



FINNISH AGRICULTURE IN 1992

Lauri Kettunen

Agricultural Economics Research Institute
Lutnantintie 13
00410 HELSINKI

Mailing address: P.O. Box 3, 00411 HELSINKI

tel. 358-0-504 471
telefax 358-0-563 1164

Director of the Institute
prof. Jouko Sirén

The Department of Farm Management
Head of Department
prof. Jouko Sirén

researchers:

Anna-Maija Heikkilä
Maija Puurunen
Ossi Ala-Mantila
Laura Alastalo
Tellervo Hassinen
Mari Nuutila
Kyösti Pietola

The Marketing Research Department
Head of Department
prof. Lauri Kettunen

researchers:

John Sumelius
Jyrki Aakkula
Marja Hokkanen
Juha Marttila
Jyrki Niemi
Reijo Pirttijärvi

The Bureau for Profitability Studies
Head of Bureau
MSc. Juhani Ikonen

researchers:

Seppo Holmström
Olli Rantala
Leena Riepponen



JULKAISUJA 70a

FINNISH AGRICULTURE IN 1992

LAURI KETTUNEN

MAATALOUDEN TALOUDELLINEN TUTKIMUSLAITOS
AGRICULTURAL ECONOMICS RESEARCH INSTITUTE, FINLAND
RESEARCH PUBLICATIONS 70a

Abstract. Finnish agriculture in 1992

Agriculture was affected by a quite severe crop failure in 1992 due to the drought in the early part of the summer. Hectarage yields were on average 20% smaller than the long-run trend value. In particular, grain production in Southern Finland suffered greatest from drought.

Overproduction of grain was reduced through mandatory fallowing. Farmers had to leave fallow 15% of their arable land area in order to receive the hectarage subsidy for their whole area. A special compensation was paid if the area left fallow exceeded the minimum, which raised the premium fallowing to about 500,000 hectares, i.e. 18% of the total arable land area. Consequently, this measure had a great impact on the total grain crop.

Barley was especially affected by the crop failure: the hectarage yield of barley was 10% smaller than in normal years. The yield of oats was also clearly below normal.

Milk production decreased 100 mill. liters, i.e. 3%, as a result of the contracts to reduce milk production. However, the self-sufficiency is still clearly over 100% with respect to both liquid milk and, in particular, fat. Beef production decreased by 6 % and pork production by 1%.

The farm income settlement was made according to the Farm Income Act. Target prices were not raised at all but the subsidies were increased by FIM 298 mill.

In 1992 agricultural income decreased by about 12%. This was caused, in the first place, by the decrease in grain production, but the reduction of milk production also lowered farmers' incomes. Marketing charges also reduced farmers' income a great deal. Producer prices decreased slightly, but support rose correspondingly. Increases in the prices of production inputs remained small.

Agriculture has attempted to explain the impact of integration on the farmer throughout the year. However, the Government has appealed to all sectors to unite and achieve a favorable outcome in the negotiations on integration. Agriculture was also concerned about the GATT negotiations, which seemed to lead to a decrease in agricultural support.

Index words: Finland, agriculture, production, price, income, policy

Preface

This publication presents a brief overview of the development of agriculture in 1992. It includes preliminary data on production, prices and income. In the beginning of the year many statistics are still only preliminary, especially the development of incomes involves a lot of estimation. The data available in a few months will be more reliable. I hope, however, that the survey presented here provides a sufficiently accurate view of Finnish agriculture in 1992.

Chapter III on Finnish agricultural policy is very condensed, and it is not possible to include all details. Some of the data in this chapter is also only preliminary.

Some parts of the publication have been kept as before because no major changes have occurred in certain issues. Statistical data has naturally been brought up to date.

I wish to thank Jaana Ahlstedt, Ossi Ala-Mantila, Helena Jokinen, Mari Nuutila, and Reijo Pirttijärvi from the Research Institute for their assistance in preparing this publication. I also thank Jaana Kola for the English translation and Eric Sims for editing.

The author alone should be held responsible for possible mistakes and defects. Also, the judgements and viewpoints presented here are those of the author, and do not represent the views of the Research Institute or the official agricultural policy.

Helsinki, January 25th, 1993.

Lauri Kettunen

CONTENTS

	page
I Overview of agriculture in Finland	5
1. Agriculture and the national economy	5
1.1. Gross domestic product and investments	5
1.2. Economic situation	6
2. The Finnish farm	8
3. Other rural industries	10
II Production, prices and farm income	12
4. Crop production	12
4.1. Weather conditions	12
4.2. Areas and yields	12
5. Livestock production	15
6. Consumption	17
7. Foreign trade	18
8. Price settlements	19
8.1. Spring price settlement	21
8.2. Fall price settlement	24
8.3. Producer prices	24
8.4. Retail prices	25
9. Income trends in agriculture	26
9.1. Sources of income	26
9.2. Farm income in 1992	26
9.3. Taxation	27
III Agricultural policy	29
10. Outline of Finnish agricultural policy	29
10.1. The objectives of agricultural policy	29
10.2. Other objectives	30
10.3. Agricultural policy in practice	31
10.4. Farm Income Act	32
10.5. Environmental concerns of agriculture	32
11. Integration	33
12. Production policy	36
12.1. Production objectives	36
12.2. Exceeding of the production ceilings	37
12.3. Measures to restrict production	38
12.4. Contracts to reduce production	39
12.5. Fallowing	40
12.6. Export cost charges	41
12.7. Dual price system for milk	42
12.8. Dual price system for eggs	43
12.9. Regulation of the establishment of production units	43
12.10. Production support	43
13. Agricultural support	44
13.1. Support in general	44
13.2. Price policy support	45
14. Structural support	47
15. Social policy	47
IV Summary	49
Appendices	51

I

OVERVIEW OF AGRICULTURE IN FINLAND

1. Agriculture and the national economy

1.1. Gross domestic product and investments

In the beginning of the 1960s the share of agriculture in the gross domestic product was about 10%, but by the early 1980s it had declined to 4.5%, and still further to 2.8% in 1991. During this same period of time the volume of agricultural production increased by about 30%, but the gross domestic product increased even more, and the share of agriculture decreased as a result. This has also been caused by the increase in the amount of purchased inputs and services in agriculture, i.e. part of the value added has shifted to other sectors.

The significance of the total food chain in the national economy is much greater than the share of agriculture in the gross domestic product alone would imply. The sectors providing production inputs, transportation and processing increase the share of food economy in the whole national economy considerably. The share of food in the consumer expenditure is about 20%.

Investments in agriculture were quite steady during the whole 1980s, as the volume of agricultural production stayed about at the same level as earlier. In 1989 and 1990 a considerable increase occurred in the investments in agriculture. At that time the economic situation was good both in agriculture and in the whole national economy. Since then, investments have fallen off rapidly. In 1991 the share of agriculture in the investments of the whole national economy was only 3.5%.

Table 1. Gross domestic product (at factor cost) and investments in the whole national economy and in agriculture.

Year	Gross domestic product			Investments		
	total FIM bill.	agriculture FIM bill.	%	total FIM bill.	agriculture FIM bill.	%
1982	218.82	9.39	4.3	60.99	4.29	7.0
1983	246.33	11.40	4.6	70.05	4.68	6.7
1984	275.24	12.44	4.5	73.43	4.61	6.3
1985	298.67	12.43	4.2	80.05	4.80	6.0
1986	315.90	13.05	4.1	83.51	4.59	5.5
1987	344.93	10.93	3.2	93.27	4.25	4.6
1988	384.46	11.01	2.9	111.05	4.54	4.1
1989	432.61	13.38	3.1	137.41	5.20	3.8
1990	458.66	14.69	3.2	139.03	5.21	3.7
1991	440.36	12.29	2.8	112.38	3.88	3.5

Source: Statistical Yearbook of Finland from various years.

Agriculture is a very capital intensive industry. One job in agriculture costs a significant amount more than in the whole national economy on the average. A modern farm requires a lot of land, buildings and machinery, but employs only about two people.

A heavy rationalization is still underway in agriculture, which requires investments. However, objectives related to European integration and the restrictions on agriculture in general have slowed down new investment in agriculture. Uncertainty of the future is likely to keep the amount of investment small in the next few years as well, even though preparing for the integration will require a drastic structural change in agriculture.

The share in the total labor force, which is about 7% (Appendix 2), is one indicator of the position of agriculture in the whole national economy. This is considerably larger than the share of agriculture in the gross domestic product. It would seem that the productivity of labor is not as good in agriculture as in other sectors of the national economy. However, the difficulties related to the statistics on the labor force and labor input in agriculture should be taken into account. Members of a farm family often work outside agriculture as well, which means that the statistics may overestimate the share of agriculture in the employed labor force. Only about half of the income of farm families comes from agriculture. Finnish farms are still quite small, which also explains the relatively high labor input.

1.2. Economic situation

In 1992 Finland suffered from a deep depression. The gross domestic product continued to fall by about 2%, after having decreased by 6.5% in 1991. Unemployment was 13%, the deficit of the state economy (FIM 40 bill.) and bankruptcies became daily news. The Finnish markka was allowed to float in September. It is forecast that the economy will begin to grow in 1993. However, reaching the level of welfare obtained in the 1980's will take several years.

High unemployment and the large deficit of the state economy are the main obstacles to a rapid growth.

During the whole 1980s Finland enjoyed a steady economic development. A change for the worse occurred very suddenly in 1990. There are many reasons for this. Finland followed the general development of the world economy, which was characterized by an overheating of the stock market. The values of shares rose very strongly, which resulted in an increase in the prices of other property like houses, apartments and office buildings. The situation had drifted too far away from reality, and the bubble burst suddenly with dramatic consequences.

Fluctuations in the economic situation had been quite small in the 1980s, except for the last few years. The turn of the decade was very dramatic. Liberalization of the money market is probably one of the most important factors accelerating the overheating of the economy. Consumer demand continued to increase by means of borrowed money, and both private citizens and the entire national economy took on too much debt.

The unfounded increase in the value of property and the rapid decrease that followed shook the foundation of many enterprises and caused many households to fall into financial difficulties. This was followed by a dramatic increase in unemployment, which decreased

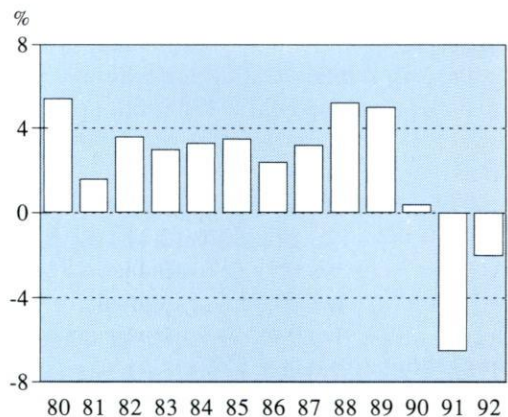


Figure 1. Growth in the volume of market price GDP in 1985 prices (%/year).

the tax revenue received by the state. There was not enough money for stimulating the economy, even if enormous amounts have been borrowed. Reductions in the consumption and investments in the public sector have worsened the recession. Finding the balance between government stimulation and preventing the state economy from incurring too much debt are the primary tasks of the economic policy. This must be accomplished before any economic growth can be achieved.

The stock values have dropped to about a third of their highest values, and the collateral of loans have collapsed as a result. It is no longer possible to acquire capital from the market. Housing prices are about half of what they were at their highest level.

The collapse of socialism and the resulting disintegration of the trade with the Soviet Union also had a heavy impact on Finnish foreign trade and economy. The trade with Russia and the other new states is only a fraction of the trade in the 1980s. What remains are high outstanding claims. At its highest, the share of the Soviet Union in Finnish exports was about one fourth of total foreign trade, and now the corresponding share is only a few percentage points.

One reason for the economic growth in the 1980s and the overheating of the economy was the increase in foreign loans. The deficit in the balance of current accounts grew rapidly, but the state did not react to this early enough. In 1989-1991 the deficit was FIM 25-27 bill., i.e. about 5% of the gross domestic product. In 1992 it decreased to about FIM 20 bill., and it is expected to drop to FIM 10 bill. in 1993. However, managing the foreign debts will slow down the restoration of balance in the balance of current payments.

The deficit was a result of the weak development of the export industry. In fact, the share of the manufacturing industry in the whole national economy decreased continuously in the 1980s. Instead, the public sector has been on the increase, and it has swallowed all labor force reserve. A shortage of labor force was considered a long-term problem. This also led to wage increases, which weakened the competitiveness in the foreign market.

The private sector ran into debt very rapidly towards the end of the 1980s. The degree of savings fell from the 7% at the beginning of the decade to almost zero in 1988. The growth was maintained by private consumer demand, which was supported, in addition, by the reduction of the income taxation. The public sector swelled rapidly, believing that the higher tax income would be adequate to finance all reforms.

In 1991 the degree of savings returned to the normal level of 8%, but this development has been a result of a decrease in the demand and a deeper recession. In order to restore the balance of payments, this has naturally been necessary, but the unemployed, in particular, have suffered from this.

It is likely that the bottom has already been reached in the economy. In 1992 the volume of the export of goods and services increased by about 10%. Exports started to increase already in the middle of 1991. This positive development will continue through 1993. Exports will lead the whole national economy into growth, which is forecast to reach 2% in 1993. It has been possible to replace the losses of the exports to the east through exports to the western markets. However, in the domestic market the demand will remain weak and, consequently, the growth of the whole national economy will be slow.

Restoring the balance in the economy is difficult. The government loses its tax income as a result of unemployment. Domestic demand decreases, which reduces the tax income of the state further. It is necessary to cut down the state's expenditure, although the depression could be eased by increasing them. However, the deficit in the state economy does not allow powerful stimulation of the economy. On the other hand, the state is borrowing heavily, and thus acting in a way that prevents a depression. Yet, various government measures decrease the total demand and slow down the recovery of the economy.

Inflation fell to 2.1% in 1992, when in the previous year it was 4.1%. This occurred despite the fact that the Finnish markka was gradually devaluated by about 30% over the last year. Weak demand has been pushing down the margins and thus slowed down the discharging

of the pressures on prices. Decreases in housing prices reduced the amount of inflation. The target prices of agricultural products have not been increased, and food prices have even decreased slightly as the producer prices have continuously remained below the targets. However, it is to be expected that inflation will accelerate slightly during 1993.

Nominal wages have not been raised for two years, and the labor market settlements have followed a so-called zero principle. However, earlier settlements and wage drifts raised the income level index by about 2.5% in 1992. Consequently, there was no change in the real income level of the employed population.

The disposable income of the whole national economy decreased by 3.5% in 1992, and in the previous year the decrease was as high as 6.6%. Taxation has been tightened, and the purchasing power of households has decreased as a result. In 1992 private consumption fell by about 5%, which is slightly more than in the previous year. Some decrease is likely to occur in 1993, too, which slows down the growth of the economy.

The decrease in investments started already in 1990, and no increase is to be expected next year. Investments have already dropped below the level of the early 1980s. Some increase is expected to occur only in the investment in the manufacturing industry. The degree of use of the capacity is still quite low, which means that there is no need for investments. The limits of the capacity may gradually be reached only in export industry.

Building has decreased considerably from the peak reached at the end of the 1980s. There are a lot of vacant apartments and offices, so that the recovery of the building industry may not start before 1994.

The numerous bankruptcies have brought the bank institution into a very difficult position. The credit losses have become so great that the government had to support the banks by about FIM 8 bill. in 1992, and even more support will be needed in 1993. This is a great burden on the state economy, given all other problems.

The Finnish markka was devalued by 12.3% on November 15th, 1991. Towards the end of the summer of 1992 the pressures on markka

increased again, and on September 8th, 1992 the Bank of Finland decided to let the value of markka to be determined by the market forces. At first the devaluation was about 15%, but by the end of the year the value of markka had decreased by 12% compared with the time before it began floating.

Devaluation has improved the competitiveness of wood-processing industry, and the exports grew by about 10% in 1992. Felling has increased along with the growth in the demand. The revision of the taxation of forests at the beginning of 1993 has also increased the timber supply, although the stumpage prices have decreased by about 15% from 1991. The boom of wood-processing industry will continue in 1993.

The depression is starting to loosen its grip, but it will take many years before we return to the "good old days". First, equilibrium must be reached in the balance of current payments and in the public economy. What is needed is a growth in investments, which forms a basis for an improvement in employment

2. The Finnish farm

Finnish agriculture is based on family farms. State and municipal institutions like schools and research institutes own a few larger farms,

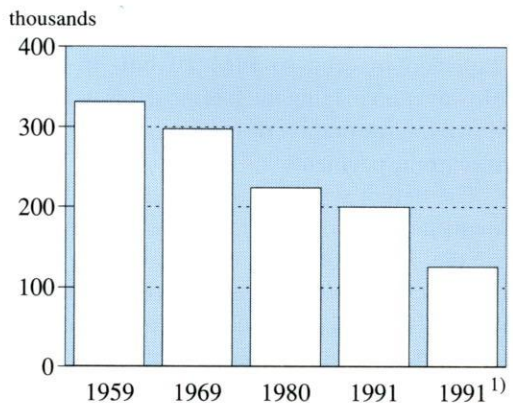


Figure 2. Development of the number of farms in 1959-1991. ¹⁾ Active farms.

Table 2. The distribution of farms into farm size classes and the average farm size (over 1 ha).

	1959		1980		1991		1991 ¹⁾	
	1000	%	1000	%	1000	%	1000	%
1-4.9	147.6	44.6	69.4	30.9	69.0	34.5	19.2	15.3
5-9.9	101.8	30.7	69.2	30.8	43.0	21.5	26.2	20.8
10-19.9	62.2	18.8	56.8	25.3	47.4	23.7	41.0	32.5
20-49.9	18.0	5.4	26.4	11.7	35.6	17.8	34.7	27.5
50-	1.6	0.5	2.9	1.3	5.0	2.5	4.9	3.9
Total	331.2		224.7		200.0		126.1	
Arable land area								
1,000 ha	2 614.4		2 462.7		2 579.0		2 226.3	
Farm size, ha	7.89		10.96		12.90		17.6	

¹⁾ Producing farms
Source: Agricultural census in 1959, Farm Register of 1980 and yearbook of farm statistics 1991.

but their significance in the whole Finnish agriculture is very small.

93% of farms are privately owned. However, a large number of farms belongs to pensioners or heirs, and only about half of the farms are owned by active farmers. This group is also likely to include a number of farmers who get their living mainly from other sources than agriculture. Full-time farmers own only 41.5% of farms, and the share of part-time farms was 18.4% in 1991.

Pensioners owned 18.6% of private farms in 1991. At that time, private persons owned 74.1% of farms, heirs and family companies 18.1%, societies and cooperations 2.6% and the state, congregations and municipalities 5.2%. The share of farms owned by heirs has increased slightly. This is significant for agricultural policy because these farms have the lowest productivity, and their existence slows down structural development.

According to the farm register of 1991, there were altogether 199,950 farms with over one hectare, and the average farm size was 12.9 ha. However, agricultural production was practiced on only 126,100 farms, and their average farm size was 17.6 ha.

Every year a good number of small farms quit production, but in other respects structural development is slow. The number of large

farms has not increased very much, and there is very little amalgamation of farms. One reason for this has been the high price of land, although the price has recently been on the decrease. In practice, it is possible to increase the farm size through renting arable land. This has been on the increase, and in 1991 altogether 360,800 ha, i.e. 14% of the arable land area was rented. The average rented area was 8.4 ha.

Forest is an integral part of a Finnish farm: an average farm has 13 ha arable land and 37 ha forest. However, the regional distribution varies. In general, the arable land area is larger and, correspondingly, forest area is smaller in the south than in the north (Table 3).

Finnish agricultural production is mainly based on livestock. Only 15% of arable land area is used for crop production for human consumption. Milk production accounts for about 35% of the total return of agriculture, and the share of cattle production rises to about half of the total agricultural production when beef production is taken into account. Consequently, the area of hay, silage and pasture is about a third of the total arable land.

Production structure has changed in the course of time so that the share of milk has decreased, whereas that of meat has increased.

The specialization of agriculture accelerated especially in the 1960s and 1970s. Earlier almost

Table 3. Regional distribution of arable and forest land in different parts of Finland in 1980 and 1991 (half-farm).

	Arable land and gardens		Forest land	
	1980	1991	1980	1991
Uusimaa	18.2	19.6	28.2	29.8
Häme	14.1	17.4	31.0	34.0
Vaasa	11.3	12.5	26.4	27.3
Kuopio	9.4	11.4	37.2	38.7
Oulu	9.2	11.1	45.8	48.2
Lappi	6.1	6.7	78.8	83.4
Whole country	11.0	12.9	35.5	37.4

Source: Farm Register of 1980 and yearbook of farm statistics 1991.

all farms produced milk, but in October 1992 there were only 35,500 milk suppliers (Appendix 2). About half of the farms are engaged solely in crop production.

Finnish farms are highly mechanized. There usually is a tractor and other machines necessary for the production line on the farm. According to an estimate, there are about 234,000 tractors and 49,000 combine harvesters. Calculated per hectare, the level of mechanization is quite high. Almost all dairy farms have a milking machine.

3. Other rural industries

In addition to agriculture and forestry, farmers practice many other industries, e.g. horticulture, fishing, fur farming, farm holidays, etc. An overview of these industries in 1990/91 is presented in the following. No statistics from 1992 are available, and, on the whole, the statistics on these industries are incomplete.

This publication is mainly concerned with agriculture proper, which in Finland includes only outdoor garden production, and *greenhouse production* is excluded. In 1988 the value of greenhouse production was about FIM 1.19

billion, the share of vegetables (mainly cucumber, tomatoes and lettuce) being about FIM 585 million and that of flowers about FIM 689 million. About 3,360 entrepreneurs were engaged in greenhouse production, and the greenhouse area was altogether 475 ha. Thus the average greenhouse area was about 1,400 m². There are no exact figures on how many people this whole field employs, but it is estimated to be about 10,000 people.

Greenhouse production does not receive any actual state support. However, imports are regulated through import charges and licenses. The prices of cucumber, tomatoes and lettuce have stayed almost at the same level or decreased slightly in the 1980s, which means that the real producer prices have decreased considerably.

In 1990 there were about 4,700 *professional fishermen* in Finland (1,440 full-time and 3,340 part-time). Almost 64% practice their trade at sea. The number of fishermen has been decreasing rapidly. Most fishermen are part-time farmers.

In 1988 the value of the catch of fish was estimated at FIM 205.6 million. In addition, aquaculture produced fish accounted (mainly rainbow trout) for about FIM 357 million in 1990. Occasionally rainbow trout is also an important export article. In 1990 the export share of its production, which amounted to 18.3 million kg, was about 10%. In 1991 the production was 19.3 million kg. The value of planting production, which is important for improving the stock of fish, was FIM 100 million in 1990. The increased control of water systems has probably also improved the catch of fish. Many farms are located close to a lake, which makes fishing for household use possible.

An especially important side-line for agriculture is *fur farming*, which is also practiced on its own. In 1990/91 there were about 4,259 fur farms, of which about 60-70% were part of a farm. The value of fur production was about FIM 1.0 billion, and, including all its indirect effects, fur industry employs annually about 25,000 people. Fur production is mainly concentrated in Ostrobothnia, where about 3/4

of fur farms are located. The most important fur animals are mink, silver fox, blue fox, fitch and Finnraccoon.

However, the past few years have been very difficult for fur farming. The collapse of the world market prices has forced many fur farms to stop their production. In 1991 there were only 2,400 fur farms left, and the value of the sales amounted to about FIM 605 mill. The difficult times for fur farming seem to be continuing in the future.

Finland has been the leading fur producer in the world. Most of the production is exported. In 1988 the value of exports was about FIM 1.0 billion, but in 1990 this had dropped to only about 430 mill. In 1989 57% of the world's fox pelt production came from Finland. Mink accounts for about 46% of the value of our fur production, but the share in the world market is less than 10%.

Fur farming is subsidized very little. Fur farms can buy feed (including domestic feed grain) for the world market price. In other respects this field has to adapt itself to the changes in the world market, which may be great. However, Finnish producers have tried to adapt themselves to international competition through breeding.

Reindeer herding is the main source of livelihood for about 800 households in Lapland. In addition, in about 1,500 households it is a very important secondary occupation. In the herding year 1990/91 there were about 7,560 reindeer owners. At reindeer round-ups in 1990/91 there were about 410,000 animals, of which 169,000 were slaughtered. Meat production was 4.0 mill. kg, and its value was about FIM 92.5 million. Most of the reindeer meat has been consumed in Finland. Hardly any

reindeer meat was exported last year.

In 1990 there were about 45,400 horses in Finland, about 40% of them on farms. The number of horses has increased in the past few years, although they are very rarely used in farm work. *Horse husbandry* is practiced on about 6,000 farms, and on 550 farms it forms the main production line. Horses are mainly used for riding and trotting. On the farms horse husbandry employs 1,300-1,400 people full-time and about 5,000 part-time. The value of the production of horse husbandry is estimated at about FIM 230 million, and the export value of horses at FIM 8.4 million in 1990.

Beekeeping provides additional income to about 5,000 beekeepers. In 1991 1.5 mill. kg of honey was produced, and its value was about FIM 45 mill.

Wild berries (cloudberry, blueberry and lingonberry) are an important source of income for many people, especially in northern Finland. In 1990 this income amounted to about FIM 52.1 million. In addition, there is the value of the berries used in households. The income from picking mushrooms was estimated at FIM 6.8 million in 1990.

Farm holidays are an important form of side-line industries. About 5,000 entrepreneurs are offering farm or summer cottage holidays, and about half of them are farmers. This activity has expanded year by year, and the return of all holiday and traveling services is estimated at FIM 60 million. Compilation of statistics is difficult because this field is very heterogenous.

In addition to side-line industries, there are also some other rural industries, which farmers can practice. State subsidizes these activities with grants and loans, as to for example for small industrial enterprises and work shops.

II PRODUCTION, PRICES AND FARM INCOME

4. Crop production

4.1. Weather conditions

The winter of 1991-1992 was warmer than average throughout the whole country, but in places there was even more snow than usually. Sowing was started at the normal time in Southern and Central Finland, but in the north it rained so much that it slowed down the spring sowing. In general, the growing season looked quite favorable in the early part of the summer.

At the beginning of the growing period temperatures were clearly above average, in the middle of the summer they were about normal, and towards the end of the summer they dropped below normal. Because of the warm early part of the summer, the effective temperature sum of the whole growing period was about 10% higher than the long-term average. The growing period was a couple of weeks ahead of normal throughout the summer. There was minimal frost during the growing period.

Rains were very unfavorable for the growth of plants. The spring and early summer were very dry throughout the entire country. The rainfall was only about half of normal or even less. In the northernmost parts of Finland, in contrast, it rained a lot. In general, sprouting was very slow in the whole country, but the differences between the different regions was great.

Overall, the weather conditions were quite bad for agriculture in 1992. The growth of pastures, hay and silage was slow during the early part of the summer. The rains that started

in July improved the situation to some extent, but too heavy rainfalls destroyed the hay crop in places. All grains were threshed under good weather. And, the grains were of good quality. The drought in some some regions and too abundant rainfall in Northern Finland lowered the yields considerably.

4.2. Areas and yields

An overall agricultural census was conducted in 1990. As a result, the statistics have changed somewhat. The total arable land area has increased from the previous area based on sampling. The earlier figure for 1990 was 2,436 mill. ha, and the figure based on the census is 2,544 mill. ha. This should be taken into account when making comparisons with the statistics from the 1980s

As a result of land clearing, the arable land

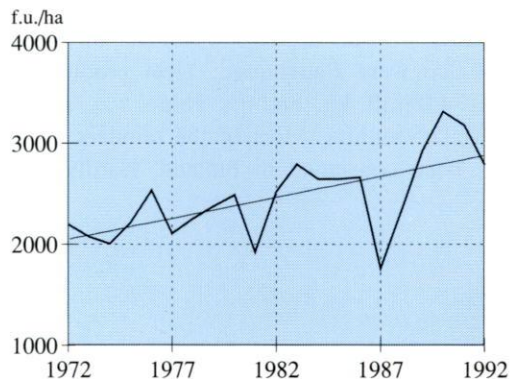


Figure 3. Total yield without straw in 1972-1992, f.u./ha.

area grew by about 60,000 ha at the end of the 1980s. Since 1989 the total arable land area has started to decrease again, and in 1992 it was 2,513 mill. ha.

The area under cultivation has decreased rapidly in the past few years as a result of fallowing. In 1992 the total fallowed area was 528,500 ha, and the major part of this was premium fallow. The arable land area decreased by 50,000 ha from the previous year, and it was 1.76 mill. ha, including pasture.

The area under cultivation fell by over 100,000 ha from the previous year. The area under

barley, in particular, decreased drastically, by about 12%. Over 5,000 ha feed grain was harvested already during the summer for feed. The area under spring wheat decreased as well, and an attempt has been made to reduce the cultivation of rye because of the big stocks. The area normally required to meet the domestic demand for rye is 50,000 ha.

The area under silage grew by almost 30,000 ha as a result of the dry early part of the summer. Part of the area under dry hay was used for silage when it became obvious that the yield of dry hay would have remained very small. The area

Table 4. Harvested areas and yields of main crops in 1991 and 1992.

	Area 1000 ha	1991 Yield 100 kg/ha	Total mill. kg	Area 1000 ha	1992 Yield 100 kg/ha	Total mill. kg
Winter wheat	40.6	36.7	149	12.3	28.6	35
Spring wheat	77.7	36.2	282	75.6	23.4	177
Rye	10.4	27.1	28	10.6	25.0	27
Barley	540.9	32.9	1779	472.9	28.1	1331
Oats	343.0	33.7	1155	330.7	30.2	998
Potatoes	36.2	185.7	672	34.9	192.9	673
Sugar beets	31.7	329.0	1043	32.4	323.8	1049
Hay	224.3	42.9	961	219.7	35.2	774
Green fodder	27.5	176.4	485	37.6	158.0	594
Silage	238.7	194.5	4642	267.8	171.4	4589
Oil seeds	61.0	15.6	95	72.5	18.3	133
Other crops	50.2			61.5		
Total	1682.2	3180 ¹⁾	5280 ²⁾	1628.5	2786 ¹⁾	4475 ²⁾
Pasture	125.8			129.5		
Premium fallowing	468.0			501.3		
Other fallow	25.8			27.2		
Other arable land	221.9			226.5		
Arable land, total	2523.7			2513.0		

¹⁾ f.u. without straw. Feed unit norms changed at the beginning of 1990 for the part of grains. The average raise was about 2 %.

²⁾ mill. f.u. without straw

under dry hay was almost the same as in the previous year, despite the fact that the decrease in the number of dairy cows could be expected to reduce the hay area. The cultivation of oil plants also increased to some extent in 1992.

Grain yield remained about 25% smaller than

normal. The heat and drought in the early part of the summer weakened sprouting, and the growth was weak. Unfortunately, the rains in July and August could not improve the situation. Consequently, agriculture was affected by a regional crop failure, and Southern Finland

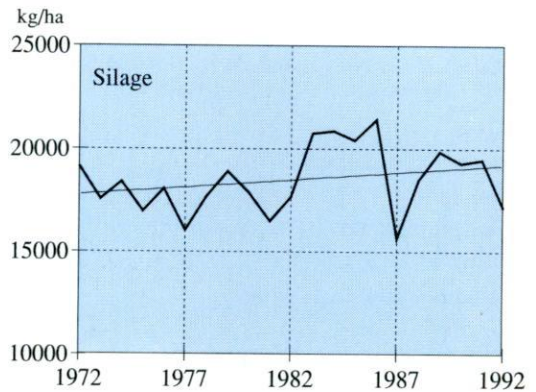
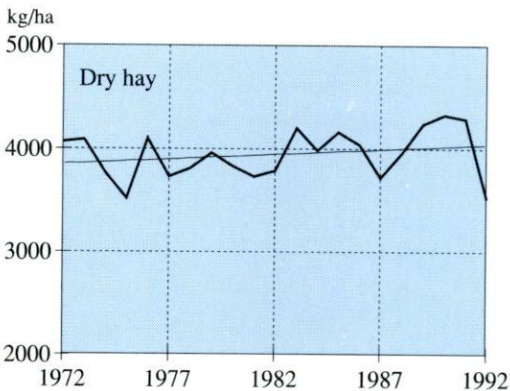
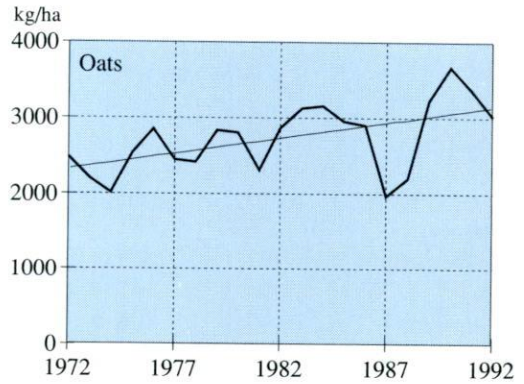
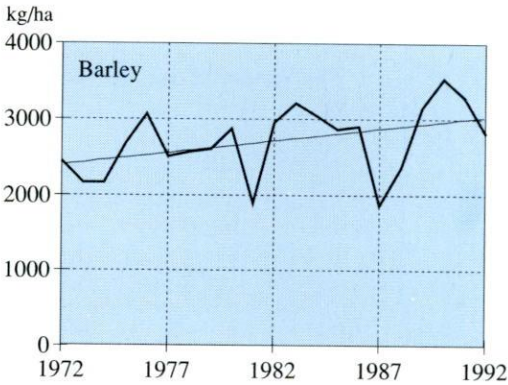
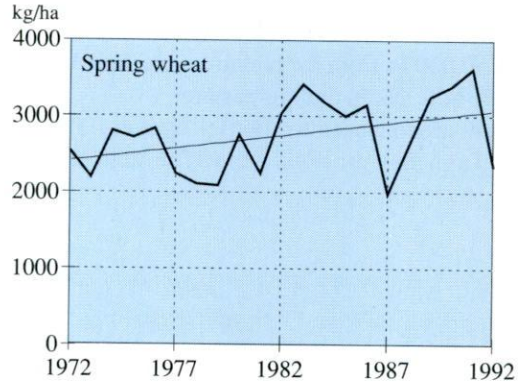
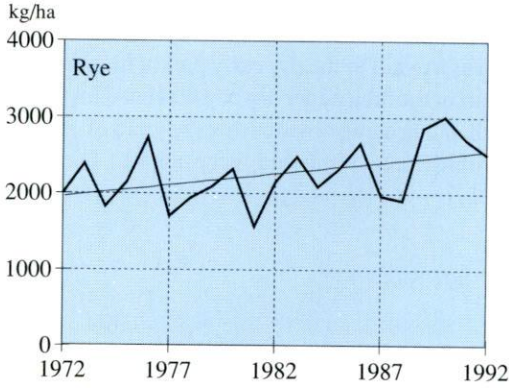


Figure 4. Yields of main crops (kg/ha) in 1972-1992.

suffered the most. In contrast, in Satakunta and Southern Ostrobothnia the yield was higher than average. In Northern Finland the crop was excellent in terms of quantity, but the quality suffered from rains.

The hectareage yield of spring wheat was 2,340 kg, i.e. about 26% below normal. Winter wheat did not suffer as much from the drought, but its yield also remained clearly below average. The yields of bread grains remained about half of the normal yield, but there is no need for imports because of the big stocks.

The yield of feed grain was not as poor as was expected during the summer. The hectareage yield of barley was 2,810, i.e. about 200 kg smaller than a long-term average value. The yield of oats was a little better, but it also remained slightly below the long-term trend.

In the production of roughage the drought did not have such a great effect as it did in grain production. As a result of the abundant rainfall in the latter part of the summer, the growth of silage improved considerably, but the total yield still remained below the normal. This was the case with dry hay as well. The hay crop remained poor in Northern Finland, in particular.

Root plants did not suffer from drought. The hectareage yield of potatoes was higher than in the previous year, and the supply is sufficient to meet the domestic demand. The hectareage yield of sugar beets was normal, and it was also higher than in 1991. Also, the yield level of oil plants was good.

Measured in feed units the yield was 2,786 f.u./ha. The total yield, 4,475 mill. f.u., was about 15% smaller than in the previous year. About 3% of this resulted from the decrease in the cultivated area, and the rest was caused by the bad weather conditions.

Compared with the normal yield, the losses caused by the crop failure were considerable. According to the government Act on Crop Damages, the farmer is entitled to compensation for a crop failure for the part that the yield remains 30% below the normal yield. The total value of 1992 crop failure is estimated to be FIM 580 mill., of which FIM 133 mill. was compensated to agriculture. Thus the losses

caused by the crop failure will for the most part have to be absorbed by farmers themselves.

5. Livestock production

In 1992 production decreased in almost all sectors of livestock production. The amount of milk and meat entering the market was smaller than in the previous year. This was a result of the measures to restrict production. Also poultry meat production decreased a little.

Milk production decreased by about 70 mill. liters. Contracts to reduce production were made at the end of 1991 and at the beginning of 1992. These so-called milk bonus contracts have been an effective way to decrease production, and in 1991 they resulted in a reduction of milk production by 210 mill. liters. Milk production has decreased by about 12% in two years.

Farmers with small herds, in particular, have given up production, as was intended. Milk production should be rationalized even more drastically in order to make it competitive in the European market. In Finland the number of animals is too small and, consequently, unit costs are too high for the production to be profitable in the EC prices.

The reduction of milk production has a great impact on dairy industry. It is more difficult to obtain raw material. The demand for consumer milk must be satisfied first, which means that

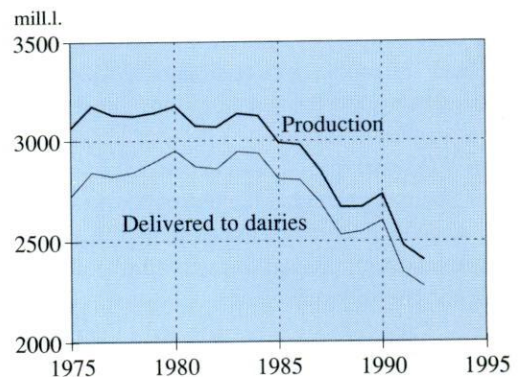


Figure 5. Milk production and the amount of milk delivered to dairies in 1975-92.

Table 5. Livestock production in 1986-92¹⁾.

	1986	1987	1988	1989	1990	1991	1992 ^a
Milk mill.l	2976	2847	2668	2668	2730	2477	2405
Dairy milk “	2803	2692	2531	2547	2600	2345	2275
Beef, mill.kg	125	123	110	106	116	121	114
Pork	174	176	168	171	186	176	174
Eggs	84	81	76	76	76	67	67
Poultry meat	22	27	28	30	32	37	35
Other meat	2	2	2	2	2	2	2

¹⁾The hot weight reduction of meat was abolished at the beginning of March 1990. As a result, the quantities are 3 % bigger than earlier. The prices were dropped correspondingly by 3 %.

the production of cheese and milk powder decreases considerably. This reduces the need for export support, which is very positive development. The share of agriculture in the export costs decreases, and marketing fees are lower.

Despite the reduction, milk production still exceeds the amount of domestic consumption. In 1992 the self-sufficiency level with respect to liquid milk was about 109%, and the self-sufficiency in fat is even higher.

In 1992 beef production decreased by about 6%. In the previous year production still grew by about 4%, partly as a result of the drastic reduction in the number of dairy cows. Slaughter weights have been growing continuously, but this trend seems to have stopped. In the future production will decrease as the number of slaughter animals decreases.

At the moment there is still oversupply of beef as consumption has decreased. However, it is to be expected that there will be a shortage of beef as production continues to decrease considerably, and the consumption of beef picks up after the recession.

In 1992 pork production decreased by about 1%. Slaughter weights have dropped to 73-74 kg, when in 1989 they were close to 80 kg. This has been accomplished through an export cost charge. The self-sufficiency in pork was about 109%. The production is expected to decrease by 2-3% in 1993.

According to a preliminary estimate, egg production stayed about at the same level as in the previous year. No new measures to restrict

production were applied in 1992. Hatching has increased, which means that there are pressures to increase production. Consequently, some growth is forecast to occur in 1993. The self-sufficiency level of eggs is still relatively high, in 1992 it was 127%.

The consumption of poultry meat has been growing quite steadily for some time. Consumers have favored broiler, and the prices have been competitive compared with other meats. However, it seems that the recession has also had an effect on poultry meat, the production of which decreased by about 5% in 1992. The consumption and production of poultry meat has been forecast to grow in the next few years, but this is likely to occur only if the economic situation improves.

The production and consumption of other

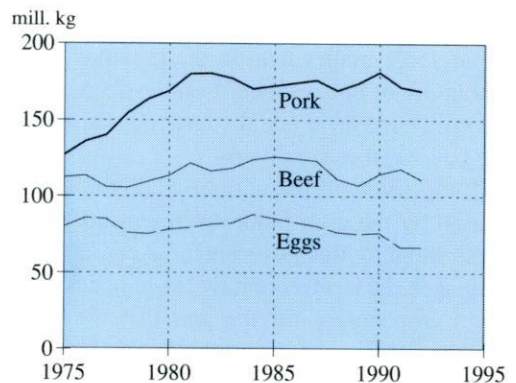


Figure 6. Production of beef, pork and eggs in 1975-92.

meats (mutton, reindeer and horse meat) is very small in Finland. An attempt has been made to stimulate the production of mutton through various means, but so far there has been very little success. Some mutton is imported to Finland, which shows that there would be some possibilities to increase production.

6. Consumption

The economic recession was reflected in consumption. The disposable income has decreased in real terms and, in contrast, the level of saving has increased due to the repayment of loans. Consequently, there has been less money available for consumption than there was earlier.

Food prices have been quite steady, when examined at the annual level. Consumer authorities have conducted price comparisons in different stores and published them, and it has been noted that this has even lowered the retail prices of food by several percentage points in the stores where the comparisons were made. The official consumer price index indicates that food prices fell slightly during 1992.

Table 6. Consumption of dairy products and margarine/capita in 1985-92.

	Liquid milk litres	Butter kg	Cheese kg	Margarine kg	Butter mixes ¹⁾ kg
1985	243.2	10.9	9.6	7.1	1.7
1986	235.7	8.8	10.3	7.2	1.7
1987	232.8	8.2	11.5	7.1	2.2
1988	228.9	7.0	11.7	7.3	2.1
1989	224.7	6.5	12.5	8.0	2.1
1990	222.9	5.5	12.7	7.6	2.2
1991	215.7	6.2	12.8	7.9	2.6
1992 ^e	215	5.7	13.6	8.6	3.0

¹⁾ butter-vegetable oil mixes

Source: MTTL, Food Balance Sheets, ETT

Table 7. Consumption of meat and eggs in 1985-92, kg/capita ¹⁾.

	Beef	Pork	Poultry	Eggs
1985	21.3	32.0	4.2	11.1
1986	21.1	32.7	4.5	11.7
1987	20.9	32.6	5.2	11.8
1988	20.8	32.7	5.6	11.6
1989	20.4	31.6	6.2	11.1
1990	21.6	33.0	6.5	11.1
1991	21.3	33.0	7.2	10.7
1992 ^e	19.7	32.1	7.1	10.7

¹⁾ See note in Table 5.

The total consumption of dairy products remained quite steady in 1992. The consumption of consumer milk, the fat content of which is 3%, decreased as the consumption of skim milk increased somewhat.

The consumption of butter increased by about 13% in 1991, probably as a result of the great price reduction. In 1992 the consumption dropped by about the same amount. The amount of consumption, 7 kg/person, also includes the butter consumed in the mixes. The consumption of actual butter is 5.7 kg/person.

The consumption of light spreads is altogether about 3 kg/person. Their consumption has reached a quite steady level, and no great changes have occurred recently. Consequently, it can be assumed that the consumption has been established at the present level.

However, the consumption of cheese has continued to grow in spite of the depression; in 1992 the growth was about 5%. Increase in cheese consumption has been quite steady already for about 10 years. Calculated per person, the consumption is already about 14 kg, which is the same as in many European countries. This kind of increase is not likely to go on much longer.

Pork consumption has levelled off at about 32-33 kg per person. In 1992, however, the decrease in the income level caused a reduction in the consumption of pork by about 3%. This trend is forecast to continue in 1993. Earlier,

pork consumption was forecast to rise as high as 37 kg, but this has not occurred.

The consumption of beef decreased by over 7% in 1992, and it is now only 20 kg/person. Beef consumption has been on the decrease for several years. This has been caused by the change in price relations in favor of pork and poultry meat.

The consumption of poultry meat has been on the increase for some time, but the growth stopped in 1992. Change in the stocks may, however, distort the statistics to some extent.

Egg consumption became established at the present level of about 11 kg/person in 1989 after a slight increase when the prices fell as a result of the dual price system. With regard to eggs, consumer habits are not likely to change very much, which means that no major changes are to be expected in the consumption.

The consumption of meat and eggs is internationally quite low in Finland. This is the case in Sweden, as well. Consumer habits have developed in the course of time, and they do not change very rapidly. Instead of meat, Finns consume fish and milk, and thus the share of animal protein in the consumption is at about the same level as in the industrialized countries in general. Internationally the consumption in Finland as calories (2,800 kcal i.e. 11.7 MJ) is low.

7. Foreign trade

Because self-sufficiency has been set as the objective for Finnish agriculture and the borders have been closed to foreign competition, the main function of exports and imports is to balance the variations in demand and supply.

There is very little import of basic foodstuffs. Only grain must be imported in larger quantities when the domestic crop remains small as a result of weather conditions. This was the case e.g. in 1987 and 1988.

Fruits and vegetables are imported according to demand. Coffee is one of the most important free import articles, and the import of certain tropical fruits is also relatively free. The monetary value of imports is higher than that of exports (Table 8), although overproduction is considered the greatest problem in agriculture.

The decrease of agricultural production has reduced the amount of exports to some extent. Decrease in milk production has led to a reduction in the production of milk powder, in particular, and the export has stopped almost completely in the past couple of years (Table 9). The export of butter has also decreased to some extent. It would be desirable to continue the export of cheese in its present extent, because

Table 8. Exports and imports of agricultural products in 1983-1992 (FIM mill.).

	Export	Imports total	Coffee	Fruits	Beverages and tobacco
1983	2673.4	4888.2	1065.7	752.2	332.7
1984	2994.1	5226.5	1360.5	775.1	342.3
1985	2876.2	5388.9	1125.5	814.0	358.9
1986	2256.3	5713.2	1376.9	855.2	405.0
1987	2074.7	5798.1	990.9	978.7	401.7
1988	1815.8	5705.2	787.6	915.4	372.6
1989	2098.5	6111.3	825.5	942.1	494.3
1990	2508.7	5613.9	562.5	963.3	537.8
1991	2375.1	5794.5	562.1	1016.4	561.4
1992 ¹⁾	2338.5	5290.1	436.3	904.7	497.6

¹⁾January-November.

Source: Official statistics of Finland IA. Foreign trade.

Table 9. Exports of some agricultural products in 1983-92, mill.kg.

	Butter	Cheese	Milk powder	Portk	Beef	Eggs	Grains
1983	26.6	32.3	37.5	26.6	16.7	32.2	-
1984	20.0	37.0	41.2	20.8	19.2	35.4	811.3
1985	18.6	37.0	40.1	17.8	21.5	32.9	561.0
1986	14.9	34.5	33.9	10.2	21.3	25.1	664.3
1987	20.8	36.0	32.0	17.1	22.3	21.6	294.9
1988	19.2	32.5	18.4	9.2	10.5	18.6	25.0
1989	20.3	26.3	8.1	14.0	5.5	19.4	520.0
1990	35.9	28.9	25.4	22.7	10.0	24.0	698.5
1991	22.7	27.8	16.7	14.4	18.1	12.9	1116.0
1992*	19	24	3	14	13	12	715

Spource: Statistics of the Ministry of Trade and Industry.

Finnish cheeses have a very high reputation in the international market. However, the shortage of raw material makes it necessary to reduce cheese production, and thus it is to be expected that the export of cheese will decrease in the future. According to an agreement made with the EC, about 2 mill. kg cheese is imported to Finland every year. In 1992 the export of beef, in particular, decreased, and the same development will continue in 1993. In the past few years restaurants have required that some beef must be imported. These special imports are no longer necessary as the recession has reduced the demand for the most valuable parts of the carcass.

Egg exports have been about the same in the past couple of years. One explanation for this is the fact that consumption seems to stay at the present level. The situation should be the same in 1993, too.

Grain exports have caused a heavy burden on the economy of both the government and farmers in the past few years. In 1991 grain exports amounted to 1,100 mill. kg, and 1992 700 mill. kg of the grain overproduction of the previous year were exported. The exports included wheat, barley and oats. In addition, in 1992 about 267 mill. kg grain was used for other purposes, i.e. as malt barley (65 mill. kg) and as feed for fur animals (42 mill. kg).

There is not enough grain for exports from the crop of 1992, which means that both farmers and the government do not have to pay any export subsidies for grain.

The EFTA and the EC have already negotiated a new agreement, which concerns agricultural production only partly. Imports of processed foods increase slightly, and it has been forecast that this is where the liberalization of the foreign trade will be seen the most clearly. At least for the time being, basic production seems to remain quite well protected. It would be extremely difficult for Finnish agriculture to adapt itself to free competition on world markets, because the cost level in Finland is too high compared with that of many actual agricultural countries.

8. Price settlements

Producer prices of agricultural products are decided twice a year in the farm income negotiations. According to the law, the negotiations are held between the state and the producer organizations, i.e. the Central Unions of Agricultural Producers of both Finnish and Swedish-speaking farmers.

There are two phases in the negotiations. In the first phase, the rise in costs due to the increase in the prices of production inputs is

compensated to the farmers. An agricultural price council with representatives from the state and the producers, wage-earners and consumer organizations and food industry has been appointed. The agricultural price council prepares a total calculation of the return and expenditure of agriculture, based on the average amounts of the past three calendar years (for details, see the calculation presented in Chapter 8.1.). Current prices as well as those of the last settlement are used in this connection. According to the act, the farmers receive a full compensation for the rise in costs through a rise in the so-called target prices and in the price policy support to the extent that the increase in the total return corresponds to the rise in costs.

The price council decides how the total calculation is made. In practice, it has included (with some exceptions) the same products and production inputs as the total calculation of the Agricultural Economics Research Institute. However, the quantities used are the average quantities of the last three calendar years, and the prices are those of January and July (with some exceptions).

Target prices are set for milk, pork, beef, mutton, eggs, rye, wheat, feed barley and feed oats. Producer prices of other products may fluctuate freely, but the changes of prices are taken into account in the total calculation. Target prices should be realized completely. In the spring settlement a calculation is made which shows deviations from the target prices both for the part of different products and as a total amount.

In the second phase the raise of farm income is negotiated. Farm income is a compensation for farmers' labor input and own capital (interest on loans is taken into account in the cost calculation). In the earlier acts the raise of agricultural income was tied to the development of the general income level or to the income development of rural wage earners. This is no longer the case, but the negotiators can freely decide upon the raise of farm income. In practice, the general labor market settlements are still followed, agriculture being considered a kind of a low wage sector, and the raise of income has

been determined in the same way as in the other sectors of the national economy. An attempt has been made to raise the income on the basis of a calculated hourly wage, and the overall increase in farm income is then determined for the whole of agriculture, based on the total labor input in agriculture. Because the settlement is always an outcome of negotiations it cannot be described by any particular formula.

In the negotiations on prices, the average raise of prices is decided first. Then the raise is transferred to the different target price products, and in this connection it is possible to use price policy as a means of production policy by changing the price relations.

In order to make the producer prices reach the same level as the target prices or at least come as close to them as possible, the state interferes with the price formation in various ways. Up to 1988 the Commerce and Industry Board confirmed the maximum retail prices of dairy and grain products, and in determining these, the changes in the costs in collecting, processing and trade were taken into account so that the prices paid to producers were in accordance with the target prices. The prices of certain meat products were also regulated. All price regulation was abolished in October, 1988, and since then the formation of the retail prices of the aforementioned products has also been free.

In the case of meat and eggs, the price formation has always been free. However, the state regulates production by granting export and/or import licenses. If the producer price falls too much, export licenses are granted to reduce supply and raise the price. Similarly, it is possible to lower too high producer prices through imports. Export support is an essential part of price policy. To prevent the producer price from dropping below the target price, the difference between the target price and the export price is compensated to agriculture, in practice, to export companies, which are mainly cooperatives, i.e. owned by farmers. In the case of imports, correspondingly, an import charge is collected, through which the world market price is raised to the domestic price level. A dual price system is applied in connection with the

import of grain, sugar and oil seeds, which refers to the balancing the difference between the lower world market price and the higher domestic price.

8.1. Spring price settlement

The rise of costs since the fall price settlement of the previous year (i.e. the cost level in July) is calculated in the spring price settlement. In many recent years, however, no correction has been made because inflation has been low. This was also the case in the fall of 1991, and, consequently, the cost calculation was made from the level of January 1991 to that of January 1992.

Table 10 presents the main points of the spring price settlement. First, the return on the target price products is presented by means of the target prices of the previous settlement and the average production quantities. Target prices are the same at both points of time, and thus the totals are the same, as well. This return is needed in order to calculate the total return and, later, the agricultural income.

Next, the calculation shows the increase in the return on the non-target price products (potatoes, sugar beets, oil plants, poultry meat and malt barley). There prices are formed freely according to market forces, although the prices of oil plants and sugar beets are agreed on in the negotiations. The final producer price of sugar beets is determined on the basis of production, because the basic price is determined for a certain quantity of production, and a lower price is paid for the excess. An attempt has also been made to regulate the price of potatoes, but this has not been very successful. In addition, there are the changes in retroactive payments, rent income and support.

All products must be included in the calculation because it is not possible to determine the costs of target price products and those of other products separately. Compensations for crop damages are also included in the calculation as their amount is decided upon every year, and at the same time an agreement is made on the share of the compensation that is to be considered

income of agriculture.

The calculation shows that the total return decreased by FIM 47.0 mill. i.e. 0.2%. This was mainly caused by the changes in the compensations for crop damages. Part of the compensations of 1987 had to be covered by agriculture. Because of this, in 1991 FIM 95 mill. were collected from agriculture, and after this the amount to be collected will again be at the normal level of FIM 50 mill. The return on other products increased slightly. Retroactive payments have usually increased every year, but in 1991, like in the previous year, there was some decrease.

An attempt is made to prepare the cost calculation so that it covers all aspects of agriculture proper. However, this cannot be fully accomplished because it is difficult to differentiate e.g. the building costs of vegetable production under glass from the statistics. Part of the agricultural machinery can be used in forestry, and this is also difficult to estimate.

Some production inputs can easily be included in the statistics, e.g. feed and fertilizers. In machinery, implement and building costs there are problems e.g. for the part of depreciations, because the change in them is difficult to determine. Depreciations can be calculated according to either taxation or national income statistics. In the former depreciations are determined on the basis of purchase price and in the latter on the basis of resale price. Due to inflation, these methods result in different figures. Usually, depreciations based on the national income statistics are applied, but in the settlement of 1990 a method that was close to one based on taxation was used.

Estimating the overhead costs is also difficult. Taxation statistics are used in the calculation, and these have to be relied on for the part of certain other production input amounts.

Price statistics are easier to prepare than those concerning the amounts of production inputs. However, there are problems in assessing the real prices farmers actually pay. Various kinds of reductions are granted to the list prices, and these should be taken into account. In the case of prices of fertilizers, the reductions have been

Table 10. Return and cost calculation of the 1992 spring price settlement, FIM mill.

	Price level in spring 1991	Price level in spring 1992	Change %
Return			
Target price products	18254.7	18254.7	
Other products	2690.9	2705.1	0.5
Rent income	712.3	705.2	-1.0
Retroactive payments	310.1	295.5	-4.7
Support, total	3644.2	3649.7	0.2
Compensation for crop damages	95.0	50.0	-47.4
Total	25707.2	25660.2	-0.2
Costs			
Fertilizers	1446.7	1511.6	4.5
Purchased feed	3329.1	3220.8	-3.3
Wages	555.1	587.3	5.8
Machinery and implements	4197.5	4223.2	0.6
Buildings	1124.7	1114.7	-0.9
Interest on debt	1986.6	2088.1	6.1
Overhead costs	1396.7	1409.2	0.9
Rent	619.5	617.0	-0.4
Other	2620.4	2599.0	-0.8
Total	17276.3	17370.9	0.5
Farm income	8430.9	8289.3	-1.7
Decrease of agricultural income		141.6	
Shortfall of target prices in 1991		381.5	
Need for raise from the return and cost calculation		523.1	

accounted for by following the wholesale prices. For the part of feed, the follow-up of wholesale prices was started in 1987, but as the real prices seem to be even below these, the price level has been dropped further, according to research results. The prices of machinery are also likely to involve considerable reductions. In summer 1991 the stores dropped the list prices by about 15%, and this change was transferred in full to the prices in connection with the fall price settlement. After this correction, the prices of machinery should be close to the prices farmers actually pay for it.

In 1992 the costs had increased by FIM 94.6 mill., i.e. 0.5%. This means that inflation was quite low in agriculture. The price of energy, in

particular, rose a great deal. The increase in the price of fertilizers was 4.5%, but part of this resulted from the increase in fertilizer tax, and part from the change in the seasonal scaling of prices. These have not been taken into account in the final price settlement. In addition, significant cost amounts result from purchased feed, but their prices fell slightly, as well as machinery and implement costs, but for this part the increase in costs remained small. Overhead costs are also a great cost amount, but this does not cause any major increase in costs as the wholesale price index, by means of which the development of prices is followed, rose by only 0.1%.

The cost calculation shows the excess over

target prices as a factor that raises the starting level. According to the earlier act, the target prices had to be realized exactly, and if this was not the case, the deviation was taken into account as a correction in the price settlement of the following year. In the new act the excess is taken into account only for the part that it is more than one percentage point. As in 1991, according to the calculation, the prices fell short of the target prices by 3.09%, the target price level for 1992 had to be raised by FIM 381.5 mill. (i.e. 2.09%). In the spring price settlement of 1993 this amount will be deducted from the target price level.

The total of the return and cost calculation indicated that the need for a raise in the target price level amounted to FIM 523.1 mill. The share of the tax on phosphate fertilizers, which was not taken into account in the final income settlement, was FIM 21.4 mill. The FIM 17.6 mill. caused by the change in the price system of fertilizers was also left out of consideration.

Retroactive payments

Cooperative enterprises do not make profit, but they pay the excess of their activity at the end of the accounting period as so-called retroactive payments, determined by the sales amount of each member. In the case of milk these have been quite significant, e.g. in 1990 the retroactive payments amounted to about FIM 0.1/liter. Retroactive payments have also been paid for meat.

By means of retroactive payments it would be possible to pay higher producer prices. Due to this the act includes a stipulation, according to which the change in retroactive payments must be taken into account in calculating the compensation for costs. Retroactive payments are paid at the end of the calendar year, and the statistics are not ready for the spring price settlement, and thus these are taken into account in connection with the fall price settlement. As in the fall of 1991 no price settlement was made, retroactive payments were transferred to the settlement of spring 1992 (Table 11). Consequently, the retroactive payments of 1989 and 1990 were compared with each other.

Table 11. Retroactive payments in spring 1992 price settlement.

	1989-91 amount mill.kg	1989 payments p/kg	1990 payments p/kg
Milk, mill. l.	2559.28	10.13	9.81
Beaf	116.72	21.41	18.41
Pork	181.18	9.95	10.17
Mutton	1.04	13.92	19.65
Eggs	72.97	9.88	4.37
Veal	0.04	11.67	14.19
Poultry	33.56	1.23	3.03
Horse meat	0.72	7.84	10.04
Total, FIM mill.		310.10	295.47
Change, FIM mill.			-14.63

Final settlement

Income settlement should be completed by the end of February so that the new target prices could come into effect at the beginning of March, as prescribed by the act. In 1992 this was not the case, but the outcome of the negotiations was signed at the end of April. The need for a raise calculated by the price council was FIM 523.1 mill., but only FIM 303 mill. was taken into account. A decision was made to increase state support by FIM 285 mill., and FIM 18 mill. will be considered the share of agriculture in the compensation system in the case of giving up production that came into force at the beginning of 1993. The rest of the need for raise, FIM 198.8 mill., is considered increase in agricultural income, which consist of various amounts, mainly of the share of agriculture in the costs of farmers' vacations and in balancing production.

At the last stage of the negotiations the amount reserved for the raise in the target prices is divided to different products. Through the increase in the prices, an attempt is made to develop the income level in different production lines, which means that raises are usually necessary in the case of all products. The negotiators have calculations on the development of costs in different production lines at their disposal, and this data serves as the starting

point for the raises. The market situation also influences the settlement.

The settlement of spring 1992 was easy to complete as target prices were not changed, except for beef, the target price of which was lowered by FIM 0.50/kg. On the other hand, the production premium of beef was raised for the period between May 1st and December 31st, 1992. Thus the price policy support was raised by FIM 285 mill., and its distribution for different purposes remained to be decided later.

A so-called hectare subsidy was introduced in 1990. Price support, which increases production should not be increased because of the GATT commitments, but direct support should be used instead. For this purpose, FIM 510 mill. of the raise of farm income in 1990 was to be paid as direct support, based on the area. In 1992 the hectare subsidy rose to FIM 1,155 mill. On the basis of this, farmers received FIM 560/ha as direct support. Farms with less than 3 ha do not get this support, and the support is paid for about 85% of the total arable land area. Young farmers get FIM 750/ha.

8.2. Fall price settlement

In the fall price settlement, the change of costs due to the changes in the prices of production inputs is determined, and target prices are corrected correspondingly. The fall settlement is much more limited than the spring settlement. Incomes are not negotiated at all, and the change in capital costs is taken into account only once a year, in the spring settlement.

From January to July, 1992 the costs decreased by FIM 3.1 mill. Fertilizer cost had decreased by FIM 33.1 mill., but, on the other hand, there was some increase in the costs of energy, overhead costs and wages.

To complete the calculation for the return, only the change in retroactive payments is taken into account, and this is done in connection with the fall settlement. Retroactive payments had decreased by FIM 63.6 mill. Consequently, the calculation of the return and cost compensation of the fall was as follows:

Decrease in costs FIM	3.1 mill.
Decrease in return	63.6
Need for raise	60.5

Thus the need for change in the target prices and price policy support would have been FIM 60.5 mill.

The change in the target prices is realized in the fall price settlement only if the change in the target prices and price policy support is over 2 percentage points. This time the change was very small, and target prices were not changed at all. Consequently, the change in the prices of production inputs is taken into account in full in connection with the income settlement of 1993.

8.3. Producer prices

Target prices (see Appendix 7 and Figures 7, 8 and 9) do not give a fully accurate picture of the return farmers get for their products, including all subsidies. For example, in 1991 the production support for milk was FIM 0.34/l. Thus the average producer price of milk was FIM 3.21.

Table 12 presents the development of the producer prices of the most important products

Table 12. The paid producer prices of the most important agricultural products in 1983-1992, including all subsidies (export cost charges and milk quota payments have been subtracted).

Year	Milk p/l	Beef FIM/kg	Pork FIM/kg	Eggs FIM/kg
1983	248.2	24.01	13.68	9.99
1984	261.7	25.84	14.98	10.29
1985	273.9	27.62	16.17	10.72
1986	276.4	28.28	16.49	10.68
1987	283.3	28.77	16.52	10.71
1988	292.6	30.62	17.28	11.06
1989	312.6	32.86	18.02	11.76
1990	316.5	32.11	17.66	11.81
1991	321.2	29.44	16.62	11.86
1992 ^c	318.0	30.05	16.32	11.96

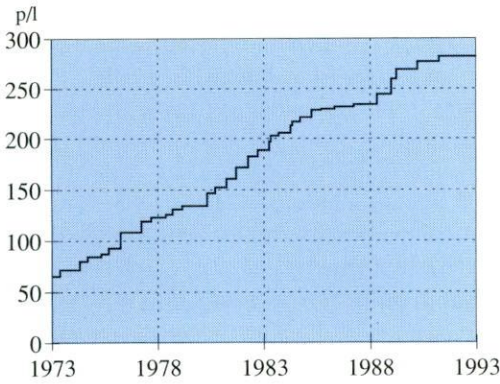


Figure 7. Target price of milk in 1973-92.

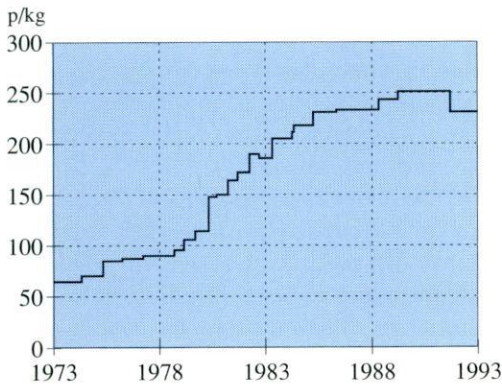


Figure 8. Target price of wheat in 1973-92.

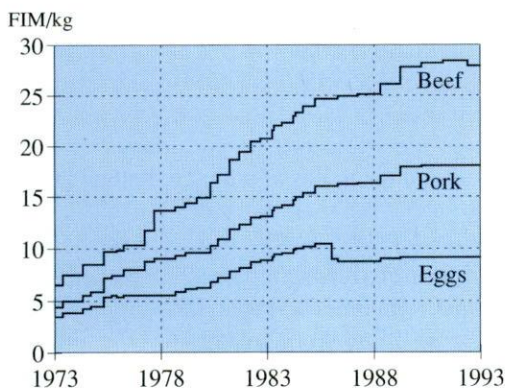


Figure 9. Target prices of beef, pork and eggs in 1973-92.

in 1983-1992. Export cost charges have been subtracted from these prices.

Producer prices of meats have been falling since 1989. The market situation has been difficult and slaughter houses have experienced a cost crisis. Capacity of slaughtering is too big.

The producer price index fell by about 4% from 1990 to 1992. Target prices have been raised only a little, and in case of meats have not been reached. In contrast, price subsidies have been raised, which cannot be seen in producer prices.

8.4. Retail prices

A few examples of the retail prices of food stuffs are given in Table 13. It is hard to compare the producer and retail prices because the products that reach the consumers are seldom exactly the same as were produced on the farm. Fat is taken away from milk to make consumer milk, meat is only part of the whole carcass, bread grain has gone through mills, etc. In some cases, however, the comparison is easier, for example, eggs and potatoes do not change in the market chain.

In 1992 the retail prices decreased slightly. The price of beef, in particular, has been on the

Table 13. Retail prices in September in 1990-92.

Product	1990 FIM/kg	1991 FIM/kg	1992 FIM/kg
Milk (FIM/l)	4.04	4.11	4.04
Butter	39.48	33.12	32.70
Emmental-cheese	47.91	49.27	49.99
Beef (ground)	49.98	49.44	47.93
Pork (flank)	34.39	35.78	35.61
Eggs	16.87	17.18	17.14
Wheat flour	6.26	6.22	5.83
Sugar (lump)	9.95	10.23	10.42
Potatoes	2.77	3.12	3.54

Source: Bulletin of Statistics

decrease. From 1991 to 1992 the food prices included in the consumer price index increased by about 0.3%. From September 1991 to September 1992 the change was -0.4%.

9. Income trends in agriculture

9.1. Sources of income

Farm families earn about half of their income from agriculture (see Table 14). This data is based on the enterprise and income statistics of agriculture and forestry, the population of which included 113,000 farms owned by natural persons in 1990. On these farms there was the average of 17.5 ha arable land and 38.1 ha forest.

The average calculation distorts the view of income formation to some extent. One of these factors is pension income. In the classification according to farmers' age, over 11% of farms were owned by farmers over 65 years of age.

Income from forestry is based on taxation and, thus it does not correspond to the real income.

Wages are a significant source of income on many farms. One of the spouses may work full-time outside the farm, but it is also possible that both spouses have earned income.

Income comparisons between agriculture and other sectors are complicated because farmers

may have income from many sources. One way to solve the problem is to choose the farmers for the comparison from those who earn their living mainly from agriculture. In this case, farmers and spouses whose share of income from agriculture and forestry is over 75% of their total income are classified as full-time farmers. In 1988 there were 40,000 farms like this, their average arable land area was 21.4 ha. In 1988 agricultural income per person was FIM 52,430. The same year the wage income of a skilled industrial worker was FIM 83,860.

9.2. Agricultural income in 1992

According to a preliminary estimate, farmers' incomes decreased by about 12%. This was mainly caused by the poor grain crop. Livestock production also decreased to some extent. The value of total production was 4.6% smaller than in the previous year.

On the other hand, the use of production inputs also decreased. Fertilizers and feed were purchased less than in 1991, and there was some decrease in the amounts of other inputs, too. Increase in fallowing and the decrease in livestock production also reduce costs.

Last year the producer prices dropped by about 1% at the annual level, resulting from the fact that the prices of meat remained clearly below the target. In the spring the target prices were not raised at all, but price policy support rose to some extent.

The increase in the prices of production inputs was about 2%, which is in accordance with the inflation in the whole national economy. The prices of fertilizers rose considerably due to taxes, but the prices of other production inputs were about the same as before.

About FIM 1.5 bill. were collected from agriculture as marketing charges, which reduces farmers' income by about 18%. Without the costs resulting from overproduction, income development in agriculture would be much better.

Table 14. Distribution of income of farm families according to source of income (1990 tax statistics).

	Income FIM/farm	%
Agriculture	67 614	45.7
Forestry	11 196	7.6
Wages	44 097	29.8
Other	11 066	7.5
Pensions	14 023	9.5
Total	147 996	100.0

Source: Tax and income statistics of agriculture in 1990.

Table 15. Trends in farm incomes in 1983-92, FIM mill. and as an index.

	Gross- return	Total- costs	Farm- income	Index
1983	19 911.5	13 897.3	6 014.2	192.7
1984	21 011.1	14 637.5	6 373.6	204.2
1985	21 919.8	15 186.8	6 733.0	215.7
1985 ¹⁾	22 516.4	15 504.0	7 012.4	100.0
1986	23 262.3	15 981.5	7 280.8	103.8
1987	22 473.5	16 711.6	5 761.9	82.2
1988	24 013.8	16 825.3	7 188.5	102.5
1989	25 790.0	18 103.7	7 686.3	109.6
1990	27 515.2	18 647.8	8 867.5	126.5
1991	25 880.1	18 261.1	7 619.0	108.7
1992 [*]	24 681.6	17 951.0	6 730.6	96.0

¹⁾New procedure for cost calculation

9.3. Taxation

Farmers pay taxes according to their real income. For this purpose, each farmer keeps simple accounts, including sales income and the expenditure on production inputs. Capital assets like machinery and buildings are depreciated. The difference between the income and expenditure is taxable income, and taxation is carried out according to the same provisions and tax tables as in the case of income earners.

The depreciations of machinery and implements can be the maximum of 25% and those of production buildings the maximum of 10% of the expenditure balance. In 1986 the depreciations of machinery and implements were 79% and those of buildings 15% of all depreciations.

The value of own products used on the farm is not counted as taxable income. An attempt is made to separate the private household completely from production. Especially the use of energy is problematic in this respect: oil and electricity are bought for both household use and production. Tax authorities have special instructions in order to be able to take this into account. The division of the interest on loans

between production and the household is also problematic.

Finnish taxpayers pay both state and municipal taxes. In the municipal tax the percentage is the same for everybody (15-20%), but the state tax is progressive.

Tax deductions can be made on various grounds, and the income actually taxed may be considerably smaller than the taxable income. In 1990 the average taxable income of farmer and spouse was FIM 148,000, and the tax on this was about 29%.

There is a separate progressive tax on property, which amounts to the maximum of 2% of the value of the property. In agriculture the property used in production (except for animals and stocks) is liable to taxation, unlike in other enterprises. In practice, only large farms pay property tax because the value of farms used in taxation is clearly below their real value.

In 1993 significant changes occur in the taxation of capital income. The tax is 25% of the capital income, independent of the source. There is also capital income in agriculture, but estimating this is very difficult. Consequently, the capital income in agriculture will be calculated so that half of the debts are first

deducted from the taxable assets, which results in net assets. The capital income in agriculture is 15% of the net assets, and the tax on this is the aforementioned 25%.

The taxation of forestry was also revised at the beginning of 1993. The owner may choose between the direct taxation of sales income and the earlier taxation based on the area. The transition period is 13 years, and after this the taxation will be based on sales income, which is regarded as capital income, on all farms.

In Finland there is a sales tax on almost all products. The tax was 17.5% until the beginning of October, after which it has been calculated, like value added tax, from the tax free price. At the same time the tax was raised from the 21.2%

used as the basis (corresponds to the earlier 17.5%) to 22%. According to an estimate, the production inputs of agriculture include a sales tax of about 7.2% of the unsupported value of production. This is not returned to agriculture, which means that the production costs are higher than they would be without the sales tax.

Instead, when the sales tax on the retail price of agricultural products is calculated, primary production is excluded. This means that sales tax is carried only on the value added in the processing, delivery and trade of products. According to some estimates, the sales tax on food stuffs is about 15% of the tax free retail prices.

III

AGRICULTURAL POLICY

10. Outline of Finnish agricultural policy

The main factors affecting the shape of Finnish agricultural policy have been the aspiration to guarantee food supply in all conditions, to develop farmers' income level, and to keep rural areas inhabited. In the background there is a long development process from the food shortages of the post-war period to the present overproduction. At first, the objective was to increase production, and later the main objectives have been the development of farmers' income level and regulation of the price level, followed by various measures to restrict production. Agriculture has been protected against foreign competition in order to make it possible to regulate the price level so that the income objective can be achieved.

The situation has changed, and keeps on changing. Production exceeded domestic consumption already in the 1950s, and since then restricting and reducing overproduction have been the topic of continuous political debate. In the past few years pressures on the independence of agricultural policy have come from abroad. An attempt is being made to liberalize the foreign trade of agricultural products, and this demand has been responded to by Finland.

Another essential factor affecting agriculture and agricultural policy is Finland's application to join the European Community (EC). If Finland becomes a member of the EC, agricultural policy in Finland will have to adapt itself to the agricultural policy of the EC. Agricultural policy will no longer be independent and self-determined, which is considered a serious threat to agriculture.

At present, agricultural policy is in a state of great uncertainty as a result of the application. However, so far no settlements have been made that would change the agricultural policy for the next few years in any significant way. A committee has been appointed, the task of which is to revise legislation.

Instead, the poor economic situation and the problems of the state economy have had direct effects on agriculture. The state has reduced its export support by lowering the production and export ceilings. The measures to restrict production must be financed by agriculture itself to an increasing extent, which causes a reduction in the income level.

However, at present Finnish agricultural policy is still independent of the EC. It is based on the report of the "Agriculture 2000" Commission completed in summer 1987, which gives the outlines for a long-term program in agricultural policy. The report addresses mainly price and income policy as well as production policy, but it also takes a stand on issues concerning the other sectors of agricultural policy.

10.1. The objectives of agricultural policy

Agricultural policy consists of various objectives and the means to achieve them. According to the "Agriculture 2000" commission, the central sectors of agricultural policy are:

- production policy
- structural policy
- income policy
- employment in the countryside and maintaining the rural population level

All these policy sectors involve their own objectives and means.

The production objective aims at an output level that in the long run corresponds to domestic consumption. In practice, this requirement means restricting production, because overproduction is a permanent problem in agriculture. Due to seasonal variation, the "Agriculture 2000" Commission approved a certain amount of overproduction as the production objective, especially in milk production. Membership in the EC and the GATT settlement may make it necessary to reduce overproduction, but self-sufficiency will be retained as the objective of Finnish agricultural policy.

The self-sufficiency objective is based on the aim of securing food supply in all conditions. Maintaining agricultural production is also considered important for employment, regional policy and inhabitation of the countryside.

Structural policy has to support the self-sufficiency objective. Finnish agriculture is based on family farms. An attempt is made to develop the preconditions for production by securing an increase in productivity, which is realized, for example, through rational use of production inputs. It would be possible to increase productivity and reduce production costs by increasing the farm size, but so far this has been restricted to reduce agricultural production and to maintain the rural population level.

According to the "Agriculture 2000" Commission, the limits to the size of an enterprise must be set so that increasing the farm size no longer reduces the unit costs of a product in any significant way. However, this objective means that the farm size should increase, as at present the farms are, on the average, quite small.

The objective of income policy is, according to the "Agriculture 2000" Commission, to guarantee the agricultural population a just income level in relation to other industry groups. Disparities due to the location of farms and the farm size are equalized through the means of price policy. An attempt is made to bring the social security of farmers on an equal level with other industry groups.

The development of the income level is secured through price policy, the Farm Income Act being the most important means. It guarantees a compensation for the increase in costs as a result of the rise of the prices of production inputs, as well as an increase in farm income so that farmers' incomes develop similar to that of the other sectors of the national economy.

Rural population, which was emphasized by the "Agriculture 2000" Commission, concerns the relationship between agriculture and the society as a whole. Decreases in the rural population cause problems, especially in the sparsely populated areas. Maintaining the vitality of the countryside is regarded as desirable, and, consequently, the side-line industries of agriculture and other industrial activities in the countryside are supported in order to achieve the general objectives of social development policy, as well as of regional policy.

10.2. Other objectives

In addition, agricultural policy has objectives that were not especially emphasized, for example, by the "Agriculture 2000" Commission, but which have been put forward in the discussions on agricultural policy or in its realization. These include, among other things, reasonable consumer prices, pure food stuffs, and, in general, environmental considerations.

Food prices are internationally high in Finland, and agricultural policy has been held responsible for this. The situation has changed because of the devaluation of the Finnish markka. The price level in Finland is no longer as high, compared with other countries, as it used to be. This shows how difficult it is to make international price comparisons.

In practice, the consumer price target has not attracted very much attention, but producer prices have been determined solely on the basis of the level set as the target for farmers' income. Producer prices are high due to the natural conditions and the high cost of production in Finland in general, and they cannot be lowered

without affecting farmers' income level.

In the criticism of the high prices, too much attention has been directed to agriculture. The share of agriculture in the price paid by consumers is less than half, and the rest consists of the margins of processing and trade. Thus, processing industry and trade could just as well be blamed for the high food prices, but their possibilities to reduce the price of food are also limited.

Recently, greater attention is paid to the quality of agricultural products. The chemical residues are followed continuously. Agricultural production that uses chemical substances involves real or imaginary problems. Some consumers favor ecologically produced commodities, even if they are more expensive than those produced by using fertilizers and pesticides. However, Finnish agricultural policy has not clearly taken a stand on these questions, although ecological farming is supported.

In the future the factors related to the quality of products may be very important. They might also contribute to finding solutions to overproduction and environmental problems. Extensive agriculture using less fertilizers and other chemicals could produce the pure commodities required by consumers. However, this is possible only if consumers are prepared to pay a higher price for food stuffs, because extensive production usually leads to an increase in costs.

10.3. Agricultural policy in practice

Agricultural policy is, in the first place, the search for and application of various means in order to achieve the specific objectives. The measures are prepared by committees, commissions, teams and the authorities, as well as in the negotiations between the producers and the state. Ultimately, they are based on the law, acts, as well as official decisions of the government and other authorities.

The four most important acts on which the running of agricultural policy is based are the Farm Income Act, the Act on Directing and

Balancing Agricultural Production, the Act on Directing Livestock Production (i.e. the regulation of the establishment of large production units) and the Act on Rural Industries. These are complemented by the dual price systems for milk and egg production.

The Farm Income Act is a means of maintaining the income policy. According to this act, the producers negotiate twice a year with the state about the prices (see Chapter 8). So far producers have got a full compensation for the rise of costs due to the rise in the prices of production inputs, and, in addition, the increase of farm income has been agreed on separately.

The quite complex support policy, which aims at equalizing income disparities between different parts of the country and between farms of different sizes, forms an essential part of the income policy. Additional prices and income support are graded regionally in order to maintain agricultural production in the northernmost parts of the country (see Chapter 13.2).

The Farm Income Act determines the general objectives for production policy. The Act on Directing and Balancing Agricultural Production and the regulation of the establishment of production units provide the means for controlling production, which is central in Finnish agricultural policy. Mainly, regulating means restricting production, but production is also supported to some extent (see Chapter 12).

The structure of agriculture is developed by means of the Act on Rural Industries. It determines the general framework for granting loans and subsidies to agriculture, and, consequently, makes it possible to influence the structural development. The objective is to grant loans, apart from farms, to other enterprises (see Chapter 14). The dual price systems of milk and egg production as well as the regulation of the establishment of production units (see Chapter 12.9) also regulate the structure of agriculture a great deal.

The means of agricultural policy are manifold, and many of them contribute to reaching more than one objective. Like the objectives, the means sometimes contradict each other. For example, the development of farmers' incomes

is taken care of through the price policy, but too high prices lead to overproduction. Low interest loans may lead to an increase in the prices of agricultural enterprises, and thus invalidate the state support, which aims at improving the structure of agriculture. However, the conflicts between the objectives and means are hard to avoid in administered agricultural policy. It is often suggested that this should be replaced by market oriented agricultural policy, the disadvantages of which would be taken care of, for example, through direct income support to farmers.

10.4. Farm Income Act

The Farm Income Act forms the most central part of Finnish agricultural policy. It is a means of regulating the formation of producer prices, and it determines the production targets of agriculture indirectly. The first Farm Income Act was passed in 1956, and since then it has been applied, in revised and reformed forms, up to the present.

The Farm Income Act that is being applied at the moment was passed in 1989. It is a five-year act concerning the pricing years 1990/91 to 1994/95. The pricing year starts at the beginning of March, except in the case of grain, for which it starts at the beginning of July.

The regulation of producer prices occurs in the negotiations between the state and farmers. There are two stages in the negotiations: first, the increase in the prices of production inputs is compensated in full to farmers, and after that the level of farm income is negotiated in the same way as according to the previous act (see Chapter 8).

Another central point in the Farm Income Act are the production and export ceilings, which determine the monetary share of the state of the costs due to the support on agricultural exports. According to the previous act, the state supported the exports in full up to the ceilings.

According to the present act, a partial responsibility of agriculture for exports (10%) begins with the first exported kilo. In the next

stage the responsibility is 50% and, finally, 100%. However, the state still accounts fully for part of the costs of milk product exports, and after that comes producers' 10% export responsibility. All production and export responsibility ceilings will be lowered during the five-year period. These ceilings have been altered for the years 1991-1993 (see Table 18).

10.5. Environmental concerns of agriculture

Problems

Significantly more attention is paid to the environmental problems caused by agriculture. It has been noted that the increase in phosphoric load and eutrophication of lakes and rivers are a serious problem, and, in addition to industry and settlement, agriculture is considered a major emission source. Nitrogenous fertilizers also have an effect on eutrophication. Nutrients from intensive fertilization have in some places led to oxygen shortages in bays.

The increase in the load of agriculture on waterways has probably been influenced by specialization and continuous cultivation of grain, which has in some places led to harmful condensation of the soil and deterioration of its structure. This has resulted in an increase in leakage.

In Finland, too, contamination of groundwater has become a problem in some places, especially in the case of private wells in the countryside. The silage effluent and the microbes in manure (e.g. salmonella) may also contaminate waterways or wells.

A considerable amount of ammonia is evaporated from livestock buildings and manure pits, as well as in connection with manure spreading. Ammonia gas returns to the ground as acid rain and affects the soil. It has been noted that the ammonia gas from traffic increases the ozone content of the air, which, according to studies made in Sweden, causes a reduction in the yield of spring wheat. Research on this issue has been started in Finland too.

An increasing amount of attention is directed to the rural landscape. In Finland agriculture has been considered an important factor in maintaining the cultural landscape, and this is why it has been regarded as necessary to support agriculture in all parts of Finland. But, the present farming technology causes ecological problems. The use of pesticides, subsurface drainage and the disappearance of meadows has led to the vanishing of many plants and a decrease in the populations of certain species of birds.

Environmental problems are centered in the water and the soil. However, food in Finland is clean, and heavy metals are not a serious threat. As a result of the good quality of the raw material, there is relatively little cadmium in fertilizers. Other sources of cadmium are the fallout from the atmosphere and sludge from the sewage treatment plants, the use of which is not approved of by agriculture. The residues of pesticides in foodstuffs are very small. Besides, like in other parts of Europe, some decrease has occurred in the total amounts of chemicals used in plant protection.

Means

Attempts have been made to solve environmental problems through various means. A tax on fertilizers has been collected for many years to cover the share of agriculture in export costs, but, at the same time, the tax has been a means of environmental policy. A tax on phosphorus came into effect in 1990, and this is a purely an environmental tax.

The taxes on fertilizers and phosphorus were combined at the beginning of 1992. The tax is determined on the basis of the nitrogen and phosphorus content of the fertilizers. The amount is FIM 2.90/ kg of nitrogen and 1.70/kg of phosphorus. The tax is used to finance the export cost share of agriculture.

The use of nitrogenous fertilizers is restricted indirectly, because a tax on fertilizers has been collected to finance the export of overproduction and fallowing. The main objective has been to restrict production, and the increase of the

nitrogen content of the groundwater has not as yet led to any special measures.

Phosphatic fertilization has been reduced in an efficient way by lowering the phosphorus content in fertilizers. The recommendations have been changed for the part of phosphorus, because there is plenty of phosphorus accumulated in the soil. An attempt was also made to prevent the leakage of phosphorus into water through buffer strips and grass fallowing, for which a special compensation is paid.

Agricultural producers themselves have also taken the initiative in taking environmental considerations into account. The Central Organization of Agricultural Producers has passed a program for environmental policy, which gives general directions on farming and other production techniques through which the problems caused by, for example, fertilizers, manure, pesticides and other factors that may be hazardous to the environment can be reduced. The agricultural advisory organizations have also enforced their activity concerning environmental considerations.

11. Integration

The Government of Finland applied for membership in the EC in March. The studies on agriculture and agricultural policy that the EC requested in preparing the so-called avis, i.e. the view of the EC on Finland's possibilities to become a member, were started immediately after this. In the first place, the avis is intended for the member states, but it is also important for Finland, because it provides an account of the objectives and problems of the negotiations.

The EC commission completed the avis in October. It is noted in avis that membership in the EC is a great challenge to Finnish agriculture because it leads to lower prices and the level of support as well as to increasing competition. The Commission believes, however, that satisfactory solutions can be found to the problems.

Studies on the EC

The Agricultural Economics Research Institute and the Economic Research Institute of the Pellervo Society have so far made several studies on the agricultural policy of the EC and the possibilities of Finnish agriculture to adapt itself to it. The State Economic Research Institute and the Central Organization for the Finnish Horticulture have also been active in preparing various kinds of studies.

At first, the object of study was the price and support level in Finland and in the EC. The primary observation was that the producer price level in Finland is significantly higher than the price level in the EC. However, the devaluation of the Finnish markka has reduced the difference in the prices, but Finnish producer price level is still almost double compared with the price level in the EC (Table 16).

In estimating the adaptation of Finnish agriculture in the EC, the starting point is the fact that in the EC the world market prices have a greater effect on income formation than in Finland, where various forms of support are very important. If the producer prices drop to about half of the present prices, farmers must lower the production costs considerably in order to keep their incomes at least at a satisfactory level. So far, the studies at the Agricultural Economics Research Institute have concentrated on the possibilities for achieving this.

In grain production it will be very difficult to find ways to reduce costs if Finland joins the

EC. It can be expected that the tighter competition will reduce the prices of production inputs (machinery and fertilizers) to some extent, but the change is not likely to be very significant. Decrease in the price of seeds is the only one that is likely to occur as the producer prices for grain drop. Reducing costs can only be realized through rationalization of production and, in particular, by increasing the farm size.

The poor profitability in grain production is caused by the low yield level, resulting from the unfavorable natural conditions. The problems in adapting to the integration will be greatest in grain production. This is a fundamental problem to the whole of agriculture because after a collapse in the profitability of crop production grain production would decrease considerably, and this would also weaken the possibilities of livestock production to survive in the EC. A major decrease in crop production will also affect the rural landscape.

Livestock production has better possibilities to survive in the competitive EC, even if it is also burdened by the low yield level, resulting in a higher cost level than in the EC. Reducing costs is a lot easier in livestock production than in crop production, because the price of feed can be expected to decrease as a result of the integration. However, special attention must be directed to the rationalization of production, especially to increasing the farm size.

Milk production, in particular, is very important for Finnish agriculture. The share of milk in the value of the total production is over a third, and if beef production is taken into consideration, the share of cattle rises to about half of the value of agricultural production. Milk production is necessary for employment, especially in Central and Northern Finland.

The studies indicate that if the producer price and the prices of production inputs on a Finnish dairy farm were the same as in Denmark, agricultural income would drop by 50% (Table 17). However, in this case no special support for milk has been taken into consideration.

The distance between Finland and the EC countries helps maintain milk production in Finland. Transporting milk in large quantities

Table 16. Producer prices in Finland and Denmark in 1991, according to the exchange rates in May, 1992, FIM. (Dkk 1 = FIM 0.875).

		Finland	Denmark
Milk	l	3.23	2.40
Beef	kg	29.44	18.60 ¹⁾
Pork	"	16.62	8.87
Eggs	"	11.80	5.71
Wheat	"	2.22	1.10
Barley	"	1.58	1.06

¹⁾ bull's meat

Table 17. Agricultural income on dairy farms with 20 hectares in Finnish and Danish prices in 1990, according to the exchange rates in May 1992, FIM/farm.

Number of cows	10-15	over 20
Finnish prices		
Returns	259 800	589 700
Variable costs	74 600	186 200
Fixed costs	67 700	157 100
Labour and capital income	117 500	246 400
Danish prices		
Returns	169 400	389 600
Variable costs	51 300	129 000
Fixed costs	59 700	138 400
Labour and capital income	58 400	122 200

Source: Marttila & Niemi 1992

from e.g. Denmark is not very likely. The transportation costs (FIM 0.40 - 0.50/liter) provide a considerable border protection, which makes it possible for Finland to retain a higher price level, at least for the part of consumer milk. For the part of dairy products, especially the raw material for cheese, however, the price cannot be higher than in other countries, which means that milk producers will also face great problems in adapting to the European competition, even if the costs would decrease considerably for the part of feed.

Support

The support comparisons made at the Economic Research Institute of the Pellervo Society indicate that the support level in Finland is substantially higher than the support paid by the EC. A LFA (less favored areas) support is being applied in the EC, but the application of this in Finland is not clear, and it requires special negotiations. In the EC there is no form of

support that would correspond to the regional support in Finland, which means that this system should be introduced to the EC support. Otherwise the income level in the developing areas will decrease considerably, as regional support forms an essential share of our income support.

The price policy support in Finland consists of hectare subsidies, hectare support and different kinds of production support. Hectare subsidies should be acceptable as almost purely direct support, because they are subject to conditions with regard to e.g. income level and the area.

In Finland hectare support is applied as a kind of direct support because it has not been possible to raise the price level due to the GATT commitments. This support is very important, which means that it should be retained, at least in some form, if Finland joins the EC.

Negotiation objectives

The Government has made careful preparations for the upcoming negotiations. It hopes to reach a settlement that will satisfy all parties. Although the objectives have not been settled yet, certain general features can already be presented.

The starting point for the negotiations is the requirement that Finland should adapt the agricultural policy of the EC. However, it is possible to start from the assumption that Finland will be granted a transition period (e.g. 10 years), during which it gradually shifts to the new system. The organization of this transition period is one of the most important points in the negotiations.

During the transition period the prices will be regulated by means of some kind of border protection. In particular, the system includes balancing the differences in the prices of basic production, but at the first stage food industry also requires protection for its production. At the end the price level in Finland may deviate from the general price level in the EC only to the extent that the market prices in general may differ from each other due to e.g. transportation costs.

Another central negotiation objective is to make the EC accept a change in its agricultural policy that would make it possible to pay higher support than the present LFA support or to achieve some other permanent privileges to Finnish agriculture. Achieving the latter objective does not seem likely, but the introduction of new provisions that apply in the whole EC is always possible. However, these cannot be very extensive, or they lose their significance from the viewpoint of the competitive situation. The concept of arctic agriculture is new in the EC, and it is hoped that this will affect the outcome of the negotiations.

The EC supports the kind of structural change that does not increase production. Finland should naturally take advantage of this possibility. During the transition period the size of individual farms should be increased by means of own support to make them large enough to be competitive in the EC.

12. Production policy

12.1. Production objectives

The task of production policy is to determine the production objectives and to direct production so that the objectives will be achieved. Production objectives can be regarded as formed on the basis of the production and export ceilings determined in the Farm Income Acts (see Table 18). The "Agriculture 2000" Commission recommended that, in the long run, production should correspond to consumption, although some overproduction will be allowed due to seasonal variation. This 100% self-sufficiency can be regarded as the production objective of the government.

The Farm Income Act determines the shares of the state and agriculture of the costs due to the export of agricultural products. The so-called production and export ceilings are presented in Table 18. The responsibility of the state for the export costs of overproduction decreases by

degrees. Thus, in 1991 the state accounted for 90% of the export costs of beef up to 4 mill. kg, and for 50% of the export costs of the next 3 mill. kg. For the part of exports exceeding 7 mill. kg agriculture received only the world market price. In 1992 the state accounted for 80% of the exports up to 2 mill. kg and for 50% of the export costs up to 5 mill. kg.

Similar procedures are being applied to milk, pork, eggs and grain. Non-food grain used in industry, which is supplied for the world market price, is included in exports.

The state no longer carries the full responsibility for the export costs of any products, as earlier was the case. However, for the part of milk the 100% production ceiling still exists, but agriculture has to pay for the export of 10 mill. kg butter in any case.

Consequently, agriculture has to account for export costs even for small quantities. In the case of the marginal amounts, the 10% or 20% share of export costs does not necessarily cause economic loss. When the share rises to 50% the penalty is so heavy that it is not profitable for agriculture to exceed the limit in question.

According to the earlier act, export cost charges could amount to the maximum of 20% of the agricultural income of each year, and the state was responsible for the rest. However, the act has been changed so that no maximum was set for 1991, and in 1992 the limit was 20% of agricultural income. In 1993 the limit will again be 13%.

The amount of import levies of dairy products, meat and grain is deducted from the export cost responsibility of agriculture. At times it may be necessary to import, for example, meat due to seasonal variation or because the demand for certain parts of the carcass is higher than the domestic production is able to meet. Correspondingly, part of the production must be exported. It is also necessary to import grain for some special needs of industry. In 1992 the imports included 25 mill. kg grain, 1 mill. kg beef, and 1.5 mill. kg cheeses, and the import levies for these amounted to about FIM 76 mill.

Table 18. Quantities of milk production (mill. liters) and exports of meat, eggs and grain (mill. kg) up to which the state accounts for 100%, 90% or 50% of export costs in 1990-1994 according to the original 1989 act. In addition, new quantities are given for 1992 and 1993.

	%	1990	1991	1992	1993	1994	1992-93 ²⁾
Dairy milk ¹⁾	100	2300	2280	2260	2240	2220	2150
	90	2400	2375	2350	2325	2300	
	50	2550	2525	2500	2475	2450	2300
Beef	90	5	4	4	4	3	
	80						2
	50	8	7	6	6	5	5
Pork	90	7	6	6	5	5	
	80						4
	50	12	11	10	9	9	6
Eggs	90	8	7	6	5	4	80
	80						2
	50	12	11	10	9	8	4
Grain	90	515	490	465	440	415	
	80						350
	50	715	690	665	640	615	550

¹⁾ In any case, agricultural producers are responsible for the export costs of 3 mill. kg butter (in 1991 7 million kg and in 1992 10 million kg).

²⁾ New production and export ceilings concerning the years 1992 and 1993.

12.2. Exceeding of the production ceilings

In particular, the ceiling for the commodities milk, beef and eggs were exceeded. The export responsibility of agriculture increased continuously as both the ceilings and world market prices fell. The situation improved considerably in 1988 and 1989, when there remained no export costs for overproduction to be covered by agriculture. Especially grain exports remained clearly below the export ceilings in both years.

According to the new Farm Income Act, the export ceilings were lowered and the system became more complicated to follow. Table 19 presents the amounts that exceeded the full

export responsibility of agriculture in 1990 and 1992. As the grain crops were good in 1989-91, the export responsibility of agriculture grew very heavy in 1991.

The 100% production ceiling of dairy milk was 2,150 mill. liters in 1992, so that it was exceeded by 25 mill. liters. The export costs of milk amounted to FIM 923 mill. altogether, and the share of agriculture was FIM 208 mill. With regard to production, the export quantities of meat were relatively small, but the export costs still amounted to FIM 429 mill, the share of agriculture being FIM 300 mill. The export costs of grain were the highest, FIM 1,526 mill. Agriculture had to pay FIM 894 mill. The state and agriculture carried about equal shares of all export costs (FIM 3,002 mill.).

Table 19. Excesses and shortfalls of production and export ceilings and the share of agriculture of the export costs in 1987-92.

	1987	1988	1989	1990	1991	1992 ¹⁾
Dairy milk, mill. l	-6.0	-130.0	-85.0	48.0	-70	125
Pork, mill. kg	4.3	-2.8	3	13.8	5	6
Beef, “	10.	0.5	-4	1.1	12	5
Eggs, “	10.7	8.6	10	9.4	2	4
Bread grain, “		-100.0	-100	-	-	
Feed grain, “	-230.0	-510.0	-68	-	697	550
Export costs, FIM mill.	274	0	0	79	1716	1506

¹⁾ Estimate of the excess over the production and export ceilings (the full export responsibility of agriculture)

12.3. Measures to restrict production

Measures to restrict production have been the most central means of production policy. Production could be directed through price settlements, but as the agricultural income settlement has usually led to increases in prices, the real prices have remained stable, and it has not been possible to reduce production through pricing. Instead, as the prices have not changed, pressures to produce more have increased constantly.

Further, it has been difficult to change the price relations due to internal factors in agriculture. All production lines want at least equal raises in prices. Consequently, it has been necessary to direct the development of production mainly through restrictive measures.

Both mandatory and voluntary means are being applied to restrict production. The most important mandatory measures are the dual price systems for milk and eggs, the regulation of the establishment of agricultural enterprises, restricting land clearing, and fallowing.

In 1983 an act was passed for the voluntary systems (the Act on Regulating and Balancing Agricultural Production), according to which the government can annually decide on the various measures to restrict production. In 1990 this act was revised and it will remain in force until the end of 1994. On the basis of the act, the

government makes decisions on various measures to restrict production.

In 1992 the most important measures to restrict production were fallowing as well as contracts to give up milk production.

In addition, various other measures also have an effect on production. The licenses required for the establishment of production units are one of the most important means of regulating production. In addition to covering the marketing responsibility, the export cost and marketing charges collected for financing the export of surpluses, as well as the tax on fertilizers and feed have a restricting effect on production. The land clearing charge, which has stopped land clearing almost completely, also aims at restricting production.

Another means of restricting production are the measures concerning farmers' pensions: an attempt has been made to promote early retirement through improving pensions, as well as by abolishing hectare subsidies and additional price of milk from farmers who have reached the retirement age from the beginning of 1988, and the additional price of eggs from the beginning of July 1988. The connection between retirement and giving up production has been tightened. Earlier contracts to give up production were also made with pensioners.

Production is also supported to some extent, for example, the production of beef and mutton

is supported through an additional price, and beef production through beef cow contracts. There are also other forms of production support (see Chapter 12.10.)

12.4. Contracts to reduce production

In order to reduce agricultural production it has been possible to draw up contracts that are directed to the whole production of the farm, to livestock production, or to only one product, e.g. milk or eggs. Again, in 1992 it was possible for farmers to cease farming for good or for a six year period in

- plant production
- milk production
- beef production
- pig production
- poultry production

If the contract is only partial, a farmer can't extend other on farm production. Home supply production is allowed.

Measures concerning the whole farm

Contracts to reduce agricultural production, which have been made since 1977, concern the whole production of the farm. Contracts have been made with farmers under 60 years of age who had the chance to shift to forestry or small-scale industrial activity. The contracts are in force for ten years, and the compensation for giving up production is determined on the basis of the income of the farm.

In this connection, the establishment of forestry farms has been supported and encouraged. For the first five years a farm that converts to forestry or rural industrial activity receives a compensation according to the income, and for the whole period a so-called basic compensation of FIM 12,500 a year. When the contract was made the timber output of the farm had to amount to the minimum of 100 solid cubic meters a year.

In 1992 it was possible to make ceasement contract of all farm production either for good

or for a six year perion. The compensation is calculated by field area and by the extend of animal production. In milk, egg, pig and beef production the compensation is progressive by the volume of production.

Measures concerning individual products

The most important contracts concerning individual products last year were the measures directed to milk and egg production.

Contracts to reduce milk production were made in the end of 1990 and in the beginning of 1991. There were two alternative ways of lowering milk production: farmers could stop producing either for five years or completely, i.e. give up their milk production quota.

In 1992 it was again possible to make similar contracts to reduce milk production. The objective was to reduce production permanently by about 100 mill. liters, and this objective was also achieved.

Contracts to reduce egg production made from time to time since 1976 have been an efficient way of curbing production. The contract can either be made for a certain period of time or it can be permanent, in which case the state buys production quotas. Contracts to reduce egg production were made at the end of 1990, and these came into effect during 1991. The contracts were made for 5 years. Cessation contracts were possible also in 1992.

In 1991 the so-called production intervals were introduced: the producer receives the additional price (see Chapter 12.8.) only if he has an interval of at least ten weeks between production periods. Hens that are under 20 weeks old can be raised during the interval.

An attempt has also been made to reduce egg production by restricting hatching. General instructions on the number of chickens to be hatched have been issued for this purpose. However, was not restricted in 1992 hatching. Expanding hatcheries and setting up new ones has been prohibited in the past few years.

Last year it was possible to make contracts to reduce production of fattening pigs and piglets. The compensation varied by income. Pig meat

production has been reduced by setting progressive marketing charges.

Also in cereal production, it was possible to make similar contracts. A compensation of FIM 1,500 - 2,700/ha for 5 years is paid, if farmer permanently takes his fields out of agricultural production. With temporary (six year) contracts, the compensation is FIM 900 - 1,600/ha for 5 years.

Other measures

Afforestation is a way of removing arable land from production permanently, and an attempt has been made to promote it. Last year a compensation of FIM 7,000-10,600/hectare was paid for afforestation, depending on the region.

In practice, the clearing of new arable land has been made unprofitable through a land clearing charge of FIM 50,000/ha.

Already in August 1986 the authorities started to reform pension systems in order to cut overproduction. It has been possible for farmers to retire before the actual retirement age and receive compensation for this. Farmers committed themselves to leaving their land uncultivated for six years.

At the beginning of 1993 an act on the compensation to agricultural entrepreneurs for giving up production came into force, replacing the earlier pension system.

Farmers can make the contract at the age of 55, and it stays in force until they are 65. The compensation consists of a basic amount and an additional compensation for giving up production. The basic amount is the same as the disability pension according to the act on farmers' pensions. The additional compensation is determined on the basis of the arable land area and the number of animals. Farmers must give up agricultural production for at least six years.

12.5. Fallowing

The reduction of livestock production has increased the oversupply of feed grain. In good years grain exports have exceeded a million

tons, which is about a fourth of the total production. As the world market prices for grain have been very low in the past few years, the export costs have been a burden to both the state and farmers.

An attempt has been made to cut the overproduction through a tax on fertilizers and encouraging fallowing. The export cost charges for grain have also affected the decisions on production.

The tax on fertilizers has been continued to cover the share of agriculture in export costs, but it also has objectives related to protecting the environment and reducing production. As restrictive means, however, the taxes on production inputs have proven inefficient, both in theory and in practice.

Further ways of reducing the overproduction of grain are to remove arable land from production through fallowing and afforestation. Intensified voluntary fallowing was started in 1989, when 185,000 hectares were left fallow. The same voluntary fallowing was continued in 1990, but the result, 175,000 hectares arable land remaining out of production, was not quite as good as in 1989. Farmers were entitled to compensation for the fallowing.

In 1991 a mandatory fallowing system came into effect, which had been planned already for several years. This system was applied in 1992 as well. A farmer had to leave fallow 15% of the arable land area. If the farmer did not want to fallow he had to pay FIM 1,000/hectare as export cost charges for the whole area. Farms with less than 3 hectares and those on which grass accounted for at least 80% of the arable land area were exempt from fallowing, which, in practice, was mandatory.

No premium was paid for ordinary fallowing, like in 1991. However, FIM 400/hectare was paid for grass fallowing, so that it was possible for farmers to receive a small compensation.

In 1992 the obligation to fallow was graded according to incomes. If the wage and pension income of the farmer were under FIM 100,000, he had to leave fallow 15% of his arable land area. If the incomes were 100,000 - 250,000, the obligation was 20%, and when incomes exceeded

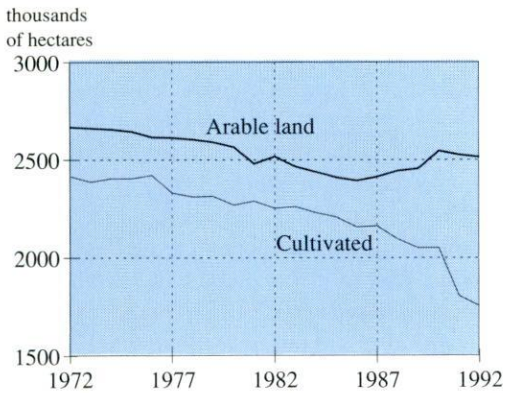


Figure 10. Arable land area and area under cultivation in 1972-92.

FIM 250,000, the obligation rose to 30%.

As agriculture carries the full responsibility for grain production that exceeds the export ceiling, it is more economical not to produce above the ceiling because the world market prices do not cover even the variable costs. The objective was that the area left fallow would be 500,000 hectares, and this was also achieved.

The act remains in force until the end of 1993. The fallowing obligation is 15% of the arable land area; and the wage and pension incomes no longer affect the obligation. If the farmer does not want to fallow he has to pay FIM 1,000/hectare as export cost charges. Hectarage subsidies are also subject to the condition that the farmer participates in the fallowing system. No compensation is paid for ordinary fallowing, but for grass fallowing farmers receive FIM 400/hectare.

Through the mandatory 15% fallowing, about 300,000 hectares can be removed from production. However, the objective is to fallow 450,000 - 500,000 hectares in 1993. A basic premium of FIM 600-1,200 is paid for all fallowed field area, which exceeds the obligation. An additional premium of FIM 1,200 - 1,900/hectare is paid for the share that exceeds the obligation up to 30%. It is hoped that these premiums would increase fallowing so that the objective can be reached.

12.6. Export cost charges

The responsibility of agriculture for export costs increased considerably in 1992. Export cost charges were collected as follows:

- Tax on fertilizers was FIM 1.70/kg of phosphorus and 2.90/kg of nitrogen.

- The export cost charges for grain were FIM 0.30/kg for feed grain, 0.50/kg for wheat and 0.80 for rye until June 30th. After this the charges were FIM 0.20, 0.40 and 0.70, respectively and from Aug. 1st they were FIM 0.10 for all grains. The poor crop reduced the need for export support considerably.

- Export cost charge for pork of FIM 0.20/kg (from May 1st 0.50/kg) was collected if the slaughter weight was under 74 kg. If the slaughter weight exceeded 74 kg, the charge was FIM 1.00/kg.

- Tax on protein feed was FIM 1.90/kg on fat and raw protein, excluding the protein in grain. The tax on each feed mix is determined on the basis of its fat and protein content.

- In order to cover the export costs of the overproduction of milk a "fat charge" has been collected. In 1991 this was 0.8 for one tenth of fat for the part that exceeded the fat content of 3.7% in milk. This amount is the same as the price paid for fat, which means that if the fat content is over 3.7%, nothing is paid for the fat. From the beginning of 1993 this charge was lowered to 0.4 for one tenth of fat.

- Large-scale poultry farms and pig producers have to pay a marketing charge if the income that the charge is based on exceeds FIM 1.5 mill. in pig production and 0.65 mill. in poultry production (since 1989). If the producer has income from both pig and chicken production and the income from the production line that provides smaller income is at least 50,000 FIM, the marketing charge is determined on the basis of the total income from both production lines. The size of the enterprise that exceeds the income limits is about 570 pigs and 3,800 hens or chickens.

As Table 20 shows, the total export cost charges deviate from the final share of

Table 20. Export cost charges in 1990-92, FIM mill. (Some of the figures are from the closing of the accounts of the National Board of Agriculture)

	1990	1991	1992 ^c
Milk	54	126	108
Quota charge	133	78	5
Pork	17	71	81
Tax on fertilizers	135	450	492
Tax on feed mixes			100
Tax on protein	196	216	175
Additional marketing charges	16	15	10
Grain	161	414	491
Total	671	1325	1463
Transfer from the previous year	152	82	-238
Share of agriculture	194	791	1467
Share of agriculture			
- environmental inv.			44
- near area projects			20
Balancing payments for bread grain	39		
Other		3	
Transfer to the next year	51	-41	-345

Source: Ministry of Agriculture and Forestry.

agriculture. The balance sheet cannot be calculated until at the end of the year. However, the excesses and shortfalls are taken into account in the calculation in the following year.

It is estimated that in 1992 about FIM 1,463 mill. will be collected from agriculture for covering the export costs as well as for measures to balance production. The share of the export cost charges proper has been estimated at FIM 1,467 mill.

12.7. Dual price system for milk

The dual price system for milk came into effect at the beginning of 1985. A quota was set for each farm on the basis of the amount of dairy milk production in either 1981/82 or 1982/83, whichever was higher. However, all farms that produced milk at the beginning of 1985 could produce freely up to 30,000 liters. The free quota was raised to 40,000 liters at the beginning of 1990. It is not possible to purchase or rent quotas.

If the amount of milk delivered to dairies exceeds the quota, a quota charge (FIM 2.05/liter in 1992) is collected for the excess. The principle is that producers get only the world market price for the amount that exceeds their quota. The excesses have amounted to only about 10 mill. liters a year.

At the beginning of 1988 a quota system for dairies came into force. Dairies have to pay a quota charge of FIM 0.50/l for the amount of milk that exceeds the amounts of 1986. The purpose of this is to prevent the dairies from taking advantage of the free quotas and, in general, from increasing milk production for economic reasons.

The quota system will continue until the end of August, 1994. The system was based on the calendar year, but now it is calculated from the beginning of September until the end of August. The first period, however, is Jan. 1st, 1992 - Aug. 31st, 1993.

In order to improve the production structure, the system was changed so that 75% of a discontinued quota is returned immediately, based on a decision of the agricultural district, unless the reduction results from a contract to reduce or give up production. In Northern Finland the additional quota is 100%. A decision was made to abolish the maximum limit of the quota, which was 156,000 liters.

Farmers who made a contract on ecological production could apply for a license to start producing milk. The maximum quantity was the same as the free quota, i.e. 40,000 liters.

Milk production is completely regulated by the state. It is supervised through a threefold

quota system: the highest is the ceiling concerning the whole production, dairies have their own quotas, and the most effective restrictive means are the quotas for individual farms.

12.8. Dual price system for eggs

At the beginning of 1986 a quota system for egg production came into effect. A production quota was determined for each egg producer, based on the largest quantity sold in a year in 1982, 1983 or 1984. For some special reasons the quota could be altered.

In this system the regulation of production is based on an additional price, which in 1992 was FIM 4.24/kg in the provinces of Oulu and Lapland and 3.84 in other parts of the country when the production was the maximum of 10,000 kg and FIM 2.94, depending on the marketing channel, in the whole country for the maximum of 80,000 kg.

Producers get the target price plus the additional price for the quota. The additional price is paid for the maximum of 80% of the production quota, and for the part exceeding 50,000 kg for only 70% of the quota. It is paid only up to 80,000 kg.

As a result of the grading of the price, production has decreased continuously, but this has been partly caused by the contracts to decrease production as well. As a result, the exports have dropped to a quite tolerable level.

12.9. Regulation of the establishment of production units

Originally, the regulation of the establishment of production units was based on the objective of preventing agriculture from becoming too industrialized. An attempt has been made to keep production in the hands of farmers. A condition for the establishment of an agricultural enterprise is that the farmer lives on the farm, and the farm size does not exceed certain limits.

The licenses have gradually become an effective means of preventing the increase of

production. New livestock production units cannot be established or old ones extended without a license from the authorities. The Act on Directing Livestock Production was revised at the beginning of 1991 and it will remain in force until the end of 1994. For the most part, the new act does not differ very much from the earlier one.

A license from the agricultural districts is required for the establishment of production units with over 30 beef animals, 25 pigs, 100 hens for egg production, or 1,000 chickens (or other poultry) for poultry meat production.

These restrictions do not apply to milk production because it is regulated separately through the act concerning the milk quota system. Beef production that is based on suckler cows is not regulated. In contrast, it is supported through a special suckler cow premium.

Licenses are not granted to enterprises with over 120 beef animals, 400 pigs, 4,000 hens or 30,000 chickens. It is possible for farms to get a license for only one form of livestock enterprise.

In addition, getting the license is subject to the condition that the farm must supply 2/3 of the feed needed in the production. If the size of the enterprise is over 60 beef animals, 200 pigs or 1,000 hens, a 3/4 self-sufficiency in feed is required. In the case of chicken production, the required self-sufficiency is 1/5. In the past couple of years, suckler cows have not been taken into account in calculating the self-sufficiency in feed.

In general, granting the license has been restricted only to transfers of farms to descendants and, for special reasons, when the owner of the enterprise changes. In most cases production can only be continued to the same extent as earlier.

12.10. Production support

Finnish production policy is mainly characterized by measures to restrict supply. There are, however, some measures that aim at increasing production. The most important one is the beef production support, which aims at

raising slaughter weights. This was regarded as necessary in the mid 1970s to secure the domestic beef supply.

Production support is realized through an additional price, which is paid if the slaughter weight exceeds certain limits. Additional price for slaughter animals of over 190 kg (heifers over 170 kg) was paid according to Appendix 9.

Beef production is also supported through the so-called suckler cow premiums (FIM 1,700/cow in 1991). In 1992 contracts were made with about 1,000 farmers for about 7,800 suckler cows. Altogether about 16,000 cows are included in this system.

Additional production premium is also paid for mutton. There is no actual production support for grain, but the production of rye and feed grain is supported by regional subsidies in some parts of Finland. The production premium for rye was FIM 0.30/kg and that of feed grain FIM 220/ha.

Ecological cultivation has been supported since 1990. Farmers can shift to ecological cultivation during a three-year period, during which they are entitled to support. Farmers engaged in ecological farming prior to 1990 are also entitled to this support. Farmers commit themselves to practicing ecological cultivation for three years after the last year they get the premium. In 1992 this support was FIM 1,800 - 2,200/hectare.

13. Agricultural support

13.1. Support in general

There are many ways of understanding and defining agricultural support. As a rule, it refers to the support that is paid through the state budget, e.g. price support, export support and production subsidies. Support can also be defined as the difference between the producer price and the world market price. This is based on the idea that without the state support the producer price would have been the same as the world market price.

The most important task of Finnish support policy is to keep the producer prices at the level agreed on in the farm income negotiations. Most of the support is an integral part of the price system and its realization. Part of the support is not included in the price system, for example, investment support and support for the financing of structural development are granted through the Development Fund (see Chapter 14). Agricultural counselling and processing are also supported through budget funds.

The support is used for subsidizing exports, reducing income disparities, supporting production, and realizing the income level of special crops, like sugar beets and oil plants. Part of the support is so-called direct support, which is recommended by the international organizations, instead of price support.

The distribution of the support for different purposes is presented in Table 21. The support has been divided into three parts: support of agricultural production, marketing support and support of food stuffs. Production is supported by means of the so-called price policy support, structural support, and various other forms of support. Price policy support is dealt with in detail in Chapter 13.2 and structural support in Chapter 14.

Marketing support includes the export support of raw materials and processed goods. The state has to pay export subsidies and compensations for the differences in prices in order to prevent the export of surpluses from lowering the producer prices farmers get. For computational reasons, the refund of the sales tax for the part of export products is also regarded as export support.

The third form of support presented in Table 21 concerns the food industry. In the case of sugar and oil plants, the difference between the domestic and foreign price level is equalized through special import levies and excise taxes. As a result, the budget also includes support on food stuffs. Most of this is returned to the state as import levies and excise taxes paid by the consumers.

PSE support

Agricultural support can also be defined more broadly as the difference between the producer price and world market price. This definition has been applied, for example, by the OECD in its study of agricultural support in different countries.

In the OECD study the support is measured by a PSE (producer subsidy equivalent) indicator, which is calculated, roughly, as the difference between the producer price and world market price. In principal, all agricultural support (price support, export support, production subsidies, investment support, research and advisory costs, etc.) are included in the producer price.

As calculated by the OECD, the support becomes very high because it is based on the world market prices, which are quite low. The support is very much susceptible to disturbances in the market, especially oversupply. Some of the world market prices determined through this procedure (e.g. the price of consumer milk) have obviously been far too low. The devaluation of the Finnish markka has changed the price relations with the other countries considerably. As a result, the PSE support in Finland has decreased greatly during the past couple of years.

13.2. Price policy support

Price policy support is a central form of support related to our price system. The amount is decided in the farm income negotiations, since part of the need for raises is transferred to price policy support. Income disparities within agriculture are equalized through this support, but it also used to function as a means of slowing down inflation in the mid 1970s, when part of the raise in the price of milk was transferred to be paid as a so-called additional price through the budget.

The most important forms of price policy support are:

1) regional support and support paid according to the farm size

Table 21. Agricultural support, FIM mill.

	1988	1989	1990	1991
Agricultural Production	5 085	4 886	5 253	6 047
- price policy support	2 021	2 990	3 375	3 570
- Structural support	939	989	1 130	1 104
- other	2 125	908	749	1 374
Marketing	2 855	3 338	4 720	5 079
- export support	1 566	2 403	3 481	3 838
- sales tax	469	492	753	885
- export of processed	788	393	486	355
Food stuffs	805	735	738	911
- price support	726	661	680	874
- other	79	74	58	37
Other	31	50	0	0
Total, gross	8 744	8 959	10 711	12 037
Total, net ¹	7 534	7 784	8 997	9 896

¹ Net expenditure has been calculated by deducting the state's tax and charge incomes from the gross expenditure (e.g. the share of agriculture in export costs).

Source: Economic Survey 1992

2) additional price of milk, meat and eggs.

3) hectareage support

In the last farm income settlement in spring 1992 altogether FIM 3,935 mill. was reserved for price policy support.

Support according to the area and size of the farm

The support that is based on the farm size (the so-called hectareage subsidy) is tied to the area of the farm and to the number of livestock, i.e. to so-called production units (one hectare and one dairy cow equal one production unit, one pig equals 0.2 production units, etc.). The support is paid to balance income disparities. Subsidies are highest on farms with 7-8 hectares. No production units are formed of arable land area of over 50 hectares.

In order to determine the hectare subsidies the country has been divided into five areas, two in Southern Finland and three in Northern Finland, and, in addition, the subsidies are scaled according to incomes. The basic price per production unit was FIM 700 in 1992.

Hectare support

A support system based on the area was introduced in 1990, when part of the raises in prices was paid as direct support on the basis of the area. This became necessary as the GATT agreement made it impossible to raise agricultural support, which would have resulted from the increase in market prices. Hectare support was FIM 500/hectare, and in 1992 it rose to FIM 560/hectare. For farmers under 39 years who have acquired their farm after 1983 the support was FIM 750. The support is 85% of the basic amount if the farmer does not fallow 25% of his arable land area. Farms with less than 3 hectares do not receive any hectare support.

Regional support

In order to balance regional income disparities, milk and meat producers are entitled to production support. For this purpose the country has been divided into 10 regions (for the part of meat into 9), and the production subsidy for milk and meat has been determined for each of them separately. Regional subsidy is very important to farmers in Northern Finland

because, for example, the regional subsidy for milk is FIM 0.13 - 0.55/l, that of pork FIM 0.40 - 0.55/kg, and of beef the maximum of FIM 12.80/kg in the province of Oulu. This subsidy has proved very effective as a means of equalizing income disparities within agriculture.

Based on the number of animals, a subsidy, which includes the compensation for the price reduction of commercial feed, is paid in Northern Finland and in the archipelago. The subsidy is graded regionally and it varies between FIM 140 and 1,725 per animal unit. In the southernmost parts of the supported area the subsidy is doubled for the first seven dairy cows, and in the north it is tripled.

Additional price for milk

The additional price of milk was introduced in 1974 to slow down inflation. At first it was the same for all farmers, but later it has been graded according to the quantities of milk (see Appendix 8), and, consequently, it has become a means of dividing incomes within agriculture. The grading of prices was changed last year.

Farmers over 65 years of age do not get the additional prices. It is generally regarded as desirable that pensioners should give up agriculture. Thus part of the arable land might remain out of production, which reduces overproduction. Farmers over 65 years of age do not get hectare subsidies, either. These two points have increased the willingness to retire, which is also supported by the improvements in the pension systems.

Table 22. Hectare subsidies per production unit in 1992.

Income class	Southern-Finland	Central-Finland	Northern Finland		
			south-zone	central-zone	north-zone
under 90 000	700	770	840	910	1050
90 001-110 000	525	578	630	683	788
110 001-130 000	350	385	420	455	525
130 001-150 000	175	193	210	228	263
below 39 years of age	980	1078	1176	1274	1470

14. Structural support

Small farm size, which leads to unnecessarily high production costs, is considered one of the major problems in Finnish agriculture. The task of structural policy is to increase the farm size and, in general, to rationalize production in order to reduce production costs.

The state supports the rationalization of agriculture. This activity is based on the Act on Rural Industries, which came into effect in 1991, and which provides the general framework for the development of farms that are supported by the state. On the basis of this act, farms are granted investment and financing support as well as actual subsidies.

A central means of the Act on Rural Industries is the Development Fund of Agriculture and Forestry, through which the state supports investments in agriculture by granting low-interest loans and actual subsidies.

The capital of the Development Fund consists of annual transfers from the state as well as the interests and repayments of loans and trade price payments resulting from the land use activity. At the end of 1991 the loan capital of the Fund amounted to FIM 6.9 bill. The interest varies between 4 and 7%, depending on the region.

By means of state funds it is also possible to lower the interests on loans granted by private financial institutions, if the loans meet the preconditions of the act. The interest support is half of the interest of the credit institution. Interest support loans are as significant as the actual loans granted by the state.

Support of rural industries

The rationalization and decrease of agricultural production cause a decrease in the rural population and threaten to leave the countryside uninhabited. Consequently, an attempt has been made to develop rural industries in general. The objective of the new act is to make this activity more uniform and extensive. However, only basic production and entrepreneurial activity closely connected with it are subsidized on the

basis of the Act on Rural Industries.

Subsidies and loans may also be granted to support so-called rural industries that are outside agriculture proper. The support has been granted for entrepreneurial activity practiced by farmers in connection with agriculture. Enterprises that are run by the farm family or that employ outside labor corresponding to the maximum of 2-3 annual jobs are entitled to the financing. The most important fields that have received the support are small-scale labor intensive manufacturing and service enterprises (about a third), garden, greenhouse and other special crop production (about 20%), farm holidays, horse husbandry and other enterprises related to free-time activities (about 20%) as well as fur farming, aquaculture and beekeeping.

The so-called "start-up" money system is also part of the investment support. Young farmers under 35 years of age are entitled to state support when they start practicing agriculture on a farm they have acquired. In 1992 the maximum subsidy was FIM 62,500 to be spent on, for example, purchasing machinery, implements or fertilizers. Altogether about FIM 70 mill. of "start-up" money was available last year.

15. Social policy

A farmer is at the same time an entrepreneur and an employee. The general laws and acts on the social security of employees do not concern farmers, but a separate legislation has been developed for them. Usually this has been decided on in the farm income negotiations. The responsibility for the costs of the social security is divided between farmers and the state. The most important acts concern the pensions, compensations in case of sickness or accidents, annual vacation and substitute help.

Farmers' pensions are prescribed by law, and they are comparable with employee pensions in other sectors. Farmers pay insurance payments according to their labor income, which is mainly determined by the area of the farms. They are entitled to, for example, old-age pensions, part-

time pensions, disability pensions, unemployment pensions, as well as a pension in case of early retirement.

The acts on farmers' pensions are supplemented by the pension in the case of a transfer of the farm to a descendant, which mainly aims at lowering the average age of farmers and to get skilled farmers to the field. About 1,500-2,000 contracts a year have been made, and the arable land area of the farms has been a little under 20 ha.

Pension in the case of a transfer of the farm to a descendant can be granted to farmers over 55 of age. The contract can be made when the farmer is 50 years old, but the payments start when he is 55. The pension is subject to the further condition that the production on the farm can be considered profitable. In practice, the amount is determined in the same way as in the case of disability pensions, and the same stipulations are applied as for the other pensions in the case of early retirement.

The act on the pension in the case of giving up production, which came into force in 1974, also aims at improving the structure of agriculture and reducing production, because the pension is subject to the condition that the farmer quits production.

Contracts to give up production can be made by farmers over 55 of age, but the spouse or a widow can get the pension already at the age of 45. This pension may also supplement other pensions, e.g. old age or disability pensions. In the period when the act has been in effect, in 1974 - 92 more than 21,000 farms have made these contracts.

At the beginning of 1993 the act on the pension in case of giving up production was replaced by a new system (see Chapter 12.4).

In the case of *disability* that results from illness, farmers are entitled to compensation according to the act on health insurance, after the waiting period. Waiting period consists of the day when the disability starts and seven week-days after that. At the beginning of 1991 a new act came into effect, according to which the compensation is also paid for the waiting period.

In 1982 farmers' *accident insurance* act came into effect. The accident insurance is automatically incorporated in the pension insurance. The insured are entitled to compensation for costs, daily allowance and pension in case of accidents or occupational diseases. Insurance payments are collected from those who, according to the act, have to take the insurance.

In 1988, a group *life insurance* for farmers was introduced, the aim being to secure the subsistence of the family of the deceased.

Farmers engaged in livestock production are entitled to an *annual leave* of 22 days. The municipalities have to arrange vacation substitutes for the duration of farmers' vacations.

Farmers can get *substitute help* in the case of sickness, accidents, rehabilitation, military service or childbirth. The substitute help for the duration of maternity leaves was extended to 320 days from the beginning of 1991. Farmers pay for the substitute help, and the amounts are determined according to their income and the size of the family.

Animal husbandry does not allow week-ends off as most other jobs do, which means that these farmers have a seven-day working week. A *days-off scheme* has been developed to relieve farmers engaged in animal husbandry from being continuously tied to their work. A farmer is entitled to a maximum of 12 days off a year, either one day at a time or several consecutive days, the maximum being five days a month.

An experiment of farmers' *occupational health care* was started in 1980. Occupational health care is preventive health care, including accounts of working conditions and health inspections. The social security payments are paid in full through the state budget. The share of agriculture in the costs of the system is realized by lowering the producer price level in the farm income settlement by an amount that corresponds to the share in costs. In the settlement of spring 1992 the share of agriculture was estimated at FIM 229.1 mill.

IV SUMMARY

Agriculture was affected by a quite severe crop failure in 1992 due to the drought in the early part of the summer. Hectarage yields were on average 20% smaller than the long-term trend value. In particular, grain production in Southern Finland suffered from the drought.

Overproduction of grain was reduced through mandatory fallowing. Farmers had to leave fallow 15% of their arable land area in order to receive the hectarage subsidy for their whole area. In practice it was thus necessary for farmers to leave fallow the required area because the loss of the hectarage subsidy would have been greater than the revenue from cultivating the area in question. A special compensation was paid if the area left fallow exceeded the minimum, which raised the premium fallowing to about 500,000 hectares, i.e. 18% of the total arable land area. Consequently, this measure had a great impact on the total grain crop.

Barley was especially affected by the crop failure: the hectarage yield of barley was 10% smaller than in normal years. The yield of oats was also clearly below the normal. The amount of the crop failure was estimated at FIM 580 mill. As farmers themselves account for 30%, the total amount of compensations was only FIM 133 mill.

Livestock production decreased altogether by about 3.5%. Milk production decreased 70 mill. liters, i.e. 3%, as a result of the contracts to reduce milk production. However, the self-sufficiency is still clearly over 100% with respect to both liquid milk and, in particular, fat. Beef production decreased 7 mill. kg, i.e. 6%.

Pork production has been restricted only

through a marketing charge, which was FIM 0.30/kg if the slaughter weight was under 74 kg and 1.00/kg if the slaughter weight exceeded this limit. This has dropped the average slaughter weights. Pork production fell by 1%. Egg production stayed at the earlier level.

Farm income settlement was made according to the Farm Income Act. The calculation of the price council indicated that the amount needed for the raise was FIM 518 mill. As no raises in wages were realized in the labor market, farm income was not raised either. However, part of the the need for the raise was used for raises in the social security, so that only FIM 303 mill. remained for compensation, and part of this was left to be realized at the beginning of 1993. It was decided that the remaining FIM 285 mill. will be paid as various kinds of subsidies, mainly as hectarage support.

In 1992 agricultural income decreased by about 12%. This was caused, in the first place, by the decrease in grain production, but the reduction of milk production also lowered farmers' incomes. Marketing charges also reduced farmers' incomes a great deal. Producer prices decreased slightly, but support rose correspondingly. Increases in the prices of production inputs remained small.

Agriculture has attempted to explain the impact of integration on the farmer throughout the year. However, the Government has appealed to all sectors to unite and achieve a favorable outcome in the negotiations on integration. Agriculture was also concerned about the GATT negotiations, which also seemed to lead to a decrease in agricultural support.

Exchange rate at the end of December, 1992:
1USD = 5.275 FIM

Explanation of symbols

- e Preliminary data
- Magnitude nil
- .. data not available or too uncertain to express

Sources:

Monthly Reviews of Agricultural Statistics, the National Board of Agriculture
Bulletins of Statistics, Central Statistical Office
Statistical Yearbook of Finland 1988
Statistics of the Agricultural Economics Research Institute
Economic Survey 1990, the Ministry of Finance
Statistics of the Market Research Institute of Pellervo Society
The Report of the "Agricultural 2000" Commission, 1987:24
The Compendium of Laws and Statutes
Marttila, J. and Niemi, J. Finnish agriculture and the Common Agricultural Policy, paper presented in EAAE seminar in Lissabon 1992.

Appendix 1. Producer price index and cost price index in agriculture with subsidies (1970=100).

	Producer price index of agriculture	Cost price index	Requisites and tools	Machines	Buildings
1975	188.2	205.9	188.4	208.3	230.2
1976	213.6	238.4	255.3	231.2	255.4
1977	229.4	273.6	267.3	258.1	281.4
1978	242.5	285.4	273.8	282.2	294.9
1979	257.2	304.3	282.8	308.7	325.6
1980	288.2	341.7	318.0	341.2	372.1
1981	324.5	394.0	384.9	374.6	400.8
1982	370.0	427.5	423.2	404.0	424.2
1983	394.8	464.2	461.3	445.7	454.3
1984	419.6	501.7	504.0	474.1	479.2
1985	448.4	527.0	531.4	495.9	499.6
1986	456.5	518.6	506.4	517.7	517.1
1987	463.7	522.8	499.5	534.1	535.1
1988	480.7	537.5	496.9	561.9	563.4
1989	500.0	566.5	518.1	590.2	602.5
1990	500.0	607.6	557.4	630.4	647.2
1991	481.5	634.9	600.9	632.3	656.9
1992 ^{e)}	478.5	647.6	618.9	656.3	639.4

Appendix 2. Some figures of the agricultural structure.

	Number ¹⁾ of farms 1000	Average ¹⁾ size of farms, hectares	Number of milk suppliers 1000	Employed in agriculture ²⁾ 1000 persons	% of total employd
1975	248.7	10.05	128	327	14.1
1976	242.7	10.26	119	306	13.4
1977	237.7	10.43	112	278	12.5
1978	232.8	10.60	104	261	11.9
1979	229.3	10.78	98	251	11.1
1980	224.7	10.96	91	251	10.8
1981	218.9	11.16	85	250	10.6
1982	212.6	11.42	78	255	10.7
1983	208.2	11.63	74	246	10.3
1984	203.9	11.85	70	242	10.0
1985	200.5	12.07	66	228	9.4
1986	195.4	12.38	63	218	9.0
1987	192.2	12.59	58	206	8.5
1988	189.0	12.77	53	197	8.1
1989	48	179	7.2
1990	199.4	12.76	45	170	6.9
1991	200.0	12.90	40	166	7.1
1992 ^{e)}			35	159	7.3

¹⁾over 1 hectare

²⁾Source: Finnish Labour Review, Ministry of Labour Planning Secretariat

^{e)}estimate

Appendix 3. Number of animals in June and the average yield per cow.

	Dairy cows 1000	Yield per cow litres	Pigs 1000	Hens 1000
1972	836.5	3889	1045.7	5963.7
1973	823.6	3839	1139.3	5869.0
1974	818.5	3856	1048.9	5803.2
1975	773.2	3997	1036.1	5943.3
1976	763.1	4200	1053.9	6333.2
1977	751.6	4197	1143.3	6245.1
1978	742.0	4260	1244.7	6046.4
1979	730.1	4336	1288.7	6029.4
1980	719.5	4478	1410.2	6040.7
1981	700.8	4450	1467.1	5200.2
1982	689.2	4493	1475.3	5291.5
1983	663.1	4778	1440.7	5440.4
1984	659.5	4799	1381.8 ¹⁾	6025.3
1985	627.7	4812	1295.2 ¹⁾	5922.4
1986	606.8	4935	1322.7 ¹⁾	5532.1
1987	589.0	4905	1341.9 ¹⁾	5341.6
1988	550.6	4990	1305.1 ¹⁾	5237.6
1989	506.6	5246	1290.7 ¹⁾	4923.3
1990	489.9	5547	1394.1 ¹⁾	4844.8
1991	445.6	5619	1344.3 ¹⁾	4138.0
1992	428.2	5620 ^{e)}	1297.9 ¹⁾	3968.9

¹⁾Including the pigs of dairies

^{e)}estimate

Appendix 4. Sales of fertilizers (kg/ha).

	N	P	K
1972-73	69.4	30.8	47.4
1973-74	78.2	33.4	52.0
1974-75	85.8	34.2	53.9
1975-76	79.6	29.5	47.6
1976-77	65.4	25.0	41.1
1977-78	69.1	25.8	43.3
1978-79	76.9	27.8	47.4
1979-80	83.3	28.0	50.2
1980-81	82.4	27.8	49.3
1981-82	78.7	26.8	47.5
1982-83	91.4	29.9	53.8
1983-84	90.7	30.9	55.9
1984-85	88.9	30.8	56.5
1985-86	90.0	30.2	55.5
1986-87	94.4	31.0	56.5
1987-88	98.2	32.0	59.3
1988-89	100.3	29.7	56.1
1989-90	111.5	30.7	57.6
1990-91	109.4	26.3	53.4
1991-92	92.8	19.9	39.7

Appendix 5. Agricultural total calculation, gross return in current prices, FIM mill.

	1986	1987	1988	1989	1990	1991 ^e
Crop production						
- Rye	202.1	189.0	163.3	448.5	430.8	492.6
- Wheat	1081.6	933.4	659.6	1028.5	1415.0	954.7
- Barley	1521.0	1196.6	1266.0	1435.8	1552.8	1510.9
- Oats	680.8	517.1	571.8	901.6	1377.3	997.3
- Potatoes	358.8	640.4	517.9	457.9	313.4	359.2
- Potatoes of processing	200.1	92.2	223.7	260.9	226.2	170.3
- Seed potatoes	8.9	6.9	10.7	10.8	9.3	6.2
- Sugar beets	457.0	243.4	489.2	555.2	545.8	472.2
- Oil plants	451.2	454.3	461.7	515.5	526.6	439.9
- Peas	23.7	12.3	13.6	16.3	20.6	33.1
- Grass seeds	31.5	17.4	43.5	47.1	62.2	43.6
TOTAL	5016.6	4303.1	4421.2	5678.2	6479.9	5480.1
Garden production						
- Root crops	82.9	70.8	123.5	90.1	91.1	107.3
- Vegetables	538.1	546.4	527.5	599.7	566.4	528.4
- Berries	123.4	117.4	117.6	162.5	191.7	160.6
- Fruits	48.9	15.8	44.1	53.3	19.9	21.4
TOTAL	793.3	750.4	812.7	905.6	869.1	817.7
Animal production						
- Milk	8048.5	7893.0	7638.3	8170.6	8439.2	7730.4
- Beef	3532.2	3547.3	3411.1	3520.9	3794.7	3582.6
- Veal	1.6	1.7	1.7	1.8	0.5	0.5
- Pork	2870.1	2907.9	2924.5	3141.2	3302.0	2942.3
- Mutton	40.0	41.9	36.3	37.1	43.2	38.1
- Horse meat	18.1	19.2	14.6	15.6	17.3	18.5
- Poultry	265.8	334.7	365.4	392.6	438.6	494.8
- Eggs	896.3	865.4	848.3	889.1	902.3	793.4
- Export of animals	12.2	11.2	10.6	6.6	9.9	7.0
TOTAL	15684.7	15622.3	15250.8	16175.6	16947.8	15607.6
PRODUCTION TOTAL	21494.7	20675.8	20484.6	22759.5	24296.8	21905.4
Income from rents						
- Means of production	464.7	457.0	469.4	482.6	581.1	582.1
- Buildings and land	148.1	165.3	166.9	175.2	184.9	189.2
TOTAL	612.8	622.3	636.3	657.8	766.0	771.3
Subsidies						
- by farm size	579.5	531.4	644.6	1340.9	961.5	840.3
- by number of cows	124.2	127.8	145.3	180.5	191.8	188.8
- Premium of feed grains	42.6	41.4	39.6	42.0	45.7	33.6
- "Start money"	90.7	149.3	132.0	116.0	107.0	97.2
- Premium for suckler cows				10.0	20.3	27.0
- Support for field area					564.1	827.0
TOTAL	837.0	849.9	961.5	1689.4	1890.4	2013.9
Compensations to reduce production						
- Production guiding (4a§)	44.8	16.5			7.8	5.1
- Milk bonus	129.6	74.1	142.8	141.2	140.5	335.9
- Pork bonus	12.6	11.7	0.0	0.0	0.0	0.0
- Egg bonus		37.7	0.8	12.8	41.8	61.4
- For decreasing animal productions	32.6	36.1	31.8	22.7	0.0	0.0
- Premium of beef	4.2	5.1	5.3	2.2	0.0	0.0

Appendix 5, continued.

	1986	1987	1988	1989	1990	1991 ^{e)}
- Fallowing compensations	82.1	110.0	209.3	375.5	347.3	729.3
- Premium for ecological cultivation					16.5	29.4
- Premium for pea cultivation						23.5
- Premium for green hay						0.3
TOTAL	305.9	291.2	390.0	554.4	553.9	1184.9
Compensations for crop damages	11.9	34.3	1541.4	128.9	8.1	4.6
GROSS RETURN TOTAL	23262.3	22473.5	24013.8	25790.0	27515.2	25880.1
Costs						
- Fertilizers	1875.2	1604.2	1605.9	1674.0	1681.7	1508.0
- Lime	108.1	127.6	119.0	130.4	146.3	118.6
- Feed concentrates						
- mixture	2966.9	3319.0	3478.0	3945.7	3470.5	3489.5
- other	172.9	139.9	122.0	126.2	161.3	114.7
- Feed conserving chemicals	143.5	140.3	145.2	152.1	162.3	142.8
- Pesticides	264.8	282.2	291.9	342.6	308.6	328.4
- Purchased seeds	493.2	590.4	603.0	520.6	388.7	317.2
- Fuel and lubricants	585.1	596.4	492.2	572.9	709.6	664.8
- Electricity	357.3	398.8	369.5	370.9	386.2	381.7
- Agricultural firewood and timber	133.7	126.1	126.9	131.5	140.5	129.8
- Delivery of calves and pigs	47.7	47.2	45.8	47.3	53.6	55.6
- Overhead costs	1295.9	1343.1	1338.1	1368.1	1523.1	1448.2
- Hired labor						
- wages	334.9	386.0	363.2	406.4	418.2	456.5
- social expenses	187.6	207.4	204.3	247.7	273.1	283.2
- Machinery and equipment expenses						
- depreciations	2921.0	3004.0	3054.0	3190.0	3384.0	3325.0
- maintenance	753.1	814.5	807.8	875.3	936.0	962.8
- Equipment	136.7	147.8	144.4	153.2	168.4	173.7
- Building expenses						
- depreciations	1062.0	1136.0	1101.0	1260.0	1355.0	1375.0
- maintenance	415.8	433.5	433.7	449.9	488.1	453.6
- Interest payment	1106.0	1231.8	1338.0	1480.1	1688.5	1714.0
- Imports of animals	1.8	2.0	3.1	4.0	6.7	7.0
- Rent expenses						
- means of production	326.8	316.7	298.3	292.5	358.5	368.7
- buildings and land	238.4	256.9	270.0	287.5	346.0	351.0
- Farmers' share of costs from						
- accident insurance payment	25.8	28.4	34.9	45.9	58.9	48.5
- outside help	16.8	20.4	22.5	16.5	20.1	25.6
- days-off scheme	10.3	11.0	12.6	12.4	13.7	17.2
COSTS TOTAL	15981.5	16711.6	16825.3	18103.7	18647.8	18261.1
GROSS RETURN TOTAL	23262.3	22473.5	24013.8	25790.0	27515.2	25880.1
COSTS TOTAL	15981.5	16711.6	16825.3	18103.7	18647.8	18261.1
FARM INCOME	7280.8	5761.9	7188.5	7686.3	8867.4	7619.0

^{e)} estimate

Appendix 6. Agricultural total calculation, gross return in 1985 fixed prices, FIM mill.

	1986	1987	1988	1989	1990	1991 ^{e)}
Crop production						
- Rye	191.2	186.7	147.5	371.3	368.4	456.1
- Wheat	1033.2	963.7	659.3	883.7	1240.0	971.7
- Barley	1466.8	1160.4	1208.3	1306.6	1449.4	1547.0
- Oats	657.7	500.3	535.9	782.4	1235.8	994.0
- Potatoes	326.6	437.2	415.4	507.6	483.8	520.4
- Potatoes of processing	226.9	94.7	213.8	241.2	206.8	133.8
- Seed potatoes	8.6	6.4	9.8	9.7	8.3	5.5
- Sugar beets	446.6	244.8	532.2	559.8	596.2	582.1
- Oil plants	434.6	431.5	431.9	459.8	472.4	417.4
- Peas	23.9	10.4	15.1	15.7	19.1	33.6
- Grass seeds	36.4	12.0	35.0	51.4	74.3	60.1
TOTAL	4852.4	4048.1	4204.1	5189.2	6154.6	5721.7
Garden production						
- Root crops	85.7	46.3	92.2	84.8	68.4	76.8
- Vegetables	514.1	421.7	551.3	582.5	590.8	538.7
- Berries	122.8	97.6	113.0	124.3	137.2	120.0
- Fruits	33.0	11.3	21.9	37.1	16.4	21.4
TOTAL	755.6	576.9	778.4	828.7	812.8	756.9
Animal production						
- Milk	7977.2	7631.7	7150.9	7161.3	7305.3	6592.4
- Beef	3449.7	3405.5	3076.9	2959.5	3262.5	3360.0
- Veal	1.6	1.6	1.6	1.6	0.5	0.4
- Pork	2814.4	2846.2	2736.6	2818.8	3023.3	2862.6
- Mutton	38.3	37.5	29.5	27.3	30.9	29.1
- Horse meat	17.2	17.6	12.9	13.1	14.3	17.0
- Poultry meat	252.8	305.6	318.7	346.9	380.2	427.9
- Eggs	901.3	867.0	823.0	811.2	819.8	717.8
- Export of animals	11.9	10.7	9.8	5.7	8.3	6.0
TOTAL	15464.5	15123.5	14159.9	14145.3	14845.1	14013.3
PRODUCTION TOTAL	21072.4	19748.6	19142.4	20163.2	21812.5	20491.9
Income from rents						
- Means of production	440.6	408.0	403.3	396.0	437.1	442.0
- Buildings and land	152.1	167.5	163.3	163.3	166.9	169.9
TOTAL	592.7	575.5	566.6	559.3	604.0	611.9
Subsidies						
- by farm size	595.0	538.4	630.7	1249.7	867.8	754.3
- by number of cows	127.5	129.5	142.2	168.2	173.1	169.5
- Premium of feed grains	43.7	41.9	38.7	39.1	41.2	30.2
- "Start money"	93.1	151.3	129.2	108.1	96.6	87.2
- Premium for suckler cows				9.3	18.3	24.2
- Support for field area					509.1	742.4
TOTAL	859.3	861.1	940.8	1574.5	1706.1	1807.8
Compensations to reduce production						
- Production guiding (4a§)	46.0	16.7			7.0	4.6
- Milk bonus	133.1	75.1	139.7	131.6	126.8	301.5
- Pork bonus	12.9	11.9				
- Egg bonus		38.2	0.8	11.9	37.7	55.1
- For decreasing animal production	33.5	36.6	31.1	21.2		
- Premium of beef	4.3	5.2	5.2	2.1		

Appendix 6, continued.

	1986	1987	1988	1989	1990	1991 ^{e)}
- Fallowing compensations	84.3	111.4	204.8	350.0	313.4	654.7
- Premium for ecological cultivation					14.9	26.4
- Premium for pea cultivation						21.1
- Premium for green hay						0.3
TOTAL	314.1	295.0	381.6	516.7	499.9	1063.6
Compensations for crop damages	12.2	34.8	1508.2	120.1	7.3	4.1
GROSS RETURN TOTAL	22850.8	21514.9	22539.6	22933.8	24629.9	23979.3
Costs						
- Fertilizers	1863.4	1830.4	1978.6	2019.5	1870.8	1329.8
- Lime	103.8	122.5	108.1	111.9	122.5	93.3
- Feed concentrates						
- mixture	2990.3	3213.2	3293.5	3565.3	3004.9	2924.9
- other	215.6	172.1	140.5	117.9	161.6	138.0
- Feed conserving chemicals	145.5	146.8	150.0	156.8	161.3	138.9
- Pesticides	261.7	269.3	268.8	314.4	271.6	274.4
- Purchased seeds	493.2	540.4	520.4	428.6	307.4	260.2
- Fuel and lubricants	879.8	958.8	851.6	850.0	876.2	800.0
- Electricity	344.9	369.4	346.7	340.0	329.9	320.0
- Agricultural firewood and timber	136.5	125.9	120.0	115.0	115.6	113.0
- Delivery of calves and pigs	45.7	45.1	43.0	44.0	45.2	43.6
- Overhead costs	1330.5	1360.8	1309.3	1275.0	1374.6	1300.0
- Hired labor						
- wages	309.3	334.4	297.9	295.6	281.9	275.0
- social expenses	173.2	179.6	167.6	180.2	184.1	170.6
- Machinery and equipment expenses						
- depreciations	2790.0	2746.0	2698.0	2690.0	2696.0	2645.0
- maintenance	725.5	773.6	725.9	750.0	741.1	725.0
- Equipment	131.4	137.2	127.4	128.7	134.2	125.0
- Building expenses						
- depreciations	1013.0	1022.0	967.0	1031.0	1038.0	1044.0
- maintenance	390.5	390.5	372.0	360.0	366.5	340.0
- Interest payment	1118.5	1234.9	1355.9	1431.3	1357.4	1374.4
- Imports of animals	1.8	1.9	1.7	3.5	5.6	6.0
- Rent expenses						
- means of production	309.9	282.7	256.4	240.0	281.6	280.0
- buildings and land	244.8	260.3	264.2	268.0	312.3	315.1
- Farmers' share of costs from						
- accident insurance payment	26.5	28.8	34.1	42.8	53.2	43.5
- outside help	17.2	20.7	22.0	15.4	18.1	23.0
- days-off scheme	10.6	11.1	12.3	11.6	12.4	15.4
COSTS TOTAL	16073.1	16578.5	16433.1	16786.3	16123.8	15118.4
GROSS RETURN TOTAL	22850.8	21514.9	22539.6	22933.8	24629.9	23979.3
COSTS TOTAL	16073.1	16578.5	16433.1	16786.3	16123.8	15118.4
FARM INCOME	6777.7	4936.4	6106.5	6147.5	8506.1	8860.9

^{e)} estimate

Appendix 7. Target prices of agricultural products in 1970-1992.

	Rye ¹⁾ (South. area) p/kg	Wheat ¹⁾ p/kg	Milk ²⁾ p/l	Beef ⁴⁾ (all) FIM/kg	Pork FIM/kg	Eggs ³⁾ FIM/kg	Feed- barley ¹⁾ p/kg	Feed- oats ¹⁾ p/kg	Mutton ⁵⁾ FIM/kg
1.4.1970	63.00	62.00	49.57	5.71	4.20	3.35			
1.1.1971	64.00		51.52	5.93	4.42				
1.9.1971			52.79	6.08					
1.4.1972	66.00	62.00	59.00	6.48	4.42	3.50			
1.4.1972 ⁶⁾	68.85	65.00	65.67	6.54	4.44	3.50	(44.09)	(39.89)	(5.23)
1.5.1973	72.85		71.67	7.54	5.01	3.85	46.09	41.89	7.54
1.4.1974	78.85	70.50	80.00	8.51	5.55	4.25	53.09	48.89	9.04
1.9.1974			84.67		5.88	4.48			
1.4.1975 ⁷⁾	94.85	85.00	87.67	9.76	7.21	5.38	68.09	63.89	11.04
1.9.1975			92.67		7.46	5.52			
1.12.1975				9.85		5.38			
1.3.1976	97.85	87.00	108.70	10.35	8.01	5.52	72.09	65.89	12.04
1.3.1977 ⁸⁾		90.00	119.20	11.75	8.78		76.09	69.89	14.04
1.9.1977			123.20	13.65	9.11				15.94
1.5.1978			126.20						
1.9.1978	104.85	96.00	130.90	14.05	9.36	5.87	78.59	72.39	16.54
1.2.1979 ⁹⁾	114.85	106.00	134.60	14.40	9.66	6.17	83.59	77.39	17.04
1.9.1979	124.85	114.00		14.90		6.30			17.54
1.4.1980	159.00	148.00	146.60	16.40	10.31	6.85	101.00	94.50	19.10
1.9.1980	161.00	150.00	152.60	17.14	10.91	7.25	103.00	96.50	20.00
1.3.1981	177.00	164.00	160.60	18.69	11.86	7.85	123.00	114.50	21.50
1.9.1981	187.00	172.00	171.90	19.44	12.31	8.20	128.00	119.50	22.30
1.3.1982	207.00	190.00	182.90	20.44	13.01	8.75	142.00	133.50	23.40
1.9.1982			188.90	20.73	13.14	8.88			23.80
1.9.1982 ¹⁰⁾	202.70	185.80					138.00	129.50	
1.3.1983			197.20	21.56	13.68	9.23			24.80
1.4.1983	220.70	204.80	202.70	22.01	13.98	9.46	151.00	141.50	25.30
1.9.1983			205.70	22.31	14.18	9.60			
1.3.1984	231.00	211.00	212.70	23.01	14.68	9.90	156.00	146.00	
1.4.1984	245.00	218.00	216.70	23.31	14.98	10.05	161.00	150.00	25.60
1.9.1984			221.60	23.91	15.38	10.20			26.15
1.3.1985	264.00	231.00	228.60	24.67	16.05	10.50	170.00	158.00	
1.9.1985			230.10						
1.1.1986						9.00			
1.4.1986	270.00	233.00	232.00	24.97	16.25	8.80			25.15
1.3.1987			234.50	25.10	16.30				24.65
1.4.1988	300.00	243.00	244.50	26.10	17.00	9.10	175.00	166.00	25.90
1.1.1989			259.50						
1.3.1989	310.00	251.00	269.00	27.80	17.95	9.20	178.00	176.00	27.45
1.3.1990 ¹¹⁾			277.00	28.22	18.06	9.20	180.00	175.00	27.88
1.3.1991			282.00	28.42			182.00	172.00	
1.9.1991	290.00	231.00							
1.5.1992				27.92					

For footnotes, see next page

Footnotes for Appendix 7.

- 1) The price of grain beginning from 1.4.1972 is the price of January, before that the price of September. It comes into force from the beginning of the growing period. From the crop year 1983/84 the target prices of grain are on farm level. Before that they are wholesale prices for purchases of the Finnish State Granary.
- 2) The price of milk with 4 % fat p/kg and from 1973 milk with medium fat p/l without production support. The additional price of milk is paid as follows:
 from 1.9.1988 23.5 p/l up to 37 000 litres, thereafter 12.0 p/l up to 150 000 litres
 from 1.9.1989 30.0 p/l up to 37 000 litres, thereafter 15 p/l up to 150 000 litres
 from 1.9.1989 30.0 p/l up to 50 000 litres, thereafter 15 p/l up to 150 000 litres
 from 1.4.1991 see appendix 8.
 The volume of milk which gives the base for the payment of the step-up additional price is counted on an annual basis starting from 1.9.
- 3) The additional price for eggs paid for beginning from 1.9.1988 is following:
- a) Production quota 0 - 10 000 kg
- | | Oulu and Lapland | The rest of the country |
|----------------|------------------|-------------------------|
| from 1.9.1988 | 2.90 FIM/kg | 2.55 FIM/kg |
| from 1.3.1989 | 3.35 FIM/kg | 2.95 FIM/kg |
| from 1.3.1990 | 3.74 FIM/kg | 3.34 FIM/kg |
| from 1.10.1990 | 3.94 FIM/kg | 3.54 FIM/kg |
| from 1.1.1991 | 4.24 FIM/kg | 3.84 FIM/kg |
| from 1.1.1993 | 4.19 FIM/kg | 3.79 FIM/kg |
- b) Production quota from 1.1.1988 10 001 - 100 000 kg and from 1.1.1991 10 001 - 80 000 kg
- | | | |
|----------------|-------------|-------------|
| from 1.9.1988 | 2.05 FIM/kg | 2.05 FIM/kg |
| from 1.3.1989 | 2.50 FIM/kg | 2.50 FIM/kg |
| from 1.3.1990 | 2.89 FIM/kg | 2.89 FIM/kg |
| from 1.10.1990 | 3.09 FIM/kg | 3.09 FIM/kg |
| from 1.1.1991 | 3.39 FIM/kg | 3.39 FIM/kg |
| from 1.1.1993 | 3.34 FIM/kg | 3.34 FIM/kg |
- 4) In addition a production premium for beef is paid:
- | | | |
|---------------|-------------|---------------------|
| from 1.4.1988 | 4.00 FIM/kg | bulls over 260 kg |
| | 3.10 FIM/kg | bulls 210-260 kg |
| | 2.00 FIM/kg | bulls 180-210 kg |
| | 3.10 FIM/kg | heifers over 160 kg |
| | 1.00 FIM/kg | heifers 130-160 kg |
| from 1.3.1989 | 2.00 FIM/kg | bulls 190-219 kg |
| | 3.50 FIM/kg | bulls 220-269 kg |
| | 5.00 FIM/kg | bulls over 270 kg |
| | 1.00 FIM/kg | heifers 140-169 kg |
| | 3.50 FIM/kg | heifers 170-259 kg |
| | 5.00 FIM/kg | heifers over 260 kg |
- from 1.5.1991 see appendix 9.
- 5) In addition a production premium for mutton is paid:
- | | | |
|---------------|-------------|------------|
| from 1.3.1989 | 8.80 FIM/kg | over 16 kg |
| | 6.70 FIM/kg | 13-15 kg |
- from 1.5.1991 see appendix 9.
- 6) New statistical basis for beef and pork.
- 7) Target prices for meat were applied from 1.3.
- 8) Target prices for meat were applied from 1.2. and for eggs from 1.4.
- 9) Target prices for meat were applied from 12.1.
- 10) Grain prices on farm level from 1982.
- 11) Price for beef, pork and mutton adjusted to the abolition of the weight reduction. Price for eggs represents IA-class.

Appendix 8. Production support for milk (p/l).¹⁾

District	Milk quantity, litres					
	0 - 50 000		50 001 - 150 000		over 150 000	
	1.4.-30.9.91 and from 1.9.92	1.10.91- 31.8.92	1.4.-30.9.91 and from 1.9.92	1.10.91- 31.8.92	1.4.-30.9.91 and from 1.9.92	1.10.91- 31.8.92
1	99.0	95.0	84.0	80.0	69.0	65.0
2	73.0	69.0	58.0	54.0	43.0	39.0
3	62.0	58.0	47.0	43.0	32.0	28.0
4	55.0	51.0	40.0	36.0	25.0	21.0
5	46.5	42.5	31.5	27.5	16.5	12.5
6	43.0	39.0	28.0	24.0	13.0	9.0
7	36.5	32.5	21.5	17.5	6.5	2.5
8	34.5	30.5	19.5	15.5	4.5	-
9	55.0	51.0	40.0	36.0	25.0	21.0
10	30.0	26.0	15.0	11.0	-	-

¹⁾ Including additional price and district support.

Appendix 9. Production support for meat (p/kg).¹⁾

Species	District								
	1	2	3	4	5	6	7	8	9
<i>1.5.91-30.4.92</i>									
Bulls and heifers 260 kg and over	1460	1350	1130	840	780	660	550	950	500
Bulls 220 - 259.9 kg and heifers 170 - 259.9 kg	1310	1200	980	690	630	510	400	800	350
Bulls 190 - 219.9 kg	1160	1050	830	540	470	360	250	650	200
Heifer	350	350	350	350	350	350	350	350	350
Sheep 16 kg and over	2140	2000	1790	1580	1280	1280	1280	1740	950
Pigs	85	75	55	40	-	-	-	40	-
<i>1.5.-31.12.92</i>									
Bulls and heifers 240 kg and over	1610	1500	1280	990	930	810	700	1100	650
Bulls 210 - 239.9 kg and heifers 170 - 239.9 kg	1460	1350	1130	840	780	660	550	950	500
Bulls 190 - 209.9 kg	1310	1200	980	690	620	510	400	800	350
Heifer	500	500	500	500	500	500	500	500	500
Sheep 16 kg and over	2140	2000	1790	1580	1280	1280	1280	1740	950
Pigs	85	75	55	40	-	-	-	40	-
<i>From 1.1.93</i>									
Bulls and heifers 220 kg and over	1610	1500	1280	990	930	810	700	1100	650
Bulls 190 - 219.9 kg and heifers 170 - 219.9 kg	1460	1350	1130	840	780	660	550	950	500
Heifer (1.1.-30.6.93)	400	400	400	400	400	400	400	400	400
Sheep 16 kg and over	2140	2000	1790	1580	1280	1280	1280	1740	950
Pigs	85	75	55	40	-	-	-	40	-

¹⁾ Including production premium and district support.

Maatalouden taloudellisen tutkimuslaitoksen julkaisuja
Publications of the Agricultural Economics Research Institute

- No 50 KETTUNEN, L. Suomen maatalous vuonna 1985. 42 s. Helsinki 1986.
- No 50a KETTUNEN, L. Finnish agriculture in 1985. 42 p. Helsinki 1986.
- No 51 TUTKIMUKSIA SUOMEN MAATALOUDEN KANNATTAVUUDESTA. Tilivuodet 1982-84. Summary: Investigation of the profitability of agriculture in Finland in business years 1982-84. 136 s. Helsinki 1986.
- No 52 KETTUNEN, L. Suomen maatalous vuonna 1986. 44 s. Helsinki 1987.
- No 52a KETTUNEN, L. Finnish agriculture in 1986. 44 p. Helsinki 1987.
- No 52b KETTUNEN, L. Finlands lantbruk 1986. 44 s. Helsinki 1987.
- No 53 MAATALOUDEN KANNATTAVUUSTUTKIMUS 75 VUOTTA. Summary: Farm accounting in Finland 75 years. 123 s. Helsinki 1987.
- No 54 KETTUNEN, L. Suomen maatalous vuonna 1987. 36 s. Helsinki 1988.
- No 54a KETTUNEN, L. Finnish Agriculture in 1987. 36 p. Helsinki 1988.
- No 55 TUOTANTOKUSTANNUKSISTA MAATILAMATKAILUUN. Matias Torvelan 60-vuotisjuhlajulkaisu. 161 s. Helsinki 1988.
- No 56 KETTUNEN, L. Suomen maatalous vuonna 1988. 52 s. Helsinki 1989.
- No 56a KETTUNEN, L. Finnish agriculture in 1988. 52 p. Helsinki 1989.
- No 57 AGRICULTURE IN DIFFICULT CIRCUMSTANCES. Finnish-Hungarian-Polish seminar, Saariselkä, Finland 1989. 99 p. Helsinki 1989.
- No 58 AALTONEN, S. & TORVELA, M. Maaseudun kehittämisen ongelmat Suomessa. Problems in rural development in Finland. 30 s. Helsinki 1989.
- No 59 TUTKIMUKSIA SUOMEN MAATALOUDEN KANNATTAVUUDESTA. Tilivuodet 1985-87. Summary: Investigation of the profitability of agriculture in Finland in business years 1985-87. 144 s. Helsinki 1989.
- No 60 KETTUNEN, L. Suomen maatalous vuonna 1989. 52 s. Helsinki 1990.
- No 60a KETTUNEN, L. Finnish agriculture in 1989. 52 p. Helsinki 1990.
- No 60b KETTUNEN, L. Finlands lantbruk 1989. 52 s. Helsinki 1990.
- No 61 FAMILY FARMING POSSIBILITIES. Finnish-Baltic Common Seminar, Helsinki, Finland 1990. 121 p. Helsinki 1990.
- No 62 PUURUNEN, M. A comparative study on farmers' income. 114 p. Helsinki 1990.
- No 63 KETTUNEN, L. Suomen maatalous vuonna 1990. 56 s. Helsinki 1991.
- No 63a KETTUNEN, L. Finnish agriculture in 1990. 56 p. Helsinki 1991.
- No 64 KOLA, J. Production control in Finnish agriculture. 134 p. Helsinki 1991.
- No 65 KETTUNEN, L. Suomen maatalous vuonna 1991. 59 s. Helsinki 1992.
- No 65a KETTUNEN, L. Finnish agriculture in 1991. 59 p. Helsinki 1992.
- No 66 STRATEGIES AND TACTICS FOR FAMILY FARMING. Finnish-Baltic joint seminar Riga Latvia 1991. 91 p. Helsinki 1992.
- No 67 TUTKIMUKSIA SUOMEN MAATALOUDEN KANNATTAVUUDESTA. Tilivuodet 1988-1990. Summary: Investigations of the profitability of agriculture in Finland in business years 1988-1990. 154 s. Helsinki 1992.
- No 68 STATEREGULATION OF AGRICULTURAL PRODUCTION. Finnish-Baltic joint seminar Vilnius Lithuania 1992. 104 p. Helsinki 1992.
- No 69 TORVELA, M. Maatalousekonomian tutkimukseen liittyviä ajatuksia. Some thoughts on the Research of Agricultural Economics in Finland. 36 p. Helsinki 1992.



ISBN 952-9538-30-8
ISSN 0788-5393