



FINNISH AGRICULTURE IN 1989

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Abstract. Finnish agriculture in 1989

Despite the slight increase in the total arable land area, the area under cultivation decreased by 65,000 ha, i.e. 3.4%. This development has been caused by the strong increase in premium fallowing, by means of which 8.6% of the total arable land has been removed from production. The total yield amounted to 5,539 mill. f.u. without straw. The average hectare yield was 2,930 f.u., which is 10% higher than ever before. Almost all crops reached record yields.

Livestock production has decreased in the last few years due to both measures to restrict production and bad crops. However, the year 1989 was exceptional in certain respects. In the latter part of the year milk production started to increase clearly as a result of the good feed crop. The total milk production rose by only 14 mill. liters, but in the fall production was 6-8% higher than in the previous year.

The total milk consumption decreases slightly. Last year a remarkable decrease occurred in the consumption of butter from 7.6 kg to 6.1 kg

per capita. The introduction of the light spreads into the market a couple of years ago has reduced the consumption of butter. In 1989 cheese consumption increased by 8% to 12.3 kg/capita.

Beef production decreased by 4 mill. kg, i.e. 3% in 1989. Poultry meat production seems to be on the increase, and this compensates for some of the decrease in beef production. Pork production increased by 3 mill. kg, i.e. 2%, which was in accordance with the objectives.

In 1989 a new Farm Income Act was passed for the next five years. The principle is same as earlier: the increase in the prices of production inputs is compensated to agriculture, and the raise of farm income is negotiated as before. The most notable change is the lowering of production ceilings.

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

Preface

Finnish agriculture is recovering from the depression caused by two crop failures. The summer of 1989 yielded a very good crop. Bread grain crop corresponds to domestic consumption, and feed grain crop exceeds domestic need. The productivity of livestock production has increased due to the high quality of feed. As a result, farmers' income development has improved considerably.

In 1989 a new Farm Income Act, which guarantees a quite secure future for the next five years, was passed. However, certain precautions are necessary because the GATT negotiations may force to alter the protection of agriculture against foreign competition to some extent.

Agriculture also has to adapt its production due to various domestic factors, especially overproduction and increase in productivity. The present structure of agriculture does not guarantee full employment and sufficient livelihood to all farm families. In order to improve the living conditions in the countryside, not only agriculture but also rural industries in general will be developed.

This publication presents an overview of Finnish agriculture in 1989. Statistics are based on the situation in mid-January, and, consequently, many figures are still preliminary or estimates.

Especially agricultural income involves many uncertain factors. I hope, however, that the preliminary review presented here is sufficiently accurate.

Chapter III on Finnish agricultural policy is very condensed, and it is not possible to include all details. Much 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.

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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.

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Helsinki, January 22nd, 1990.

Lauri Kettunen

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I

FINNISH AGRICULTURE IN GENERAL

1. Agriculture and the national economy

1.1. Gross domestic product and investments

In Finland agriculture proper accounts for only 3% of the gross domestic product. An abundance of purchased inputs, e.g. fertilizers, machinery, fuel, services, etc., is used in agriculture, and the share of farmer's income is only about a third of the value of agricultural production. The total food chain, which, apart from farmers, includes the manufacturing of production inputs, food industry, and trade, is much larger. Food accounts

for about one fifth of consumer expenditure, and this indicates the share of food chain in the whole national economy.

The share of agriculture in GDP has continuously been on the decrease because agricultural production has not grown as much as production in other sectors. This is caused by the fact that consumption of food stuffs has increased slowly, and export of agricultural products is not profitable.

The share of agriculture of the employed labor force is over 9% (Appendix 2), i.e. almost three times its share of the GDP. This reflects the low income level in agriculture, but it should be noted that only about half of farmers' total income comes from agriculture because many farmers

Table 1. Gross domestic product (in producer price) 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.	%
1980	172.51	7.78	4.5	48.64	3.47	7.1
1981	195.29	7.65	3.9	54.69	3.51	6.4
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	382.92	10.73	2.8	109.16	4.52	4.1

Source: Statistical Yearbook of Finland (from various years) and Economic Survey 1989).

work partly in other sectors. The statistics may not give quite a correct picture of the work contribution of agriculture and its significance as employer. There is no more labor force available in agriculture for the needs of the other sectors.

Agricultural investments are about 5% of the investments in the whole national economy, which is more than its share of the domestic product implies. This is probably a result of the strong structural change in agriculture, and, in general, of the fact that agriculture is a very capital intensive industry, among other things. It is also notable that in the 1980s investments have been proportionally higher than in the 1970s. The turning point has probably been reached, however, and there are some indications of a decrease in investments. The number of farms as well as production are on the decrease, and, as a result, fewer investments are needed.

1.2. Economic growth

Finnish economy grew very strongly last year. According to a preliminary estimate, the growth in GDP was 5% (5.2% in 1988). Economic growth in Finland is clearly more rapid than the average growth in OECD, and it will continue, but slow down to some extent, in 1990. Domestic consumer demand has been the principal factor behind the growth. The real incomes have increased, and the liberalization of the money market has increased loans to households, which have mainly been directed to an increase in consumption. Investments grew by about 8%. Exports have often been the main factor behind the growth of the national economy, but now export industry has been working with its full capacity, and it has not been possible to increase exports to match the growth in imports. However, the exchange ratio in foreign trade improved by 4-5%.

The strong economic growth has accelerated inflation, which was 6.5% in 1989 (5.1% in 1988). In August 1988 an agreement was made on extensive consolidation measures, according

to which wage raises should have remained moderate in order to reduce inflation to 4% a year. The agreement included, for example, tax settlements, which were expected to help keep wage raises as low as possible. However, about 40% of labor market remained outside the agreement, and the inflation target was not reached. The agreement included an inflation condition, according to which the inflation exceeding 4% will be compensated to those who joined the agreement. This wage raise, about 2.5%, will be realized in March 1990.

The real increase in wages was about 2%. Nominal wages rose by about 8.5%, which naturally contributed to the acceleration of inflation. The tax reliefs increased the real disposable income by about 4%. A single remarkable inflation factor was the rapid rise in housing prices, which increased housing costs (e.g. rents) considerably. The increase was probably a result of the liberalization of the money market and the strong migration to Helsinki area. Construction industry has grown very strongly, but at the same time this has led to overheating and increase in prices. In October 1989 a new construction tax of 40% came in effect, the aim being to slow down less important building and to keep housing production at a high level to balance the housing market.

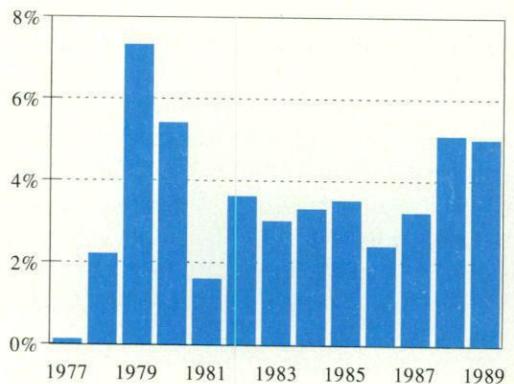


Figure 1. Growth of market price GDP in 1985 prices (%/year).

Unemployment has decreased rapidly during the last few years, being only less than 4% at the end of 1989. However, variation between different regions and fields is great. Especially in Helsinki area it is possible to talk about shortage of labor force, but as far as skilled labor force is concerned, the shortage affects the whole country. Also, it is hard to find enough employees to the social branch of the public sector. Increase of jobs has mainly occurred around Helsinki, where, for example, shortage of housing makes it very difficult to get labor force from other parts of the country.

Employment in Finland is now clearly better than in industrialized countries on the average. Shortage of labor force is becoming a restrictive factor in maintaining economic growth. There is work to be done, but the education or training of the unemployed is not in accordance with the vacant jobs. Labor market is not flexible enough with regard to either enterprises or employees. Besides, a number of people who do not belong to the labor market at all are registered as unemployed.

Overheating of the national economy is most clearly visible in foreign trade. Trade balance showed a deficit of FIM 5.5 bill. Capital and service balances dropped the deficit in the balance of current payments to FIM 21 bill. This deficit is going to be the most serious problem in Finnish economic policy. In order to improve the situation the state budget for 1990 showed a considerable surplus. In 1989 the surplus in state proceeds amounted to FIM 3-5 bill., but in 1990 the surplus should be about FIM 12 bill., i.e. about 8% of the total of the budget.

Foreign exchange reserves have stayed at a high level as a result of the foreign loans. Interest level in Finland has been higher than the international interest level, and, as the Finnish mark has been strong, foreign capital has flown to Finland. The high interest level has been criticized, but the Bank of Finland has regarded it as necessary for maintaining the value of the Finnish mark. In the beginning of 1989 the base rate was lowered, but in the beginning of November it was raised to 8.5%. In spring 1989 the Finnish mark was revaluated by about 4%. With regard

to the deficit in the trade balance this measure does not seem justified, but, on the other hand, it has not been regarded as possible to increase trade through devaluation because export industry is already working with its full capacity. The main objective of revaluation was to reduce inflation.

A characteristic feature of the money market in 1989 was the considerable raise of the market interest rates in the latter part of the year. This slowed down the growth in consumer demand, and, in particular, held down the housing market, in which prices started to decrease slightly.

Forestry, which is very important for Finnish farmers, continued to grow very strongly. Pulp and paper industries were working with their full capacity, and export prices have been on the increase. Commercial felling increased by 4.6%. Wood processing industry and forest owners have annually negotiated the stumpage prices for roundwood. In the spring the prices were raised by about 6%.

2. The Finnish farm

Finnish agriculture is based on family farms. The average farm size is still very small (about 13 ha), although there has been some growth during the last few years (Table 2). The average farm size grows because many small farms quit production. The number of large farms has not increased very much, and the present agricultural policy does not favor large farms, either: in order to maintain the rural population an attempt has been made to keep as many farms as possible in production, even if this means that production structure remains quite unprofitable.

In practise, it is possible to increase the farm size through renting field. In 1987 altogether 261,700 ha arable land was rented. Because the price of land is high and farms are not likely to be sold, renting field seems to be the only way to increase the farm size in the future.

Forest is an integral part of the Finnish farm. An average farm has 13 ha arable land and 37 ha

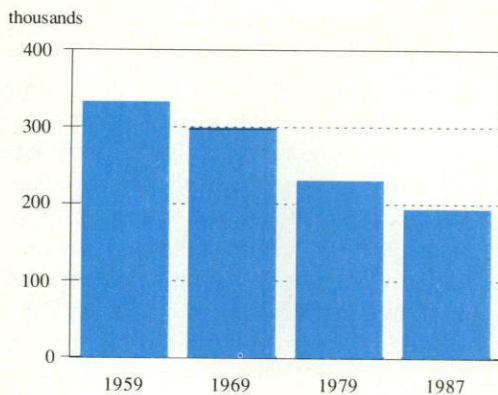


Figure 2. Development of the number of farms 1959-1987.

forest. However, the regional distribution varies. In general, the area of arable land is larger and, correspondingly, forest area is smaller in the south than in the north (Table 3).

About 99% of farms are privately owned, but a large number of them belong to pensioners or heirs, only about half of the farms being owned by active farmers. Also, this group probably includes a number of farmers who get their living mainly from other sources than agriculture. There are about 192,200 farms in Finland, but

only about half of them are real producing farms.

According to the farm register, in 1987 about 19.7% of private farms were owned by pensioners. At that time, farmers or pensioners owned 80.3% of farms, heirs and family companies 18.9%, societies 0.3% and the state and municipalities 0.4%. The share of farms owned by heirs has decreased slightly. This is significant for agricultural policy because these farms have the lowest productivity, and their existence slows down structural development.

Finnish agricultural production is mainly based on livestock. Only 15% of arable land is used for crop production for human consumption. Milk production accounts for about 37% of the total return of agriculture (calculated from Appendix 5), and the share of cattle production rises to 54%, when beef production is taken into account. The area of hay, silage and pasture is about a third of the total arable land.

Over the years, production structure has changed: 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 all farms produced milk, but in June 1989 there were only 48,100 milk suppliers (Appendix 2). About half of the farms are engaged solely in crop production.

Table 2. The distribution of farms according to their size and the average farm size (over 1 ha).

	1959		1969		1980		1987	
	1000	%	1000	%	1000	%	1000	%
1-4.9	147.6	44.6	108.8	36.6	69.4	30.9	55.0	28.6
5-9.9	101.8	30.7	98.0	33.0	69.2	30.8	51.2	26.6
10-19.9	62.2	18.8	68.0	22.9	56.8	25.3	51.2	26.6
20-49.9	18.0	5.4	20.6	6.9	26.4	11.7	31.2	16.2
50-	1.6	0.5	1.9	0.6	2.9	1.3	3.7	1.9
Total	331.2		297.3		224.7		192.2	
Acreage								
1000 ha	2 614.4		2 669.1		2 462.7		2 421.1	
Average size ha	7.89		8.98		10.96		12.59	

Source: Official statistics of 1959 and 1969 and Farm registers of 1980 and 1987

Table 3. Regional distribution of arable and forest land in 1986 and 1987 (halfarm).

Province	1980	1987	1980	1987
	Arable land and gardens		Forest land	
Uusimaa	18.2	20.5	28.2	29.5
Häme	14.1	15.9	31.0	32.4
Vaasa	11.3	13.0	26.4	26.9
Kuopio	9.4	11.1	37.2	38.6
Oulu	9.2	10.7	45.8	48.0
Lappi	6.1	7.0	78.8	83.1
Whole country	11.0	12.6	35.5	37.2

Source: Farm register of 1980 and 1987

3. Side-line industries

In addition to agriculture and forestry, farmers practise many other industries, e.g. horticulture, fishing and aquaculture, fur farming, farm holidays, etc. An overview of these industries in 1988 is presented in the following. No statistics from 1989 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 59 million and that of flowers about FIM 60 million. About 3,100 entrepreneurs or farmers had greenhouses, altogether 450 ha. Thus the average area of greenhouses was about 1,452 m². There are no estimates of how many people this whole field employs, but it should amount to about 10,000 people.

In 1987 there were about 6,300 *professional fishermen* in Finland (1,600 full-time and 4,700

part-time), but their number has been decreasing rapidly. Most fishermen are part-time farmers.

In 1987 the value of the catch of fish was estimated at FIM 195.3 million. In addition, aquaculture produced fish (mainly rainbow trout) for about FIM 304 mill. in 1987 and FIM 361 mill. in 1988. Occasionally rainbow trout is also exported. The export share of its production was estimated at 20% in 1988. Improvement in the stock of fish is to large extent realized through planting production, the value of which was FIM 82 million. The increased control of water systems has obviously improved the catch of fish, too. Many farms are located close to a lake, which makes fishing for household use possible.

One very important side-line for agriculture is *fur farming*, which is also practised on its own. In 1988 there were about 5,151 fur farms, of which about 60-70% are 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 Ostrobotnia, where about 3/4 of fur farms are located. The most important fur animals are mink, silver fox, blue fox, fitch and finnraccoon.

Finland is one of the leading fur producers in the world. Most of the production is exported. In 1988 the value of exports was about FIM 1.0 billion. Two thirds of the world's fox pelt production comes from Finland. Mink accounts for about 46% of the value of our fur production, but our share in the world market is less than 10%.

Fur farming is not subsidized in any other way but that fur farms can buy feed (including domestic feed grain) for the world market price. It has to adapt itself to the changes in the world market, which may be great. Especially years 1988 and 1989 were very difficult years due to a radical decrease in the world market prices. Finnish producers have tried to adapt themselves to international competition through breeding, but a reorganization of the field seems necessary.

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 1988/89 there were about 7,800 reindeer owners. At reindeer round-ups in 1988/89 there were about 397,500 animals, of which 142,000 were slaughtered. Meat production was 3.6 mill. kg, and its value was about FIM 101 million. Most of the reindeer meat has been consumed in Finland. The value of exports was FIM 6.0 million.

There are still about 40,000 horses in Finland, of which about half are on the farms. The number of horses has increased during the recent years, although horses are very rarely used in farm work. *Horse husbandry* was practised on about 6,000 farms, and as a main production line it is practised on 550 farms. Riding and trotting are the most important forms. The on-farm horse husbandry employs 1,300-1,400 people full-time and about 5,000 part-time. The production value of horse husbandry is estimated to be about FIM 230 million in 1988, and the export value of horses FIM 3.7 million.

Beekeeping provides additional income to about 5,000 beekeepers. In 1988 altogether 1.7 mill. kg honey was produced, and its value was about FIM 45 mill. In 1989 2.4 mill. kg of honey was produced and its value was FIM 65 million.

Wild berries (cloudberry, blueberry and lingonberry) are an important source of income for many people, especially in Northern Finland. In 1988 this income amounted to about FIM 85.3 million. In addition, there is the value of the berries used in households. The income from picking mushrooms was estimated at FIM 11.6 mill. in 1988.

Farm holidays have become a new side-line industry for farmers. Farm and cottage vacation services are offered by about 5,000 entrepreneurs, about half of whom are farmers. This activity has expanded year by year, and the return of all holiday and traveling services was estimated at FIM 60 mill. in 1985. Compilation of statistics is difficult because this field is very heterogenous.

II PRODUCTION, PRICES AND FARM INCOME

4. Plant production

4.1. Weather conditions

Spring was about two weeks ahead of the normal in 1989, partly due to the very mild winter. Almost in the whole country temperatures were the highest in this century. There was not very much snow in Southern Finland, and on the southern coast there was hardly any at all. Northern Finland had a lot of snow, but it melted earlier than usual. Consequently, sowing was started about two weeks ahead of the normal, and it was completed in good conditions.

The effective temperature sum was 1,200-1,450 diurnal degrees in Southern and Central Finland, 900-1,200 degrees in Northern Finland, and 700-900 degrees in Lapland, i.e. 15-20% above normal. In many places last summer was the warmest in this century, and there was hardly any frost during the growing period.

Precipitation was normal or above during the whole growing period, but it was badly divided: in early summer precipitation was too low, and in the latter part of the summer there was too much rain. Regional variation was considerable. Conditions for haymaking were excellent. Grain harvesting was started earlier than usual and it was completed in due time, although it was to some extent impeded by rain.

Despite the drought in the early part of the summer, the conditions seemed to be favorable to agriculture, because the yield was good in terms of both quality and quantity, although at the beginning of the season very cautious estimates were made on the quantities to be expected. Fall sowing completed in good conditions, and,

consequently, the area of rye exceeded the target again. The area of winter wheat was larger than in the previous year, too.

4.2. Areas and yields

The total arable land area increased by about 12,000 ha from the previous year, probably as a result of the landclearing just before it became subject to license in 1987. Part of this clearing is completed and taken into agricultural use gradually. However, no new arable land is being cleared, which means that the total arable land area should start to decline again.

Premium fallowing increased by 57,300 ha last year, and altogether it covered 189,100 ha. The government and agricultural producers set 160,000 ha as a target, which was thus exceeded clearly. Fallowing, through which production potential can be reduced, has become the means policy makers mainly rely on in restricting agricultural production.

As a result of the increase in fallowing, the area of crops decreased by 65,500 ha, i.e. 3.4%. An especially considerable decrease occurred in the area under barley, which decreased by 166,400 ha, i.e. 24%. The area of oats increased by 57,300 ha. The extensive cultivation of barley in 1988 can partly be explained through the unfavorable weather conditions and poor seed supply.

The division of feed grain cultivation has come closer to the earlier level. Also, cultivation of oats has been recommended because it is easier, and perhaps more profitable, to export than

barley. In normal years feed grain production exceeds the domestic need.

Cultivation of wheat also increased to some extent, and the area under wheat is sufficient to meet domestic consumption. A very considerable increase has occurred in cultivation of rye, which has been promoted through raises in target prices. Also, in the fall of 1988 the conditions were at last favorable for sowing of rye.

The area under hay decreases gradually as milk and beef production decrease. Some of the hay is also replaced by silage. The area of oil plants decreased slightly from the previous year.

Grain yields reached at least normal levels, which after the two bad years feel almost very

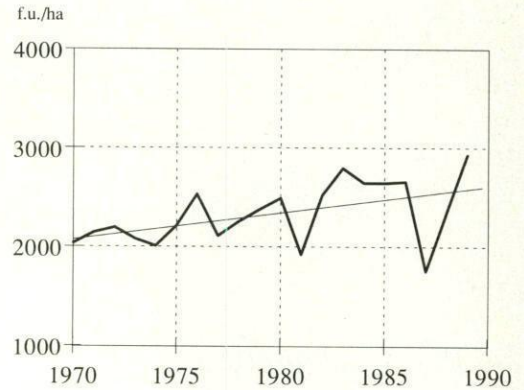


Figure 3. Total yield without straw in 1970-1989.

Table 4. Harvested areas and yields of main crops in 1988 and 1989.

	1988			1989		
	Area 1000 ha	Yield 100 kg/ha	Total mill.kg	Area 1000 ha	Yield 100 kg/ha	Total mill.kg
Winter wheat	5.4	23.7	12.8	24.5	38.1	93
Spring wheat	103.9	26.2	271.8	126.9	32.6	414
Rye	25.6	19.1	48.9	68.6	28.6	196
Barley	681.7	23.6	1611.8	516.9	31.5	1630
Oats	387.8	22.1	857.3	446.4	32.3	1444
Potatoes	44.9	190.7	854.5	44.8	219.0	981
Sugar beets	30.7	333.2	1005.0	30.9	320.3	990
Hay	323.7	39.6	1281.1	321.7	42.4	1238
Silage	209.4	184.8	3864.0	216.7	198.5	4300
Oil seeds	86.4	14.1	121.1	73.8	17.0	125
Other crops	45.6			46.9		
Total	1944.2	2343.0¹⁾	4524.0²⁾	1918.1	2930.0¹⁾	5539²⁾
Unharvested	11.5			-		
Pasture	138.6			133.4		
Fallow	153.9			211.3		
Soil bank	2.3			-		
Other field	190.5			190.3		
Total	2441.0			2453.1		

¹⁾f.u. without straw, ²⁾mill.f.u. without straw

good. On the other hand, it is very hard to determine what is normal: if the mean values or trend lines include years 1987 and 1988 they become very different from those calculated without these two years. Hectarage yields were normal or, in part, above normal.

Especially the yield of rye was excellent, breaking the all-time record, and the quality was also good. The rye yield of 196 mill. kg is about twice the amount of domestic consumption, and, consequently, it is now possible to increase

stocks.

The hectarage yield of winter wheat was also record-breaking, and the yield of spring wheat reached the normal level. There is enough wheat for domestic consumption, and it will be necessary to import bread grain only for some special purposes.

The hectarage yield of oats was higher than ever, too, and the yield of barley was about normal. These two feed grains are the most important ones with regard to the total yield. The

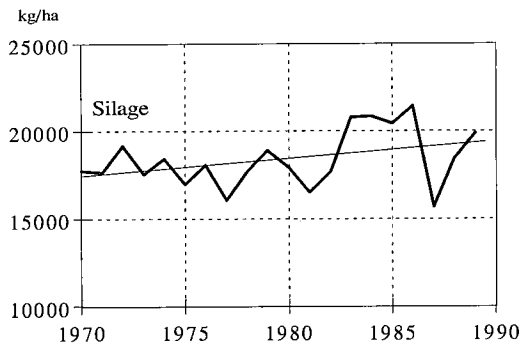
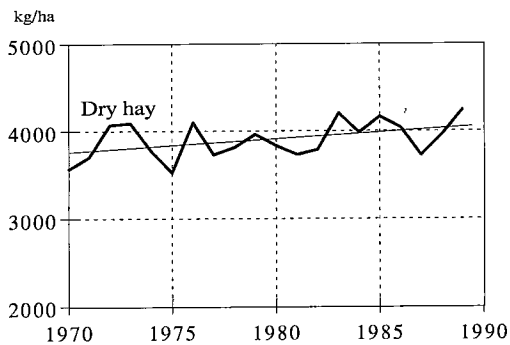
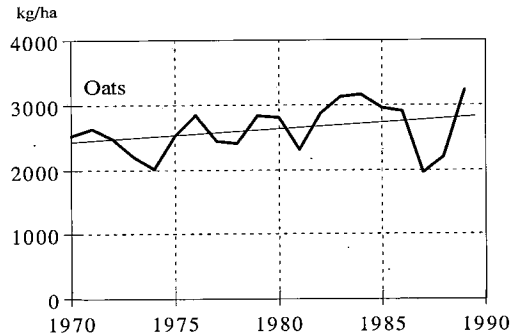
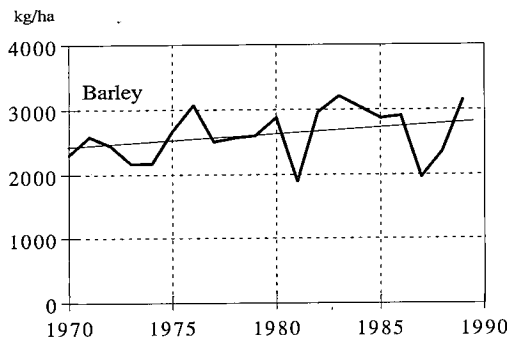
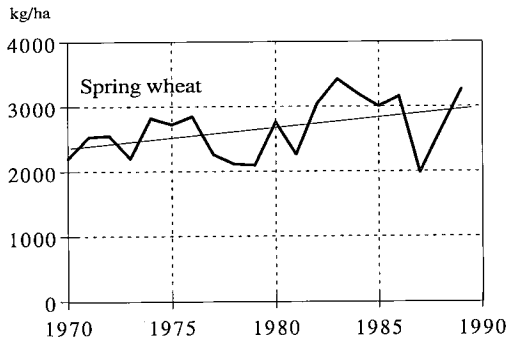
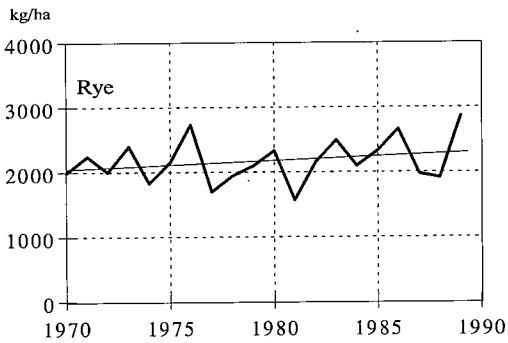


Figure 4. Yields of main crops (kg/ha) in 1970-1989.

amount of feed grain exceeds domestic need by 600-700 mill. kg.

The hectare yield of dry hay also broke all earlier records, and the quality was good, too. Instead, the yield of silage remained below the trend values, probably because of the drought in July, when the yield of the second chopping remained poor. The amount of silage exceeded that of the previous year, however, and milk yields increased in the fall, which is an indication of good quality of feed.

The yields of oil plants, potatoes and sugar beets were also good. The yield of potatoes exceeds domestic consumption by about 200 mill. kg.

The total yield of 5,539 mill. feed units was above normal, and it has been higher only in 1983 (5,773 mill. f.u.), but then the area under cultivation was 7% larger than last year. Hectare yield was 2,930 feed units, i.e. higher than ever. Thus agriculture received some compensation for the previous two bad years. In particular, last year was favorable to grain producers, but livestock producers also benefit from the good conditions, because the yield of feed was high both qualitatively and quantitatively.

In the two previous years it has been necessary to estimate crop damages and pay high compensations. There was no need for this last year.

5. Animal production

The rapid decrease in livestock production continued in the early part of last year. The crop failures in 1987 and 1988 still had an effect on, especially, milk and beef production, and the measures taken to restrict production contributed to this development. The rapid economic growth attracts labor force to jobs in industry and service sector. The age of farm population is relatively high, but the number of transfers of farms to descendants has been smaller than expected. As a result of all these factors the decrease in animal production was quicker than anticipated. The yields have remained clearly

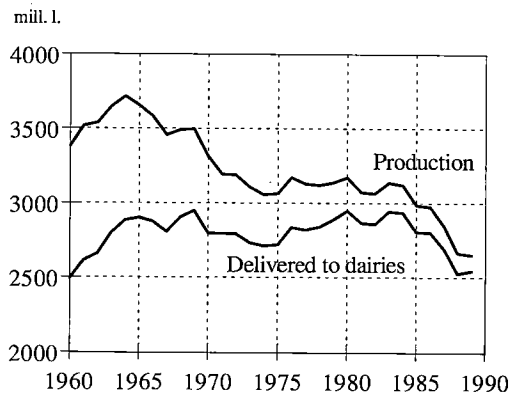


Figure 5. Milk production and the amount of milk delivered to dairies in 1960-1989.

below production targets, but there is still over-production.

Milk production stayed at the same level as in 1988. In the early part of the year production was about 5% below the level of the previous year. However, the turning point was reached in the middle of the year, when the good feed crop started to have an effect on milk production. In the latter part of the year production was as much as 8% above the level of 1988. The average yields of cows increased considerably, and, as the decrease in the number of cows slowed down, it is obvious that production started to increase. Actually, in this case it only means returning to the normal course in the development of production, because the decrease was a result of the poor quality of feed. Average yields have now risen to the normal level.

There is an extensive structural change in progress in milk production. The number of farmers delivering milk to dairies decreases by 4,000-5,000 a year. The majority are small-scale producers, which means that the average cattle size grows to some extent.

The amount of milk delivered to dairies was 2,547 mill. liters, i.e. 16 mill. liters more than in the previous year. However, this was still 78 mill. liters below the production ceiling and, consequently, milk production remained below the production target. Production is expected to

Table 5. Animal production in 1983-1989.

		1983	1984	1985	1986	1987	1988	1989 ^c
Milk	mill. l.	3 136	3 124	2 988	2 976	2 847	2 668	2 660
Dairy milk	"	2 943	2 935	2 808	2 803	2 692	2 531	2 547
Beef	mill. kg	118	124	126	125	123	111	107
Pork	"	177	170	172	174	176	169	174
Eggs	"	84	89	88	84	81	77	76
Poultry meat	"	18	20	21	22	27	28	30
Other meat	"	2	2	2	2	2	2	2

^c estimate

decrease slightly in 1990 despite the fact that measures to restrict production have been relaxed to some extent.

In dairy processing sector the decrease in production is regarded as too quick: milk has to be brought from far away to Southern Finland, and the possibilities for processing milk in provincial dairies are narrowed due to the decrease in raw material. On the whole, however, there is still overproduction. Self-sufficiency in liquid milk is becoming the minimum factor, whereas there is proportionally more butter fat. According to an estimate, last year the self-sufficiency was 118% in liquid milk (i.e. protein) and 132% in butter fat.

Beef production decreased 4 mill. kg last year. In two years production has dropped 16 mill. kg, i.e. 13 %. This could be expected because the number of slaughter animals decreases as a result of the decrease in the number of dairy cows, and the rise of slaughter weights cannot for very long compensate for the decrease. There is very little actual beef cattle.

Production and consumption of beef are now in balance, but during the year some beef had to be imported: the demand is mainly directed to the more valuable parts of the carcass, which means that imports becomes necessary when self-sufficiency comes close to 100%. Decrease in production can be expected to continue, and an increase in the imports of beef in the future seems very likely.

Pork production was 174 mill. kg, i.e. 5 mill. kg more than in 1988. Production was expected to

increase already in 1988, but this did not happen. Conditions were supposed to be favorable for the increase because the domestic market situation has been in balance. Last year, however, consumption started to decrease clearly, and overproduction amounted to about 15 mill. kg. Production is still well under control because of the production ceiling of 11 mill. kg was exceeded by 4 mill. kg. Pork production is forecast to increase by 2-3 mill. kg in 1990.

Egg production decreased by about 2 mill. kg last year. The dual price system (see below Chapter 12.6), which came into effect in the beginning of 1986, has had the hoped for effect. It has not been possible to increase production, and

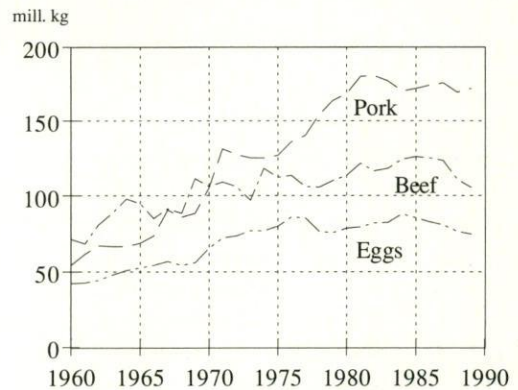


Figure 6. Production of beef, pork and eggs in 1960-1989.

the fact that each year a number of farmers give up production reduces production capacity. In 1990 production is forecast to decrease by 1-2 mill. kg.

Poultry meat production increased by about 2 mill. kg, i.e. 9% last year. Consequently, chicken is gaining ground in the market at the expense of other meats, which probably is the reason why, for example, pork consumption has not increased. Poultry market has been in balance, which is natural because production is based on contracts, which make it possible to regulate production according to demand. The increase is expected to continue.

The statistics on other meats consist of mutton, reindeer meat and horse meat. Production of mutton has remained small despite all efforts to stimulate it. Each fall the influx of venison confuses the meat market to some extent.

6. Consumption

The real income of consumers has risen considerably in the last few years. However, income elasticity in the consumption of agricultural products is small, which means that economic factors do not cause any major changes. Other factors, especially health considerations related to nutrition, seem to have a greater impact than income or prices. Last year, too, there was a lot of discussion on cholesterol, mainly concerning milk fat, but to some extent also meat and eggs.

Measured as energy consumption cannot grow any more, but it is rather on the decrease. In 1988 we consumed 2,768 kcal/day/capita (11.7 MJ), whereas in 1970 the corresponding figure was about 3,000 kcal. In course of time consumption has shifted from grain products to animal products, especially meat. However, today consumer instruction favors an increase in the consumption of crop products, and in the last few years the consumption of fruits and vegetables has increased considerably. Some increase is still expected in meat consumption, but the total consumption of milk and dairy products is on the

decrease. The consumption of grain and potatoes should stay at the present level, but some decrease is also possible.

The consumption of dairy products has undergone a considerable structural change during the last couple of years. Butter-vegetable oil mixes with a fat content of 40% or 60% have established their position in Finnish diet, and their consumption increased rapidly last year, causing a decrease in butter consumption. Including all spreads butter consumption amounted to 7.7 kg/capita, i.e. 19% less than in the previous year, the consumption of actual butter being 6.1 kg/capita. The consumption of margarine has increased to 8.0 kg/capita.

In 1989 the consumption of liquid milk products decreased about 7%. Increase in cheese consumption has formed an exception among dairy products, and it has kept the total milk consumption almost stable. Last year cheese consumption amounted to 12.3 kg/capita, the increase from the previous year being about 5%. The share of curd in cheese consumption was less than 1 kg.

Pork consumption, in addition to that of cheese and chicken, is the only one among agricultural

Table 6. Consumption of dairy products and margarine in 1980-1989 (per capita).

	Liquid milk litres	Butter kg	Cheese kg	Margarine kg
1980	263.3	11.8	7.1	7.8
1981	255.3	12.4	7.9	7.5
1982	253.1	12.3	8.8	7.7
1983	243.8	11.9	8.8	7.1
1984	240.5	11.4	9.4	6.8
1985	235.8	12.2	9.8	7.1
1986	228.4	10.3	10.5	7.2
1987	223.3	10.0	11.4	7.1
1988	221.8	9.5	11.7	7.3
1989 ^e	206.0	7.7	12.3	8.0

^e estimate

Table 7. Consumption of meat and eggs in 1980-1989 (kg/capita).

	Beef	Pork	Poultry	Eggs
1980	23.2	29.5	3.2	11.7
1981	22.4	29.3	3.5	10.7
1982	22.0	29.6	3.4	10.6
1983	21.1	30.9	3.8	10.6
1984	21.7	31.0	4.0	10.9
1985	21.3	32.0	4.2	11.1
1986	21.1	32.8	4.5	11.7
1987	20.9	32.6	5.4	11.9
1988	20.8	32.7	5.6	11.6
1989 ^e	20.5	31.9	6.2	10.9

^e estimate

products that has been expected to increase for a few more years. However, for the last 4 years it has stayed at the same level, which indicates that the peak may already have been reached. According to health experts, the present meat consumption level is quite sufficient, and chicken and fish could replace some of the red meat.

Beef consumption also decreased slightly last year. It has been forecast to fall because domestic supply will probably decrease as a result of the decrease in the number of dairy cows. Shortage of supply will raise the price level, which is already regarded as too high. Consumption has remained quite steady, however, although there has been a slight decrease in the last few years. Some decrease is also anticipated in 1990.

Poultry meat consumption increased by 11% last year. The rapid growth in the previous year slowed down rapidly, but the increase is still expected to continue.

Egg consumption decreased by a little less than 6% last year. It was not possible to maintain the consumption level reached in 1986. The discussion on cholesterol may be one reason for the decrease. On the other hand, consumption seems to have reached the level at which it was earlier forecast to stay for a longer period of time.

7. Foreign trade

Because the objective of Finnish agriculture is self-sufficiency, and foreign competition is prevented, the main function of exports and imports is to balance the fluctuations in demand and supply. Thus, the task of foreign trade is to export overproduction in order to maintain the domestic price level. There is very little import of basic commodities; only some grain has to be imported when the grain crop remains below normal due to weather conditions. This was the case, for example, in 1987 and 1988.

Fruits and vegetables are imported according to demand because there is little domestic production. Coffee is one of the most important free import articles, and import of certain tropical products is also relatively free. The value of imports exceeds that of exports (Table 8), although overproduction is regarded as the most serious problem of Finnish agriculture.

The decrease in agricultural production can be seen in exports last year: the export of meat, eggs and dairy products has decreased (Table 9). The export figures of butter, cheese and milk powder are still rather high because domestic consumption decreases almost at the same pace as production.

Total meat exports amounted to about 19 mill. kg, but despite of that beef and some pork was also imported. In egg exports there were not any remarkable changes compared to the previous year.

Some grain was exported in the fall because last summer's crop exceeds domestic need clearly. However, quite a lot of grain was needed for replenishing the stocks that had been used in the previous years due to the bad crops. In normal years export will always be necessary, unless extra arable land can be removed from production through fallowing.

The imports of processed foods is on the increase because, as a result of various trade agreements, their import is relatively free. It has been estimated that the liberalization of foreign trade will be especially visible in the increase in the exports of processed foods. At least in connection with the European integration, the produc-

Table 8. Export and import of agricultural products in 1980-1989 (FIM mill.)

	Export	Import			
		Total	Coffee and tea	Fruits	Bevarages and tobacco
1980	1669.9	4598.1	1097.1	638.0	255.6
1981	2639.4	4462.2	825.4	688.9	335.1
1982	2151.9	5308.9	990.5	710.6	286.0
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	1815.2	5705.2	787.6	915.4	372.6
1988 ¹⁾	1428.6	4602.7	609.9	712.7	305.5
1989 ¹⁾	1672.1	4938.6	721.0	712.1	362.4

¹⁾ January-October.

Source: Official statistics of Finland IA. Foreign trade.

Table 9. Export of some agricultural products in 1980-1989 (mill. kg.)

	Butter	Cheese	Milk powder	Pork	Beef	Eggs	Grains
1980	9.8	40.3	30.3	25.9	1.1	22.3	-
1981	14.7	36.8	28.0	39.8	16.1	27.5	13.5
1982	8.8	33.3	22.6	36.1	8.5	30.1	58.3
1983	26.6	31.5	39.1	25.5	17.7	30.2	92.4
1984	20.0	36.3	37.6	20.8	19.2	35.4	811.3
1985	18.6	35.9	36.3	17.8	22.3	33.1	561.0
1986	14.9	33.8	31.3	10.3	22.0	25.1	664.3
1987	21.4	34.4	31.7	17.3	22.0	21.7	294.9
1988	19.2	32.5	18.5	9.2	10.5	18.6	25.0
1989 ^e	24.0	27.0	11.0	14.0	5.0	19.0	335.0

^e estimate

Source: The Ministry of Trade and Industry.

tion of basic commodities seems to remain quite protected. The greatest pressures on Finnish agriculture are caused by GATT negotiations, in which large exporting countries are demanding free foreign trade also for agricultural products.

It would be extremely difficult for Finnish agriculture to adapt itself to full competition because the cost level is too high compared to the cost level in many actual agricultural countries.

8. Farm income settlements

Producer prices of agricultural products are decided twice a year in the farm income negotiations. The negotiations are based on the Farm Income Act, which defines the general directions for the setting of prices. According to the act, the negotiations are held between the state and the producer organizations.

There are two phases in the negotiations. In the first phase, the agricultural price council prepares a total calculation of the returns and expenditure of agriculture, based on the average amounts of the last three calendar years. Current prices as well as those of the last settlement are used here. According to the act, the farmers receive a full compensation for the rise in costs through a rise in the 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 total calculation of the price council includes (with some exceptions) the same products and production inputs as the total calculation of the Agricultural Economics Research Institute (see Appendix 5). 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). Consequently, the return and cost figures of the calculation do not represent the real figures of any year.

Target prices are set for milk, pork, beef, mutton, eggs, rye, wheat, feed barley and feed oats (see Appendix 7). Producer prices of other products may fluctuate freely, but the changes of prices are taken into account in the total calculation. Also, the prices of, for example, sugar beets, potatoes and oil plants are agreed on in the income negotiations.

The target prices should be realized completely. In the spring settlement a calculation is made showing deviations from the target prices. Shortfalls are credited and excesses are subtracted in full in the settlement. The following year this correction is returned to the prices. Consequently, in the long run farmers receive exactly the prices that were agreed on. Retroactive payments are also included in the price set-

tlement, and thus it is not possible for farmers to receive additional price in that way.

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 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. The overall increase in farm income is then determined for the whole agriculture, based on the total labor input in agriculture. Since the settlement is always an outcome of negotiations it cannot be described by any particular formula.

8.1. Spring price settlement

The rise of costs since the fall price settlement (i.e. the cost level in July) is calculated in the spring price settlement. This time, however, the cost calculation was made from the level of January 1988 till the level of January 1989, because in the fall of 1988 the change in costs was so slight that no corrections were made in the target prices. This means that the compensation for the increase in costs remained to be realized in the 1989 spring price settlement.

Table 10 presents the main points of the spring price settlement. In the first place, it shows the increase in the returns on the non-target price products (potatoes, sugar beets, oil plants, poultry meat and malt barley). In addition, there are the changes in retroactive payments, rent income and support. The returns on non-target price products had decreased by FIM 295.3 mill., mainly due to a decrease in the price of potatoes.

Table 10. Return and cost calculation of the 1989 spring price settlement, FIM mill.

	Price level in spring 1988	Price level in spring 1989	Change %
Gross return			
- Target price products	16 600.6	16 600.6	
- Other products	2 591.8	2 296.5	-11.4
- Rent income	660.4	687.7	4.1
- Retroactive payments	191.7	303.5	58.3
- Price support	2 408.1	2 562.1	
Total	22 452.6	22 450.4	-0.1
- Excess over target prices in 1987, repayment	81.3		
Total return	22 533.9	22 450.4	
Costs			
- Fertilizers	1 408.2	1 422.6	1.0
- Industrial feed	3 333.3	3 542.3	6.3
- Wages	477.7	548.9	14.9
- Machinery and implements	3 844.1	4 032.4	4.9
- Buildings	1 594.4	1 693.3	6.2
- Interest payments	1 424.7	1 507.6	5.8
- Overhead costs	1 326.1	1 387.1	4.6
- Rent	598.8	624.3	4.3
- Other costs	2 507.0	2 542.7	1.4
Total	16 514.3	17 301.2	4.8
Farm income	6 019.6	5 149.2	-14.5
Change from the basic level		-870.4	
Summary:		FIM mill.	
Change from the basic level		870.4	
Excess over target prices in 1988		-132.8	
Total change		737.6	

The change in costs as a result of the change in the price of production inputs forms the most important part of the calculation. The calculation indicated that costs had increased by FIM 786.9 mill. (4.8%). This was mainly caused by

an increase in the costs of purchased feed by 6.3%, machinery and implements by 4.9% and building costs by 6.2%. Proportionally, the biggest increase, 14.9%, had occurred in the wage cost. On the other hand, the prices of fertilizers

had remained almost unchanged.

The cost calculation indicates the excess over target prices twice. According to the Farm Income Act, target prices must be realized exactly. If this is not the case, the deviation is taken into account as a correction in the price settlement of the following year. Thus, according to the calculation, in 1987, for example, the target prices were exceeded by FIM 81.3 mill., and the target price level for 1988 was lowered by the same amount. In the 1989 spring price settlement this amount was returned to the target price level. In 1988 the target prices were exceeded by FIM 132.8 mill., which was subtracted from the target prices for 1989. This amount will be returned to agriculture in 1990.

The support level of agriculture rose by FIM 284.2 mill., i.e. from FIM 603.8 mill. to FIM 888.0 mill., in the calculation. This was caused by the fact that in connection with the tax reform the support based on the farm size became taxable income. In order to prevent a decrease in

income level, agriculture was compensated for the change through an increase in price policy support by the same amount. This raise was not taken into account as increase in income in the farm income calculation.

The total of the return and cost calculation indicated that the need for raise in target price level amounted to FIM 737.6 mill.

The negotiations on farm income proceeded at a normal rate, even if the producers felt that there were some complications when the negotiations were still in progress. An attempt was made to adjust the outcome of the negotiations to the general consolidation settlement made in fall 1988, which included a general wage increase of only one percent, supplemented by alleviations in taxation, the aim being to guarantee wage earners a two percent increase in real income. Negotiations were completed at the end of February, and according to the settlement, farm income was raised by FIM 245.8 mill., which is 4.1% of the farm income used as the

Table 11. Target prices in 1986-1989¹⁾.

		1.4.86	1.3.87	1.3.88	1.4.89	Change %
Rye	FIM/kg	2.70	2.70	3.00	3.10	3.3
Wheat	"	2.33	2.33	2.43	2.51	3.3
Feed barley	"	1.70	1.70	1.75	1.78	1.7
Feed oats	"	1.58	1.58	1.66	1.76	6.0
Milk	FIM/l	2.320	2.345	2.445	2.69 ²⁾	3.7
Beef	FIM/kg	24.97	25.10	26.10	27.80	6.5
Pork	"	16.25	16.30	17.00	17.95	5.6
Eggs	"	8.80 ³⁾	8.80	9.10	9.20	1.1
Mutton	"	25.15	24.65	25.90	27.45	6.0

¹⁾ see also Appendix 5.

²⁾ Target price for milk was raised by FIM 0.15/l from Jan. 1st, and the same amount was subtracted from retroactive payments. Consequently, the target price was FIM 2.595/l from the beginning of 1989. The raise percentage has been calculated from this price.

³⁾ Target price for eggs was reduced by FIM 1.50/kg from Jan. 1st, 1986 when the dual price system was adopted (see Chapter 12.4)

- The basis for the scaling of the additional price for milk was raised from 37,000 liters to 50,000 liters from Sept. 1st, 1989.

- Target price for eggs was raised FIM 0.4/kg, in the provinces of Oulu and Lapland FIM 0.45/kg for less than 10,000 kg from March 1st, 1989.

- Beef production premium: a new weight class of over 270 kg with a premium of FIM 5.00/kg. The lowest weight limit was raised from 180 kg to 190 kg.

basis for calculation.

The total need for raise amounted to FIM 983.4 mill., calculated as follows

Return and cost calculation	737.6
Increase in farm income	245.8
<hr/>	
Total need for raise	983.4

The raise was divided so that target prices were raised by FIM 723.8 mill. (4.4%), regional support, hectareage subsidies and other price support by FIM 196.2 mill., and social policy benefits by FIM 63.4 mill. The last amount guarantees an extension of farmers' annual vacation by one day, i.e. it is possible for farmers to have altogether 21 holidays a year.

In determining the increase in the target prices of different products, the prevailing market situation and the cost development of each product, which is calculated separately, are taken into account. Consequently, the target price of, for example, eggs was raised by only 1.1% (Table 11) because overproduction is still considerable. Also, the increase in the price of feed barley remained small because it was regarded as desirable to increase the cultivation of oats at the expense of barley. Average raises (3-4%) were realized in the prices of milk and bread grain, whereas meat prices were raised clearly more than the other prices.

The scaling of the additional price for milk was changed so that the first lower limit was raised from 37,000 liters to 50,000 liters. So far the additional price has been FIM 0.30/l until April 1st, and FIM 0.15/l up to 150,000 liters after that. The production premiums of beef and mutton as well as the additional price for eggs were changed slightly (see footnote in Table 11).

The target price for milk changed at the beginning of 1989. In the negotiations in spring 1988 it was agreed that the target price for milk is raised by FIM 0.15 at the beginning of 1989, and the same amount is subtracted from retroactive payments. The total price the farmer receives did not change, but the monthly account price increased by FIM 0.15/l. About FIM 0.1/l still remains as retroactive payments.

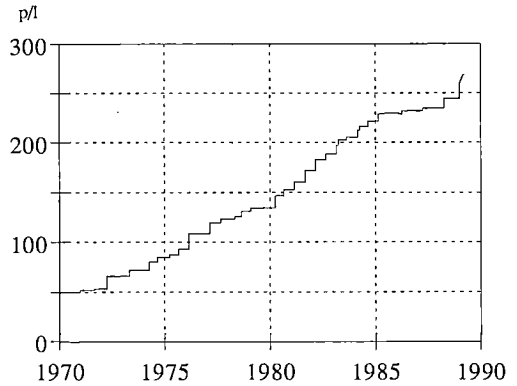


Figure 7. Target price of milk in 1971-1989.

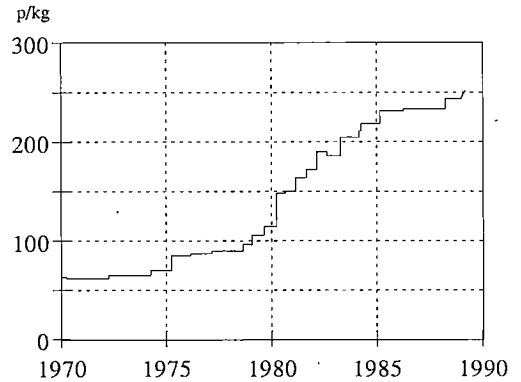


Figure 8. Target price of wheat in 1971-1989.

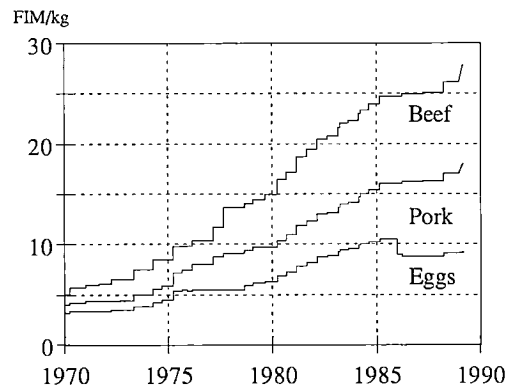


Figure 9. Target prices of beef, pork and eggs in 1971-1989.

Table 12. Producer prices of the most important agricultural products in 1975-1988, 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
1980	184.2	17.69	10.13	7.35
1981	203.1	19.59	11.42	8.48
1982	229.6	22.22	12.68	9.31
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 ^e	323.2	32.83	18.03	11.78

^e estimate

Like Figures 7, 8 and 9 and Appendix 7 show, the development of target prices has settled down in the last few years. In 1985-88 the increase in the producer prices in agriculture has been 7.2%, whereas during the same period of time the consumer price index has risen 12.6%.

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.

Increase in costs from January 1989 to July 1989 was FIM 294.8 mill., i. e. 1.7%. Rise of retroactive payments, which was FIM 41.0 mill., must be taken into account in the fall settlement. Consequently, the need for a change in target prices and price policy support would have been

FIM 253.8 mill.

Concerning the fall price settlement it is prescribed by law that the change in target prices is realized only if the change in target prices and price policy support is more than 2%. The change would have been only 1.3%, and, consequently, target prices were not changed at all. Thus the total change in the prices of production inputs during the whole year 1989 is taken into account in the 1990 spring settlement.

8.3. Producer prices

Target prices (see Appendix 7) do not give a fully accurate picture of the return farmers get for their products, including all subsidies. For example, in 1987 the additional price of milk was, on the average, 18 p/l, and other price support was 9 p/l. Thus the average producer price of milk was FIM 2.83/l. No final data from the year 1988 is available. Table 12 presents the development of the producer prices of the most important products in 1975-1989. Export cost charges and milk quota payments have been subtracted from these prices.

Table 13. Retail prices in September in 1988 and 1989.

Product	1988 FIM/kg	1989 FIM/kg
Milk (FIM/l)	3.61	3.74
Butter	39.00	40.60
Emmenthal-cheese	40.99	43.81
Beef (minced)	44.23	48.21
Pork (flank)	30.92	32.58
Eggs	16.24	16.79
Wheat flour	6.51	6.23
Sugar (lump)	7.38	9.16
Potatoes	2.78	3.17

Source: Bulletin of Statistics

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 farms. Fat is subtracted 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, potatoes and eggs do not change in the market chain.

9. Income trends in agriculture

9.1. Income disparities

The study on farmers' income level and its comparison to other sectors of economy has been continued in the Agricultural Economics Research Institute. Figures are available only for 1986.

Table 14. Distribution of income of farm families according to source of income 1986 (tax statistics).

	Income FIM/farm	%
Agriculture	53,778	58.3
Forestry	9,586	10.4
Wages	23,692	25.7
Other	5,144	5.6
Total	92,200	100.0

As table 14 indicates, farm families get about 58% of their income from agriculture. This information is based on the enterprise and income statistics of agriculture and forestry including 123,280 farms owned by natural persons in 1986. The average arable land area was 15.1 ha and forest area 38.2 ha. The data on the taxation of farm income has been supplemented by other statistics.

Table 15. Trends in farm incomes in 1975-1989, FIM mill. and as an index.

	Gross return	Total costs	Farm income	Index
1980	13 598.0	10 129.3	3 468.6	100.0
1981	15 202.8	11 685.1	3 517.7	101.4
1982	18 169.2	13 604.3	4 564.9	131.6
1983	20 441.4	14 228.7	6 212.6	179.1
1984	21 635.3	15 095.5	6 539.8	188.5
1985	22 511.7	15 938.3	6 573.4	189.5
1985 ¹⁾	22 516.4	15 504.0	7 012.3	100.0
1986	23 262.3	15 834.0	7 428.3	105.9
1987	22 473.5	16 711.6	5 761.9	82.2
1988 ^e	23 966.0	17 098.0	6 868.0	97.9
1989 ^e	24 855.8	18 460.8	6 395.0	91.2

¹⁾New procedure for cost calculation ^e estimate

In the aforementioned study the classification of farms is made in many different ways. One main classification method is based on distribution of taxable net incomes. A farmer is considered a full-time farmer, if his income from agriculture and forestry is at least 75% of all income. About 47,050 farms belonged to this category in 1986 and they had on average 20.4 ha arable land. The farm income was FIM 50,480 per person on those farms whereas an industrial worker received at the same time FIM 69,600 as wages.

9.2. Income in 1989

It is still difficult to make any reliable statistical estimates about the income trends of farmers in 1989. All the information on quantities and prices needed for this purpose is still preliminary. If this information is used to calculate returns and costs, an error may accumulate in the part referring to farm income.

Nevertheless, in the following a preliminary rough estimate of trends in farm income according to the overall calculation of the institute is given. Two figures for 1985 are given in the table 15 due to the revision of the total calculation. The input prices for fertilizers and feed were earlier list prices. In fact, farmers have got a sizeable discount of these prices, which have now been taken into account in the calculation

According to a preliminary estimate, gross return rose by 3.6% and costs 7.9%. Thus, farm income fell by about 7% compared to the previous year. This slightly surprising result is due to the fact that crop failure compensations of total FIM 1.5 bill. were paid in 1988. Excluding those payments, farm income would have risen by about 20%. This gives, however, a too good picture of the trend in farm income, which is still lower than what it was in 1985 or 1986.

The volume of the gross return rose by 4%. This was a result of the increase in the volume of the grains marketed. The volume of animal production fell by 0.5%. As a whole, the volume of the total production has fallen by 4% since

1985, which has been the target of agricultural policy.

The rise in costs was very rapid in 1989 (4% in volume terms). In particular, the use of commercial feed has increased rapidly (8%). The shortage of feed on farms is an explanation to this development.

The increase in interest rates was also felt in agriculture. Even though the interest rates of loan supported by the state did not increase, the interest payments rose by FIM 321 mill. (17% in volume). Otherwise there were no big changes in the use of inputs.

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 the taxation is carried out according to the same provisions and tax tables as in the case of other income earners.

The depreciations of machinery and implements can be the maximum of 30% of the expenditure balance (25% from 1989), and the depreciations of production buildings can be 10% of the expenditure balance. In 1986 the depreciations of machinery and implements were 81%, and those of buildings 14% 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. Also, the division of the interest on loans between production and the household is problematic.

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

of income, 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 1986 the average taxable income of farmer and spouse in the whole country was FIM 89,300, and the tax on this was about 27%.

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 stores) is liable to taxation, unlike in other enterprises. In practise, only large farms pay property tax because the value of a farm used in taxation is clearly below the real value.

In Finland we pay a sales tax on almost all goods. The tax percentage was 16% until the beginning of June, when it was raised by 0.5%, and from December 1st it has been 17%. Consequently, the production inputs of agriculture also include a sales tax, which is not returned to agriculture. Thus production costs are higher than they would be without a 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 8-10% of the retail prices.

III

AGRICULTURAL POLICY

10. Outlines of Finnish agricultural policy

The main factors affecting the shaping 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 populated. On the background there is a long development process from food shortages of the post-war period to present overproduction. The situation has changed, and keeps on changing. Agriculture has been protected against foreign competition so that it has been possible to regulate the price level in order to achieve the income objective.

Production exceeded domestic consumption already in the 1950s, and since then restricting and reducing overproduction have been the topic of continuous political debate. For a long time pressures were internal, based on the state economy. Strongest criticism was directed to the subventions required for the export of overproduction. In the last few years pressures on the independence of agricultural policy have come from abroad, especially from GATT. There is a desire to liberalize the foreign trade of agricultural products, and this requirement also meets response in Finland: the high price level is very much criticized by consumers.

Agricultural policy has taken its present shape in the course of time, but it has been strongly influenced by the report of the "Agriculture 2000" commission completed in summer 1987, which gave the outlines of the long-term program for agricultural policy. The effect is par-

ticularly clear in production targets or, more specifically, in production and export ceilings, which will be lowered according to the proposals of the commission.

10.1. The objectives of agricultural policy

The objectives of our agricultural policy are concretized in the legislation and as administrative measures. 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

The production objective is presented as a self-sufficiency objective: production must be directed so that, in the long run, it corresponds to domestic consumption. In practise, this requirement means reducing production, because consumption does not increase very much, and at the moment the self-sufficiency in the main commodities is above 100%. Due to seasonal variation some overproduction is allowed, especially in milk production.

The self-sufficiency objective is based on the aim of securing food supply in all conditions. As

a result, a high production level in peacetime has been regarded as necessary. Maintaining agricultural production is also considered important for reasons of employment, regional policy and inhabitation of the countryside.

Structural policy has to support the self-sufficiency objective. In the future, too, Finnish agriculture will be 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. However, the growth of farms is restricted to reduce agricultural production and to maintain the rural population level, although making these objectives compatible with each other is very difficult. The limits must be set so that the increase of the farm size above them does not essentially change the unit costs of the products. The objective of a rather small farm size is partly based on the idea that farmers get additional income from forestry and side-line industries.

The objective of income policy is, according to the "Agriculture 2000" commission, to guarantee the agricultural population a just income level compared with the other population groups. The difference 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 the other population groups.

Rural population, which was emphasized by the "Agriculture 2000" commission, concerns the relationship between agriculture and the society as a whole. Decrease in the rural population causes 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 objectives of social policy, as well as regional policy.

The commission suggested that the money saved as the export costs of overproduction decrease should be spent on developing agriculture and other industries and services in the countryside, and, through this, on maintaining the rural population level.

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 about 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 very high in Finland, and agricultural policy has been held responsible for this. In practise, 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.

In the public discussion it has become clear that the criticism is not directed only to farmers, but that processing industry and trade can just as well be blamed for the high food prices in Finland.

So far, the environmental problems caused by agriculture have received relatively little attention in Finland. It has gradually been realized that increase of the phosphoric load and eutrophication of lakes and rivers are serious problems, and, in addition to industry and settlement, agriculture is considered a major emission source. An attempt is made to reduce the use of phosphoric fertilizers through voluntary action, but also through taxation (see Chapter 12). A new tax on phosphorus (FIM 0.5/kg) is applied beginning January 1, 1990.

Contamination of the groundwater has not yet received very much attention. However, the use of nitrogenous fertilizers is being restricted through the tax on fertilizers collected from agriculture to finance fallowing and export of overproduction, the main objective being to restrict production.

Agricultural producers have taken the initiative in taking environmental factors into account. The Central Union of Agricultural Producers has prepared a program for environmental policy, which is being considered by the members, and will probably be passed during 1990. It gives general guidelines about cultivation and other

production technology, which makes it possible to reduce the problems caused by, for example, fertilizers, manure, plant protection chemicals, and other factors that burden the environment.

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

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 the consumers. However, this is possible only if the consumers are prepared to pay a higher price for food stuffs, because extensive production would lead to an increase in costs.

10.3. Agricultural policy in practise

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

The four most important acts the running of agricultural policy is based on are Farm Income Act, Act on Directing and Balancing Agricultural Production, Act on Directing Animal Production (i.e. the regulation of the establishment of large production units) and Farm Act. These are complemented by the dual price systems for milk and egg production.

Farm Income Act is a means of running income policy. According to this act, the producers negotiate twice a year with the state about the

prices (see Chapter 8). So far the 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 raise of farm income has been agreed on separately. A new Farm Income Act was passed last year and it came into effect at the beginning of 1990 (see Chapter 11).

An essential part of income policy is support policy, which aims at equalizing income disparities between different parts of the country and between farms of different sizes. Additional price and income support are graded regionally in order to maintain agricultural production in the northernmost parts of the country, too (see Chapter 13.2).

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 large 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).

Farm Act aims at developing the structure of agriculture. It determines the general framework for granting loans and subsidies to agriculture, and, consequently, makes it possible to influence the structural development (see Chapter 14). The dual price systems of milk and egg production as well as the regulation of the establishment of large production units (see Chapter 12.7) regulate the structure of agriculture a great deal.

The means of agricultural policy are manifold, and they contribute to reaching either one or several of the objectives. Like the objectives, the means sometimes contradict each other, too. 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 disad-

vantages of which would be taken care of, for example, through direct income support to farmers.

10.4. Current policy issues in 1989

Food prices were a common topic of discussion during the whole year. The discussion was boosted by the release of the OECD report on agricultural support, although the statistics presented were already known from the previous year and, on the other hand, the criticism was weakened by the understanding of the special conditions in Finland expressed by OECD.

A remarkable difference from the discussion on food prices in earlier years has been the fact that now criticism is directed, in addition to agriculture, to the other parts of the food chain, i.e. food industry and, in particular, retail, as well. More aspects have gradually been brought up in public, and the reasons for differences in prices have been considered more in depth. Instead of absolute differences in prices, other possible comparisons have been presented.

It has been noted that, on the whole, price level is very high in Finland. It is possible that Finnish mark is overvalued, and, as a result, measured by GDP Finland is among the richest countries in the world. However, our price level is also high, which means that the real income level is not as high as indicated by the figures, and, in part, this explains the high food price level. Compared with GDP, food prices in Finland are close to the average in Europe. This may not be so bad after all, when the unfavorable weather conditions and size of the country are taken into account, i.e. it is not possible to take advantage of large-scale production as well as in large industrial countries.

Discussion on food prices has pushed aside the earlier discussion on overproduction, but this is also partly a result of the decrease in production. Milk production still exceeds domestic consumption, but at times it has been necessary to import meat. However, restricting production is still the most central task of agricultural pol-

icy.

The new Farm Income Act was passed at the beginning of 1989. It did not cause very much discussion, however, because the act had been prepared in the "Agriculture 2000" commission, and, in the end, it does not differ very much from the earlier act (see Chapter 11).

Farm Act sets the guidelines for the development of the structure of agriculture. Reforming this act is now underway, and the committee appointed for this purpose released its report last year.

Despite the increasing pressures, no major changes have yet occurred in Finnish agricultural policy. Decrease in agricultural production has made a somewhat more flexible production restriction policy possible. The quota system should be relaxed in order to make the structure of agriculture develop more favorably. Without a considerable increase in farm size our price level will continue to be high.

The internal commitments in GATT are the most serious concern for agricultural policy. Agricultural support cannot be raised from the level of 1989. If this is interpreted very strictly, it means that the producer price level cannot be raised unless production decreases correspondingly. This will cause problems already for the price settlement in 1990, but the problems will become even more difficult in the years to come. It should be possible to secure income development through direct income support, but this will also lead to large expenses in the state budget, which are both politically and economically difficult to take care of. However, no concrete measures to alter the present price system have been presented yet.

11. The new Farm Income Act

The new Farm Income Act was passed last year. It is a five-year act concerning the pricing years 1990/91 - 1994/95. Pricing year starts at the beginning of March, except in the case of grains, for which it starts at the beginning of July. The

new act will be applied for the first time in the settlement of spring 1990.

In principle, the new act is similar to the earlier one, which came into effect in 1982. First, the increase in the prices of production inputs are compensated in full to farmers, and after that the raise of farm income is negotiated in the same way as according to the previous act. Consequently, the new act guarantees basically a same kind of income settlement as the earlier one.

However, there are some important differences. The responsibility of agriculture for exporting overproduction increases, and exceeding or falling short of the target prices will be taken into account in a slightly different way. These two facts will have the greatest effect on farmers' income development. The act also includes a statement to the effect that the obligations set by international agreements must be taken into consideration when target prices are determined. As an intermediate result of the GATT negotiations it was agreed that agricultural support cannot be raised from the level of 1989. This will cause problems for making customary income settlements, although direct support is not out of the question.

11.1. Production and export ceilings

Production and export ceilings set in Farm Income Act determine the 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.

Now the system has been altered so that a partial responsibility of agriculture for exports 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 for 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 (see Table 16).

The table is to be interpreted so that in 1990 the state accounts for 90% of beef export costs up to 5 mill. kg, and for 50% of the next 3 mill. kg. For exports exceeding 8 mill. kg agriculture gets only the world market price. Export ceilings will be lowered by 1994 as presented in the table. The same procedure will be applied to pork, eggs and grain. Non-food grain used in industry and other sectors, for which the

Table 16. Quantities of milk production (mill. liters) and exports of eggs and meat (mill. kg) up to which the state accounts for 100%, 90% of export costs in 1990-1994.

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

¹⁾ In any case, agricultural producers are responsible for the export costs of 3 mill. kg butter.

world market price is paid, is included in exports.

In 1990 the state will carry full responsibility for the export costs of dairy products, if the amount of milk delivered to dairies does not exceed 2,300 mill. liters. For the excess the state accounts for 90% of the export costs up to 2,400 mill. liters, 50% up to 2,500 mill. liters, and for the amount exceeding 2,500 mill. liters agriculture gets only the world market price. However, agriculture is in any case responsible for the export costs of 3 mill. kg butter.

Consequently, agriculture pays for the export costs in any case, even for small quantities. The 10% share of the marginal amounts is not necessarily a cost, but may even be profitable to export the marginal production. However, when the share rises to 50% the penalty is so heavy that it is not profitable to exceed the amount in question.

It has been estimated that in 1990 the share of agriculture of the export costs will be about FIM 246 mill., which is about 3% of farm income. The only way agriculture can avoid export cost charges is to reduce production so that need to export does not arise.

Export cost charges can amount to 13% of the farm income of each year, and the excess is covered by the state.

Import levies of dairy products, meat and grains are deducted from the export cost responsibility of agriculture. This provision is very important as production comes closer to consumption. At times it is necessary to import, for example, meat due to seasonal variation, and because there is a greater demand for certain parts of the carcass than domestic production is able to meet. Correspondingly, part of meat production must be exported. It is always necessary to import grain for the special needs of industry.

11.2. Other provisions

In the previous act the deviation of the producer prices from the target prices was fully taken into account in the price settlements. Now the act has been changed to the effect that the deviation is

taken into account only for the part that the prices on the average deviate from the target prices by more than 1%. This means a deviation of about FIM 170 mill., which has no effect on next year's settlement.

An attempt is made to keep agricultural production at or below the level determined by production and export ceilings. In the state budget an annual transfer appropriation of FIM 550 mill. in 1990-91 and 500 mill. in 1992-95 is allocated for regulating and balancing production. If the appropriation is exceeded, 50% for the excess will be included in agricultural income.

About FIM 300-500 mill. has annually been spent on regulatory measures. Agriculture has partly financed following: marketing fees that have exceeded the requirement have not been returned in full to agriculture. This procedure has been agreed on separately in connection with income negotiations, and it has made it possible for agriculture to avoid mandatory following.

12. Regulation of supply

Regulation of supply involves determining the production objectives and directing 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 17). The surplus agriculture has to export for the world market price, which is usually very low, and consequently, it is not profitable to increase production to the extent that it exceeds the ceilings. "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 can be regarded as the production objective of the government.

Accordingly, in the last few years the main stress has been on restricting production. Production has been clearly higher than domestic consumption, and, except for the very last couple of years, even the production and export ceilings set for agriculture have been exceeded. A con-

Table 17. Production ceiling for dairy milk (mill. litres) and export ceiling for meat, eggs and grain (mill. kg) in 1983-1989.

	1983	1984	1985	1986	1987	1988	1989
Dairy milk	2790	2760	2730	2710	2695	2660	2625
Pork	18	16	14	14	13	12	11
Beef	14	12	12	12	12	10	9
Eggs	17	15	13	12	11	10	9
Wheat						125	125
Feed grain				480	480	510	510

Table 18. Excesses and shortfalls of production and export ceilings and the share of agriculture of the export costs in 1984-1989.

	1984	1985	1986	1987	1988	1989 ^e
Dairy milk	175.0	78.0	93.0	-6.0	-130.0	-78.0
Pork	4.8	3.8	-3.7	3.0	-2.8	3.0
Beef	7.2	10.3	10.3	10.0	0.5	-4.0
Eggs	20.4	20.1	13.1	10.7	8.6	10.0
Bread grains	-	-	-	-	-100.0	-100.0
Feed grains	-	-	169.9	-230.0	-510.0	-200.0
Export cost, FIM mill.	452.0	482.0	602.0	274.0	0.0	0.0

^e estimate

siderable amount of money has been collected from agriculture as export cost charges, which has lowered farmers' income level by 5-7%.

Earlier especially the production ceilings for milk, beef and eggs used to be exceeded. The export responsibility of agriculture increased as both the ceilings and world market prices went down. Bad crops improved the situation considerably in 1987, and, in particular, 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. The fact that milk production remained below the production ceiling is also remarkable.

Measures to restrict production have been the most central means of regulating supply. Pro-

duction can be directed through price settlements, but as the agricultural income settlement usually leads to increases in prices, the real prices have remained stable, and it has not been possible to reduce production through pricing, but, rather, pressures to produce more have increased constantly.

On the other hand, 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, the development of production has been directed mainly through restrictive measures.

Both compulsory and voluntary means of restricting production are being used. The most important compulsory measures are the dual price systems for milk (since 1985) and eggs

(since 1986) and the regulation of the establishment of large production units.

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. The measures used have developed in the course of time, including, for example, contracts to reduce

- agricultural production
- livestock production
- milk production
- pork production
- egg production
- as well as withdrawal of arable land through
- fallowing contracts
- support of afforestation.

Last year special emphasis was laid on removing extra arable land area from production, and fallowing contracts were made for this purpose (Chapter 12.2.)

Contracts to reduce milk production (milkbonus contracts) and some other production reduction contracts made in the earlier years are still in force.

Some contracts to reduce agricultural production were made with young producers, and these concerned a shift from agriculture to forestry or other industrial activities in the countryside.

The licenses required for the establishment of large production units are one of the most important means of regulating production. In addition to covering the marketing responsibility, the export cost charges collected for financing the export of surpluses, as well as the tax on fertilizers and feed have a restricting effect on production. The act on the soil bank system was still in force last year, but it had hardly any effect. 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 retirement through improving pensions, as well as through abolishing hectare subsidies and additional price of milk from farmers over 65 years of age

from the beginning of 1988, and the additional price of eggs from the beginning of July 1988. In addition, the connection between retirement and giving up production has been tightened by introducing a modified pension system, which requires a definite commitment not to use farm land for agricultural production.

Production is also supported to some extent, for example, the production of beef and mutton is supported through an additional price (see Chapter 12.8.)

Consequently, there is a good number of regulatory measures, and they dominate the realization of agricultural policy. These measures are briefly dealt with in the following.

12.1. Restricting 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 animal production or to only one product, e.g. milk.

Contracts to reduce agricultural production, which have been made since 1977, concern the whole production of the farm. Last year 225 new contracts were made. Priority was given to farmers under 55 of age. The contracts are in force for ten years, and they include the condition that the farm has to turn to forestry or to some kind of small-scale industry.

For the first five years a farm that turns to forestry or industrial activity receives a compensation according to the income, and for the last five years only a basic compensation of FIM 10,000 a year. When the contract is made the timber output of the farm had to amount to the minimum of 150 solid cubic meters a year. The afforestation of arable land was supported by doubling the afforestation compensation.

Contracts to reduce animal production made in 1984 are more limited than the contracts concerning the whole production. A condition for joining this system was that a farmer had to give up all animals causing overproduction for five years.

In addition to fallowing, contracts to reduce

milk production were the most important restrictive measure last year. There were two alternative ways of giving up milk production: farmers could stop producing either for five years or completely, i.e. give up their milk quota. In the five-year contracts the compensation was FIM 0.90/l, and in the case of giving up production completely it was FIM 1.20/l, except for farmers over 65 years of age who could get only FIM 0.75/l. The compensation could amount to the maximum of FIM 80,000, and in both cases it is paid for five years.

Contracts to reduce pork production made in 1984, but since production and consumption are in better balance, there has been no need to make new contracts.

In 1987 five-year *contracts to reduce egg production* were made. The compensation was FIM 70/hen up to 1,000 hens and FIM 60/hen for more. If the producer committed himself to giving up production completely, the compensation was FIM 30/hen higher. Thus the state bought production quotas from farmers. Contracts were also made with large poultry farms, which had to abolish the minimum of 1,000 hens from production. The contracts made in 1987 covered about 6 mill. kg eggs. New contracts were made again in 1989. They will reduce production by about 2.7 mill. kg.

An attempt has also been made to reduce egg production by restricting hatchings. For this purpose, general instructions on the number of hatchings have been issued. In 1988 the number allowed was the same as in the previous year. During the last few years, expanding hatcheries and setting up new ones have been prohibited.

In practise, the *clearing of new arable land* has been made unprofitable through a land clearing charge of FIM 30,000/ha.

Already in August 1986 the authorities started to reform *pension systems* in order to cut overproduction. The pension system in case of giving up production was improved so that farmers could commit themselves only to leaving their land uncultivated for six years. Earlier the system required selling or afforestation of arable land. By the end of 1989 this pension system covered about 73,000 hectares arable land.

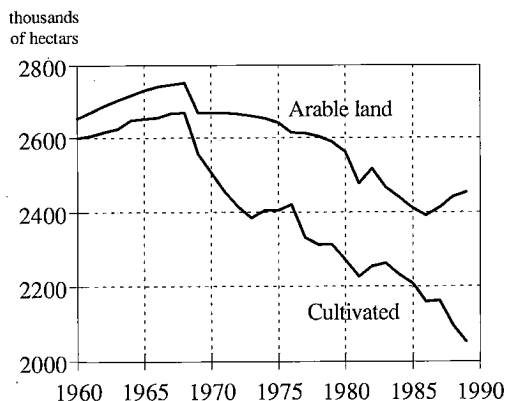


Figure 10. Arable land and the area under cultivation in 1970-1988.

12.2. Fallowing

Fallowing was the most important form of production restriction in 1989. Farmers can make fallowing contracts with the state for either one or three years. The minimum fallowed area had to be 15% of the total arable land area of the farm, and at least 2 hectares. Compensation, which is scaled regionally, ranges from FIM 1,100 to 2,200 per hectare, the average being FIM 1,825 per hectare. The total fallowed area was 189,100 hectares. 22,200 hectares was fallowed without the contracts in question, and, consequently, altogether 212,300 hectares, i.e. 8.6% of the total arable land area, remained out of production. Normally the fallowed area has been around 2 percent.

Obviously, fallowing has a great impact on crop production, although it may also lead to more efficient use of the cultivated land. The total fertilizer sales have increased to some extent despite the decrease in the cultivated area by about 7% in the last couple of years.

In the future, too, fallowing will be central in production restriction. The scaling of the compensations has been increased for 1990.

The basic compensation varies from FIM 2,770 per hectare in Southern Finland to FIM 1,380 per hectare in Northern Finland, and it may be raised by 10% if the land is very productive.

Table 19. Summary of the extent of production control measures in 1989.

	Contracts	Area, ha	Cows	Beef cows	Hens	Pigs
Soil bank ¹⁾						
Decreasing agricultural production ²⁾	3000	25000	13600		22000	3600
Milk bonus	3390		28000			
Restricting animal production	1275		3300		87000	27000
Restricting egg production	900				580000	
Fallowing	28000	185000				
Beef production contracts	1100			13200		
Pension systems	7200	73000				
Pea production contracts	120					
Hay	135					
Total	42120	283000	44900	13200	689000	30600
Corresponding production mill. kg		grain	milk	beef	eggs	pork
		860.0	220.0	2.5	10.0	5.5
Export cost savings	1849	1230	398	67	86	68
Value of production, FIM mill.	2302	1490	550	72	93	97

¹⁾ Soil bank contracts made in 1974 have ended in spring 1989.

²⁾ Including the contracts on the change of the production line of 4\$.

The export costs savings have been calculated according to the estimated export price of 1988. The figures refer mainly to the amount of export subsidies, if the production calculated for the table had been exported. The value of production is the sum of the target price and the estimated production premium. Export cost charges have not been deducted. Does not include production subsidies.

Source: The National Board of Agriculture

Correspondingly, compensation for less productive land may be lowered by as much as 20%. When the fallowing of the earlier years is continued, the compensation is lowered by another 20%.

For environmental reasons grass fallowing will be especially recommended because there is less leaching than with conventional fallowing without any plants. Contracts are made for three years and farmers receive an additional compensation of FIM 300 per hectare.

In addition to fallowing, farmers may participate in other systems for restricting production.

From 1990 onward organical cultivation will be supported by FIM 2,800 per hectare. Farmers can shift to organical cultivation during a three-year period, when they are entitled to support. Also, farmers engaged in organical farming prior to 1990 may receive support. Farmers commit themselves to practicing organical cultivation for three years after the last year they get the premium.

12.3. The cost and effects of production restriction measures

The disposable appropriations for measures to restrict production are prescribed in the Farm Income Act. In the state budget, a sum which is 20% of the appropriations for export subsidies, except for grain, has to be reserved for this purpose. In 1989 this amounted to about FIM 340.6 mill. This was not enough, however, but the amount had to be raised to FIM 740.6 mill. Agriculture paid about FIM 200 mill of that. In addition, FIM 180 mill. was used for commitments to leave land uncultivated.

Table 19 presents an estimate of the effects of all measures to restrict production in 1988. If the quantities covered by the contracts had been exported, the export costs would have amounted to about FIM 1.8 bill., mainly to be paid by the state. Consequently, it was profitable for the state to apply the above-mentioned measures. However, it seems that the effects have been overestimated to some extent, because part of the reductions would also have occurred without any compensations.

12.4. Export cost charges

Last year agricultural production decreased to the extent that only the export ceiling of pork and eggs were exceeded. As in animal production the amounts that remain below the export ceiling can be used as a compensation for the excesses of other products, no marketing responsibility remained to be carried by agriculture last year. The amounts saved went partly to the state, too. However, the following export cost charges were collected from agriculture last year:

- tax on fertilizers: 5 p/kg
- tax on protein feed: 75 p/kg

Tax on protein feed is carried on raw protein, except for grain. The tax on each feed mix is determined according to the protein content.

Large-scale poultry farms and pig producers have to pay marketing charge if their sales income exceeds the set maximum (FIM 1.5 mill. for pig production and FIM 0.65 mill. for poultry production). The size of the enterprise that exceeds the income level is about 570 pigs and 3,800 hens.

Export cost charges were estimated to amount to about FIM 93 mill. in 1989. As in the previous year a surplus of FIM 173 mill. had been collected from agriculture, the state would owe altogether FIM 266 mill. to agriculture (Table 20). However, it was agreed in the farm income negotiations that FIM 194 mill. of this will be spent on following compensations during 1988. Thus, the marketing charger exceeded the need by FIM 51 mill., which will be used for the marketing fees in 1990.

Table 20. Export cost charges in 1987-1989, FIM mill.

	1987	1988	1989 ^e
Milk	12.8	-	-
Quota charge	23.0	25	20
Pork	1.7	2	0
Tax on fertilizers	128.9	46	58
Tax on feed mixes	77.8	12	0
Tax on protein feed	57.3	50	0
Additional marketing charge	17.0	15	15
Total	318.5	150	93
Transfer from the previous year	41.0	86	152
Share of agriculture	274.0	63 ¹⁾	194
Transfer to the next year	85.5	173	51

¹⁾ Spent on following compensations ^e estimate

Source: Ministry of Agriculture and Forestry.

12.5. 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 level of dairy milk production in either 1981/82 or 1982/83, i.e. based on the higher one. However, all farms that produced milk at the beginning of 1985 could produce freely up to 30,000 liters. The free quotas were raised to 40,000 liters at beginning of 1990. It is not possible to buy or sell quotas.

If the amount of milk delivered to dairies exceeds the quota, a quota charge (FIM 2.05/liter in 1989) is collected for the excess. The principal is that producers get only the world market prices for the amount that exceeds their quota. The excesses have amounted to only about 10 mill. liters.

At the beginning of 1988 a quota system for dairies came into force. Dairies have to pay a quota charge of FIM 0.5/l for the amount of milk that exceeds the amounts of 1986. The aim is to prevent the dairies from taking advantage of the free quotas of farms producing less than 30,000 liters a year, and, in general, from increasing milk production for economic reasons.

Milk production is completely regulated by the state. It is supervised through a three-fold quota system: highest is the milk production ceiling, dairies have their own quotas, and the most effective means of restricting milk production are the quotas for individual farms.

Quota system impedes structural development because it is not possible to increase the farm size. Rise in the yield level has even forced producers to reduce the number of dairy cows, which has led to underutilization of the buildings and machinery.

Because milk production has dropped below the production ceiling in the last few years, in 1989 a decision was made to relax the quota system to some extent. In 1990 the quota charge is scaled so that with an excess of less than 10 000 litres the charge is only FIM 0.5/l, and after that it rises to the full FIM 2.05/l.

Producers are likely to take an advantage of this and increase production so that it exceeds the actual quota. It has been estimated that this

might lead to an increase in production by about 10 mill. liters.

12.6. 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 special reasons the quota could be altered. Altogether the quotas amount to more than 100 mill. kg.

In this system the regulation of production is based on an additional price, which last year was paid as follows depending on the quantities produced:

	Additional price FIM/kg	
	1.1.89	1.3.89
<hr/>		
The provinces of Oulu and Lapland		
0-10	2.90	3.35
10-100	2.05	2.50
over 100	-	-
<hr/>		
Other parts of the country		
0-10	2.55	2.95
10-100	2.05	2.50
over 100	-	-

The grading of the quantities and the additional price were altered at the beginning of the year. In the spring settlement an agreement was made on a raise of the additional price from the 1st of September.

Producers are paid the target price plus the additional price for the quota. If the quota is below 10,000 kg, the producer gets the full additional

price for the whole quota. Instead, if the quota is over 10,000 kg, additional price is paid for only 90% of the part exceeding 10,000 kg, and after that the producer gets a reduced target price. The payments of the additional price are realized only through the packers.

The grading of the price is regarded as so great that it is not profitable for farmers to exceed their quotas. Egg production has decreased continuously, partly as a result of the contracts to decrease production, too.

12.7. Regulation of the establishment of large production units

The licenses required for the establishment of new production units have become an effective means of preventing increasing production. A license from the authorities is required for establishing new animal production units or extending the old ones.

According to the system, establishing a production unit with more than 200 pig places, 1,000 hens, 30,000 chickens or 60 beef animals is subject to a license from the National Board of Agriculture. A license from the local authorities is required for the establishment of production units with over 25 pig places, 100 hens or chickens (or other poultry), or 30 beef animals.

In 1989 licenses were granted on the additional condition that the self-sufficiency in feed was 3/4 on larger farms, i.e. farms that applied for the license from the National Board of Agriculture, 2/3 on smaller farms, and 1/5 in chicken production. These restrictions do not apply to milk production because it is regulated separately through the quota system.

In 1989 licenses to establish and expand pig production were granted for about 50,000 additional pig places. Licenses were granted to young farmers who took over a farm, as well as to farms that changed their production line.

Poultry production units could be established or expanded only in a few exceptional cases, and beef production units only in the northern and eastern parts of the country. Licenses were

granted on condition that the ownership of the farm changed, and even then production could only be continued in the same extent.

12.8. Production support

Finnish production policy is mainly characterized by supply control measures. There are, however, some measures that aim at increasing production, too. 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 weights exceed certain limits. Additional price for slaughter animals of over 190 kg (heifers over 140 kg) was paid according to the footnote in Appendix 7. The weight limits were changed slightly last year.

Beef production is also supported through the so called beef cow premiums (FIM 1,500/cow in 1988). In 1989 this system covered about 5,800 cows.

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 0.25/kg and that of feed grain FIM 210/ha.

13. Agricultural support

13.1. Support in general

In general, agricultural support means the support that is paid through the state budget. It is mainly a result of the price system in agriculture, which guarantees the farmers a certain price level for the quantities determined by the production

ceilings. In 1989 the support amounted to about FIM 8.8 bill. (Table 21).

Part of the price support is a result of the system for equalizing incomes within agriculture, i.e. price policy support, which includes, for example, hectareage subsidies, regional subsidies, as well as the additional price of milk and meat, and which is realized through the budget (see Chapter 13.2. on price policy support). Agricultural support presented in Table 21 consists of various amounts, including reindeer husbandry and fishing. Support increased considerably in 1989 due to the compensations for crop damages.

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 advising and processing are also supported through budget funds.

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. It amounted to FIM 850 mill. in 1989. The major part of this is returned to the state as import levies and excise taxes paid by the consumers.

To realize the target price level the state has to pay export subsidies and compensations for price differences to prevent the export of surpluses from lowering the producer prices. Export subsidies decreased considerably in 1988 but reached the earlier level in 1989 due to the grain exports last fall. For computational reasons, the refund of the sales tax of export products is also regarded as export support.

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

In OECD's 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. This procedure has been regarded as necessary to be able to include all forms of support in the calculation.

As calculated by OECD, the support becomes very big because it is based on the world market prices, which are very sensible to disturbances in the market, especially oversupply. Some of the world market prices determined through this procedure have obviously been far too low.

The OECD calculations concerning Finnish agriculture were published in spring 1989, and they indicated - as expected - that our producer price level is one of the highest in the world.

Table 21. Agricultural support

	FIM mill.		
	1987	1988	1989 ^e
Agricultural production	3245	5073	4450
- price policy support	2043	2021	2610
- structural support	822	927	1100
- other	380	2125	740
Food stuffs	1178	805	850
- price support	1127	747	800
- other	51	58	50
Marketing	3845	2830	3510
- export support	2347	1556	2300
- sales tax	652	469	450
- export of processed products	838	788	750
Other	9	7	10
Total, gross	8267	8708	8810
Total, net ¹⁾	7031	7271	7300

¹⁾ Net expenditure has been calculated by deducting the state's tax and charge incomes from the gross expenditure.

^e estimate

Source: Economic Survey 1989

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 raises of prices are transferred to target price products and part 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 regional subsidies, support paid according to the farm size, as well as the additional price of milk, meat and eggs. In the last agricultural income settlement altogether FIM 2578.3 mill. was reserved for price policy support, including FIM 636.6 mill. for regional support, FIM 955.4 mill. for hectareage subsidies and FIM 986.3 mill. for additional price of milk, meat and eggs.

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.). Subsidies are highest on farms with 7-8 hectares. The payment per production unit is confirmed annually, and it has been scaled according to the joint income of the farmer and spouse and according to the area.

Essential changes were realized in the principles of payments in 1989, when hectareage subsidies became taxable. This change was connected to an overall tax reform, which aimed at abolishing various tax reliefs. As this would have caused an increase in taxation, income tax scales were eased. Hectareage subsidies became subject to marginal tax, which even in the case of people with low income amounts to almost 50%. In order not to lower the real effect of hectareage subsidies so strongly, they were raised by altogether 52.4% in 1989 farm income negotiations. This increase was not regarded as an increase in farm income, which is true because of the taxation.

Table 22. Hectareage subsidies per production unit in 1989.

Income class	Southern Finland		Northern Finland		
	I	II	I	II	III
under 70,500	1090	1199	1308	1417	1635
70,501-79,000	872	959	1046	1134	1308
79,001-87,500	708	779	850	921	1063
87,501-96,000	490	540	589	638	736
96,001-104,500	327	360	392	425	490
below 35 years of age	1526	1678	1831	1984	2289

In order to determine the hectareage subsidies the country has been divided into five areas, two in Southern Finland and three in Northern Finland, and the subsidies are scaled according to incomes. Producers that are under 35 years of age receive the subsidy raised by 40% if their income is below FIM 70,500 (Table 22). Hectareage subsidy must be applied from the agricultural board of farmers' home country.

In recent discussions on agricultural policy, direct income support has been put forward very strongly as a means of meeting farmers' demands concerning their income level, if the protective foreign trade of agricultural products is abolished. Direct income support should be neutral with regard to production, and it should not increase production at all. Hectareage subsidies used in Finland meet this requirement, and they may even reduce production due to the minimum income limit. There has been no reason to increase production if the advantageous tax-free hectareage subsidy had been lost as a result.

Regional subsidy is paid to milk and meat producers as production support per production unit. For this purpose the country has been divided into 8 regions, 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 0.15-0.29/l in the province of Oulu. In the

northernmost parts of the country the subsidy for milk was FIM 0.63/l, for pork FIM 0.75/kg and for beef FIM 8.70/kg. This subsidy has proved very effective for equalizing income disparities within agriculture. According to estimates, the subsidies account for about 75% of agricultural income in Northern Finland.

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 130 and 1,275 per animal unit. In the southernmost parts of the supported area the subsidy is doubled for the first five dairy cows, and in the north it is tripled for the first six dairy cows.

The additional price of milk was introduced in 1974 to slow down inflation. Initially it was the same for all farmers, but later it has been graded according to the quantities of milk (see Appendix 7), 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 would 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.

14. Developing the structure of agriculture

Developing the structure of agriculture requires investments (e.g. new buildings and machines), land improvements (subsurface drainage) as well as incorporations of farms or their lands. These measures are partly financed privately, and partly through state support. The Farm Act defines the general framework for this activity.

The state supports agricultural investments by granting low interest loans, as well as direct subsidies through the Agricultural Development Fund. Its capital consists of the annual transfers into the fund by the state, interests and repayments. At the end of 1988 the loan capital of the fund amounted to FIM 6.8 bill.

In 1989 altogether FIM 300 mill. were transferred to the Development Fund. Income from interests and instalments of loans were estimated to amount to FIM 657 mill. and, consequently, the fund had altogether FIM 1,025 mill. at its disposal. FIM 650 mill. were spent on farm loans, FIM 150 mill. on purchasing land, and the rest on, for example, subsidies and premiums to farmers, to those engaged in reindeer husbandry or biodynamic agriculture, as well as to loans prescribed by the act on small-scale industries in the countryside.

In addition, FIM 202.3 mill. were reserved in the state budget to be used as interest support for the loans prescribed by the Farm Act. Thus the interest on the loans from private banks could be lowered to the same level with the interest rate of the Development Fund. New interest support loans were granted for about FIM 825 mill. The loans of the Development Fund have mainly gone to the developing areas.

The so called start money system is also part of the investment support. Young farmers under 35 years of age are entitled to state support when they start practising agriculture on a farm they have acquired. The maximum subsidy has been FIM 50,000 to be spent on, for example, buying machinery and implements, or fertilizers. Altogether FIM 105 mill. of start money was available. In 1990 this will rise to FIM 135 mill.

Because agricultural production cannot be increased other rural industries are supported, mainly through Agricultural Development Fund. The support is directed, in the first place, to enterprises practised by farmers in connection with agriculture. The enterprise which is entitled to support must be run mainly by the farm family or can employ, in addition to the owner, outside labor corresponding to 2-3 annual jobs. About a third (33%) of the new enterprises have been small-scale labor intensive manufacturing and

service industries. Some have been typical side-lines of agriculture like nurseries, greenhouses and gardens (22%), horse husbandry and farm holidays (19%), and fur farms, aquaculture and beekeeping (15%).

In 1989 altogether FIM 120 mill. were reserved as subsidies for supporting the small-scale industries in the countryside. The payments will be realized in the space of a few years. In addition, interest support loans for FIM 50 mill. were available for this purpose from banks and 87.5 from the Development Fund.

15. Social policy

A farmer is an enterpriser and an employee at the same time. 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 amount is determined by the insurance payments, but the state also contributes to financing the pension costs. Because the number of the insured has decreased and the number of pensioners has increased, the state accounts for about 80% of the pension costs.

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. Farmers account for about half of the costs of the additional insurance, and this is taken into account in the farm income calculation as agricultural cost (FIM 35.8 mill. in the income settlement of spring 1988). The state finances the other half of the additional insurance, and the basic insurance is mainly financed by the National Pensions Office.

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 animal production are entitled to an annual leave of 19 days. According to the farm income settlements, the leave was extended by two days. The municipalities are obliged to arranging vacation substitutes for the duration of farmers' vacations. This system is mainly financed by the state, but agriculture also contributes to the costs, because part of them is taken account as farm income in the farm income calculation.

Farmers can get substitute help in case of sickness, accidents of childbirth, as well as for the duration of military service or maternity leave (for a maximum of 305 days in the last case beginning 1990). Farmers pay for the substitute help, and the amounts are determined according to their income. The payments are taken into account in the farm income calculation as agricultural cost (FIM 12.6 mill. in the income settlement of spring 1989). The costs of the substitute help system are mainly paid by the state, but agriculture pays part of them in the farm income settlement.

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 per month being five days. Farmers contribute to the costs of the scheme, and the amounts are determined according to the number of animals. The payments are taken into

account in the farm income calculation as agricultural cost (FIM 11 mill. in the income settlement of spring 1989). Part of the money from the state is regarded as farm income. Only about 20% of farmers entitled to the days-off have taken advantage of this scheme.

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. Farmers pay 40% of the costs of health inspections, and the National Pensions Office and the state account for the rest.

IV SUMMARY

Finnish farmers can be very satisfied with the year 1989. The yield hit the all-time record, and the producer prices increased in proportion to the costs. Overproduction remained within the limits set by the production ceilings, and consequently, no export cost charges had to be paid. A new Farm Income Act was passed for the next five years, which means that the future seems well secured.

Despite the slight increase in the total arable land area, the area under cultivation decreased by 65,000 ha, i.e. 3.4%. This development has been caused by the strong increase in premium fallowing, by means of which 8.6% of the total arable land has been removed from production. At the moment fallowing is the most important means of restricting production, and an attempt will be made to increase it further in the years ahead.

The spring of 1989 was early, and sowing was completed about two weeks ahead of the normal. The whole growing season was favorable to agriculture. There was some drought in July, but it did not have any major impact on the total yield. The harvesting of grain was started two weeks ahead of the normal, and although the precipitation was quite high in August, grain was very good in quality. The total yield amounted to 5,539 mill. f.u. without straw. The average hectare yield was 2,930 f.u., which is 10% higher than ever before. Almost all crops reached record yields.

The makers of agricultural policy are satisfied because the cultivation of bread grain has increased to meet the self-sufficiency level. Last year rye production was double with regard to domestic consumption, but this was partly a result of the extremely good crop. However, the area

target of rye has also been exceeded clearly.

Good grain crop also leads to an increase in overproduction problems. Grain production exceeded domestic need by 600-700 mill. kg.

Livestock production has decreased in the last few years due to both measures to restrict production and bad crops. However, the year 1989 was exceptional in certain respects.

In the latter part of the year milk production started to increase clearly as a result of the good feed crop. The total milk production rose by only 15 mill. liters, but in the fall production was 6-8% higher than in the previous year. However, the number of cows continues to decrease, which means that in the long run milk production will also decrease according to the objectives.

The total milk consumption decreases slightly. Last year a remarkable decrease occurred in the consumption of butter from 7.6 kg to 6.1 kg per capita. The introduction of the light spreads into the market a couple of years ago has reduced the consumption of butter. In 1989 cheese consumption increased by 8% to 12.7 kg/capita.

Beef production decreased by 4 mill. kg, i.e. 3% in 1989. 4 mill. kg beef was still exported, but production continues to decrease as a result of the decrease in the number of dairy cows. Consequently, it will soon become necessary to import beef. Poultry meat consumption seems to be on the increase, and this compensates for some of the decrease in beef production.

Pork production increased by 3 mill. kg, i.e. 2%, which was in accordance with the objectives. In 1988 pork production and consumption were well in balance, and as the consumption was expected to continue to increase, an attempt was made to increase production by granting licenses to new pig places. However, the con-

sumption decreased slightly contrary to forecasts, and the overproduction of pork increased.

In 1989 a new Farm Income Act was passed for the next five years. The principle is same as earlier: the increase in the prices of production inputs is compensated to agriculture, and the raise of farm income is negotiated as before. The most notable change is the lowering of production ceilings. The restricted export responsibility of agriculture will start with the first exported kilo. Consequently, it has been estimated that in 1990 the export responsibility of agriculture will amount to about FIM 300 mill., whereas according to the previous act it would not have been necessary to collect export cost charges at all.

The high food prices have continuously been the subject of public discussion. However, some change has occurred compared to earlier criticism: accusations have been directed to the whole food chain, and not only agriculture. Demands are put forward to increase competition in order

to lower the price level. This setting has an effect especially on the GATT negotiations, in which it will be difficult for Finland to retain the present situation due to both foreign and domestic pressures. It has also been feared that European integration will crumble the protection of agriculture, although so far agriculture has been left outside the negotiations.

Even if 1989 was a good year for agriculture and the Farm Income Act seems to provide the preconditions for maintaining the present situation, agriculture faces a decade of deep adjustment. The small farm size does not give the kind of livelihood as the strong economic development has brought to the other sectors. Consequently, restructuring must be continued. This is also necessary with regard to the possible liberalization of the trade of agricultural products, or at least to the gradual decrease in the protection of trade.

Sources:

Monthly Reviews of Agricultural Statistics, the National Board of Agriculture
Bulletins of Statistics, Central Statistical Office
Statistical Yearbook of Finland 1989
Statistics of the Agricultural Economics Research Institute
Economic Survey 1989, 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

Appendix 1. Cost price index in agriculture with subsidies. (1970=100)

	Producer price index of agriculture	Cost price index	Requisites and tools	Machines	Buildnings
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	563.2
1989 ^e	498.6	566.5	518.1	590.6	602.4

^e estimate

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 ²⁾ agriculture 1000 persons	% of total employed
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			53	197	8.1
1989 ^e			48		

¹⁾ Over 1 hectare

²⁾ Source: Labour Reports, Ministry of Labour

^e estimate

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

	Dairy cows 1000	Yield per litres	Pigs 1000	Hens 1000
1970	889.1	3677	1002.4	4470.9
1971	849.3	3806	1129.3	5249.0
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	4990 ^e	1290.7 ¹⁾	4923.3

¹⁾Including the pigs of dairies

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

	N	P	K
1969-70	58.3	27.2	40.0
1970-71	63.7	29.4	43.5
1971-72	68.5	30.5	46.5
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

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

	1985	1986	1987	1988 ^c
Crop production				
- Rye	195.8	202.1	189.0	163.3
- Wheat	999.7	1081.6	933.4	659.6
- Barley	1446.3	1521.0	1196.6	1266.0
- Oats	606.7	680.8	517.1	571.8
- Potatoes	280.6	358.8	640.4	517.9
- Potatoes of processing	209.3	200.1	92.2	223.7
- Seed potatoes	8.1	8.9	6.9	10.7
- Sugar beets	372.9	457.0	243.4	489.2
- Oil plants	326.2	451.2	454.3	461.7
- Peas	22.4	23.7	12.3	17.7
- Grass seeds	35.8	31.5	17.4	43.5
TOTAL	4503.8	5016.6	4303.1	4425.2
Garden production				
- Root crops	63.6	82.9	70.8	100.8
- Vegetables	516.0	538.1	546.4	513.4
- Berries	119.2	123.4	117.4	108.2
- Fruits	23.5	48.9	15.8	41.7
TOTAL	722.3	793.3	750.4	764.1
Animal production				
- Milk	8011.9	8048.5	7893.0	7638.3
- Beef	3480.1	3532.2	3547.3	3411.1
- Veal	1.6	1.6	1.7	1.7
- Pork	2787.5	2870.1	2907.9	2924.5
- Mutton	42.0	40.0	41.9	36.3
- Horse meat	18.9	18.1	19.2	14.6
- Poultry meat	235.0	265.8	334.7	365.4
- Eggs	943.2	896.3	865.4	848.3
- Export of animals	11.0	12.2	11.2	12.0
TOTAL	15531.3	15684.7	15622.3	15252.2
PRODUCTION TOTAL	20757.4	21494.7	20675.8	20441.4
Income from rents				
- Means of production	466.0	464.7	457.0	460.9
- Buildings and land	120.7	148.1	165.3	171.2
TOTAL	586.7	612.8	622.3	632.1
Subsidies				
- by farm size	567.8	579.5	531.4	644.6
- by number of cows	119.4	124.2	127.8	145.3
- Premium of feed grains	41.9	42.6	41.4	39.6
- "Start money"	110.5	90.7	149.3	131.6
TOTAL	839.6	837.0	849.9	961.1
Compensations to reduce production				
- Production guiding (4a§)	65.1	44.8	16.5	
- Milk bonus	157.2	129.6	74.1	142.8
- Pork bonus	13.2	12.6	11.7	
- Egg bonus			37.7	0.8
- For decreasing animal production	32.8	32.6	36.1	31.8

Appendix 5 continued. Costs and farm income prices, FIM mill.

	1985	1986	1987	1988 ^e
- Premium of beef	5.1	4.2	5.1	5.3
- Fallowing compensations	26.3	82.1	110.0	209.3
TOTAL	299.7	305.9	291.2	390.0
Compensations for crop damages	33.0	11.9	34.3	1541.4
GROSS RETURN TOTAL	22516.4	23262.3	22473.5	23966.0
Costs				
- Fertilizers	1835.7	1875.2	1604.2	1605.9
- Lime	147.0	108.1	127.6	112.9
- Feed concentrates				
- mixture	2819.5	2819.5	3319.0	3507.9
- other	214.1	172.9	139.9	122.0
- Feed conserving chemicals	155.1	143.5	140.3	145.2
- Pesticides	229.4	264.8	282.2	291.9
- Purchased seeds	488.4	493.2	590.4	603.0
- Fuel and lubricants	739.2	585.1	596.4	537.5
- Electricity	324.1	357.3	398.8	405.1
- Agricultural firewood and timber	142.7	133.7	126.1	124.3
- Delivery of calves and pigs	46.5	47.7	47.2	45.8
- Overhead costs	1204.9	1295.9	1343.1	1359.3
- Hired labor				
- wages	310.9	334.9	386.0	363.2
- social expenses	158.5	187.6	207.4	204.3
- Machinery and equipment expenses				
- depreciations	2795.0	2921.0	3004.0	2996.0
- maintenance	744.6	753.1	814.5	868.1
- Equipment	135.0	136.7	147.8	155.5
- Building expenses				
- depreciations	999.0	1062.0	1136.0	1159.0
- maintenance	409.5	415.8	433.5	441.2
- Interest payment	1021.0	1106.0	1231.8	1400.0
- Imports of animals	1.8	1.8	2.0	1.9
- Rent expenses				
- means of production	327.0	326.8	316.7	314.3
- buildings and land	209.9	238.4	256.9	266.0
- Farmers' share of costs from				
- accident insurance payment	21.8	25.8	28.4	34.9
- outside help	15.2	16.8	20.4	20.4
- days-off scheme	8.3	10.3	11.0	12.6
COSTS TOTAL	15504.0	15834.0	16711.6	17098.0
GROSS RETURN TOTAL	22516.4	23262.3	22473.5	23966.0
COSTS TOTAL	15504.0	15834.0	16711.6	17098.0
FARM INCOME	7012.3	7428.3	5761.9	6868.0

^e estimate

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

	1985	1986	1987	1988 ^e
Crop production				
- Rye	195.8	191.2	186.7	147.5
- Wheat	999.7	1033.2	963.7	659.3
- Barley	1446.3	1466.8	1160.4	1208.3
- Oats	606.7	657.7	500.3	535.9
- Potatoes	280.6	326.6	437.2	415.4
- Potatoes of processing	209.3	226.9	94.7	213.8
- Seed potatoes	8.1	8.6	6.4	9.8
- Sugar beets	372.9	446.6	244.8	532.2
- Oil plants	326.2	434.6	431.5	431.9
- Peas	22.4	23.9	10.4	16.2
- Grass seeds	35.8	36.4	12.0	35.0
TOTAL	4503.8	4852.4	4048.1	4205.2
Garden production				
- Root crops	63.6	85.7	46.3	77.6
- Vegetables	516.0	514.1	421.7	554.6
- Berries	119.2	122.8	97.6	109.7
- Fruits	23.5	33.0	11.3	20.3
TOTAL	722.3	755.6	576.9	762.2
Animal production				
- Milk	8011.9	7977.2	7631.7	7150.9
- Beef	3480.1	3449.7	3405.5	3076.9
- Veal	1.6	1.6	1.6	1.6
- Pork	2787.5	2814.4	2846.2	2736.6
- Mutton	42.0	38.3	37.5	29.5
- Horse meat	18.9	17.2	17.6	12.9
- Poultry meat	235.0	252.8	305.6	318.7
- Eggs	943.2	901.3	867.0	823.0
- Export of animals	11.0	11.9	10.7	11.0
TOTAL	15531.3	15464.5	15123.5	14161.1
PRODUCTION TOTAL	20757.4	21072.4	19748.6	19128.5
Income from rents				
- Means of production	466.0	440.6	408.0	396.0
- Buildings and land	120.7	152.1	167.5	167.5
TOTAL	586.7	601.1	575.5	563.5
Subsidies				
- by farm size	567.8	595.0	538.4	630.7
- by number of cows	119.4	127.5	129.5	142.2
- Premium of feed grains	41.9	43.7	41.9	38.7
- "Start money"	110.5	93.1	151.3	128.8
TOTAL	839.6	859.3	861.1	940.4
Compensations to reduce production				
- Production guiding (4a§)	65.1	46.0	16.7	
- Milk bonus	157.2	133.1	75.1	139.7
- Pork bonus	13.2	12.9	11.9	
- Egg bonus			38.2	0.8
- For decreasing animal production	32.8	33.5	36.6	31.1

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

	1985	1986	1987	1988 ^e
- Premium of beef	5.1	4.3	5.2	5.2
- Fallowing compensations	26.3	84.3	111.4	204.8
TOTAL	299.7	314.1	295.0	381.6
Compensations for crop damages	33.0	12.2	34.8	1508.2
GROSS RETURN TOTAL	22516.4	22850.8	21514.9	22522.2
Costs				
- Fertilizers	1835.7	1863.4	1978.6	1978.6
- Lime	147.0	103.8	122.5	108.1
- Feed concentrates				
- mixture	2819.5	2990.3	3213.2	3320.8
- other	214.1	215.6	172.1	140.5
- Feed conserving chemicals	155.1	145.5	146.8	150.0
- Pesticides	229.4	261.7	269.3	268.8
- Purchased seeds	488.4	493.2	540.4	520.4
- Fuel and lubricants	739.2	879.8	958.8	930.0
- Electricity	324.1	344.9	369.4	380.0
- Agricultural firewood and timber	142.7	136.5	125.9	120.0
- Delivery of calves and pigs	46.5	45.7	45.1	43.0
- Overhead costs	1204.9	1330.5	1360.8	1330.0
- Hired labor				
- wages	310.9	309.3	334.4	297.9
- social expenses	158.5	173.2	179.6	167.6
- Machinery and equipment expenses				
- depreciations	2795.0	2790.0	2746.0	2647.0
- maintenance	744.6	725.5	773.6	780.0
- Equipment	135.0	131.4	137.2	137.2
- Building expenses				
- depreciations	999.0	1013.0	1022.0	1018.0
- maintenance	409.5	390.5	390.5	380.0
- Interest payment	1021.0	1118.5	1234.9	1357.2
- Imports of animal	1.8	1.8	1.9	1.7
- Rent expenses				
- means of production	327.0	309.9	282.7	270.0
- buildings and land	209.9	244.8	260.3	260.3
- Farmers' share of costs from				
- accident insurance payment	21.8	26.5	28.8	34.1
- outside help	15.2	17.2	20.7	20.0
- days-off scheme	8.3	10.6	11.1	12.3
COSTS TOTAL	15504.0	16073.1	16726.7	16673.5
GROSS RETURN TOTAL	22516.4	22850.8	21514.9	22522.2
COSTS TOTAL	15504.0	16073.1	16726.7	16673.5
FARM INCOME	7012.3	6777.6	4788.2	5848.7

^e estimate

Appendix 7. Target prices of agricultural products in 1970-1989.

	Rye ¹⁾ (South. area) p/kg	Wheat ¹⁾ p/kg	Milk ²⁾ p/l	Beef ⁴⁾ (all) p/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 ⁵⁾	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 ⁶⁾	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 ⁷⁾		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 ⁸⁾	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 ⁹⁾	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
1.3.1989			269.00	27.80	17.95	9.20			27.45
1.7.1989	310.00	251.00					178.00	176.00	

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

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

b) Production quota over 10 000 kg until 31.12.1987 and from 1.1.1988 10 000 - 100 000 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

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

⁵⁾ In addition a production premium for mutton is paid:

from 1.4.1988	7.80 FIM/kg	over 16 kg
	6.70 FIM/kg	13-15 kg
from 1.3.1989	8.80 FIM/kg	over 16 kg
	6.70 FIM/kg	13-15 kg

⁶⁾ New statistical basis for beef and pork.

⁷⁾ Target prices for meat were applied from 1.3.

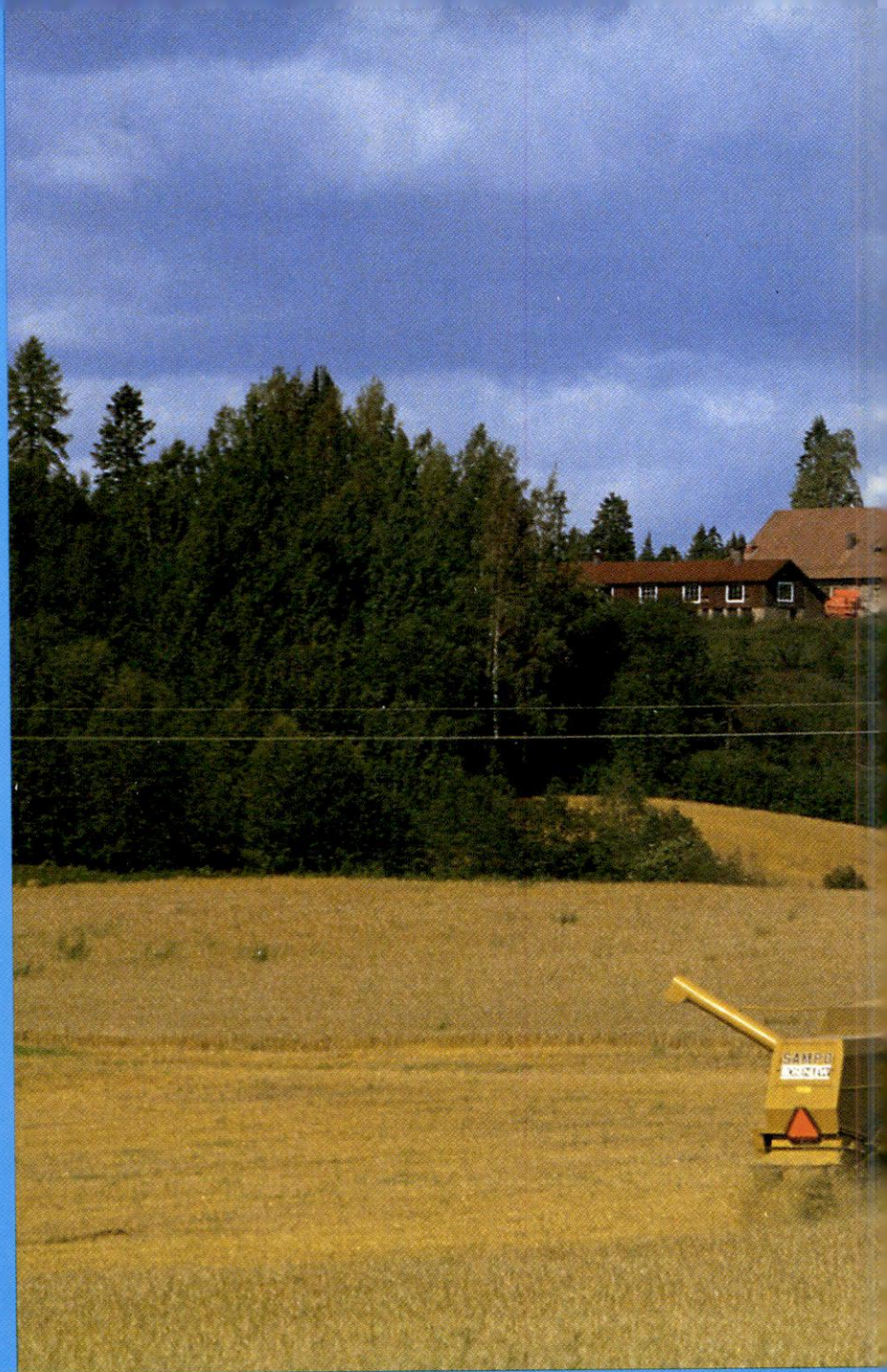
⁸⁾ Target prices for meat were applied from 1.2. and for eggs from 1.4.

⁹⁾ Target prices for meat were applied from 12.1.

¹⁰⁾ Grain prices on farm level from 1982.

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