reduces it.

Estimating the development of costs in agriculture also involves a great deal of uncertainty. The assumed decrease in the costs is based on a decrease in the prices of certain production factors, and scale benefits resulting from an increase in the farm size, i.e. a decrease in the average labour and capital costs.

There are many other factors that influence the amount of support needed, but that could not be taken into account in the calculation model. These include, among other things, the effect of the changes in the price on the optimal relative use of inputs. The decrease in the prices of purchased feed in relation to the domestic feed is likely to increase their use, and this lowers the production costs. The adjustment of agriculture to the new situation will take a long time. The benefits from the rationalization of production have been taken into account in the calculations to some extent, but the effects will be visible in agriculture only in the long run. Thus the main emphasis in the support package is on the compensation of the income losses due to the changes in the prices. Very drastic changes are not considered desirable in agriculture because of the difficult economic situation.

## **5.2. Need for support at the total level**

Even if the support calculation was first made at the farm level, we start by examining the total need for support. The total calculation presented in Appendix 1 is based on the quantities of 1993, and the prices used at the starting point are also from 1993. The EU calculation is based on the forecast market prices without support from the EU.

For the part of the integration into the EU, the prices of crop products have been derived from the EU administrative prices of the market year 1995/96. It has been assumed in the calculation that the intervention price of the EU (100 ecus/t) would determine the price level of feed cereals, and the prices of wheat and rye could exceed the intervention prices by 10 and 20 %. The future EU prices of livestock products

have been estimated on the basis of the realized development of the market prices, rather than the administrative prices. The price forecasts are based on the average producer prices in Germany and Denmark in 1992, which are assumed to fall by 15-20 % as a result of the CAP reform. The market prices have been converted to Finnish markka using the commercial exchange rate, and in the case of the administrative prices, the green rate has been used. The commercial exchange rate of ecu used is FIM 6.30, and the corresponding green rate FIM 7.60.

The producer price forecasts of the most important products are:

- feed cereals	FIM/kg	0.76
- bread wheat	“	0.84
- bread rye	“	0.91
- turnip rape	“	1.24
- sugar beets	“	0.30
- pigmeat	“	7.56
- eggs	“	6.30
- milk (2,250 mill.l)	FIM/l	2.04
- beef	FIM/kg	15.76
- broiler	“	6.55

The sales return in the market prices will fall from FIM 22.0 bill. to FIM 12.5 bill. The present price policy support (FIM 4.3 bill.) cannot continue in its earlier form, and it will be abolished, too. Thus the decrease in the incomes will amount to altogether FIM 13.8 bill.

Cost savings result from the decrease in the prices of feed and purchased seeds, abolition of the export cost charges, the taxes on feed and fertilizers (i.e. the share of agriculture in the export costs will be abolished), and the hidden sales tax.

The most significant savings in the case of livestock products will result from the decrease in the price of feed by 40 %. On the basis of the total calculation, the feed cost will decrease by FIM 1.7 bill. In the case of the production factors of crop production, the prices of fertilizers and seed are expected to fall. The price level of fertilizers is estimated to decrease by 25 %, because the present kind of taxation of fertilizers is abolished. According to the total calculation, the fertilizer cost will decrease by FIM 400 mill., and the seed cost by FIM 60 mill. from the level of 1993.

The abolition of the marketing charges of agriculture will reduce the need for support by about FIM 0.5 bill.

Finland will shift to a value added tax immediately upon accession, and this means that the hidden sales tax included in the inputs of agriculture (FIM 1-1.3 bill., depending on the calculation method) will be paid by the consumers. Short-term inputs include a sales tax of altogether FIM 0.8 bill, which has been taken into account in the total calculation as a decrease in the costs. The abolition of the hidden sales tax included in the investment expenditure (FIM 0.4 bill.) has been taken into

account as a decrease in the fixed costs.

The decrease in the fixed costs as a result of rationalization and other factors has also been taken into account. In the farm models a certain individual need for adjustment has been left to the farms, and they will have to cope with this through rational structural development. In the total calculation this is included in the reduction of the fixed costs. In addition to the abolition of the hidden sales tax on investments, the fixed costs of agriculture and horticulture will decrease by about FIM 1 bill. in a few years. Thus the fixed costs are assumed to decrease by 27 % by the year 2000.

The decrease in the costs reduces the need for support by altogether FIM 5.1 bill. during the transitional period. This means that the costs of agriculture will decrease by 25 % by the year 2000.

After the transitional period in the year 2000, taking into account the decrease in the incomes and costs, the need for total compensation, i.e. support, is altogether FIM 8.7 bill.

*Table 4. The total calculation of agriculture and horticulture in 1993 and in EU prices without support, FIM bill.*

	Year 1993	EU situation	Change
Sales return	22.0	12.5	-9.5
Price policy support	4.3	0	-4.3
<b>Total return</b>	<b>26.3</b>	<b>12.5</b>	<b>-13.8</b>
Fertilizers	1.7	1.3	-0.4
Feed	3.8	2.1	-1.7
Machinery and implement costs			
- depreciations	3.3	3.0	-0.3
- maintenance	1.0	0.8	-0.2
Building cost			
- depreciations	1.2	1.1	-0.1
- maintenance	0.5	0.4	-0.1
Interest of debts	1.8	1.5	-0.3
Other	6.6	5.9	-0.7
Marketing charges	0.5	0	-0.5
Hidden sales tax		-0.8	-0.8
<b>Total costs</b>	<b>20.3</b>	<b>15.3</b>	<b>-5.1</b>
<b>Farm incomes</b>	<b>5.9</b>	<b>-2.8</b>	<b>-8.7</b>

**CONTENTS OF THE EU SUPPORT PACKAGE OF  
AGRICULTURE AND HORTICULTURE**

<b>Net income loss of farmers</b>	<b>FIM 8.7 bill.</b>	
	<i>Compensation</i>	<i>the share of the EU</i>
<b>CAP reform support</b>	<b>FIM 2.0 bill.</b>	<b>FIM 2.0 bill.</b>
<b>LFA support</b>	<b>FIM 1.5 bill.</b>	<b>FIM 0.5 bill.</b>
<b>Agri-Environmental support</b>	<b>FIM 1.4 bill.</b>	<b>FIM 0.7 bill.</b>
<b>National support</b>	<b>FIM 3.8 bill.</b>	
<b>TOTAL</b>	<b>FIM 8.7 bill.</b>	<b>FIM 3.2 bill.</b>

As a member of the EU, the support to agriculture will consist of two main parts: support that is based on the stipulations of the common agricultural policy, and national support paid from Finnish funds. On the basis of the common agricultural policy of the EU, agriculture will receive CAP reform support about FIM 2.0 bill., the amount of LFA support to Finland is estimated at FIM 1.5 bill., and agri-environmental support FIM 1.7 bill.

Forms of support related to the CAP reform include the compensatory payments to offset the price reduction of cereals, compensation for set-aside, hectare support to oil plants, hectare support to protein plants, compensatory payments to starch potato, special beef premium, and suckler cow premium. Compensation for the unfavourable natural conditions can be paid in areas classified as less favoured (LFA support). According to the negotiation outcome, the so-called mountain support area of the less favoured areas covers about 85 % of the arable land area in Finland, i.e. about 1.95 mill. hectares. The total amount of the LFA support rises to FIM 1.5 bill. However, it is difficult to estimate the total amount of the LFA support, because it is influenced by factors at the farm level.

About FIM 850 mill. will be obtained from the EU for the agri-environmental programs. In addition, Finland will have to contribute to the payment of agri-environmental support by a corresponding amount. The largest share of the agri-environmental support of FIM 1.7 bill, FIM 1.4 bill., will be used for basic support on the basis of the arable land area. This share can be considered income support. The rest of the environmental support, about 300 mill., will be used for the financing of special forms of support. The special support scheme includes additional measures which apply only in designated areas or in some horizontal programs like organic production.

The total of the calculation shows that the shift to the EU price and support level will lead to the need for additional support of about FIM 3.8 bill. after the transitional period in the year 2000. Finland has presented the demand that it would be allowed to pay the FIM 3.8 bill. permanently from the national funds in order to maintain the profitability of agriculture.

### **5.3. Need for support during the transitional period**

After the integration the costs of agriculture decrease after a lag, and not in the same proportion as the market prices. Consequently, in the transitional period, degressive adjustment support is needed to maintain the income level. The immediate decrease of the producer prices requires e.g. compensations for the decrease in the growing stock of animals and cereal stocks.

In the calculation the decrease in the costs is directed to the year during which sales income is obtained from the product in question. When the feed used in the production of chickens and piglets are taken into account, in the case of chickens the decrease in the costs can be taken into account in full only after 2 months, and in the case of pigs only after 8 months. In the case of eggs, the full reduction of the costs occurs after five months at the earliest, in the case of beef after over two years, and in the case of dairy cows after as long as four years. In the total calculation, 1/3 of the annual reduction in the price of feed cereals is directed to the reduction of the feed cost of the respective year, which increases the need for support in the first year after the accession, in particular.

During the transitional period, additional support is also paid to alleviate the lagged adjustment of the capital costs.

The changes made in the value added tax system will affect the tax expenditure of agriculture in full already in the first year. Instead, the effects on the production costs will be slower. At present the sales tax included in the investment expenditure is entered into the undepreciated expenditure balance, which means that the tax affects the production costs through the calculation of the depreciations. In other words, long-term production factors purchased to agriculture that have not been completely depreciated cause a cost burden corresponding to the tax system of the time of purchase and the realized purchase cost also after the change in the tax system.

The need for support in agriculture and horticulture in the first six years is presented in Table 5, i.e., in practice, the total level of support needed on the basis of the assumptions presented above, excluding the structural support and the measures to balance agricultural production. After the decrease in the incomes and costs, the need for total compensation is FIM 11.4 bill. in the first year, and FIM 8.7 bill. after the transitional period.

In addition to the direct support based on the CAP reform, LFA support, and agri-

environmental support paid by the EU, in 1995 about FIM 6.8 bill. and after the transitional period in 2000 about FIM 3.8 bill. will be needed to realize the income compensation to farmers. The additional support is divided into long-term national support and adjustment support for the transitional period.

#### 5.4. The national support system of agriculture

In order to maintain the income level, altogether FIM 11.4 bill. are needed in the first year, and 8.7 bill. in the sixth year. The support consists of EU support and Finnish

*Table 5. Need for income compensation in agriculture and horticulture due to decrease in prices and support, FIM bill.*

	Year					
	1.	2.	3.	4.	5.	6.
Difference in producer price	9.5	9.5	9.5	9.5	9.5	9.5
Price policy support	4.3	4.3	4.3	4.3	4.3	4.3
Decrease in incomes	13.8	13.8	13.8	13.8	13.8	13.8
Decrease in costs						
- feed cost	0.5	1.2	1.5	1.6	1.6	1.6
- fixed costs <sup>1)</sup>	0.3	0.6	0.8	1.0	1.3	1.5
- abolition of export levies and input taxes	1.1	1.2	1.2	1.2	1.2	1.2
- abolition of hidden sales tax	0.5	0.8	0.8	0.8	0.8	0.8
Total	2.4	3.8	4.3	4.6	4.9	5.1
Need for income compensation	11.4	10.0	9.5	9.2	8.9	8.7
- CAP reform support	1.7	2.0	2.0	2.0	2.0	2.0
- LFA support	1.5	1.5	1.5	1.5	1.5	1.5
- Agri-Environmental support <sup>2)</sup>	1.4	1.4	1.4	1.4	1.4	1.4
Difference	6.8	5.1	4.6	4.3	4.0	3.8
National support	3.8	3.8	3.8	3.8	3.8	3.8
Degressive support for immediate adjustment	3.0	1.3	0.8	0.5	0.2	0.0

<sup>1)</sup> in the decrease of the fixed costs, the gradual abolition of the hidden sales tax included in the investments has also been taken into account

<sup>2)</sup> of the agri-environmental support, which amounts to FIM 1,700 mill., FIM 1,400 mill. will be directed to environmental support based on the hectares, and FIM 300 mill. to special measures

national support. Finland has made an attempt to prepare a support system that is within the letter and the spirit of the Accession Treaty. The national support system consists of the following forms of support:

- agri-environmental support of agriculture
- long-term nordic support
- national special support in Southern Finland
- hectarage support to young farmers
- seed production support
- degressive support for the transitional period
- transportation support

The agri-environmental support of agriculture is part of the total support package of agriculture, so that its integration into the other support systems is important. The agri-environmental support system aims at both environmental objectives and at securing the livelihood of farmers. The support is mainly paid on the basis of hectares of arable land to farmers who commit themselves to certain measures that reduce the environmental load of agriculture. Farmers have to make a contract on the management of the environment that restricts the use of fertilizers and pesticides. Southern Finland should receive the highest support, because cultivation is the most intensive in Southern Finland. Also the amounts and regional differentiations of the other areal agricultural support schemes (LFA, national support) are taken into account when differentiating the premiums by regions.

The area of the long-term nordic support covers the area down to the 62nd parallel and some adjacent areas south of this parallel affected by comparable climatic conditions. The support is paid on the basis of the animal units and hectares, as well as in the northernmost areas as price support according to the production quantities. As the support may not be linked to future production, regional maximums have been set to the support on the basis of the number of animals and hectares. This makes structural change possible, as the support is not necessarily directed to individual farms. The level of support has been determined so that it does not lead to an increase in the incomes when examined on the basis of individual products, and the support paid by the EU is included.

The support of the whole livestock and special crop production in Southern Finland is based on the "remaining serious difficulties" mentioned in the Accession Treaty. According to the Treaty, in order to overcome serious difficulties, Finland is authorized to resort to national support measures in agriculture and horticulture, which facilitate the integration into the common agricultural policy. According to a decision in principle by the Government, the examination of the serious difficulties must be made right after the accession, i.e. Finland should not wait for the problems to arise in Southern Finland, in particular, due to the exclusion from the nordic support and LFA support. The support is paid on the basis of the number of animals,



and on the basis of hectares of arable land for special crops.

At present young farmers receive higher hectareage subsidies and support and, consequently, on the average, their income losses will be the greatest. The national additional hectareage support to young farmers paid in the whole country is based on this fact. Support to seed production is paid as long-term support on the basis of kilograms.

The degressive support for the transitional period aims at facilitating the adjustment of agriculture to the EU price level and compensating for those costs that do not decrease as quickly as the prices. At the last stage of the negotiations it was agreed that the duration of the transitional period will be five years. The support is realized either as new support or by reducing the present support at the farm level (hectareage support and subsidies). The support is paid in two different forms. Degressive production support is paid for livestock products and special crops. General support is paid as degressive hectareage subsidies. Thus the overall support consists of the total of the support for the transitional period and the long-term support.

In Finland transportation support has been used to reduce the price differences. This form of support will be continued as part of the nordic support, and partly as general transportation support.

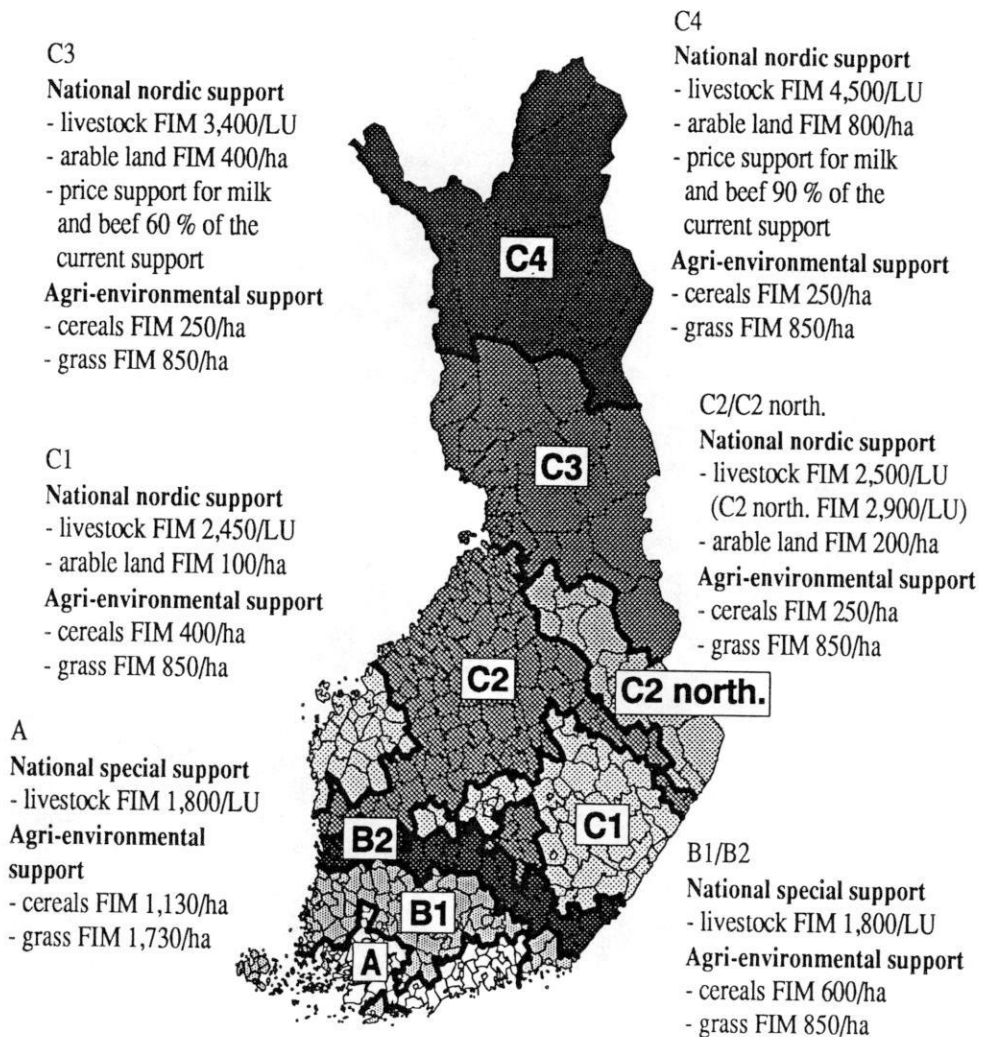
### **Regional distribution of the support**

For directing the support, Finland has been divided into three regions, which follow the earlier regional division according to the area system (see Figure 1). Nordic agricultural support is paid in area C. In order to differentiate the support, the area of the nordic support has been divided into four parts. The northern border of the southern zone of the present hectareage subsidies, which is an established border of the support area, forms the southern border of the nordic support.

The southern border of the nordic support is finally approved by the Commission. Middle Finland (area B) forms the second area, which receives LFA support, but not nordic support. The third area is the 15 % of the arable land area that does not receive LFA support (area A).

By means of the farm models, the support has been distributed regionally so that farmers' incomes should stay at about the present level, or decrease equally in all regions and production lines. It is not possible to prepare a new support system that would not change the level of support to some extent, as will come out in the following examination of the incomes.

The support presented in Figure 1 covers the main parts of the new support system. The national support increases in stages from south to north. In Southern Finland livestock support is FIM 1,800 per animal unit, and in the northern parts of Lapland it is FIM 4,500 per animal unit. In addition, in the northernmost parts of Finland (C3 and C4) production support is paid for milk, as well as for beef and



**Livestock units in areas C1 - C4**

cows and other cattle of more than 2 years of age 1 livestock unit, cattle aged between 6 months to 2 years 0.6, sheep and goats 0.15, sows and boars 0.70, meat pigs 0.23, chickens and turkeys 0.013, broilers 0.0053, young poultry 0.0027, broiler hens 0.026.

**Livestock units in areas A and B**

cows and other cattle of more than 2 years of age 1 livestock unit, cattle aged between 6 months and 2 years 0.6, sheep and goats 0.15, sows and boars 0.90, meat pigs 0.30, chickens and turkeys 0.017, broilers 0.0072, young poultry 0.0036, broiler hens 0.034.

*Figure 1. Support areas and the amounts of support according to the national EU support package of agriculture (corrected version September 30, 1994).*

*Table 6. The cost structure of the long-term national support package.*

Form of support	FIM bill.
Nordic support	
livestock support	2.02
hectarage support	0.24
price support	0.10
National special support to Southern Finland	
livestock support	0.66
special crops support	0.23
Special support to young farmers	0.15
Horticultural support	0.41
Total	3.80

mutton. In the case of support based on hectares the differences are not so great: the support rises from FIM 100/hectare to FIM 800/hectare towards the north.

After the transitional period, the differentiation according to the farm size will be used only in livestock production. In the case of dairy cows the support will be 50 % lower for the part exceeding 30 units. The suckler cow premium paid by the EU is deducted from the national livestock support to suckler cows.

Additional support on the basis of the hectarage is paid for rye, wheat, malt barley, turnip rape, sugar beets, and industrial potatoes, except in the northernmost parts of Finland. This support to special crops is only paid to farms on which the minimum area of crops entitled to special crops support is three hectares.

Table 6 presents the distribution of the long-term national support into the different forms of support. The national support system is presented more in detail in Appendix 2.

### **5.5. Distribution of the financing of the support between Finland and the EU and effects on the state economy**

In addition to the national support, Finland has to participate in the financing of the forms of support paid by the EU. After the transitional period, the total cost of the support package will be about FIM 8.7 bill. annually. The share of the EU of the long-term support is altogether about FIM 3.2 bill., and the share of Finland is FIM 5.5 bill. a year. Table 7 presents the distribution of the financing of the need for support in agriculture and horticulture between Finland and the EU in the first year after the accession and after the transitional period in the year 2000.

*Table 7. Distribution of the financing of the need for support in agriculture and horticulture between Finland and the EU in 1995 and 2000, FIM bill.*

	1995			2000		
	Finland	EU	Total	Finland	EU	Total
CAP-reform support	0	1.7	1.7	0	2.0	2.0
LFA support	1.0	0.5	1.5	1.0	0.5	1.5
Agri-Environmental support	0.7	0.7	1.4	0.7	0.7	1.4
National support	3.8	0	3.8	3.8	0	3.8
Transitional period support	1.9	1.1	3.0	0	0	0
<b>Total</b>	<b>7.4</b>	<b>4.0</b>	<b>11.4</b>	<b>5.5</b>	<b>3.2</b>	<b>8.70</b>

In the budget calculation it has been assumed that the central forms of support in the EU (CAP reform support, LFA support and agri-environmental support) are implemented from the year of Finland's accession. The most important components of the support paid by the EU (in the production quantities of 1993) would be

- compensation for the reduction in cereal prices based on the area FIM 1,300 mill.
- fallowing compensation FIM 300 mill.
- bull meat production premium FIM 230 mill.
- the 30 % share of the LFA support FIM 450 mill. and
- the 50 % share of the agri-environmental support based on the area FIM 700 mill.

In addition, the EU will contribute to the costs caused by the immediate adjustment of the producer prices by the amount of FIM 2.9 bill. in the first five years. Through this support it is possible to cover part of the income losses of farmers and the losses due to the decrease in the value of the stocks. The distribution of the total need for support between Finland and the EU in the first five years is presented in Appendix 3.

The share of the state of Finland consists of the payment shares of the LFA support and agri-environmental support, as well as the long-term national support and the additional need for compensation during the transitional period (Table 7). The amount of the national support during the transitional period would be FIM 1.9 bill. in the first year, and it would be abolished completely after the fifth year. There is some uncertainty related to the agri-environmental support, but in the case of the CAP reform support and LFA support there should be no problems.

The effects of the integration into the EU on the state economy have been

examined in Table 8 by comparing the changes in the state revenue and expenditure after the accession with the state budget of 1994. The support for the price adjustment of agriculture (support in the transitional period and long-term national support) increases the state expenditure considerably, but, correspondingly, reductions are made in the present price and income support. The export support of agricultural products will also be abolished from the state budget, because the export cost charges will be paid from the EU funds.

In 1995 the need for budget support resulting from the adjustment of the domestic agriculture and horticulture is about FIM 8.9 bill. According to the calculation, the state expenditure on agriculture would increase in the first year by FIM 2.4 bill. from the present level. The appropriations for agricultural support and marketing in the budget of 1994 will be sufficient for the need for compensation due to the adjustment in the prices already in 1996. After that, when the cost adjustment in agriculture reduces the need for compensation, the state expenditure will decrease. After the transitional period of five years the need for budget support to agriculture would drop to about FIM 5.9 bill., i.e. in 2000 about FIM 1.2 bill. of domestic budget money would be saved, compared to the year 1994.

According to the calculation, the net expenditure of the food sector would increase from the present level by FIM 4.3 bill. in the first year. The proposed support package

*Table 8. Effects of the integration into the EU on agricultural support in the state budget of Finland: change in net expenditure compared to 1994, FIM bill.*

	1995	1996	2000
Estimated variable amounts			
National agricultural support	8.9	7.2	5.9
Expenditure removed from the budget	-6.4	-6.9	-7.1
- price policy support	-4.3	-4.3	-4.3
- marketing support	-1.8	-1.8	-1.8
- other support	-0.3	-0.8	-1.0
Increase in agricultural expenditure	2.4	0.3	-1.2
+ Additional expenditure due to structural policy	0.3	0.3	0.2
+ Support to food industry	2.7	0.2	0
- Adjustment support from the EU	-1.1	-0.8	0
Change in the net expenditure of the food sector in Finnish budget	4.3	0	-1.0

of FIM 2.7 bill. to the food industry has been taken into account in the estimate. Of this amount, FIM 2.2 bill. will be used for the reduction of the value of the stocks, and the rest for the reduction of the excess capacity, as well as for research and product development.

## **6. Effects of the integration into the EU on the incomes and structure of farms**

### **6.1. Starting point for the examination**

The integration into the EU and the national support settlement have a great impact on the structure of income formation of farms. The changes affect the prices of products and production inputs, as well as the amount of support to farms. The prices the farms obtain for agricultural products decrease quite strongly. At the same time, the amount of direct support per farm increases.

The turnover of farms consists of the total of the production of field crops and livestock production. When the variable costs, which mainly consist of purchased inputs, depreciations and maintenance of machinery, buildings and land improvements, and the share of agriculture in the interest expenditure, are deducted from the turnover, what is left is the result of the agricultural entrepreneur before taxation, i.e. farm income. In the following it will be examined how the integration into the agricultural policy of the EU and the introduction of the new support system affect the agricultural income of farms specialized in different production lines in different parts of Finland.

The examination is based on the bookkeeping data of farms participating in the profitability study of agriculture. The basic data on the returns, costs, and property values of the farms are from the years 1990-1992. The farms included in the study have been classified on the basis of the region and the farm size class.

The price level prevailing at the starting point, i.e. the current price level, is the level of the years 1990-1992. The decrease of the prices to the EU level will occur on the first day after the accession. Estimating the average producer price level after the accession naturally involves a great deal of uncertainty. The estimated producer prices after the integration into the EU are presented in chapter 5.2., pages 27-28.

Estimating the price level of the production inputs of agriculture also involves many uncertain factors. Price reductions from the present level will be the most significant in the case of the following production inputs:

- |                     |      |
|---------------------|------|
| - purchased feed    | 40 % |
| - purchased seeds   | 25 % |
| - purchasing cattle | 20 % |

- price of piglets	46 %
- price of chickens	38 %
- fertilizers	25 %

In connection with the integration, Finland will shift to a value added tax system, which means that the value added tax included in production inputs paid by producers will be paid by consumers, and the costs will decrease correspondingly. The share of the hidden sales tax in the present value of production in different production lines has been estimated to be as follows:

- milk production	5 %
- beef production	6 %
- pigmeat production	4 %
- egg production	5 %
- cereal production	8 %

There are many other factors influencing the decrease in the costs, as has been noted earlier.

## **6.2. EU support to farms**

Agricultural support consists of two main parts: support paid on the basis of the stipulations of the common agricultural policy, and national support paid from Finland's own funds. The central forms of support of the EU will be implemented in Finland from the year of accession. From the viewpoint of the producers, the possible forms of support according to the agricultural policy of the EU are the compensation for the reduction in cereal prices, fallowing compensation, and the mountain support of the LFA support. In addition, on beef producing farms it is possible to obtain suckler cow premiums and bull meat production premiums.

### *Compensation for the reduction in cereal prices*

This form of support is related to the reform of the common agricultural policy of the EU (CAP reform). In 1992 it was decided in the EU that by the crop season 1995/96 the market price of cereals would be lowered to 100 ecus/t (FIM 0.76/kg). The income loss to cereal producers will be compensated by direct support on the basis of the area. The amount of the hectare support is determined on the basis of the average yield of the region. The average yield is calculated as an average of the crop years 1986/87 and 1990/91 so that the best and the worst year are left out. The average yield of about 3 tons in Finland makes it possible to obtain hectare support of over FIM 1,000, or, correspondingly, a fallowing compensation of about FIM

1,300. The compensation for the reduction in cereal prices is paid to all farms on the basis of the area under cereals and oil plants. Compensation is not paid for grass area.

#### *Hectarage support to oil plants*

Due to the pressures for change caused by the GATT, in EU oil seed production the support paid through the oil pressing plants has been replaced by hectarage support paid directly to farmers. Hectarage support to oil plants is calculated on the basis of the reference price of the world market and the EU so that the objective is hectarage support of 359 ecus at the average yield level of the EU. The amount of hectarage support paid to farmers is determined on the basis of the relation between the average yield of the region and the average yield level of the EU. The point of reference may be the yield level of either oil plants or cereals. In the EU the average yield of cereals is 4.6 tn/ha and that of oil plants 2.36 tn/ha.

#### *Hectarage support to protein plants*

The amount of hectarage support to protein plants (e.g. beans, peas) is 65 ecus/tn (FIM 490) x the average yield of cereals. The average yield level of the region is determined in the same way as in calculating the compensation for the reduction in cereal prices.

#### *Suckler cow premium*

Beef producers of the EU receive two kinds of subsidies on the basis of the number of animals: suckler cow premium and a special beef premium. Suckler cow premiums are paid to farms that produce beef only, or less than 120,000 litres milk a year. In 1995 the amount of the premium will be 120 ecus/suckler cow (FIM 910). In addition, a national premium amounting to 25 ecus/suckler cow (FIM 190) may be paid. 20 ecus of this additional premium can be paid from the EU funds in objective 1 and objective 6 areas of the regional distribution of the structural policy of the EU.

#### *Special beef premium*

Since 1986 a production premium for male bovine animals has been paid in the EU states in which the calf or slaughtering premiums have not been applied. In 1995 the premium will be 90 ecus (FIM 680) per head. This is paid to farms for the first 90 animals twice during their lifetime, at the age of 10 and 22 months.



### *Premium for extensive production*

In order to encourage the use of ecologically beneficial production methods, both the special beef premium and the suckler cow premium may be raised by 30 ecus (FIM 230) per animal when the number of animals is under 1.4 livestock units per hectare of forage area.

### *LFA support to less favoured areas*

In mountain areas classified as unfavourable, compensation for the natural disadvantage is paid on the basis of animal units or hectares. According to the negotiation outcome, the so-called mountain support area of the LFA support covers about 85 % of the arable land area in Finland, i.e. about 1.95 mill. hectares. The amount of the support is 121.5 ecus (FIM 920) per cattle unit or hectare of arable land. On cattle and sheep farms the support is mainly paid on the basis of the livestock units. On pig, poultry and cereal farms the support may be paid on the basis of the area only. The support is paid for the maximum of 120 units, and after the first 60 units the support is halved.

### *National support*

In addition to the EU support, farms receive national support to maintain the income level. The national EU support system of Finnish agriculture consists of the following forms of support (see the map on the support regions p. 35 and Appendix 2):

- long-term nordic support
- national special support to Southern Finland
- agri-environmental programs
- hectarage support to young farmers
- degressive transitional support

## **6.3. Income changes according to the region and production line**

### **6.3.1. Milk production**

In 1992 there were almost 38,000 dairy farms in Finland. Almost 40 % of these, i.e. 15,000, had under 10 cows. 10,500 farms, i.e. 28 % of the farms, had over 15 dairy cows. There were under 400 farms with over 30 dairy cows. The production is quite evenly distributed to all parts of the country.

The decrease of the prices of agricultural products and production inputs to the

EU level would lead to a considerable decrease in the return of dairy farms from the producer prices. This comes out in the calculations made on the basis of the bookkeeping data, in which the farm income reached on specialized dairy farms at present, as well as the effect of the shift to the EU producer and input price level have been examined (KOLA et al. 1992, HIIVA 1994). The changes in e.g. the farm structure, production quantities, and the use of inputs have not been taken into account in the calculations

The effects of the shift to the EU price and support level on farm income vary according to the region. Farm income calculated without the national support decreases on dairy farms by 35-50 % of the present level. The shift to the EU prices would lower the income level of the dairy farms in Northern Finland and Lapland the most. The common price level would imply, through the decrease in the price support, the biggest drop in the producer prices in the north. For example, the annual agricultural income of farms with 15 cows in 1990-92 was FIM 138,000 in Northern Finland, and it would drop to FIM 71,000. In Southern Finland the corresponding drop would be from FIM 122,000 to 72,000.

However, as a result of the national support package prepared by the Government, the income level of the producers will stay at about the present level, except for the slight decreases in the price and support levels (see Figure 2 and Appendix 4).

Even if the support package, on the average, compensates quite well for the income losses of dairy farms, there is a lot of variation between farms. The planned support system affects the different kinds of dairy farms in very different ways. The support system has been constructed on the basis of average production quantities. This means, in practice, that farms with high yields that have strived to make their production more efficient will not receive as much support as farms whose production remains below the average. The result of an inefficient farm may actually improve, whereas on an efficient farm the result may at the same time decrease.

If, for example, the yield level of a dairy farm exceeds clearly the average of the region, the planned support will not cover the real income losses. Correspondingly, if the milk producer has received higher hectare subsidies than the average due to the low income level with respect to the farm size, the support will not compensate for the income losses.

When estimating the competitiveness of Finnish milk production from the viewpoint of the integration, it would be necessary to calculate the effects of the price changes on the relative optimal use of the different production inputs. For example, the decrease in the price of cereals and the availability of cheap imported protein feed may cause the production of feed cereals on dairy farms to become unprofitable, i.e. it is more profitable to buy feed from outside the farm. In the long run the share of the cheaper industrial feed of the feed units may also increase at the cost of the silage produced on the farm, if the production costs of silage cannot be reduced.

When estimating the consequences of the changes in the price of feed at the farm level, a distinction should be made between the long-term and short-term adjustment.

In the short run an ordinary dairy farm benefits very little from the reduction of the price of cereals, because certain fixed investments and production inputs already exist on the farm. Factors at the farm level, like labour force and existing machinery and buildings, play a central role in the organization of the production in the short run. In the short run it is profitable for the farm to continue feed cereal production, as long as the variable costs (FIM/f.u.) remain below the price the farms pay for purchased cereals. In the long run all farms on which the long-term production cost level becomes higher than the market price of feed cereals will stop producing their own feed cereals.

The support settlement will not speed up the structural change in dairy production. The high support per animal unit is problematic for the structural development, because it is capitalized quite directly in the price of the milk quota. The structural change is likely to continue at about the same pace as so far. However, if an attempt is made to develop dairy husbandry to make it more profitable, it can be estimated that, roughly speaking, at the present EU prices a profitable dairy farm should have the minimum of 25-30 dairy cow units. If the development of the profitability within the EU is taken into account, the production units should be even larger after a certain adjustment period. In Denmark, for example, production units with over 100 cows

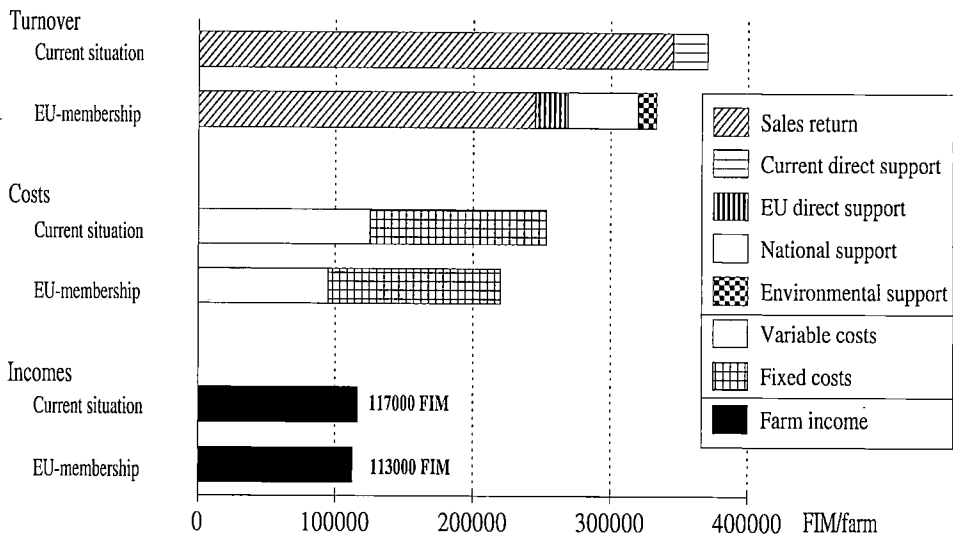


Figure 2. The present level of farm income and farm income including the support according to the EU negotiation outcome and national support package on bookkeeping farms specialized in milk production (13 dairy cows + 20 ha arable land) in Middle Finland, support region C2.

have been set as the target. However, the increase of the production units would require financing. As the planned support system keeps the prices of milk quotas high, the possibilities of farms to finance the expansion of farms themselves are not very good, when the producer prices decrease. Special support measures of the structural policy would be needed to promote the structural development.

The possibilities for structural development are good. It can be calculated that 14,300 farms with the average of 20 cows and the average yield of 7,000 liters would be enough to produce 2 billion litres milk. In 1992 there were about 38,000 farms that delivered milk to dairies in Finland, but only 3,400 farms, i.e. 7 %, had 20 cows or more. The average size of dairy farms of 11 cows in Finland is smaller than in Germany, where the average number of cows is 16, and in Denmark with the average of 33 cows per farm. Dairy farms with over 20 cows account for about a fifth of Finnish milk production, when in Germany the corresponding share is 60 % and in Denmark almost 90 %.

### **6.3.2. Beef production**

In 1992 there were 11,872 farms that practiced other forms of cattle production than milk production as their main production line. Beef cattle was raised on 10,750 of these farms. At present there are a lot of beef producing farms in Southern Ostrobothnia and Central Finland.

In both Finland and the EU beef is largely a side-product of milk production. Only a quarter of the production comes from specialized beef producing farms. Thus the beef sector is very much dependent on the profitability of milk production and the systems regulating it. If the quantity of milk Finland is able to produce stays at a level that corresponds to the present situation, the calf reserve would also stay at about the present level.

In the case of beef the producer price relation between Finland and the EU is more unprofitable than in the case of milk, because in the nordic EU countries the producer prices are about half of the Finnish producer prices. Despite the decrease of the feed costs, the possibilities of Finnish producers to compete with the cheap imported meat are very limited. In the EU producer prices it would be very difficult to cover the variable costs on Finnish beef cattle farms, even if the prices of production inputs would drop to the general European level. Profitability is quite weak in beef production. This concerns, in particular, the so-called suckler cow production. In the long run the producers would not be able to continue their production without support, because it is necessary to obtain a full compensation for both variable and fixed costs in the long run.

The present forms of support applied in the EU do not alleviate the cost and adjustment problems of Finnish beef production in the short run. For the part of their compensation effects, the EU support has been based on the price and cost level of

the EU. The kind of production support system used in Finland to equalize income disparities between different regions is not applied in the EU. However, the national EU support package will guarantee the specialized beef producers the possibility of achieving about the same income level as at present.

### 6.3.3. Pigmeat production

In 1992 there were altogether about 10,000 farms with pigs in Finland. Piglet production was the main production line on about 3,300 farms, the number of combination farms was about 1,000, and about 2,800 farms specialized in pigmeat production. At the moment the pig farms are mainly located in the rural districts of Turku and Southern Ostrobothnia.

The decrease in the prices of the products and the most important production inputs to the EU level would cause a drastic decrease in the incomes of pig farms. This would be the case in spite of the fact that the cost savings based on the calculatory assumptions would be considerable. In pig production the variable costs might drop as much as about 40 % from the present level.

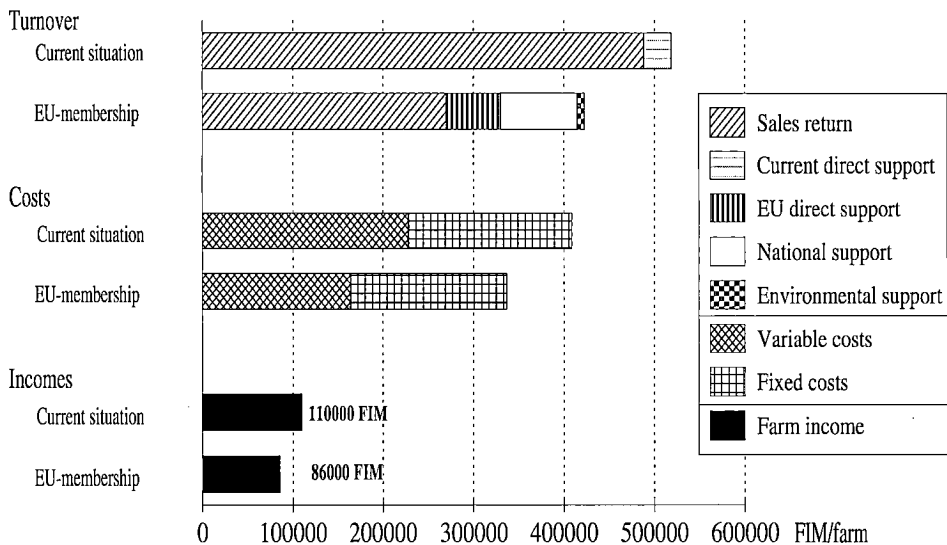


Figure 3. The present level of farm income and the farm income including the support according to the negotiation outcome and national support package on bookkeeping farms specialized in pigmeat production (22 sows + 74 pig places) in Southern Finland, support region B.

The lower prices are adequate to cover the variable costs in all production lines. However, the new economic environment would lead to considerably smaller unit margins, compared to the present situation. Thus it is essential to save on the fixed capital and labour costs by increasing the farm size in order to secure the possibilities of the farms to continue the production. This can be seen in the analysis carried out on the basis of the bookkeeping data.

The economic result of the bookkeeping farms specialized in pig production in Southern Finland was good in 1990-92. For example, on combination farms of the average size (22 sows and 74 pig places) the average farm income was FIM 110,000. In EU prices, including the support, the average annual farm income would be FIM 1,000. Without national support, the membership in the EU would lead to an immediate liquidity crisis on a few farms with the highest debts (NIEMI & MARTTILA 1992).

As a result of the national support package, the income level of pigmeat producers will stay almost at the present level (Figure 3). In the different production lines the income losses vary between 15 and 40 % (Appendix 4). However, the new support system will cause problems at the farm level, even if the income losses are compensated for. A situation in which the income obtained through the producer prices is barely adequate to cover the variable costs may lead to lack of motivation. For example, on combination pig farms of the average size (22 sows, 74 pig places) the share of direct support of the farm income rises to 100 %.

The competitiveness of pig farms in the EU prices and support, without any national support, would seem quite weak. It seems obvious that there is a need to increase the unit size and for financing support to farms in order to make Finnish pig production competitive in the long run. It can be estimated that, roughly, a profitable piglet producing farm should have 50-100 sow units, and a pigmeat farm the minimum of about 500 pig places. In Denmark, for example, piglet producing units with over 200 sows have been set as the target.

With respect to the structural development, it can be calculated that about 4,000 full-time pig farms, with the average of either 50 sows or 500 pig places, would be enough to produce 170 mill. kg pigmeat. In 1992 there were about 7,100 farms with pig production as the main production line in Finland. Piglet production was the main production line on about 3,300 farms, and about 1,000 farms were combination farms, but only about 300 of these farms had 50 sows or more. Pigmeat production was the main production line on 2,800 farms, but only about 100 farms had 500 pig places or more. Farms with over 500 pig places produced about 13 % of the pigmeat.

#### **6.3.4. Egg production**

In 1992 there were almost 15,000 farms with hens or chickens in Finland. A little over 2,200 of these specialized in egg production, which is for the most part located in

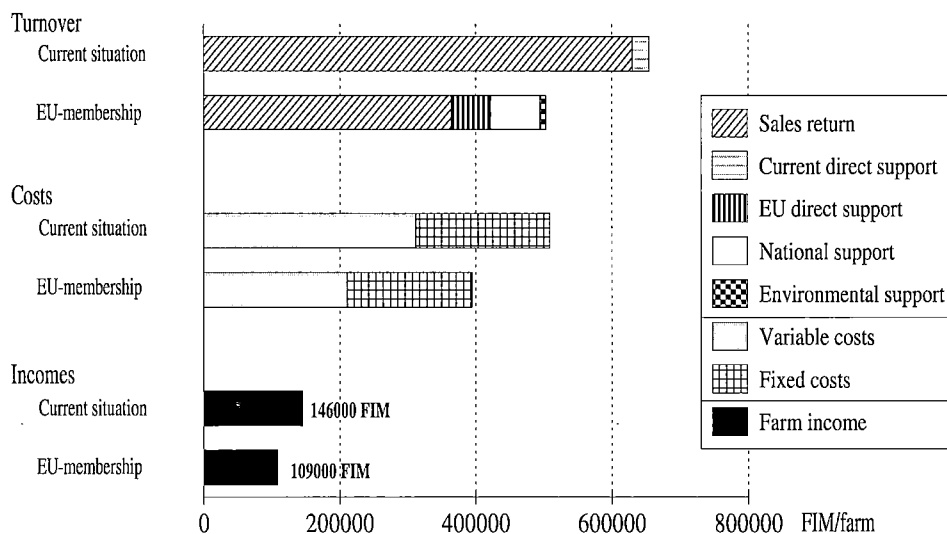


Figure 4. The present level of farm income and the farm income including the support according to the EU negotiation outcome and national support package on bookkeeping farms specialized in egg production (2,290 hens + 29 ha arable land) in Southern Finland, support region B.

Southwestern Finland and some parts of Ostrobothnia.

The profitability of egg production in EU prices is similar to that of pigmeat, although the difference in the prices between Finland and the EU is a little smaller than in the case of pigmeat. Without any national support the calculated farm income on bookkeeping farms specialized in egg production will decrease by about 70-75 % of the present level. However, as a result of the national support package, the income level will stay close to the present level (Figure 4 and Appendix 4).

### 6.3.5. Cereal production

In 1992 the arable land area was altogether 2,500,000 hectares, of which 1,630,000 hectares were cultivated. The arable land area of crop producing farms specialized in the cultivation of cereals was about 680,000 hectares, and of other farms specialized in crop production 120,000 hectares, i.e. altogether 800,000 hectares. The area under cultivation on farms specialized in milk and cattle production was about 850,000 hectares. Calculated on the basis of the average yields, in 1992 the farms specialized in the cultivation of cereals produced altogether 1,400 mill. kg cereals, which is about 50 % of the total crop.

In 1992 there were about 35,200 farms on which cereal production was the main production line, and about 4,700 farms practiced special crop production (potato, oil seed, starch plants, malting barley) as the main production line, i.e. altogether 39,900 farms. About 35 % of the cereal producing farms had less than 10 hectares, and 66 % had less than 20 hectares. Only about 2,800 farms, i.e. 7 % of the cereal producing farms, had over 50 hectares, and the number of farms with over 100 hectares was about 300, i.e. less than one percentage of all cereal producing farms.

Without the national support the effects of the shift to the EU price and support level would be particularly dramatic on these about 40,000 Finnish farms specializing in crop production. It would lead to a severe income and profitability crisis (KOLA et al. 1991). This is caused by the fact that a lot smaller cost savings can be achieved in the variable costs of cereal production than in the case of livestock production, using the input prices of the EU in the estimates. For example, in cereal production there is no cost share corresponding to the feed cost in livestock production, the share of which is considerable, and in which a shift to a much lower level would occur. Thus no rapid and drastic changes would occur in the cost level as a result of the membership in the EU. Calculated in the EU prices, there would be hardly any farm income even on large farms (over 50 ha) in the best production areas

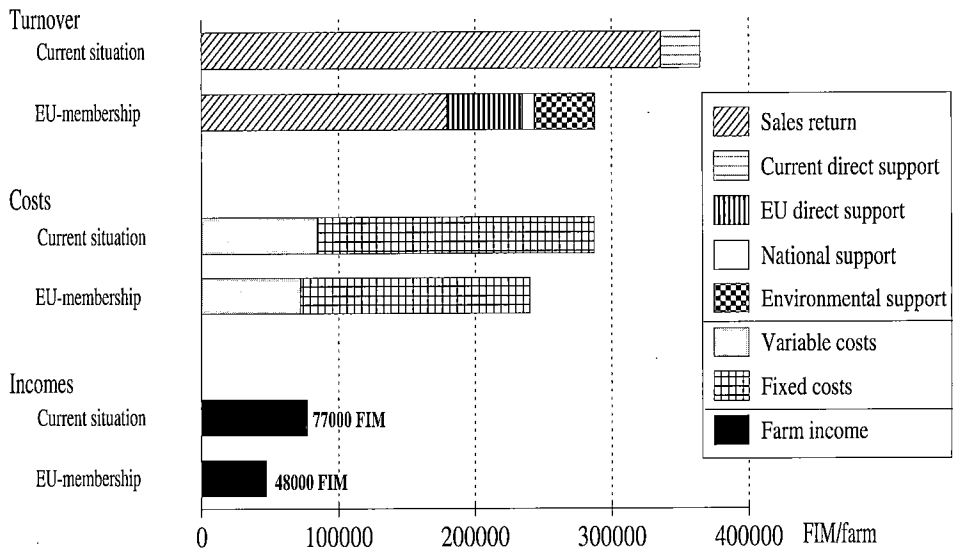


Figure 5. The present level of farm income and the farm income including the support according to the EU negotiation outcome and national support package on bookkeeping farms specialized in cereal production (39 ha arable land per farm) in Southern Finland, support region A.



in Finland (KETTUNEN & MARTTILA 1992).

The planned national support system affects the different kinds of cereal producing farms in very different ways. In the calculation made on the basis of the bookkeeping data, the average income losses of cereal producing farms are 40-50 % (see Figure 5). However, there is a great deal of variation between different regions and individual farms. The income loss of cereal producing farms varied by about 40 percentage points between regions. If the yield level and the gross margin per hectare of a cereal producing farm clearly exceed the average level in Finland, the planned support will not cover the real income losses. Correspondingly, if the gross margins per hectare have been clearly below the average, the new support system may in some cases even improve the result.

Because the prices are lowered to a level that does not correspond to the present production costs, the dependence of cereal producing farms on direct support will increase considerably. For example, on farms with over 40 hectares in Southern Finland the share of support in the farm income will rise to over 100 %.

As the support system is based on direct support, the possibility that the support will become capitalized in the price of land is quite evident. Support that is based on hectares will also raise the rents on the land. Thus the support settlement will not speed up the structural change in cereal production. Actually, the structural change can be expected to slow down as a result of the support settlement.

At the EU price and support level cereal production would in the long run be possible only on very large farms with a very good financial position that are located in the best regions. In practice, the precondition for profitability would be reaching average yields of almost four tons, and the fall of the capital costs clearly below FIM 1,500 per hectare. The cultivated area should be the minimum of 100-150 hectares, and the debts should be quite small (KOLA et al. 1991). In this case the financing of investments would be the restricting factor. Financing through income weakens considerably if the producer price level becomes lower, and investment will become expensive, even if the price of land would decrease clearly. In this case, too, in order for the farms to earn any income, subsidiary income from e.g. forestry or side-line industries is needed.

### **6.3.6. Sugar beets**

In the negotiations Finland got a sugar quota that corresponds quite closely to the present production. Without national support measures, the basic price of sugar beets produced within the quota to the contract farmers would be about FIM 0.30/kg, i.e. about 25 % less than the present average price. At the present cost and yield levels the EU price would cover only the labour cost and other variable costs. However, the decrease of the use of labour needed for the production to the level in Denmark and lowering of the capital costs (e.g. the price of land) may already make

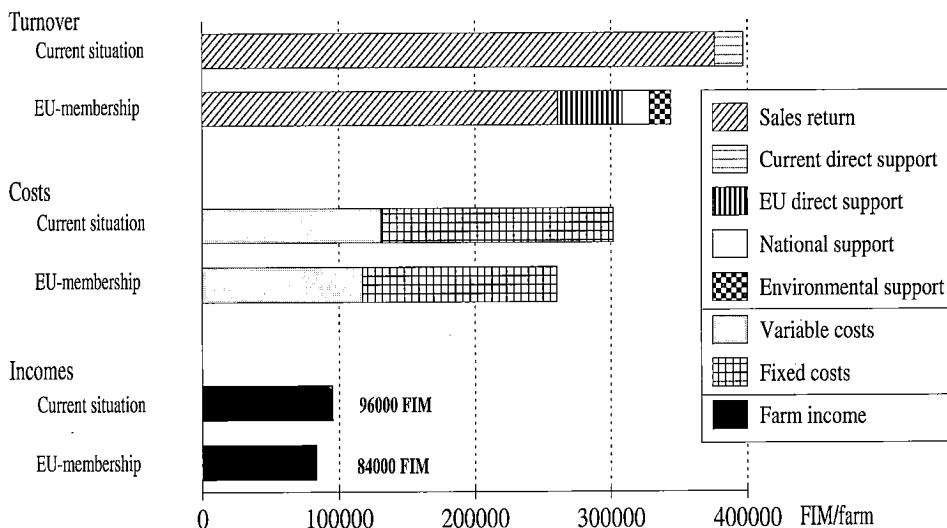


Figure 6. The present level of farm income and the farm income including the support according to the EU negotiation outcome on bookkeeping farms specialized in sugar beet production (30 ha arable land, of which 10 ha sugar beet) in Southern Finland, support region B.

it possible to continue production on large farms located in the best production regions. Securing domestic sugar production would, however, also require competitiveness of the processing sector in the European market.

### 6.3.7. Potatoes

The price formation of potatoes that go directly to the market is quite free in both the Finnish and the EU markets. A characteristic feature to the markets has been that the prices have varied a great deal from one year to another. The effects of the membership in the EU on the production of potatoes would mainly depend on the willingness to import potatoes. However, in the future, too, knowing and taking advantage of the local needs and demand will still be central.

Membership in the EU would cause greater adjustment pressures on farms producing potatoes for the processing industry. It would be possible for the food industry to purchase their potato raw material with the best price-quality ratio from the common European market. The situation is similar in the case of industry using potato starch, for which the production support of the EU would guarantee the possibility to obtain starch for the world market price in the future, too.

## **IV. EFFECT ON FOOD ECONOMY**

### **7. Effect on agriculture and food industry**

#### **7.1. Agriculture**

After the decision to apply for the membership in the EU, various kinds of calculations have been made on the effects of the integration on Finnish agriculture. The results have varied a great deal, which is mainly caused by the lack of data on the support and price level. On market prices only, the future of Finnish agriculture would be very difficult. Production costs are high due to the natural conditions, especially in crop production. Despite the abundant use of production inputs, the yield level remains below the average of the EU. The poor productivity in the cultivation of crops also affects livestock production, despite the fact that it can resort to cheap imported feed.

The decision on the national support package - although its final approval in the EU Commission is still open - has improved the basis for quantitative estimates on the future of agriculture. However, the estimates still involve one major difficulty. Farmers are facing a completely new situation. The total support to agriculture (market prices plus support not tied to production) is almost as great as earlier, but a farmer receives half of his turnover independent of the quantity of production. How will he react in this situation? Does he make his production decisions on the basis of the market prices or total support? Theoretically, the decision is based on the market prices, but a farmer may still use the earlier decision procedure, which was based on higher prices and lower support.

#### **The maximum limits of production**

In practice, the Accession Treaty sets the maximum limits to agricultural production. The arable land area according to the CAP reform is tied to 1.6 mill. hectares. Larger cereal cultivation area is not profitable, because it would not be entitled to the compensation for the price reduction or the national support. Due to fallowing, the current arable land area is smaller than 1.6 mill. hectares. According to EU stipulations, 15 % of the arable land area must be left fallow, if the production exceeds 92 tons. In the Finnish conditions the farm size must be about 30 hectares before this limit is reached. It is estimated that in EU Finland only about 5 % of the arable land area, i.e. about 90,000 hectares must be left fallow, when the area under fallow has been close 500,000 hectares. How much farmers will otherwise leave fallow in the EU is still open.

The Accession Treaty determines the maximum area for the cultivation of cereals, but because of fallowing this is larger than the present area.

The milk production quota is equal to the production of 1992. The SLOM-quota of farmers who have made contracts to reduce production is 200 mill. litres. Part of this may return to production. Thus the maximum limit for milk production is a little higher than the present production.

Beef production is tied to milk production, which cannot be increased. There is very little actual beef cattle, and even if the suckler cow premium allows a slight increase in the production, its effect is small. In practice, the bull premium quota ties beef production to the present level.

In practice, the maximum limits for pigmeat and egg production are set at the present level in the Accession Treaty. The national support to farms is determined on the basis of the present number of animals and area. The structure can be altered during the transitional period, but the total support is limited. Thus there are no possibilities to increase pigmeat and egg production.

### **Development of agricultural production in the near future**

The quotas set in the Accession Treaty allow a slight increase from the present level in agricultural production. On the other hand, the decrease in the total support reduces the production to some extent. The elasticity of the supply with respect to prices is usually low, perhaps about 0.3, and on the basis of this it can be estimated roughly that the decrease in the production will remain quite small. When, on the other hand, part of the restrictions on production will be abolished, the total production can be expected to stay at about the earlier level, at least during the transitional period.

In theory, farmers should use production inputs so that the cost of the use of the last production input is equal to the increase in the return. Decrease in the prices usually results in a decrease in the optimal use of inputs. For example, the price of cereals will fall from FIM 1.78/kg to about FIM 0.80/kg. Simultaneously, fertilizer prices will decrease by about 30 %. As a result of this, the intensity of fertilization should be lowered to some extent, which results in a decrease in the yield level. Yield level functions concerning the whole country are not available, so that it is not possible to estimate the extent of the reduction in the yield level, but it should be only a few percentage points. The effect is not very big, but it is significant in terms of the environmental policy, because the use of fertilizers decreases.

The CAP reform support is a new issue to Finnish farmers. It is difficult to estimate its impact at this stage, as there are other, more significant factors. In Finland the average yields are about 3.0 tons/hectare, so that the CAP reform support will remain small compared to the support farmers receive in Central Europe, which has aroused a lot of criticism. The CAP reform is likely to reduce the intensity of farming.

As the fallowing required in the CAP reform remains quite small, the area under cereals may increase from the level of the past couple of years. Thus, even if the

intensity of farming will decrease, cereal production is likely to increase from the present level, but not to any significant extent.

Like in the case of cereal production, it is also difficult to estimate the development of livestock production. The market prices will decrease, but the prices of production inputs will also fall. On the other hand, direct support will increase, so that it is difficult to estimate the reactions of farmers. In principle, the production decisions should be based on prices.

The producer price of milk decrease by 30 %. The effect of the prices of inputs reach the producers in many different ways. Some producers use only domestic feed, the prices of which will not be affected very much as a result of the integration. According to studies, the price elasticity of the supply is low (about 0.3). Elasticities with respect to the prices of production inputs are a little higher, so that, according to this estimate, no major changes should occur in the intensity of milk production as a whole. In the long run, feeding may be based on purchased feed to an increasing extent, and this may result in a return of the efficiency of production to the earlier level. This is the case in beef production, too. It seems likely that no very significant changes will occur in the production of milk and beef during the transitional period.

The market prices of pigmeat and eggs will decrease strongly, but the prices of feed will drop in the same proportion. Consequently, no great changes should occur in the intensity of production. However, the profitability of the production will deteriorate, especially on farms that have used domestic feed.

The profitability of agricultural production will decrease in almost all sectors of agriculture and in all production lines. In a normal economic situation this would lead to a decrease in the production. However, the employment situation of the national economy is so poor that a shift from agriculture to other jobs is not possible. The only way to earn a living is to continue practicing agriculture, which is economically possible in spite of the decrease in the support. The income level may decrease slightly, but not so much that it would make it impossible to continue production. Bankruptcies of farm enterprises occur all the time, but less than in other sectors. This will be the case after the integration, too, but not much increase is expected.

Continuation of the production is usually possible, even if new investments cannot be made. This situation can go on for 5-10 years, depending on the farm. Purchasing new machinery will be the first decisive factor that determines whether continuation of the production is possible or not. The transfer of a farm to a descendant is also a critical phase for the future of the farm. In this connection, financing is needed to purchase the farm, and large investments in e.g. buildings are also necessary. If the continuation of the farm does not seem possible in the long run, the production is discontinued. However, the arable land may be transferred to another holding, so that the arable land capacity of the whole agriculture does not decrease.

## **Effect on the different production lines**

The support package has been prepared so that it will not change the profitability in different ways in the different production lines. However, the farm calculations presented above indicate that the incomes will decrease the most in cereal production. This is problematic, because cereal production, which suffers the most from the decrease in the profitability, is located in the best production areas. A shift from cereals to other products is not possible due to the quotas for livestock production, which means that farms have to continue producing cereals, or remain out of production. On the other hand, the main production area of our most competitive production line, milk production, in Central Finland has become the most competitive also domestically. Thus, it is to be expected that, in the short run, no major changes will occur in the structures of production. The Accession Treaty restricts the expansion of e.g. milk and meat production. For this part, production can only be continued in its earlier extent.

## **Options for the structural development of agriculture**

Forecasting the structural development of agriculture involves many uncertain factors. Yet, estimates on the development trends are largely uniform: the number of production units will decrease, the average size will grow, and the labour input needed in agriculture will decrease. The structural adjustment of agriculture to the membership in the EU is largely determined on the basis of the present structure and its development possibilities, requirements, and restrictions. The starting points in Finland with respect to the structure of agriculture are very different from those of the present member countries. The average farm size is small, distances between farms are great, and increasing the farm size is physically more difficult than in Central Europe.

One essential factor affecting the structural change is the age structure of farmers. The labour force of agriculture is mostly quite aged, compared to other sectors. The largest age group is 40-45-year-olds. On 40 % of farms owned by private persons the owner is over 55 years old. Almost every fifth farm is owned by a pensioner. The concentration of the distribution of the farm population to the oldest age groups is caused by the fact that in recent years few people have entered this profession, and the younger generation has looked for jobs in other sectors. This trend is estimated to strengthen, i.e. the number of people engaged in agriculture will continue to decrease long after 1995.

In the future, too, the development of the structure of agriculture will be closely connected to the price and support policy of agriculture, as well as to the common regional policy. The high support per livestock unit and hectare are problematic with respect to the structural development, because direct support becomes capitalized into the prices of production factors quite directly. Support based on the area will also

raise the rents on land. Thus the support settlement will not speed up the structural change in agriculture.

As members of the EU, the farm structure will depend, in particular, on the decisions of farmers. In terms of the development options of the structure, the farms can be roughly divided into three classes: 1) basic agricultural enterprises capable of profitable activity, 2) uncompetitive farms, and 3) farms engaged in diversified rural industries.

The level of the total production in Finnish agriculture is largely dependent on the production of competitive and cost efficient farms. These farms invest and expand their production, and make it more efficient.

Increasing the unit size to the level made possible by technological development involves problems of its own. Strong increase in the production capital increases the costs of managing the capital, and decrease in own financing leads to growth in the degree of indebtedness. As the planned support system keeps the prices of production factors high, the possibilities of farms for own financing to expand the farm are not very good, when the producer prices decrease. Specific measures of the structural policy would be required to promote structural development.

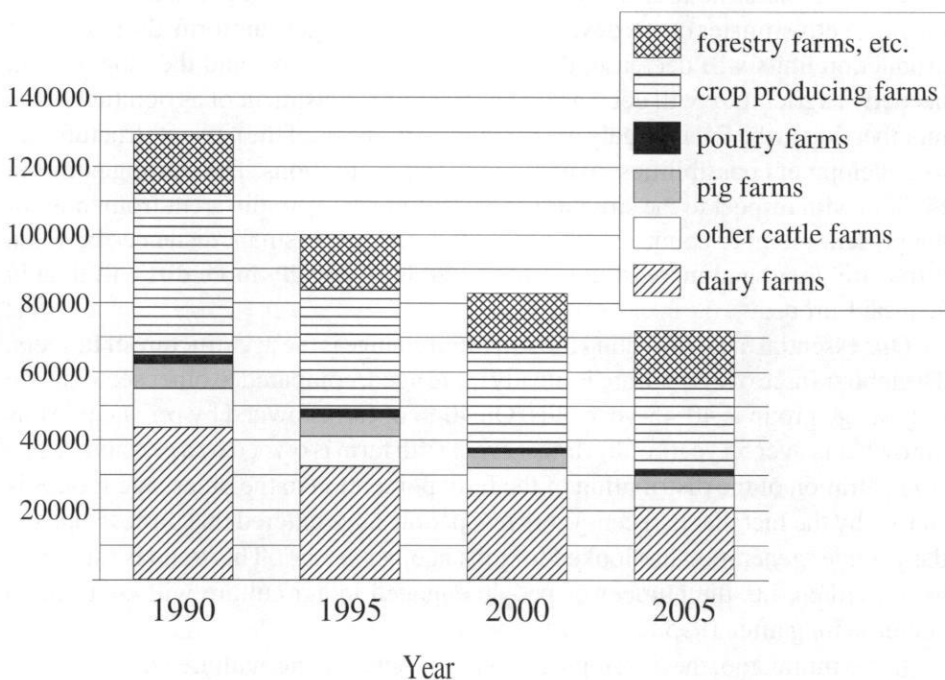


Figure 7. Development of the number of farms in different production lines in 1990-2005.

Farms that do not meet the preconditions to continue production in the long run are quite small, remote, owned by elderly farmers, and without any potential continuators. However, they have very little debts, so that they may continue in production for quite a long time. The possibilities for structural development are weak on these farms, and the main emphasis in the activity is probably the need for new investments.

Besides specialization and the growth of the size of the enterprise, another option is to continue agricultural production in a relatively small scale on either subsidiary income or part-time farms, in which case the income from agriculture is supplemented through income from other sources. The farms strive to diversify their activity to new industries and forms of production, which have demand locally, nationally, or even internationally.

Figure 7 presents an estimate on the development of the number of farms at the total level and in the different production lines, when the EU negotiation outcome and the national support package are realized. The estimate aims at presenting a basic scenario with the present farm structure as the starting point. For the part of the main commodities, the total production of agriculture is assumed to decrease by about 15 % from the present level by the year 2005. In outlining the basic scenario, the conditions of the existing farms (size and age structure) were examined, and the need for expansion of farms in order to reach the present level of labour and capital income in the EU was estimated quite schematically. According to the basic scenario, dairy farms have the average of 20 cows, pig farms about 300 pigs or 50 sows, chicken farms 600 chickens, and cereal farms the average of 50 hectares arable land in 2005. The number of farms resulting from this has been calculated and estimated on the basis of assumptions and limitations. If the production quantities of the main quantities, except for milk (100 %) were 90 % of the domestic consumption, in the basic scenario the number of farms would be 72,000 in 2005. This would include 20,800 dairy farms, 5,500 other cattle farms, 3,600 pig farms, 1,300 poultry farms, and 40,000 other farms. Thus, about 35,000 farms would be removed from production in 10 years.

## **7.2. Food industry**

If agricultural production decreases as a result of the integration into the EU, this will also cause considerable adjustment problems in food industry, in which the main emphasis is largely on processing local agricultural products into foodstuffs. For example, dairies and meat processing plants purchase almost all their raw material locally.

In principle, Finnish food industry could use imported raw material, even if domestic agricultural production would decrease. Some raw materials, e.g. cereals and sugar, can be quite easily replaced through imports. Instead, the more highly



processed dairy and meat products would probably be imported as processed foodstuffs, so that part of the local processing would be left out. The possibilities of many local enterprises to continue their activity using imported raw material would probably be very weak.

In international comparison, the productivity of food industry is quite poor. The fact that food industry has been protected against competition has slowed down its development as enterprises have not been forced to develop their production methods, productivity, managerial skill, and other important factors influencing the competitiveness in the same way as if the trade had been free. Product development has not been capable of creating international brands.

The small domestic markets make the internationalization of Finnish food industry more difficult. The chances for extensive product development are scarce. Scale benefits must be acquired by concentrating on a few profitable products.

Achieving economically profitable production units requires marketing across the state borders. The capacity of the machinery in the food industry is capable of covering the domestic need manifold, if necessary. But compared to the multinational enterprises dominating the European food markets, Finnish enterprises are very small. German or British enterprises reach such long series already in the domestic markets that the fixed costs can be distributed to a manifold production volume, compared with the Finnish food industry. Their turnover is usually tens of times the turnover of Finnish enterprises, and they can purchase their raw material in large quantities (ALA-PEIJARI 1991). If Finnish production is not capable of a rapid internationalization by expanding the market area, size of enterprises, and production, increase in imports poses a threat after the integration.

However, the integration process does not necessarily require big enterprises. A small enterprise can also succeed, if it has the so-called economy of know-how, i.e. it operates in its own narrow field, in which it is on the top. Small enterprises, in particular, have opportunities at narrow markets, which are not profitable for large enterprises. The adjustment strategy for food industry in the changing market conditions can thus be either 1) growth and centralization through, for example, multinational enterprise structures, or 2) higher degree of specialization for the part of products and/or services.

## **Adjustment**

A support package for the transitional period has been prepared for food industry, aiming at improving its competitiveness. In addition to the normal support from the EU, altogether FIM 1.2 bill. has been reserved for the adjustment, including FIM 500 mill. for improving competitiveness and FIM 700 mill. for new investments and giving up production.

The support package makes it possible to prevent any major decrease in the production of the raw material. In principle, possibilities for the food industry to

survive in the integration exist. Most of the dairy industry and abattoirs are cooperatives, which means that there will not be very much competition on the raw material. Thus they have the possibility to improve the competitiveness by paying the producers a price that makes their operation possible. However, it is also in their interest to pay as high a price as possible to farmers, but in a difficult situation they could take advantage of the possibility to influence the price of the raw material.

It is to be expected that some foodstuffs will be imported from the other member countries independent of the competitiveness. Consumers are interested in new brands, and thus small quantities of products reducing the possibilities of the industry aiming at the domestic markets may enter the Finnish markets. However, consumers seem to favour domestic foodstuffs very strongly, so that the competitive position of foreign products is not as good as would seem on the basis of prices (TAURIAINEN & RISTOLAINEN 1994).

Membership in the EU opens the gates to foreign foodstuffs, but, at the same time, it gives opportunities to exporting Finnish products. Cheese is one of these products. Foreign cheeses are imported to Finland, but the possibilities to export Finnish cheeses are good, because they already have established markets and known brand names in Europe. Basic aspects of the integration include taking advantage of the markets and specialization. Thus parts of the food industry may disappear, but the share of the remaining parts may increase through specialization.

The high technical level and pure raw materials are considered the assets of Finnish food industry. Especially the significance of the pure raw material as a competitive advantage has been discussed a lot. However, it is not yet clear, where we can find the buyers who are prepared to pay a considerably higher price for Finnish products because of this. Still, the pure raw material forms a central part of the product image of Finnish foodstuffs, which should be created for the international markets. It is obvious that the quality and safety of food will receive increasing emphasis in Europe facing the problems of increasing crowds and pollution.

Domestic food industry knows the Finnish basic tastes better than the foreign competitors, and the products are considered pure and of high quality. Emphasizing these assets and their more efficient marketing would also help Finnish food enterprises to improve their image, so that it would be strong in the future competition.

## **8. Effect on consumer prices**

The factors determining the consumer prices are producer prices, the margins of processing and trade, and the value added tax. As the market prices paid to producers will decrease considerably, it has been assumed that the consumer prices would also decrease considerably as a result of integration.

Table 8 presents retail prices collected from Finland and some EU countries from

Table 8. Average prices of basic foodstuffs in some European countries in 1992 (KUPIAINEN 1994), FIM/kg.

	Finland	Sweden	Denmark	Germany	France	England	Greece
Milk	4.05	4.66	4.11	3.80	4.73	4.71	8.68 <sup>1)</sup>
Butter	32.66	27.92	28.00	24.40	31.09	19.15	15.38
Cheese	50.10	51.54	..	47.09	41.34	30.16	..
Margar.	20.52	18.58	9.45	9.78	16.87	14.74	..
Wheat fl.	5.85	5.43	6.34 <sup>2)</sup>	3.54	4.97	3.43	..
Wheat br.	18.45	22.39	17.23	15.02	9.22	7.17	2.94
Sugar	7.60	5.51	7.71 <sup>2)</sup>	5.33	6.13	5.11	4.71
Eggs	17.26	19.93	19.11	12.60	14.73	12.43	12.77
Beef roast	70.95	71.23	89.11	54.52	72.69	63.18	..
Pork chops	49.34	46.41	52.70	37.03	35.14	..	..
Potatoes	3.72	2.78	4.06	3.43	3.42	2.83	1.87
Tomatoes	15.78	18.78	17.43	11.42	9.84	9.90	..
Exchange rate		0.771	0.744	2.877	0.849	7.875	0.024
VAT-%	15	18	25	7	5.5	0	8

<sup>1)</sup> The price per kilo calculated from a 0.410 kg ultrapasteurized package.

<sup>2)</sup> Prices from statistics of 1991 due to lack of data from 1992.

1992. Statistical data has been collected from official statistics. Comparison of the consumer prices involves the same problem as that of producer prices: the products are not identical, and the rates of exchange fluctuate daily. The price comparison has been made on the basis of the average exchange rate of 1992. The average rate of ecu was at that time FIM 5.80. In May 1994 it was FIM 6.25, which means that the Finnish prices are at the moment about 7 % lower in relation to prices in other countries than in 1992.

Before 1991 the price level in Finland was very high. Today the retail prices in Finland are at the same level as in Central Europe (Table 8). The most important reason for the decrease in the difference in the prices is the devaluation of markka. The retail prices of food have also decreased, according to the consumer price index, by about 5 % from 1992. This is partly due to the lowering of the producer prices, but it can be assumed that because of the depression the margins of both processing and trade have decreased slightly.

The producer price does not explain the differences in the retail prices. In Finland the price of bread is FIM 18/kg, and in France FIM 9/kg. In Britain milk is more expensive than in Finland, but cheese and butter are cheaper. In Denmark prices are higher than in Finland, even if its agriculture is considered very efficient, and the producer prices are lower than in Finland. Processing industry, trade, and taxation have a greater impact on the prices than farmers.

*Table 9. The sales tax on some products from the tax-free retail price in Finland in 1992, %.*

Milk	0.2	Eggs	9.8
Butter	-6.9	Roast of beef	8.8
Cheese	3.5	Pork chops	10.1
Margarine	22.0 <sup>1)</sup>	Potatoes	14.6
Wheat bread	19.1	Tomatoes	9.1
Sugar	22.0 <sup>2)</sup>		

<sup>1)</sup> In addition to the net sales tax, the retail price of the product includes a tax on fat of 21.0 % of the taxed retail price.

<sup>2)</sup> In addition to the sales tax, the retail price includes a sugar tax, which was FIM 1.49/kg in 1992.

### **How will the prices change?**

It is difficult to present any exact estimates on how the decrease in the producer prices affects the retail prices. According to the margin calculations of the main products, the share of the raw material of the tax-free retail price varies a great deal from one product to another. The share of the raw material in the price of liquid milk products is 50-60 %, and in the price of cheese about 50 %. The share of the producer price in the retail price of meat sold over the counter is about 40 %. In the case of flour, the share of the producer is about half of the retail price, but in the case of bread only about 13 %. The more highly processed the foodstuff is, the smaller is naturally the share of the producer price in the retail price. Roughly speaking, the average share of the producer price in the retail price may be about 40 %, when milk, meat, and cereal products are taken into account. The share of these in the food expenditure is about 70 %.

If the producer prices decrease by 40 %, the food prices can be calculated to decrease by about 11 % as a result of this.

The margins of the processing sector are dependent on the competitiveness of the food industry as a whole. The structure of the food industry has been rationalized very strongly, but the integration will force to speed up the process. During the transitional period food industry will receive support for structural rationalization, which means that the margins of the processing can be expected to decrease from the present level. In this connection it is assumed that the share of the processing and trade in the price is not going to change.

The value added tax (VAT) is decisive for the level of consumer prices. In the EU countries, the value added tax varies from zero to 25 %. In England there is no value added tax, and in Denmark it is the full 25 %.

In Finland the value added tax similar to that of the EU was introduced in the beginning of June, 1994, but for the part of foodstuffs it will only be implemented

after the accession. In Finland the principle in the taxation of foodstuffs has been that primary production has been exempt from taxes. This has been realized by returning the tax to the processing sector. However, at times this return of the sales tax has been higher than it should have been, and the taxation has even been negative due to this (see Table 9). It has been calculated that the average tax on foodstuffs has been 15 % (calculated from the tax-free retail price).

A value added tax of 17 % on foodstuffs will be in force in Finland from 1995 to 1997, after which it will decrease to 12 %. The average tax rises by about 2 % from the present level, and this increases the prices by the same amount. Taking into account the aforementioned 11 %, the food prices would decrease by about 9 %. The Consumers' Office estimates that the prices would decrease by about 10 %. Consequently, it would seem that the prices could decrease by about 10 %, if the processing and trade do not take the benefit of the decrease in the prices of the raw material to themselves. Obviously, there is the risk that the margins will increase as the prices decrease. Due to the depression, the margins have not changed, or even some decrease has occurred, which may have been caused by the normal rationalization, but it may also have occurred by reducing the margins in both processing and trade. The temptation to bring the margins back to the earlier level may arise, as the prices decrease.

### Changes in the price relations

The shift to the value added tax will cause considerable changes in the taxation of

*Table 10. Price formation of meat before and after the integration. The value added tax (VAT) calculated according to 17 % after the integratio, prior to this the net sales tax (NST), FIM/kg.<sup>1)</sup>*

	Pigmeat		Beef	
	Before	After	Before	After
Producer price	16.18	7.56	23.50	15.75
Secondary return	-0.29	-0.14	-2.15	-1.44
Margins, total	23.82	23.82	27.43	27.43
Tax-free price	39.71	31.24	48.78	41.74
NST, VAT	3.93	5.31	3.75	7.10
Retail price	43.64	36.55	52.53	48.84
Change %		-16.2		-7.0

<sup>1)</sup> Source: Margin calculations of the AERI from 1993.

*Table 11. Price formation of consumer milk and Emmentaler before and after the integration. The value added tax (VAT) calculated according to 17 % after the integration, prior to this the net sales tax (NST).<sup>1)</sup>*

	Consumer milk, FIM/l		Emmentaler, FIM/kg	
	Before	After	Before	After
Raw material	2.67	2.04	25.49	18.14
Fat correction	-0.16	-0.12	-	-
Margins, total	1.42	1.42	22.66	22.66
Tax-free price	3.93	3.34	48.15	40.80
VAT, NST	-0.02	0.57	1.63	6.94
Retail price	3.91	3.91	49.78	47.74
Change %		0		-4.1

<sup>1)</sup> Source: Margin calculations of the AERI from 1993.

individual products. The prices of meat and cereal products, in particular, will decrease, but the prices of dairy products may rise. The prices of dairy products are largely dependent on how the milk fat and protein are priced. It should be possible to lower the price of milk fat further, which would result in a reduction in the price of butter. At the same time, however, it would be necessary to raise the price of protein, which would cause the prices of liquid dairy products and cheese to rise. The market situation is likely to be decisive for how the prices for milk fat and protein will be set.

Tables 10 and 11 present some calculations on the possible changes in the retail prices. They are based on the assumptions that the producer prices and the value added tax will change, but the margins of processing and trade will remain unaltered. The secondary return on meat has been changed in the same proportion as the producer price changes. The same procedure has been applied in making the correction on fat.

The decrease in the price of flour could be the highest, as much as 35 %, as the price of wheat drops to FIM 0.80/kg. The calculatory decrease in the price of bread would be 8,5 %, because the taxation will also be lowered to some extent, in addition to the decrease in the price of cereals. The present sales tax of the tax-free price is about 18.5 %, and it would drop to 17 %.

The price formation is not necessarily this simple in the new situation. In Finland consumer milk is relatively cheap, so that there would be no reason to lower its price, especially as foreign competition cannot be very significant. Instead, in the case of cheeses the competition in prices will be hard, so that the prices should rather be

lowered than kept at the earlier level. The retail price of meat can be expected to decrease as the price of the raw material falls. However, the price relations between the different parts of the carcass may change, and thus it may be difficult for the consumers to notice the decrease in the prices. The prices of meat products are likely to decrease due to the foreign competition.

No major changes are expected to occur in the consumption of food, because the price and income elasticities are small. Changes in the consumer preferences may still be more significant than changes in the economic factors. In recent years, health considerations have led the consumption, in particular, towards a reduction in the consumption of dairy products with a high fat content and, partly, of meat, as well. The demographic changes in the population and changes in the eating habits have influenced the consumption a great deal in the past few years. The national eating habits are not expected to change very much, and the integration should mainly affect the consumption through changes in the price relations.

## **9. The Finland - EU budget balance**

The success of an individual member country in the EU system can be measured in terms of many different factors (KUHMONEN 1994). The net membership fee can be used as a measurement based directly on the administrative stipulations. However, the net membership fee measures the benefit from the common market and its financing systems from a very narrow point of view; the fees paid by a member country to the EU budget are compared in proportion to the receipts from the budget.

Table 12 presents a summary of the payments of Finland to the EU budget, and the receipts from the EU budget. In 1995-96 Finland will pay about FIM 7 bill. annually to the EU budget. The amount has been estimated to rise to about FIM 9 bill. at the end of the decade.

The EU collects the funds to cover the expenditure in the budget mainly from three sources: a) the shares paid by the member countries of the value added taxes they have collected, b) the shares paid by the member countries of the national GDP, and c) import duties, import levies, and taxes from the trade with countries outside the EU, as well as taxes on sugar and sugar products. According to Table 12, in the case of Finland the share of the value added tax accounts for over a half, and payments on the basis of the GDP a little over a quarter.

In addition to the budget share, Finland will have to invest money into e.g. the European Investment Bank and the EEA financing system.

In the budget calculation, the transitional support from the EU, which is altogether FIM 2.9 bill. in four years, for the costs of the immediate adjustment of the prices in agriculture has been deducted from the payments of Finland to the EU budget.

The financing from the EU to Finland consists mainly of the European Agricultural Guarantee and Guidance Fund, Regional Development Fund, and Social Fund operating by means of financing from the EU budget. The share of Finland of the EU funds is estimated at about FIM 5.5-6.0 bill. annually.

According to the budget calculation presented in Table 12, Finland will receive from the Agricultural Guarantee Fund of the EU altogether about FIM 2.7 bill. The most important components of the support from the guarantee fund (in the production quantities of 1993) are the compensation for the reduction in cereal prices (FIM 1,300 mill.), fallowing compensation (FIM 300 mill.), bull meat production premium (FIM 230 mill.), and the 50 % share of the agri-environmental support (FIM 850 mill.).

*Table 12. Payments of Finland to the EU and receipts from the EU in 1995, 1996, and 1999, FIM bill. in current prices.*

Payments and receipts	1995	1996	1999
1. Payments			
1.1. VAT-payment	3.60	3.60	3.40
1.2. GDP-payment	1.90	2.00	3.60
1.3. Duties, import levies, and taxes	1.30	1.50	1.75
- duties	1.20	1.40	1.65
- agricultural fee	0.20	0.20	0.20
- sugar fee	0.05	0.06	0.07
- collecting costs	-0.15	-0.16	-0.22
Payments to EU budget, total	6.80	7.10	8.70
1.4. State payments outside the EU budget	-	0.3	0.3
1.5. Transitional support from the EU	-1.1	-0.8	-
Payments to the EU	5.7	6.6	9.0
2. Receipts			
2.1. Agriculture	2.7	3.2	3.2
2.2. Structural funds	2.0	2.1	2.3
2.3. Other receipts	0.6	0.7	0.8
Receipts, total	5.3	6.0	6.3
Difference (receipts-payments)	-0.4	-0.6	-2.7



It was also agreed on in the negotiations that Finland will receive support from the structural funds of the EU budget, on the average, FIM 2 bill. annually in 1995-1999. This amount includes the 30 % share of the LFA support paid from the guidance funds of the EAGGF (FIM 450 mill.).

Other receipts are related to research, technological, and education projects, support to manufacturing industry, social policy, and other measures of the structural policy. According to a rough estimate, in 1995-1996 they will amount to FIM 0.6-0.7 bill., and in 1999 to about FIM 0.8 bill. The estimate is based on the assumption that the success of Finns in the research and education programs will be close to the average.

For the part of the EU budget, Finland is a net payer, together with other countries with high consumption level and standard of living, and a relatively small agricultural sector. However, according to Table 12, in the first years after the integration the net membership fee of Finland to the EU is quite small, less than FIM 1 bill. But it is estimated that the net membership fee will rise to almost FIM 3 bill. in the next five years.

The export cost payments resulting from maintaining the present agricultural production will be paid through the EU budget. The share of the export support the EU has to pay when it markets Finnish agricultural products to the third world countries are not taken into account in the net payments presented in Table 12. This amount of the support is very difficult to distribute among the member countries of the EU. The level of the EU export support, as well as storing and intervention support, is largely dependent on the amount of food imports to Finland. As imports from the EU countries are going to increase, part of Finnish agricultural production has to be exported, even if the production were at the self-sufficiency level. It has been estimated that this would imply a support of about FIM 1-1.5 bill.<sup>1)</sup> If this were taken into account, Finland would clearly be a net receiver in the first years of membership in the EU.

## **10. Discussion on the Accession Treaty and the support package**

Agriculture has criticized the Accession Treaty very strongly. It is considered that the original negotiation objectives were not achieved in the way they were set. The objectives included a long transitional period and sufficient overall support, part of which would be paid from the EU. Many people had also considered the negotiation objectives too moderate.

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<sup>1)</sup> In the end, the amount of export support from the EU depends on whether the surpluses are exported outside the EU by means of support, or sold competitively in the common market.

The transitional period was not approved, neither was the EU prepared to pay permanent special support in the whole country. Instead, the LFA support can be paid in almost the whole country. The approval of the national support was a major concession. In a way, Finland may practice national agricultural policy, even if this has to take place within the framework of the EU norms. Many farmers seem to fear that the support is not permanent, and thus that the profitability of agriculture will deteriorate considerably in the future. In the case of many farmers the economic situation will change immediately after the integration, because the support will change its form from price support to support based on the area or the number of animals. Efficient producers will suffer in both crop production and livestock production.

The level of the support has been the most important reason for the criticism presented against the support package. Agricultural support has been criticized at all times, and as the state support actually increases at the beginning of the transitional period, the amounts have made tax payers very angry. However, the support will decrease slightly after the transitional period, and some decrease will also occur in the expenditure of the state economy in the future.

The support package has also been criticized, because it is considered that it keeps the structure of agriculture at the present level. Because of the support most farmers can continue their production, which stops structural development. The support system does not include any incentives to increase the size of enterprises and improve the efficiency of production. It seems that production will be continued in Northern Finland, but it will decrease in the southern parts of the country. This is the opposite of what the trend should be. Natural conditions are obviously the best in the south.

It is true that the support system presented by the Government does not include any clear program on structural development, although the support system as such does not prevent the development, either. On the other hand, the Accession Treaty includes settlements concerning structural development. Finland was granted the permission to support the improvement of the structure of agriculture during the transitional period of five years from the national funds.

There are many conflicting views on the effects of the support on agriculture. In an opinion poll conducted before the negotiations were completed it came out that many farmers considered the Finnish negotiation objectives too low. According to the interviews, as many as half of the farmers were prepared to quit production in five years. This group also included many young farmers, whose farms would be viable despite the integration.

What should the reaction to this kind of opinion poll be? Are the answers based on the effects of the integration, or the general insecurity on the future of agriculture? Many farms and farmers have stopped producing, which has been desirable as such, because it has reduced overproduction and contributed to structural development. The natural trend would continue without the integration, too. Thus, many people ask if the support package related to the integration will slow down the natural

development, instead of speeding it up.

Calculations presented in this publication, like many other calculations, indicate that the income losses will remain relatively small. In the course of time, it will also be possible to compensate for these through rationalization. In spite of this, agricultural producers and their organizations oppose the integration into the EU. This opposition is partly caused by the decrease in the incomes, but it is probably also caused by the fear that the support to agriculture will decrease in the future, or that the support package will not be approved in the form it was presented. It is also feared that the EU Commission will not approve all forms of support, and that the support level will be lowered in the future.

Farmers also criticize the support systems of the EU in general. In the more important farming areas the CAP reform support is two or three times the CAP reform support Finland will receive, because in Finland the yield level is much lower than e.g. in Central Europe.

Finally, it can be asked whether the state should support keeping agricultural production at the same level as so far. Costs of overproduction will be accounted for by the EU Commission. However, maintaining overproduction is costly for Finland, too, because financing is needed for the national support and the national share of the official EU support. The support can be estimated to amount to about 30 % of the value of production. As employment support this is likely to be acceptable, at least for the time being. It is a matter of taste whether this is considered support to agriculture only, or to the whole food chain. In any case, everybody benefits from it, because the decrease in the domestic raw material would also result in a reduction in the number of jobs in other parts of the food chain. Purely in terms of the national economy, continuous overproduction cannot be justified in the long run.

## 11. Summary

Integration into the EU and the application of the common agricultural policy of the union will have an enormous impact on Finnish agriculture. The conditions for practicing agricultural production are much worse in Finland than in the most important agricultural countries of the EU. Due to the geographical location, the productivity of agriculture is poor, which is the most clearly visible in the low hectareage yields with respect to the amount of production inputs used.

As a result of the accession into the EU, the producer price level in Finland will decrease by 40-50 %. The decrease in the prices of production inputs will alleviate the adjustment to the new situation to some extent. However, it is estimated that, on the average, the input prices are going to decrease less than the products prices. The capability to adjust to the new situation varies a great deal in different production lines. The fall of the prices of feed lowers the costs of livestock production, but in crop production the cost savings will remain small.

In the accession negotiations the objective of Finland was to achieve an agreement on the basis of which agriculture could be continued, despite the drastic decrease in the producer prices. In particular, it was important for Finland to achieve an adequate level of support, and support from the EU was applied for the disadvantage caused by the unfavourable natural conditions. Finland applied for the normal LFA support to the whole country, and it also wanted the whole country to be included in a special nordic support. Also, Finland applied for a long transitional period and application of an Accession Compensatory Amounts system (ACA).

According to the Accession Treaty, Finland did not meet all the objectives. The demand for a transitional period and gradual adjustment of the prices were not approved, but the border controls between Finland and the EU will be abolished immediately upon accession. It was agreed on in the negotiations that the mountain support area of the LFA support covers 85 % of agricultural land.

National agricultural support, i.e. the so-called nordic agricultural support, may be paid north of the 62nd parallel as well as in adjacent areas south of this parallel. The accession settlement also makes it possible to use national support south of the 62nd parallel to alleviate serious difficulties. In addition, Finland got the right to support the cost and structural adjustment of agriculture and food industry resulting from the immediate price adjustment during a transitional period of five years. In the first years after the integration the EU will contribute to the costs of the price adjustment by altogether FIM 2.9 bill.

Finland will also be entitled to the agri-environmental support according to the present EU system. The EU allocated FIM 850 annually to be used for the environmental support to agriculture.

The net income losses to agricultural and horticultural producers due to EU membership have been estimated at about FIM 8.7 a year. This need for compensation will be covered by means of a support package for agriculture and horticulture agreed on in the accession negotiations, which includes the CAP reform support, LFA support, agri-environmental support, nordic support, and the separate national support to Southern Finland. In addition, adjustment support will be needed during the transitional period, because the producer prices will be lowered to the EU level immediately, while the production costs will decrease only after a lag.

The Government has prepared a national support package for agriculture, which is within the letter and the spirit of the Accession Treaty. It has been calculated that, after the transitional period of five years, the amount of long-term national support needed is FIM 3.8 bill. annually, and during the transitional period rapidly decreasing adjustment support is needed, which would amount to FIM 3 bill. in the first year. The need for domestic budget support for the whole food sector in 1995 is FIM 10.8 bill. According to the calculation, the net expenditure of the state on the food sector in the first year will increase by FIM 4.3 bill. from the present level. After the transitional period the need for budget support will drop to about 6.1 bill., i.e. in 2000 FIM 1.0 bill. of domestic budget money will be saved, compared to 1994.

The purpose of the support package is to keep farmers' incomes at the present level, except for a slight decrease immediately after the integration. Even if the support package on the average compensates quite well for the income losses of farms, there is a great deal of variation between the different production lines and individual farms. Without structural development, the average income loss would be about 10 % on dairy farms, 25 % on pig farms, and 45 % on cereal farms. However, it is expected that farmers will be able to save in the capital costs, and thus to compensate for the income losses.

The support system has been designed on the basis of average production quantities. This means, in practice, that the income losses of farmers who have improved the efficiency of production are greater than in the case of farms on which productivity is below the average. The result of an inefficient farm may even improve from the present, whereas on efficient farms the result will decrease. The impact on production will be small, at least at the beginning of the transitional period.

The support policy of the EU will also change the structure of income formation as the national support will be paid as direct support on the basis of animal units and the area. The share of direct support in the farm income will be large. On dairy farms the average share of the support is 75 %, and on pig and cereal farms over 100 % of the farm income.

The effects of the decrease in the producer prices on the retail prices of food are difficult to estimate. The level of the value added tax is decisive for the level of the consumer prices. If the average decrease in the producer prices is 40 %, it can be estimated roughly that the food prices will decrease by about 10 % as a result of this.

The outcome of the negotiations between Finland and the EU forms the basic framework for the adjustment of agriculture and the food sector. However, no agreement alone will guarantee the survival of agriculture, but this is largely dependent on agriculture itself, i.e. the competitiveness of agricultural enterprises.

The objectives and trends according to which Finnish agriculture and food sector should be developed are not very clear, either. The problem is both political and economic. The farm size should be increased in order to improve the competitiveness of agriculture and to secure the possibilities for agricultural production in the future. Increasing the farm size would mean that the number of farms would decrease dramatically. In a big, sparsely populated country where there are few alternatives for earning a living this is a threat to the viability of the countryside. On the basis of these background factors it is easier to understand the conflicts on how Finnish agriculture should be developed if Finland becomes a member of the EU. One important question is to what extent the use of direct support slows down the development of a competitive structure as the support is capitalized into the prices of production factors.

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**APPENDIX 1**

**The total calculation of agriculture and horticulture in current prices of 1993 and in EU prices.**

Total return of agriculture	Current level		EU level		Change
	mill.kg	FIM/kg	FIM mill.	FIM/kg	
<b>RETURN ON CROP PROD.</b>					
Rye	62.00	2.85	176.7	0.91	56.5
Wheat	358.00	2.26	809.1	0.84	299.4
Barley	1100.00	1.77	1947.0	0.76	837.2
Oats	1000.00	1.67	1670.0	0.76	759.8
Potatoes	436.19	1.39	606.3	1.00	436.5
Industrial potatoes	174.97	0.51	89.2	0.38	66.9
Seed potatoes	5.98	1.36	8.1	1.02	6.1
Sugar beets	996.00	0.414	412.3	0.30	296.9
Oil plants	111.16	3.657	406.5	1.24	138.2
Seeds of grass			41.6		31.2
Total			6166.9		2928.8 -3238.1
<b>RETURN ON LIVESTOCK PRODUCTION</b>					
Milk	2374.00	2.82	6694.7	2.04	4853.6
Beef	106.00	27.92	2959.5	15.75	1669.2
Pigmeat	168.00	18.06	3034.1	7.56	1269.8
Mutton	1.10	27.88	30.7	15.33	16.9
Horsemeat	0.87	18.143	15.7	12.70	11.0
Poultry meat	35.00	12.585	440.5	6.55	229.3
Eggs	70.00	9.2	644.0	6.30	441.1
Total			13819.1		8490.9 -5328.3
<b>RETURN ON HORTICULTURAL PRODUCTS</b>					
Outdoor vegetable production			340.0		136.0
Glasshouse production			690.0		365.7
Glasshouse vegetable production			585.0		310.1
Berries			290.0		188.5
Fruits			20.0		10.0
Nursery production			100.0		60.0
Total			2025.0		1070.3 -954.8
<b>PRODUCTION, TOTAL</b>			22011.0		12489.9 -9521.1
<b>SUPPORT</b>					
Milk production subsidy			737.8		0.0
Meat production subsidy			634.0		0.0

Total return of agriculture	Current level		EU level		Change
	mill.kg	FIM/kg	FIM mill.	FIM/kg FIM mill.	
Additional price for eggs			164.9		0.0
Support based on heads of animal			206.9		0.0
Suckler cow premiums			37.8		0.0
Support based on area			758.7		0.0
Hectarage support			1116.3		0.0
Feed cereal production premium			27.5		0.0
Other support			581.1		0.0
Total			4265.0		0.0 -4265.0
<b>TOTAL RETURN</b>			<b>26276.0</b>		<b>12489.9-13786.1</b>

Costs of agriculture	Current	EU	Change
	level FIM mill.	level % FIM mill.	
Fertilizers	1579.6	0.75	1184.7
Agricultural lime	85.4	0.75	64.1
Own feed cereals			
- barley	459.0	0.43	197.4
- oats	681.0	0.46	313.3
Industrial feed			
- mixes	2655.5	0.60	1593.3
- other	41.0	0.60	24.6
Feed preservatives	122.6	1.00	122.6
Pesticides	318.0	1.00	318.0
Purchased seeds	260.9	0.75	195.7
Fuel and lubricants	663.4	1.00	663.4
Electricity	434.3	1.00	434.3
Firewood and timber	67.7	1.00	67.7
Cost of transmitting animals	55.4	1.00	55.4
Overhead costs	1681.9	1.00	1681.9
Wage costs			
- wages	561.1	1.00	561.1
- social security costs	356.2	1.00	356.2
Machinery and implements			
-depreciations	3322.0	0.90	2989.8
- maintenance	961.2	0.85	817.0

Costs of agriculture	Current level FIM mill.	EU level % FIM mill.	Change
Equipment and tools	157.1	0.90	141.4
Building cost			
- depreciations	1254.0	0.90	1128.6
- maintenance	465.4	0.85	395.6
Interest on debts	1820.0	0.80	1456.0
Import of animals	6.0	1.00	6.0
Rents			
- means of production	289.4	1.00	289.4
- buildings and land	339.3	1.00	339.3
Cost collected from agricultural entrepreneurs			
- accident insurance	42.9	1.00	42.9
- subsidiary help	25.0	1.00	25.0
- weekly days-off	17.0	1.00	17.0
Marketing charges	500		0
Hidden sales tax			-800
Costs of horticulture	1120		600
<b>COSTS, TOTAL</b>	<b>20342.3</b>	<b>15281.6</b>	<b>-5060.7</b>
Return	26276.0	12489.9	
Costs	20342.3	15281.6	
<b>ENTREPRENEURIAL INCOME</b>	<b>5933.7</b>	<b>-2791.7</b>	<b>-8725.4</b>

## Long-term support of agriculture and horticulture.

The amounts of support are based on the exchange rate 1 ECU = FIM 6.30. The amounts in markka are in the money of 1994.

### Support financed jointly with the EU:

#### 1) LFA mountain support from the EU

maximum compensation for natural disadvantage 146 ECU/LU or /ha (FIM 920)

#### 2) Agri-Environmental support from the EU

(paid to farms with an own environmental program or fulfilling the conditions determined by the Ministry of Agriculture and Forestry, together with the Ministry of the Environment in the farming, according to the lower rate also for mandatory fallowing)

- agricultural support in Southern Finland (A):
  - cereals, turnip rape, starch potatoes, etc. other plants entitled to EU support to field crops: FIM 1,130/ha (180 ECU/ha)
  - other crops (e.g. grass): FIM 1,730/ha (275 ECU/ha)
- agricultural support in other parts of Finland (areas B and C):
  - cereals, etc.: FIM 250/ha (40 ECU)
  - grass, etc.: FIM 850/ha (135 ECU)
- horticultural production (A-C4): annual plants FIM 1,730/ha (275 ECU/ha), perennial plants FIM 4,410/ha (700 ECU/ha)
- ecological support, in addition to basic support
  - in transitional period at the farm level
    - area A FIM 1,800/ha
    - area B FIM 1,400/ha
    - area C FIM 1,500/ha
  - after transitional period in the whole country FIM 600/ha

### Support financed from the national funds only:

#### 3) Nordic agricultural support (*Article 142 in the Accession Treaty*)

##### Livestock support

Northern Finland C4	FIM 4,500, 714 ECUs
Northern Finland C3	FIM 3,400, 540 ECUs
Northern Finland C2 north	FIM 2,950, 468 ECUs
Northern Finland C2	FIM 2,500, 397 ECUs
Northern Finland C1	FIM 2,450, 389 ECUs

- livestock units in accordance with the EU stipulations, except (according to the average animal stock)(\*):
  - sows and boars 0.70 LU, meat pigs 0.23 LU, chickens and turkeys 0.013 LU, broilers 0.0053 LU, young poultry 0.0027 LU, broiler hens 0.026 LU
- the conditions for nordic livestock support are determined so that they do not encourage enterprises to move to areas with higher support

### **Hectarage support**

Northern Finland C4	FIM 800, 127 ECUs
Northern Finland C3	FIM 400, 63 ECUs
Northern Finland C2	FIM 200, 32 ECUs
Northern Finland C1	FIM 100, 16 ECUs

### **4) National production support in areas C4-C3 (Article 141)**

- for milk, beef and mutton:
  - about FIM 100 mill. annually will be allocated to the support

### **5) National livestock support in areas A and B (Article 141)**

#### **Livestock support**

Southern Finland (A) and Middle Finland (B): FIM 1,800/LU (286 ECUs)

- livestock units in accordance with the EU stipulations, except (according to the average animal stock)(\*):
  - sows and boars 0.90 LU, meat pigs 0.30 LU, chickens and turkeys 0.017 LU, broilers 0.0072 LU, young poultry 0.0036 LU, broiler hens 0.034 LU

### **6) National support to special crop production (A, B, C1 and C2; other potatoes also C3 and C4) (Article 141, Article 29/Appendix 1)**

- wheat and rye FIM 800/ha; malting barley FIM 400/ha; turnip rape FIM 300/ha; sugar beets A and B FIM 1,500/ha, C1 and C2 FIM 2,000/ha (\*\*); potatoes for food industry A and B FIM 2,700/ha, C1 and C2 FIM 2,900/ha (\*\*); starch potatoes A and B FIM 600/ha, C1 and C2 FIM 1,000/ha (\*\*); other potatoes in the whole country FIM 2,400/ha (\*\*): seed production support
- in determining the support for the transitional period, the possible needs for revisions in the support to special crops are evaluated

(Cereals, turnip rape, and starch potatoes also receive the support to field crops financed fully by the EU)

**7) National hectare support to young farmers in the whole country (Article 141)**

- FIM 200/ha (32 ECUs)

**8) National support to horticultural production (Article 141)**

- outdoor production: support based on the area (FIM 30 mill), storage support (FIM 60 mill.), and currant production support (FIM 4.5 mill.)
- glasshouse production: support based on the area (FIM 280 mill.), long-term interest support (FIM 50 mill.)

**9) National transportation support (Article 141)**

- in area C for livestock products, in areas C3-C4 also for feed

- (\* Different livestock units of pigs and poultry in the areas of nordic and national support result from the smaller need for phasing out in stages, compared to cattle farming
- (\*\*) If the plants in question do not receive higher environmental support, the support must be raised by FIM 600/ha
- (\*\*\*) If the conversion coefficient 5 (17 %) can be used, otherwise the need for support is higher

**APPENDIX 3**

**Distribution of the need for support in agriculture and horticulture (FIM bill.) between Finland and the EU.**

	CAP support	LFA support	Agri-Environ- mental support	Nordic support	Adjustment support	<b>Total</b>
<i>1st membership year</i>						
Finland	0	1.0	0.7	3.8	1.9	7.4
EU	1.7	0.5	0.7	0	1.1	4.0
<b>Total</b>	<b>1.7</b>	<b>1.5</b>	<b>1.4</b>	<b>3.8</b>	<b>3.0</b>	<b>11.4</b>
<i>2nd membership year</i>						
Finland	0	1.0	0.7	3.8	0.5	6.0
EU	2.0	0.5	0.7	0	0.8	4.0
<b>Total</b>	<b>2.0</b>	<b>1.5</b>	<b>1.4</b>	<b>3.8</b>	<b>1.3</b>	<b>10.0</b>
<i>3rd membership year</i>						
Finland	0	1.0	0.7	3.8	0.3	5.8
EU	2.0	0.5	0.7	0	0.5	3.7
<b>Total</b>	<b>2.0</b>	<b>1.5</b>	<b>1.4</b>	<b>3.8</b>	<b>0.8</b>	<b>9.5</b>
<i>4th membership year</i>						
Finland	0	1.0	0.7	3.8	0.2	5.7
EU	2.0	0.5	0.7	0	0.3	3.5
<b>Total</b>	<b>2.0</b>	<b>1.5</b>	<b>1.4</b>	<b>3.8</b>	<b>0.5</b>	<b>9.2</b>
<i>5th membership year</i>						
Finland	0	1.0	0.7	3.8	0.2	5.7
EU	2.0	0.5	0.7	0	0	3.2
<b>Total</b>	<b>2.0</b>	<b>1.5</b>	<b>1.4</b>	<b>3.8</b>	<b>0.2</b>	<b>8.9</b>
<i>6th membership year</i>						
Finland	0	1.0	0.7	3.8	0	5.5
EU	2.0	0.5	0.7	0	0	3.2
<b>Total</b>	<b>2.0</b>	<b>1.5</b>	<b>1.4</b>	<b>3.8</b>	<b>0</b>	<b>8.7</b>

**Economic results at the present level<sup>1)</sup> and according to the EU negotiation outcome and national support package on the bookkeeping farms specialized in different production lines.**

Table 1. Small dairy farms (the average of 10 cows/farm) in Southern Finland, support region B.

	Current situation	EU	%
Number of farms	9	9	
Arable land, ha	13	13	
Number of cows	10	10	
Livestock units	13.4	13.4	
Ha/livestock unit	0.99	0.99	
Yield, f.u./ha	3264	3264	
Sales income - total costs, FIM/farm	78327	23544	28
Current support, FIM/farm	16685		
EU-support:			
- Compensatory payments for cereals, oilseeds and set-aside		6208	7
- LFA-support		12494	15
- Agri-Environmental support		8598	10
National support:			
- Livestock support		24444	29
- Hectarage support			
- Special crops support			
Total support, FIM/farm		51744	62
VAT-compensation (5% of the sales income)		8782	10
Farm income, FIM/farm	95012	84070	100
Change, %		-12	

Table 2. Average dairy farm (the average of 15 cows/farm) in Southern Finland, support region B.

	Current situation	EU	%
Number of farms	22	22	
Arable land, ha	24	24	
Number of cows	15	15	
Livestock units	21.4	21.4	
Ha/livestock unit	1.13	1.13	
Yield, f.u./ha	3134	3134	

<sup>1)</sup> The basic data on the returns, costs, and property values of the farms are from the years 1990-92.



	Current situation	EU	%
Sales income - total costs, FIM/farm	96983	10174	9
Current support, FIM/farm	24752		
EU-support:			
- Compensatory payments for cereals, oilseeds and set-aside		13055	12
- LFA-support		20470	18
- Agri-Environmental support		14658	13
National support:			
- Livestock support		40050	36
- Hectarage support			
- Special crops support			
Total support, FIM/farm		88233	79
VAT-compensation (5 % of the sales income)		13705	12
Farm income, FIM/farm	121735	112112	100
Change, %		-8	

Table 3. Large dairy farms (the average of 19 cows/farm) in Southern Finland, support region B.

	Current situation	EU	%
Number of farms	20	20	
Arable land, ha	31	31	
Number of cows	19	19	
Livestock units	26.5	26.5	
Ha/livestock unit	1.19	1.19	
Yield, f.u./ha	2003	2003	
Sales income - total costs, FIM/farm	140250	25439	16
Current support, FIM/farm	25316		
EU-support:			
- Compensatory payments for cereals, oilseeds and set-aside		19205	12
-LFA-support		26128	17
- Agri-Environmental support		18625	12
National support:			
- Livestock support		51120	32
- Hectarage support			
- Special crops support			
Total support, FIM/farm		115078	73
VAT-compensation (5 % of the sales income)		17828	11
Farm income, FIM/farm	165566	158345	100
Change, %		-4	

Table 4. Average dairy farms (the average of 13 cows/farm) in Middle Finland, support region C2.

	Current situation	EU	%
Number of farms	29	29	
Arable land, ha	20	20	
Number of cows	13	13	
Livestock units	18.4	18.4	
Ha/livestock unit	1.07	1.07	
Yield, f.u./ha	2993	2993	
Sales income - total costs, FIM/farm	91193	11959	11
Current support, FIM/farm	25674		
EU-support:			
- Compensatory payments for cereals, oilseeds and set-aside		6404	6
- LFA-support		17370	15
- Agri-Environmental support		13239	12
National support:			
- Livestock support		47200	42
- Hectarage support		3938	3
- Special crops support			
Total support, FIM/farm		88151	78
VAT-compensation (5 % of the sales income)		12862	11
Farm income, FIM/farm	116867	112972	100
Change, %		-3	

Table 5. Average dairy farms (the average of 15 cows/farm) in Southern Ostrobothnia, support region C1.

	Current situation	EU	%
Number of farms	10	10	
Arable land, ha	22	22	
Number of cows	15	15	
Livestock units	22.1	22.1	
Ha/livestock unit	0.98	0.98	
Yield, f.u./ha	3233	3233	
Sales income - total costs, FIM/farm	76728	1196	1
Current support, FIM/farm	27348		
EU-support:			
- Compensatory payments for cereals, oilseeds and set-aside		7964	7
- LFA-support		21510	18
- Agri-Environmental support		14000	12

	Current situation	EU	%
National support:			
- Livestock support		57281	49
- Hectarage support		2156	2
- Special crops support			
Total support, FIM/farm		102911	87
VAT-compensation (5 % of the sales income)		13806	12
Farm income, FIM/farm	104076	117913	100
Change, %		13	

Table 6. Average dairy farms (the average of 15 cows/farm) in Northern Finland, support region C3.

	Current situation	EU	%
Number of farms	27	27	
Arable land, ha	23	23	
Number of cows	15	15	
Livestock units	21.3	21.3	
Ha/livestock unit	1.08	1.08	
Yield, f.u./ha	2899	2899	
Sales income - total costs, FIM/farm	99456	35480	20
Current support, FIM/farm	38381		
EU-support:			
- Compensatory payments for cereals, oilseeds and set-aside		6466	4
- LFA-support		20102	11
- Agri-Environmental support		16183	9
National support:			
- Livestock support		74290	42
- Hectarage support		9208	5
- Special crops support			
Total support, FIM/farm		126249	72
VAT-compensation (5 % of the sales income)		14238	8
Farm income, FIM/farm	137837	175967	100
Change, %		28	

Table 7. Small piglet production farms (the average of 29 sows/farm) in support regions B and C1.

	Current situation	EU B-region	%	EU C1-region	%
Number of farms	23	23		23	
Arable land, ha	22	22		22	
Number of sows	29	29		29	
Yield, f.u./ha	3254	3254		3254	
Sales income - total costs, FIM/farm	106371	-35014	-39	-35014	-39
Current support, FIM/farm	19471				
EU-support:					
- Compensatory payments for cereals, oilseeds and set-aside		25320	28	20420	23
- LFA-support		17802	20	17802	20
- Agri-Environmental support		6807	8	6807	8
National support:					
- Livestock support		59400	66	62720	69
- Hectarage support				2173	2
- Special crops support					
Total support, FIM/farm		109329	122	109922	122
VAT-compensation (4 % of the sales income)		15422	17	15422	17
Farm income, FIM/farm	125842	89737	100	90330	100
Change, %		-29		-28	

Table 8. Large piglet production farms (the average of 44 sows/farm) in support regions B and C1.

	Current situation	EU B-region	%	EU C1-region	%
Number of farms	21	21		21	
Arable land, ha	30	30		30	
Number of sows	44	44		44	
Yield, f.u./ha	3454	3454		3454	
Sales income - total costs, FIM/farm	154654	-72252	-52	-72252	-51
Current support, FIM/farm	26795				
EU-support:					
- Compensatory payments for cereals, oilseeds and set-aside		37172	27	29978	21
- LFA-support		24739	18	24739	17
- Agri-Environmental support		8734	6	8734	6

	Current situation	EU B-region	%	EU C1-region	%
National support:					
- Livestock support		117720	84	123946	87
- Hectarage support				3016	2
- Special crops support					
Total support, FIM/farm		188365	135	190413	134
VAT-compensation (4 % of the sales income)		23729	17	23729	17
Farm income, FIM/farm	181449	139842	100	141890	100
Change, %		-23		-22	

Table 9. Small combination farms (the average of 22 sows + 74 pig places) in support regions B and C1.

	Current situation	EU B-region	%	EU C1-region	%
Number of farms	21	21		21	
Arable land, ha	28	28		28	
Number of sows	22	22		22	
Number of pigs	74	74		74	
Yield, f.u./ha	3259	3259		3259	
Sales income - total costs, FIM/farm	79382	-82809	-96	-82809	-96
Current support, FIM/farm	30722				
EU-support:					
- Compensatory payments for cereals, oilseeds and set-aside		35761	41	28840	33
- LFA-support		24389	28	24389	28
- Agri-Environmental support		7877	9	7877	9
National support:					
- Livestock support		84780	98	89033	103
- Hectarage support				2846	3
- Special crops support					
Total support, FIM/farm		152807	177	152985	177
VAT-compensation (5 % of the sales income)		16186	19	16186	19
Farm income, FIM/farm	110104	86184	100	86362	100
Change, %		-22		-22	

Table 10. Large combination farms (the average of 32 sows + 204 pig places) in support regions B and C1.

	Current situation	EU B-region	%	EU C1-region	%
Number of farms	31	31		31	
Arable land, ha	43	43		43	
Number of sows	32	32		32	
Number of pigs	204	204		204	
Yield, f.u./ha	3573	3573		3573	
Sales income - total costs, FIM/farm	183927	-121460	-66	-121460	-65
Current support, FIM/farm	32786				
EU-support:					
- Compensatory payments for cereals, oilseeds and set-aside		52257	28	42143	23
- LFA-support		36745	20	36745	20
- Agri-Environmental support		12054	7	12054	6
National support:					
- Livestock support		173880	95	182256	98
- Hectarage support				4303	2
- Special crops support					
Total support, FIM/farm		274936	150	277501	149
VAT-compensation (4 % of the sales income)		30364	17	30364	16
Farm income, FIM/farm	216713	183840	100	186405	100
Change, %		-15		-14	

Table 11. Small pigmeat producing farms (the average of 139 pig places) in support regions B and C1.

	Current situation	EU B-region	%	EU C1-region	%
Number of farms	15	15		15	
Arable land, ha	30	30		30	
Number of pigs	139	139		139	
Yield, f.u./ha	3581	3581		3581	
Sales income - total costs, FIM/farm	40968	-142965	-339	-142965	-342
Current support, FIM/farm	30433				
EU-support:					
- Compensatory payments for cereals, oilseeds and set-aside		36256	86	29239	70
- LFA-support		24325	58	24325	58
- Agri-Environmental support		9685	23	9685	23

	Current situation	EU B-region	%	EU C1-region	%
National support:					
- Livestock support		84780	201	88470	212
- Hectarage support				2981	7
- Special crops support					
Total support, FIM/farm		155046	368	154700	370
VAT-compensation (4 % of the sales income)		30030	71	30030	72
Farm income, FIM/farm	71401	42111	100	41765	100
Change, %		-41		-42	

Table 12. Large pigmeat producing farms (the average of 398 pig places) in support regions B and C1.

	Current situation	EU B-region	%	EU C1-region	%
Number of farms	21	21		21	
Arable land, ha	50	50		50	
Number of pigs	398	398		398	
Yield, f.u./ha	3522	3522		3522	
Sales income - total costs, FIM/farm	120198	-279433	-213	-279433	-208
Current support, FIM/farm	41478				
EU-support:					
- Compensatory payments for cereals, oilseeds and set-aside		59927	46	48327	36
- LFA-support		37232	28	37232	28
- Agri-Environmental support		15191	12	15191	11
National support:					
- Livestock support		226260	173	236107	176
- Hectarage support				4977	4
- Special crops support		5840	4	5840	4
Total support, FIM/farm		344450	263	347674	259
VAT-compensation (4 % of the sales income)		65946	50	65946	49
Farm income, FIM/farm	161676	130963	100	134187	100
Change, %		-19		-17	

Table 13. Small grain farms (the average of 21 ha of arable land) in Southern Finland, support regions A and B.

	Current situation	EU A-region	%	EU B-region	%
Number of farms	34	34		34	
Arable land, ha	21	21		21	
Cultivated grain area, ha	16	16		16	
Yield, f.u./ha	3610	3610		3610	
Sales income - total costs, FIM/farm	12745	-49954	-307	-49954	-365
Current support, FIM/farm	13427				
EU-support:					
- Compensatory payments for cereals, oilseeds and set-aside		28252	174	28252	207
- LFA-support				15760	115
- Agri-Environmental support		23748	146	5418	40
National support:					
- Livestock support					
- Hectarage support					
- Special crops support		3408	21	3408	25
Total support, FIM/farm		55408	341	52838	386
VAT-compensation (8 % of the sales income)		10797	66	10797	79
Farm income, FIM/farm	26172	16251	100	13681	100
Change, %		-38		-48	

Table 14. Average grain farms (the average of 39 ha of arable land) in Southern Finland, support regions A and B.

	Current situation	EU A-region	%	EU B-region	%
Number of farms	25	25		25	
Arable land, ha	39	39		39	
Cultivated grain area, ha	28	28		28	
Yield, f.u./ha	3842	3842		3842	
Sales income - total costs, FIM/farm	48316	-82109	-172	-82109	-200
Current support, FIM/farm	29012				
EU-support:					
- Compensatory payments for cereals, oilseeds and set-aside		55162	116	55162	134
- LFA-support				27526	67
- Agri-Environmental support		44358	93	10258	25



	Current situation	EU A-region	%	EU B-region	%
National support:					
- Livestock support					
- Hectarage support					
- Special crops support		8790	18	8790	21
Total support, FIM/farm		108310	227	101736	248
VAT-compensation (8 % of the sales income)		21416	45	21416	52
Farm income, FIM/farm	77328	47617	100	41043	100
Change, %		-38		-47	

Table 15. Large grain farms (the average of 86 ha of arable land) in Southern Finland, support regions A and B.

	Current situation	EU A-region	%	EU B-region	%
Number of farms	24	24		24	
Arable land, ha	86	86		86	
Cultivated grain area, ha	62	62		62	
Yield, f.u./ha	3865	3865		3865	
Sales income - total costs, FIM/farm	89699	-207509	-253	-207509	-301
Current support, FIM/farm	52125				
EU-support:					
- Compensatory payments for cereals, oilseeds and set-aside		125442	153	125442	182
- LFA-support				62873	91
- Agri-Environmental support		98488	120	22430	33
National support:					
- Livestock support					
- Hectarage support					
- Special crops support		20771	25	20771	30
Total support, FIM/farm		244701	298	231516	336
VAT-compensation (8 % of the sales income)		44972	55	44972	65
Farm income, FIM/farm	141824	82164	100	68979	100
Change, %		-42		-51	

Table 16. Egg producing farms in Southern Finland, support region B.

	Current situation	EU	%
Number of farms	13	13	
Arable land, ha	29	29	
Number of hens	2290	2290	
Yield, f.u./ha	3735	3735	
Sales income - total costs, FIM/farm	121117	-54291	-150
Current support, FIM/farm	24431		
EU-support:			
- Compensatory payments for cereals, oilseeds and set-aside		35675	33
- LFA-support		21979	20
- Agri-Environmental support		8936	8
National support:			
- Livestock support		69890	64
- Hectarage support			
- Special crops support		2927	3
Total support, FIM/farm		139407	128
VAT-compensation (5 %)		23595	22
Farm income, FIM/farm	145548	108711	100
Change, %		-25	

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