MAATALOUDEN TALOUDELLISEN TUTKIMUSLAITOKSEN JULKAISUJA N:o 43
PUBLICATIONS OF THE AGRICULTURAL ECONOMICS RESEARCH INSTITUTE, FINLAND, No. 43

STUDIES ON AGRICULTURAL INCOME, PRICE AND SUPPORT POLICY

HELSINKI 1980

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Introduction

The fourth Finnish-Hungarian-Polish seminar on agricultural economics was held in Hungary September 1-5, 1980. This publication includes the papers presented by the Finnish participants. All the papers prepared for the seminar will be published by the Research Institute for Agricultural Economics in Budapest. This publication includes also the study on price formation prepared by professor Lauri Kettunen. It was presented in the OECD seminar in July 1980 in Paris.

Helsinki, October 1980

CHARACTERISTICS AND MAIN GOALS OF AGRICULTURAL PRICE POLICY IN FINLAND

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1. Introduction

Price policy means preconceived regulation of prices with specific targets in mind. Agricultural price policy is one of the means used to reach the targets of agricultural policy. Price policy is used to assure the farming population a reasonable income in comparison with other population groups and to channel agricultural production in a direction and towards a volume befinicial to society as a whole. Moreover, price policy should not prevent the maintenance of a reasonable level of food prices nor should it result in excessive costs to government.

Since the 1950s price policy in Finland has been carried out within the framework of statutory farm income systems. Regulation of the prices of farm products, a systematic price policy and other measures by government have proved necessary for the achievement of agricultural policy goals.

The basic principle of the market economy system is free enterprice, which includes the right to produce, buy and sell various commodities. Consequently a competitive situation arises on the market as price formation takes place under conditions of free competition. It has been more difficult for agriculture to adjust to such conditions than for other sectors. When agriculture shifted gradually from the traditional self-sufficient economy to an economy of exchange, income formation became more dependent of the volumes of products sold and on the prices obtained for them. Under conditions of free competition large, unpredictable fluctuations are typical of price formation for agricultural products; these fluctuations are reflected in an aggravated form in the income level of the farming population. Regulation of farm product prices was undertaken to eliminate this very defect.

The instruments of price policy, in other words the means at the disposal of government to affect agricultural prices, are quite varied. The most traditional of these include restriction of foreign competition through tariffs and import fees, quantitative limitations on imports and of course direct price controls as well. In addition to these indirect means, price support and many other forms of subsidy are used in agricultural price systems. The most important forms of subsidy include subsidized exports aimed at eliminating overproduction on the domestic market, subsidized consumer prices and the levelling of internal agricultural income distribution through payment of a subsidy based e.g. on the regional location and size of farms. From the varied and separate means listed above agricultural price policy in Finland has evolved into a unified system of determining prices - a statutory price system. Thus in the broadest sense, price policy covers nearly all income policy.

This article deals with the main points of agricultural price policy carried out in Finland. The examination will concentrate primarily on the characteristics of the price system and on the income policy effects of price policy.

2. Principles of the price system

The agricultural price systems applied in Finland have been similar in principle. They are based largely on the relationship between the prices producers obtain for their products and the prices paid for the materials they buy. This means that price acts are used to assure income development in agriculture: both the development in gross return and the change in costs are taken into account. Moreover, income from agriculture has developed in slightly different ways at different times because the average income of those employed in other sectors and the change in agricultural productivity are taken into account in variable ways. As far as income development is concerned there are two fundamental considerations; first, the methods used to follow the income development of the farming population and second, the income development "meter" to which farm income is linked, and the closeness of this link.

Many different methods can be used to follow changes in farm income. One method is total calculation. Here the entire agricultural sector is viewed as a single enterprise. The annual changes in the gross return of the entire sector, in costs and in farm income - all of which are affected by fluctuations in the prices of products and means of production and in output volumes - can be clarified by means of total calculation. An annual total calculation of this kind is made by the Agricultural Economics Research Institute. However, total calculations based on the input and output volumes of a single year are not a valid basis for price policy as such.

Another method generally used in Finland to follow farm income is a total calculation in the nature of a price index; its purpose is to show the change that has occurred in the price level for agricultural products and the means of production and its effect on farm income. Fixed volume weights are used for products and means of production in this calculation.

This kind of system is more flexible than a system based entirely on the calendar year like that mentioned above. However, it does require following the changes in agricultural productivity separately; this is because the change in productivity caused by growth in production or change in the use of means of production is not shown when fixed volume weights are used.

A third possibility is to follow the income development of a certain group of farmers. Similarly, the results of several groups of farms regarded as rational and operating in different production sectors and geographical areas could be followed. A method of this type is applied e.g. in Norway. In Finland, too, producer organizations in particular have sought to monitor farm income on this basis.

A fourth way, which has been used in the United States and in some other countries, is to follow only the development of the average price for agricultural products and to adjust it for example in accordance with the change is some other price level indicator.

A settlement concerning the linkage between farm income and that of other population groups has a significant influence on the effects of the price system. As far as income development is concerned, the income-receiving group with which farm income is compared is of fundamental importance. If the price system is used primarily to assure equal income development for the farming population, the choice of the group used for comparison is not of great importance. If, on the other hand, tha aim is to achieve the absolute income level of the comparison group, the choice of group naturally has central importance.

The prospects for the development of farm income within the framework of the price system and related income linkage also depend on the development of agricultural productivity and on consideration of this development. The growth in agricultural productivity can either be allowed to benefit agriculture or it can be deducted entirely or partially from the income rise required by a precise linkage with income. In theory, it would also be possible to base the development of agricultural income entirely on the rise in agriculrural productivity. In this case no real price system would be required. Equal income development would then require that agricultural productivity grew at the same rate as the rest of the economy. This would in turn require rapid structural change, for the prospects for growth in productivity with the present farms are limited.

The development of farm income can be linked to the general price level instead of a certain level of earnings. This would mean that the price system would only provide agriculture with protection against inflation; a rise in real income would rest entirely on the growth in agricultural productivity or would require separate negotiations. In Finland a system of this type was in effect in 1967. All the other systems used have been based on a linkage between farm income and earnings level.

The farm income required by the agricultural price system can be realized in different ways. In Finland income levels have been achieved by setting target prices for the most important agricultural products and by seeing to their implementation. Since the beginning of the 1960s the system has also included a government small holding subsidy and regional price support in addition to price policy.

3. The present farm income legislation

Farm Income Act for the pricing years 1978/79 - 1981/82 has been enacted in order to improve farm income, control and balance production and stabilize prices. According to this legislation the target prices and price policy support for the most important agricultural products are set for each pricing year. The determination of target prices, price policy support and decision-making on other factors indirectly affecting income obtained from agriculture are based on negotiations between the government and the central organizations of farmers.

In accordance with the Farm Income Act, the basis for the determination of target prices and price support is the total calculation of agricultural gross return, costs and farm income. The total calculation is drawn up on the basis of the average volumes of products and production inputs for the previous three calendar years and on the prevailing level of prices and costs. Agricultural gross return includes both agricultural price support and compensation for crop damage paid from government funds. Costs do not include the value of the farm family's own work, interest on the farmer's own capital invested in agriculture, agricultural taxes, marketing and other fees nor taxes incurred from the participation of agriculture in the costs of exporting agricultural products. Thus the farm income obtained from the total calculation - the difference between gross return and costs - is compensation for the labour of the farm family and the farmer's own capital invested in the enterprise.

The agricultural price commission, which is set up by the covernment according to law, drafts the total calculation in keeping with the farm income legislation. The commission includes representatives of the government, agricultural producers and consumers.

In necotiations concerning prices for agricultural products and the incomes of those engaged in agriculture, the parties are the interest groups representing farmers[1)] and the government. Within the framework of the present farm income legislation the items dealt with in farm income negotiations can be reduced to three:

[1)] In Finland farmers are organized in the same manner as wage earners. 76 % of the farmers with farms comprising more than 3 hectares of arable land belong to the professional organizations. The farmers belong to associations of agricultural producers operating in the individual municipalities. These associations form regional federations of agricultural producers which in turn comprise national organizations. Finnish speaking and Swedish-speaking farmers have separate organizations, the Finnish-speaking Central Union of Agricultural Producers (MTK) and the Swedish-speaking Swedish Central Union of Agricultural Producers (SLC). These organizations cooperate closely.

In agricultural incomes negotiations farmers are represented by their own organizations, the MTK and the SLC. They choose their negotiators, discuss the results of negotiations and approve or reject them in the councils, which are the highest decision-making bodies of the organizations.

a) the total calculation in accordance with the Farm Income Act: compensation for rise in costs, deviation from the target prices etc. (agricultural price commission)

b) improvement of the agricultural income obtained by farmers

c) the distribution of per-product price rises and price policy support

There are negotiations on the measures necessitated by changes in agricultural costs twice annually, in February and August. Compensation for the rise in costs is based on the calculation made by the price commission. The present legislation contains exact stipulations on this calculation. Agreement on changes in target prices for farm products and price support corresponding to changes in costs determined in the price commission's calculation and other factors included in this calculation is made so that the new prices come into effect as of the beginning of March and September or after a settlement has been reached. Compensation for changes in capital costs, however, is made only once a year, in March.

The actual development of agricultural income rests on the negotiations between the government and the central organizations of farmers. The legislation does not provide specific instructions as to how agricultural incomes are to be improved; the system of negotiations is completely open.

Income improvement targets in accordance with the Farm Income Act are carried out by setting new target prices and price support at a level that corresponds to the targets set. Distribution of per-product price increases has an important part in the negotiations as far as achieving a balanced settlement is concerned.

The per-product distribution of price increases is stipulated in the legislation. Support paid in accordance with region and farm size is adjusted so that the total volume of support changes at least one and a half times as much as the target prices (including the price support mentioned above) are changed. In determining price rises for different products the market situation must also be taken into account and attention must be focussed on the development of production costs for different products.

The demands made by the organizations of farmers have a significant effect on the distribution of per-product price increases and on the content of each farm income settlement. Representatives of the farmers have to take the interests of all farmer groups into account.

As the calculation of the price commission plays a central role in negotiations carried out in accordance with present legislation, the calculation for the 1980 spring negotiations is included in this paper (table 1).

The total calculation is made on the basis of the average volumes of products and production inputs for 1977-1979 and on the January 1980 level of prices and costs. The agricultural income calculated as the difference between agricultural gross return and costs is compared with the agricultural income computed with the same volumes of products and production inputs and in accordance with the price level required in confirming the target prices in autumn 1979.

The computation made shows an increase in the agricultural cost level of 463.9 million marks on the level required in the previous settlement. Most of this is caused by the rise of 211.9 million marks in the cost of machinery and equipment and a 75.2 million mark rise in construction costs. The rise in the prices for liquid fuels was 75.3 million marks. According to the calculation, the gross return has risen by 93.7 million marks on the level required in the previous settlement; the amount of compensation required to offset the rise in costs is 370.2 million marks. Moreover, it is stated that the target price level in the spring 1979 settlement was increased by 24.4 million marks for the 1979/80 pricing year because there had been a shortfall of this amount in the target pricing level for the 1978 pricing year. This sum had to be returned to the farmers. The same section of the legislation requires that tha average deviation in the price level from the target price level during the past calendar year must be taken into account; this deviation was - 0.2 %, i.e. 17.2 million marks. Thus the amount of compensation required according to the cost calculation was 363.0 million marks (table 1).

Table 1. The cost calculation in February 1980.

	Price level in autumn 1979 mill. marks	Price level in spring 1980 mill. marks
Gross return		
Target price products	8581.4	8581.4
Other products	758.9	854.6
After payments	261.4	261.4
Price support	1116.2	1114.2
Total	10717.9	10811.6
Costs		
Materials	3566.3	3696.6
Wages	414.4	422.8
Machinery and equipments	1793.3	2005.2
Buildings	682.1	757.3
Interest	344.7	382.8
Total	6800.8	7264.7
Gross return	10717.9	10811.6
1978 adjustments in target prices (deduc.)	24.4	
	10693.5	10811.6
Costs	6800.8	7264.7
Farm income	3892.7	3546.9
Rise in costs		463.9
Rise in gross return (deduc.)		93.7
		370.2
Deviation of producer prices from targets 1978, to be returned (deduc.)		-24.2
Deviation of producer prices from targets 1979 (added)		+17.2
Compensation for rises in costs		363.0

In order to clarify the overall picture of the present price system, the final result of the spring 1980 farm income negotiations appears in simplified form in figure 1. As the figure shows, the rise in costs was offset in accordance with the calculation of the price commission mentioned above. The negotiators also decided on an increase in farm income of 735 million marks.

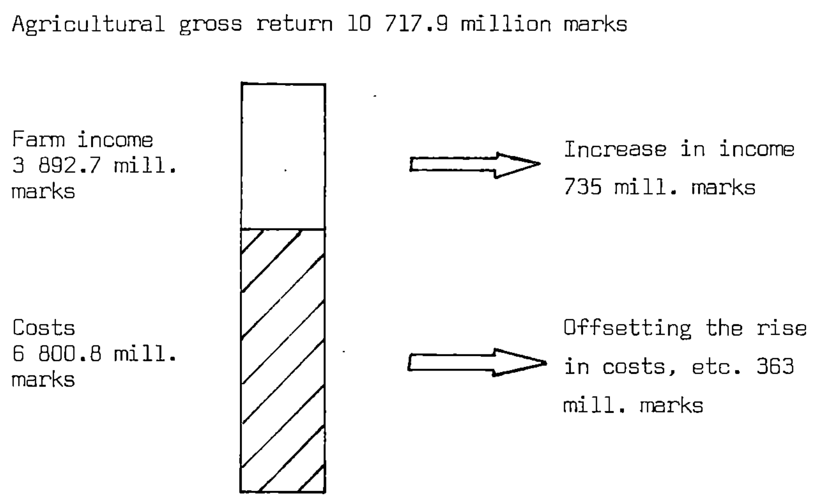

Figure 1. Increase in farm income and compensation for rise in costs, agreed upon in spring 1980 farm income negotiations.

4. The effects of agricultural price policy

The main function of agricultural price policy is to act as a farm income policy instrument in assuring the farming population a fair improvement in income. Attention is indeed focussed first on farmer income in analyzing the effect of the price system and the price policy carried out.

Table 2 shows the trend in farm income for the entire agricultural sector both on the overall level and computed per farm family (farm) for the period in which statutory farm income systems have been in force, beginning with the 1956/57 harvest year. The trend in income obtained from agriculture has been compared with the trend in the general level of earnings for wage-earners, with agricultural producer prices and with the cost of living. The figures show that farm income, as a total sum, has definitely developed more slowly than the so-called general level of earnings of wage-earners. Computed on a per-farm basis, farm income developed up to 1977 as fast as the general level of earnings. Bad harvests and the increase in the use of production inputs are the cause of the unfavourable trend in 1978-79.

Table 2. Some price and earning level series as index figures (harvest year 1956/57 = 100)[1].

Year	Agricul. prod. prices	Cost of living	Earnings level, wage-earners	Farm income total	Farm income per farm[2]
1956/57	100	100	100	100	100
1960/61	116	117	124	145	141
1965/66	148	152	187	212	212
1969/70	188	184	248	276	288
1970	188	189	269	252	263
1971	195	201	304	267	287
1972	216	215	338	308	343
1973	243	241	391	310	355
1974	282	282	468	323	380
1975	354	332	570	413	504
1976	402	381	655	500	625
1977	431	428	710	548	698
1978	456	460	759	436	567
1979[3]	483	493	847	417	553

[1] Compiled from different series. Each series is always adjusted with the most recent index series figures

[2] Farms with more than 2 hectares of arable land

[3] Partly forecasts

Thus the income level of the farming population has risen due to the effects of the farm income legislation at approximately the same rate as that of other population groups, with the exception of the last two years. Here the legislation has nearly carried out its task. The legislation could also have been used to bridge the gap in income level between the farming population and the other population groups. As income level studies made in the 1960s and the trend in development thereafter still indicate a definite income level difference between the farming population and other population groups, the farm income systems have not been sufficiently effective to eliminate the gap.'

No exact research findings are available for income level differences of recent years. Comparison of the enterpreneurial incomes obtained by farmers and the earning levels of wage earners is very difficult and for political reasons it is nearly impossible to reach an understanding on income differences.

One of the main objectives of farm income policy is also a fair distribution of income within the agricultural sector. The income distribution between various production branches can be affected by altering the price ratios between products. The distribution of income within agriculture can also be affected with subsidies paid according to farm size and with regional support. However, farm income systems are frequently criticized because, by virtue of the fact that they lead to price increases, they favour farmers with large farms over those with smaller holdings and thereby effect an increase in the income differentials within agriculture.

It is extremely difficult to judge the extent to which a fair distribution of income exists within the agricultural sector because fairness is a very subjective concept and different people conceive of it in different ways. However, it is evident that it has been possible to reduce income differences between farms of different sizes and different areas by means of government subsidies.

Farm income settlements cannot be made with only income policy targets in mind. Increasing overproduction and difficulties in the marketing of products have brought production policy considerations increasingly to the fore in decision-making. This has been brought out most clearly in changes in the price ratios between the most important agricultural products. Table 3 shows the trend in price ratio beginning in 1966 between wheat and milk on the one hand and pork and beef on the other.

Table 3. The trend in price ratios[1)] between wheat and milk and between beef and pork.

Year	Wheat/milk	Beef/pork
1966	1.49	1.14
1967	1.41	1.22
1968	1.27	1.25
1969	1.28	1.23
1970	1.27	1.38
1971	1.17	1.40
1972	1.06	1.54
1973	0.88	1.66
1974	0.77	1.57
1975	0.70	1.37
1976	0.66	1.34
1977	0.64	1.53
1978	0.61	1.50
1979	0.72	1.53

[1)] Computed from average producer prices for calendar years

Table 3 shows that after the mid 1960s the price ratios between wheat and milk favoured milk up to 1979, when a clear turn in favour of wheat occurred. The price ratio between beef and pork clearly changed at the end of the 1960s in favour of beef. Since then the price ratio has remained rather steady. In the price settlements made in autumn 1979 and spring 1980 the target prices for wheat and beef were increased by a much greater percentage than those for milk and pork.

As our agricultural production has become specialized, it has not been possible to guarantee equal income development for farmers engaged in different production branches by means of a price system based on the total calculation. Technological development and the increase in productivity have taken place in different ways in different production branches; nor has it been possible to follow the trend in individual production branches with total calculations. Thus the price ratios in table 3 do not tell everything about the income trend for the farmers producing these products. The increase in productivity in the production of pork and wheat in the 1960s and early 1970s was clearly faster than that in the production of milk and beef.

Also, emphasis on production policy in price settlements may have meant that some producer groups wound up in a less favourable position than others. Thus with respect to some products the rise in production costs was not offset at all or only partly. This has been the case particularly in overproduction situations where price policy was used to reduce production.

In recent years there have often been demands that some system for monitoring production costs be linked to the farm income system. However, political considerations have greatly hindered agreement on production calculations and above all, on the level of production costs. However, farm income negotiators have considered production cost calculations necessary, and on this basis the Agricultural Economics Research Institute has begun to make the necessary computations. Even if understanding on production costs is not reached, the cost items in the calculations can be used as a weighting system through which the trend in production costs can be monitored in the manner of a price index.

In the farm income negotiations of spring 1980 the negotiators had calculations depicting the trend in the production costs of the target price products at their disposal. These calculations were based on farm models drawn up by the committee that reported on the production costs for agricultural products and the trend in the income level of the farm population. The committee set production costs at the price and cost level of the III quarter of 1975 for farm models representing seven different production branches, each in three different farm size categories. The farm models were drawn up with more developed production structures than the Finnish average and their farming conditions were defined as being mainly representative of southern Finland. Figures 2 and 3 show the trend in production costs for pork and beef. The level of departure is the III quarter of 1975; after this the trend in production is computed by means of price indexes. The trend in the target price of the product in question is also shown in the figures. The change in productivity is not taken into account.

As figure 2 shows, the target price for pork has conformed rather closely to the trend in production costs for the largest farm model. The target price has not, however, covered all the production costs included in the calculations. On the basis of the bookkeeping results and other studies it can be said that the income level of producers of pork is quite high and the income development has been quite steady.

The price policy carried out for wheat has been inconsistent. Overproduction of wheat in 1975-76 led to a situation in which the target price of wheat was not raised in keeping with the rise in production costs. This was continued until 1979, when the target price for wheat rose 19 %. This increase was also insufficient to offset the lag in the price of wheat and the target price for wheat in the 1980 price settlement was raised 30 % (figure 3). As the grain harvests of 1977-79 were exceptionally poor, Finland was forced to import over half of the bread grain required and the income level of grain producers declined.

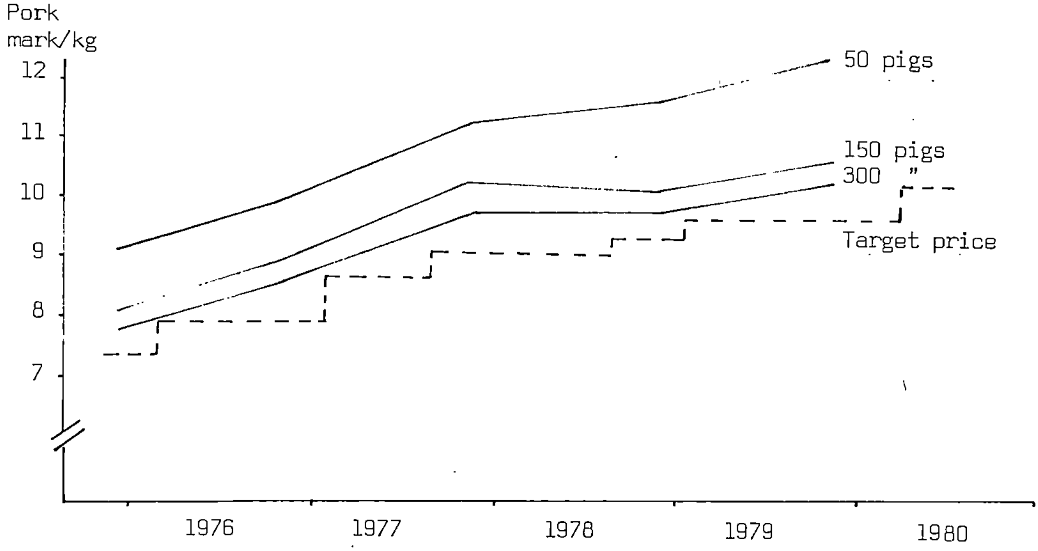

Figure 2. The trend in production costs for pork according to farm size in relation to target price.

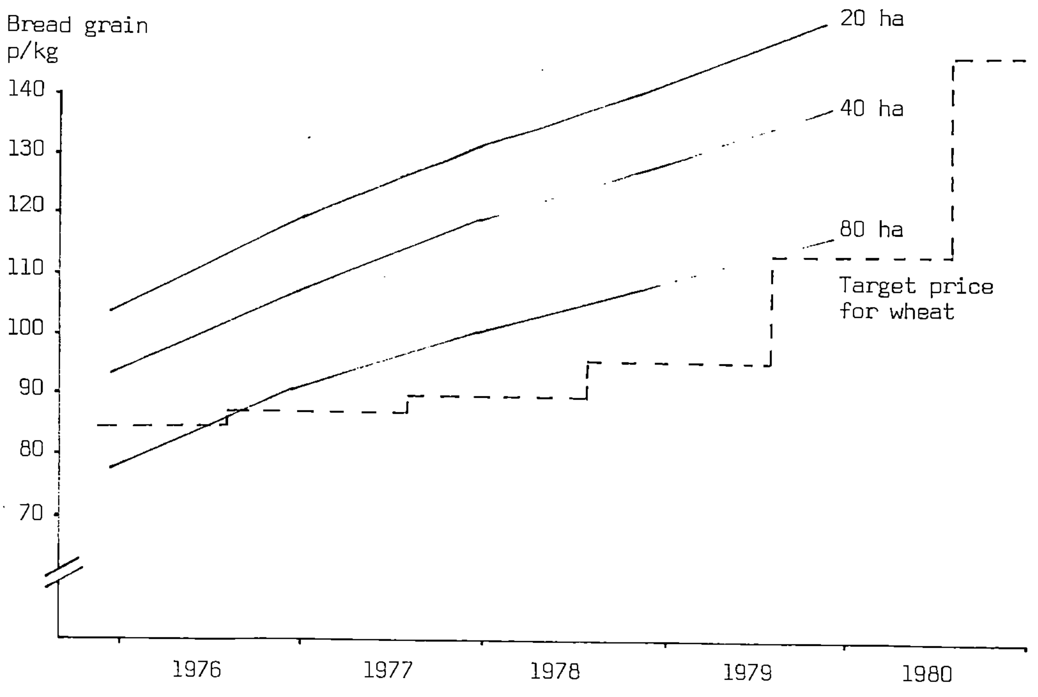

Figure 3. The trend in production costs for bread grain accordint to farm size in relation to the target price for wheat.

5. Summary

The farm price policy pursued by government is an important element in overall agricultural policy; it is used to ensure the farm population a fair and reasonable level of income and to channel agricultural production in a direction and towards a volume beneficial to society as a whole. In carrying out price policy it must be stressed that consumer prices and the burdens on the government budget incurred from the price system are to remain reasonable. However, these goals can not be reached through price policy alone; implementation calls for consistency and a long-range view in all areas of agricultural policy.

In Finland market and production policy may too frequently have been the determining factors in the agricultural price policy pursued in Finland. A price system based on the total calculation, overproduction of agricultural products and the high costs of production caused by Finland's northern location have led to a situation in which the real production costs of each product have not been taken into sufficient account. As prices of production inputs have risen rapidly and as these price increases have different effects on the production costs of different products, distortions in price ratios have occurred. When the price of a particular product has lagged far behind the trend in production costs there have been occasions on which the price of the product had to be increased by a large percentage at one time in order to ensure continuity of production. In practice, however, such increases are difficult to put into effect because they necessitate large rises in food product prices. Distortion in price ratios always leads to a situation in which one farmer group is in a less favourable position than others.

A rapid rise in production costs affects our entire agricultural production. Increased use of production inputs purchased from sources outside the farm - fertilizers, fodder, machinery, etc. - together with the rapid rise in raw material prices have led to a situation in which the production costs of the entire agricultural sector rise very rapidly.

Regardless of the farm income legislation used in making price settlements, a system for monitoring production costs must be linked in one way or another to the price system. The balanced development of farm income, the channelling and balancing of production, and the stabilization of the price level call for the consideration of the real production costs of each product.

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SUBSIDIES IN FINNISH AGRICULTURAL POLICY

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1. Introduction

Some of the principal objectives of Finland's agricultural policy are to improve standard of living of the agricultural population and to ensure a supply of foodstuffs at a reasonable price. The price system for farm products comprises the main channel through which these objectives are reached. State subsidies to agriculture are part of the price system, and decisions about them are made during the farm income negotiations. Even subsidies outside the price system are often decided on at these income negotiations.

The most important subsidies concerning production and consumption fall into the following groups:

- export subsidies and cut-back in production
- reduction of income discrepancies in farming
- subsidies to hold down consumer prices
- rationalization subsidies

Each group comparises many different forms of measures. Some can be considered to fall into more than one group. On the other hand, subsidy measures which do not fall within this classification system are sometimes included in the sphere of agricultural production and consumption.

Subsidies influence the standard of living of both farmers and consumers, and even the economy in general. In the case of some measures it is difficult to show to what extent they affect the farmers' and consumers' own economy. However, the main forms of subsidies affect the incomes of farmers and the costs of consumers in a fairly clear way.

Subsidization arising out of surplus production can be primarily seen as supporting agriculture as an industry, while the subsidies granted to reduce consumer prices are aimed to help the consumer. Rationalization subsidies reduce agricultural expenditure and improve the standard of living of farmers. On the other hand, this form of support benefits the consumer, too, as rationalization reduces costs of agricultural production.

Subsidies paid to reduce income discrepancing in farming are an organic part of the price system. These subsidies (smallholding subsidy and regional subsidy) increase the incomes of farmers, but can also be seen to reduce consumer prices within the framework of the agricultural income system. The agrigultural income settlement first fixes the total sum allotted for the compensation of expenses and increasing incomes; the amount is then split up between increases in producer prices and State subsidy. Thus subsidization tied to the price system is an alternative to increasing producer prices. In this way the subsidies reduce the need to raise consumer prices.

A total of 3 141 million marks of the above-mentioned subsidies was paid out in 1979. In the same year the gross agricultural return was 10 360 million marks. The subsidies were divided between the various groups as indicated in the figure below.

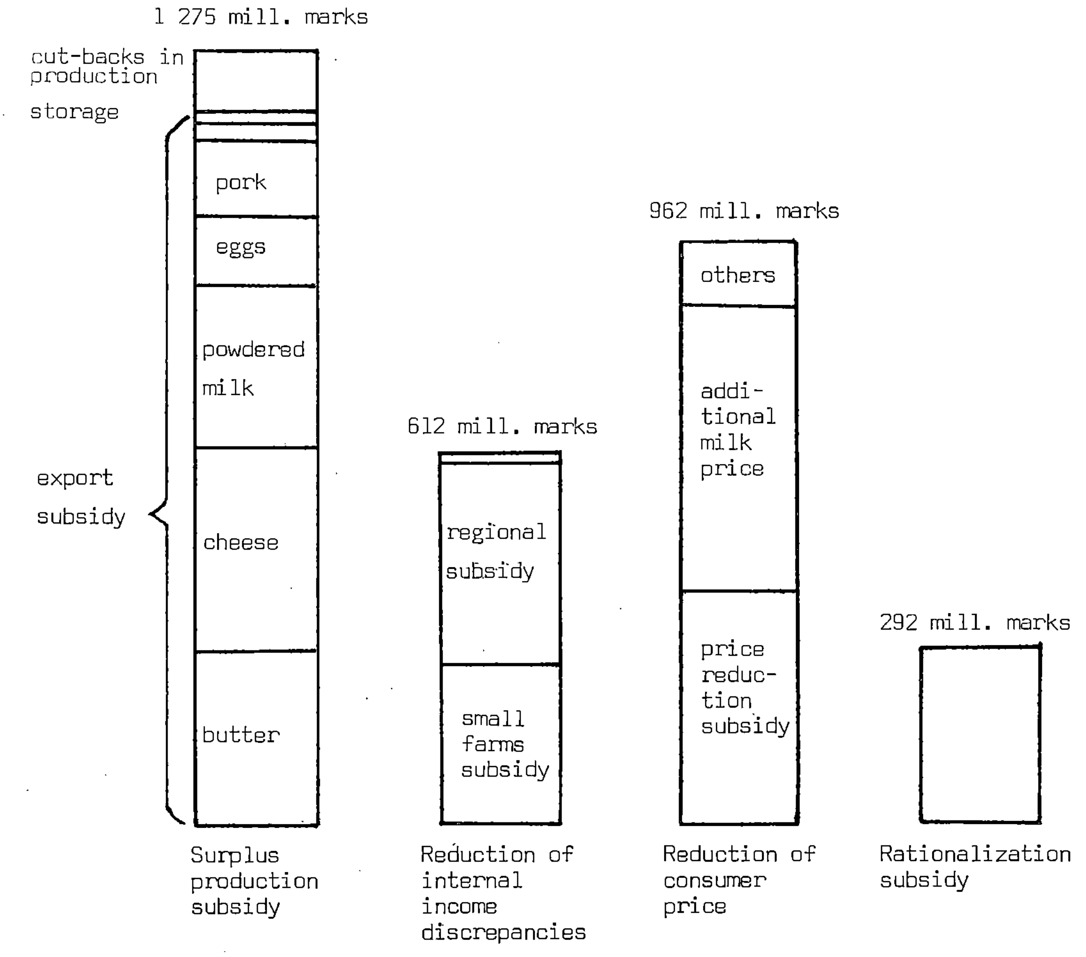

Figure 1. Subsidies to agricultural production and consumption in 1979.

2. Export subsidies and cut-backs in production

The Finnish climate is obviously less favourable for agricultural production than that in Continental Europe, for example. Nor is the structure of Finnish agriculture the best possible. Production costs are therefore fairly high compared with many other countries.

The world market prices of agricultural products are fairly low compared with the level of production costs both in Finland and in many other countries. Thus a price considerably below the domestic level is obtained from the export of agricultural products.

The aim has been to safeguard the livelihood of farmers primarily by regulating the prices of agricultural products. As the output of certain basic commodities has exceeded domestic demand, the influence of exports of the producer price has been eliminated by subsidizing exports in that the exporting company is paid the difference between the export price and the domestic price from government funds. The aim is to guarantee that the producer gets the price agreed on in the income settlement.

A large proportion of all agricultural subsidies has gone into exports. For reasons of State economy, it is considered necessary to restrict any increase in export subsidization. Therefore, the Farm Income Act for 1978-1982 stipulates "production ceilings" that define the State's role in marketing. For milk, maximum amounts for delivery to dairies have been fixed, for pork, eggs and grain there are export and storage limits, and if production exceeds these set limits farmers must pay marketing fees, which are used to export the excess production.

The current production ceilings have been lowered slightly each year. In 1979 milk production totalled 3 160 million litres, being 27 % more than was consumed in Finland. A total of 2 890 million litres was delivered to the dairies, i.e. 170 million litres more than the production ceiling for the year. Pork exports exceeded their ceiling by 7 million kilos (total production was 164 million kg) and egg production by 9 million kilos (total 76 mill. kg). Thus the existence of production ceilings has slowed down the growth in export subsidies but at the same time is has resulted in a declining trend in farmers' incomes.

Approximately three quarters of the funds spent on export subsidies have gone into exports of milk products in the last few years. The need for export subsidization cannot be substantially reduced before milk production is cut. However, any improvement in farmers' income level depends largely on the growth of production units. The opportunity to develop milk production units is particularly important to the farms in central and northern Finland with few alternative lines of production. These are some of the reasons why there have not been more energetic attempts to reduce milk production.

For the most important agricultural products the objective is a production level that exceeds domestic demand slightly. Apart from the above, over-production is needed to cover yearly fluctuations in production and seasonal variation and to secure the country's food supplies.

To cut down the need for export subsidies systems have been created to restrict or channel production while at the same time maintain the farmer's standard of living. One such system is a switch in production contract. A farmer who makes a contract undertakes to give up milk production. The State then pays him compensation commersurate with his previous income from farming. The farm may then produce beef and crops. Premiums for fallowing are another example of measures to reduce export subsidies.

There are compulsory restrictions in order to decrease the growth of production. They concern the establishment of large production units and expansion projects, which require a special permit. Today permits are required for the establishment or expansion of units with more than 30 dairy cows, 120 head of beef cattle, 300 pigs and 1000 hens. Egg production has been controlled by restricting incubation too.

3. Reduction of internal income differences

There are marked differences in income within the agricultural sector. Farm location and farm size expressed in terms of arable land area have proved to be important in causing these discrepancies, which have been reduced by State subsidization of farmers in unfavourable regions and on smallholdings in conjunction with the State price system.

The main forms of regional subsidization are regional premiums for milk and meat, which account for 2/3 of the total regional subsidies. Other forms of regional measures are subsidies based on the number of dairy cows, production premiums for rye and compensations paid to reduce the cost of bought fodder. The milk collection subsidy is regional, too, and the special subsidy paid to smallholdings have been staggered by region.

Regional subsidy has been stepped zonewise so that the subsidy is highest in the north and lowest in the south. Milk production premiums fall into nine zones. In 1980 the farmers in the subsidized regions are getting 2-27 % higher prices for their milk than those in the south. The zones and their number vary, depending on the form of subsidization.

The division into zones is based on points given municipally to illustrate the need of support. Each municipality is given points according to prevailing conditions (soil, length of growing season, temperature and rainfall in May and June), crops, structure of agriculture and farmers' incomes. The zone system applied up to the mid-70s was based on climatic conditions alone. The main purpose of zoning in regional subsidies is considered to be to reduce income discrepancies caused by different climatic conditions, but the reduction of structural income differences is one of the ancillary goals.

Small farms have received a special subsidy since the '40s, based on their higher production costs and lower earnings, compared with larger units. Initially, the subsidies were given in purchase vouchers for fertilizers and lime. In the early '60s a small farm subsidy system was adopted, with the amount of subsidy dependent on the arable land area and the incomes of farmers. The maximum arable area for subsidy was stepped regionally, at 12-20 hectares.

In the mid-70s, however, the above grounds were no longer considered relevant. The feeling was that subsidy should be channelled more explicitly to farmers actively engaged in agriculture. Therefore, the grounds were altered so as to include the number of livestock units in the criteria. The subsidy is now also regionally stepped, being highest in northern Finland.

The average subsidy paid to small farms was 2 182 marks per farm in 1979. A total of 120 400 farms received subsidy, i.e. some 55 % of all farms with more than two hectares. The maximum subsidy per farm was 3 528 marks in south Finland and 50 % higher in the northernmost zone, i.e. 5 292 marks. The subsidy was highest on farms with 7 hectares of arable land and a minimum of seven livestock units.

This direct smallholding subsidy can be granted to farms with a maximum of 17 hectares in south Finland and 20-30 hectares elsewhere in the country. Thus nearly all farms in central and north Finland and more than 70 % of the farms in south Finland can receive subsidy for the arable maximum. Particularly in central and northern Finland, income as confirmed in taxation limits the number of subsidy-recipients more than the amount of arable land. Thus this subsidy is primarily determined on the basis of income and helps to reduce real income discrepancies. The effect is enhanced by the fact that, unlike regional subsidy, the smallholding subsidy is taxfree.

4. Rationalization subsidies

The average Finnish farm with more than two hectares of arable land comprises 12 hectares of cultivated fields and 37 hectares of forest; in other words the bulk of farms are fairly small as family farms run using modern production technology. Besides, there are not enough opportunities for ancillary earnings either. These are some of the reasons why the government subsidizes rationalization of the structure of agriculture in order to improve the livelihood of farmers by reducing production costs. Apart from the farmers, consumers, too, consider structural improvement important, as it is believed to reduce the need to raise food prices in the future and the need for support in agriculture. The support is given primarily in the form of low-interest long-term loans granted by the government (Agricultural Development Fund). The government also subsidizes by paying interest subsidies on loans granted by banks.

State-subsidized loans grouped by loan sums in 1979:

	%
Building of and basic repairs to farm buildings	29
Building of and basic repairs to dwellings	25
Financing of change of generation	23
Purchase of additional land	12
Purchase of farm	4
Drainage	5
Other	2

A total of 541.6 million marks' worth of low-interest loans was granted. The government subsidized loan-granting by transferring 275 million marks into the Agticultural Development Fund and by paying 17.5 million marks' worth of interest subsidy.

Loans ganted for the purchase of additional land, building of and basic repairs to farm buildings, and drainage were most obviously aimed at rationalization. Generation change subsidies, too, influence structural improvements by preventing the splitting up of farms and by improving the age structure within agriculture. Generation changes usually make for greater willingness to improve the farm.

There are major regional differences in the structure of agriculture in Finland. In the southern parts of the country farms have an average of 18 ha of arable land, which compares with 7-9 ha in northern and eastern Finland. Growth in the size of farms in the '70s has been slowest in the regions dominated by smallholdings. Low-interest loans have therefore largely been extended to the region outside southern Finland. This channelling of loans aims at reducing the regional differences in structural trends.

The financing of farm investments and generation changes will require 3 710 million marks a year in the early 1980s according to estimates. Dwellings account for 550 million marks and machinery and equipment for 1 300 million. Loans to the amount of 1 100 million marks a year are going to be granted in the beginning of 80's. This would allow between 30 and 60 % of the financial requirements of each investment to be met with low-interest loans, with the exception of investments in machinery and equipment, which would not be subsidized to any significant extent. The volume of low-interest loans must be doubled compared with the 1979 level if this intention is to be achieved.

5. Measures aimed at reducing consumer prices

In 1978, an average of 22.5 % of the expenditure of Finnish households went into buying food. High-income households spent less than this and the fifth with the lowest incomes spent more than 30 % of their income on food (1976). Thus the prices of foodstuffs are quite important in the consumer economy. For this reason it is considered necessary to reduce consumer prices by paying a State subsidy. Prices are also kept down by stipulating a maximum retail price for certain products. This permits control of the margin between producer and consumer prices.

962 million marks, or almost a third of the total subsidies for agricultural production and consumption of agricultural products, has been used to lower the price level. This sum accounts for a good 5 % of all consumer expenditure of food. In 1979 80 % of the subsidies paid to lower the price level were used to dairy products.

The subsidies paid to reduce consumer prices vary considerably. The peak was reached in 1975, when the real value of these subsidies was over 80 % higher than in 1979. This variation is largely caused by fluctuations in the State finances. Subsidy amounts have also been changed in order to avoid sudden major price rises.

6. Other forms of subsidy

The state is also involved in financing pension systems for the agricultural population. This is an important measure to maintain the standard of living of aging farmers, but it is not in fact comparable to the forms of support dealt with above, as it falls into the field of social policy.

State participation in the annual holiday system for farmers and in paying for substitute help is a form of support comparable to pensions. The consumption of agricultural products is subsidized by purchase tax reductions in addition to the measures described above.

7. Effects of subsidization

The State subsidies discussed here are aimed at improving the farmers' standard of living and keeping the price of food at a reasonable level. In the following, an attempt is made to evaluate briefly the success of these measures.

Export subsidies have made it possible to pay the farmer a producer price corresponding to the domestic price level for most of his produce. In this way they have raised the farmer's income compared with what it would have been without the subsidies. On the other hand, the production ceilings set by the legislation on agricultural incomes and the marketing fees collected from farmers on the basis of these ceilings in the past few years have reduced the income received by farmers compared with the days when there were no restrictions on the State's share of exporting costs. In practice, farmers have in fact only received a price based on the export price for products in excess of the production ceiling.

In 1979 regional subsidies accounted for 3.2 % of the gross return from agriculture. In previous years, starting from the early '70s, the corresponding figure was c. 2.5 %. Although their share of gross return is fairly small, regional subsidies have considerable importance for remote regions and the archipelago. In 1975 and 1976 regional subsidies accounted for 20 % of gross agriculrural return in northern Finland (the province of Lapland) and 5-7 % in eastern Finland. The corresponding percentages of taxable income were 70 % (Lapland province) and nearly 20 % (eastern Finland). These subsidies seem to even out most of the differences in income due to geographical location.

Special subsidies paid to farmers with smallholdings also even out income differences. Although the amounts paid out in this way are slightly smaller than regional subsidies, subsidies to smallholders nevertheless have a greater affect in reducing discrepancies. This is because farmers do not have to pay tax on these subsidies and the payment criteria (income brackets in particular) are such that they are channelled to farmers making the poorest livelihood. Subsidies to smallholders also reduce regional income differences caused mainly by differences in the structure of agriculture.

It is difficult to evaluate the effects of rationalization in agriculture carried out with State support. This is in part due to the fact that this support is often channelled to the same farms as regional subsidies or smallholders' subsidies, which also influence the development of agriculture. It is in any case quite evident that subsidies for rationalization speed up the growth in farm size and have a beneficial effect on farmers' standard of living.

Subsidies aimed at reducing food prices have some effect on consumer expenditure. In particular, subsidies reducing the price of milk and other dairy products have cut expendidure on food, especially among families with many children. The cuts in the price level have probably increased the consumption of butter somewhat, but otherwise it has had no significant effect on the consumption of the foodstuffs in question.

Subsidies paid from State funds are vital to many agricultural policy measures. Subsidies have to some extent permitted agricultural incomes to improve in keeping with agricultural income settlements made. On the other hand, they have made it possible to reduce consumer prices for agricultural products. Some forms of support are perhaps not sufficiently adjusted to one another. Regional subsidies, which are mainly included in product prices, may in some cases have increased production and the need for export subsidies. It might have been more to the purpose to pay them independently regardless of production volume. On the other hand, direct subsidies might slow down structural development. In spite of frequent proposals for an increase in the proportion of direct subsidies, this is not considered expedient because of the disadvantages involved. This is a good example of how difficult it is to evaluate the appropriateness of individual forms of support. Taken as a whole, the subsidy system seems to work satisfactorily from both the producer's and the consumer's point of view.

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ECONOMIC RESULTS OF FARMING IN FINLAND

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1. General

The effects of agricultural price policy and other agricultural policy are reflected in the return, costs and financial result of farming. Measures affecting price level are directly reflected in the price obtained by the producer, while many forms of state support lead to an increase in gross return. Measures affecting the price of production inputs are reflected in farming costs in the form of prices, and they may have a direct effect on the extent to which means of production are used. Agricultural gross return naturally depends on both crop yield and livestock yield. Crop yield in particular may vary considerably from year to year in Finnish conditions; this means that annual fluctuations in return and financial result may be relatively sharp.

The total income of farmers is examined below, together with the development of farming return, costs and profitability, mainly on the basis of results of bookkeeping farms. Estimates of total income have also been made from the results of a sampling survey based on taxation data. Bookkeeping[1] is voluntary and farmers involved in it tend to be more active and efficient than the average farmer. The average size of bookkeeping farms is a good 20 hectares of arable land, whereas the average size of all Finnish farms is only about 12 hectares. It has been noted on

[1] The results from bookkeeping farms are based on results from 850-900 farms of various sizes in various parts of Finland. Results are usually calculated separately from southern Finland, central Finland, southern Ostrobothnia and northern Finland. Separate results are also calculated for different farm size categories and farms in different lines of production.

several occasions that yield per hectare is above average on bookkeeping farms. This is partly because they used more fertilizer and bought more feed than the average farm. Although costs are above the mean on bookkeeping farms, they have a somewhat better economical result than the average farm. It can probably be assumed that the average difference between bookkeeping farms and all farms is between 10 and 15 per cent. In spite of this, results from bookkeeping farms reflect general trends in agriculture fairly reliably.

An ordinary Finnish farm has also forest, 37 hectares on average. Nearly all Finnish farmers thus have by-enterprise earnings from forestry. Many farmers also have other earnings from off-farm work. In order to ascertain the total income of farmers, let us begin with a brief discussion of the amount of money left for farm families' private consumption and the use made of farmers' labour for agricultural production and outside actual agriculture.

2. Farmers' labour input and income available for private use

a. Farmers' labour input

Accounts are kept for the entire economy of a farm in agricultural bookkeeping, including the use of human labour, property, income and expenditure. Routine farmwork covers work required for cultivating crops, care of animals and general work connected with agricultural production, such as maintenance of machinery and buildings. The total work input of a farm family is distributed as follows:

Total work hours/ farm family	1970		1974		1978	
Routine farmwork	3 541	59.2 %	3 532	59.7 %	3 583	61.2 %
Management work	136	2.3 "	130	2.2 "	134	2.3 "
By-enterprise work	295	4.9 "	304	5.1 "	250	4.2 "
Household work	1 727	28.9 "	1 708	28.9 "	1 643	28.0 "
Investment work	116	2.0 "	124	2.1 "	122	2.1 "
Forest work	164	2.7 "	121	2.0 "	127	2.2 "
Total	5 979	100.0 %	5 919	100.0 %	5 859	100.0 %

The annual human labour input on bookkeeping farms was about 5 800 hours per farm. Work for actual production accounted for 3 600 hours, over 60 % of the total. 250-300 hours of by-enterprise work was done per annum. Forestry work accounted for a relatively small proportion of this, only 120 hours a year. Approximately the same amount of time was taken up by agricultural investments in building, drainage, etc. The work required for management has been marked down as about 130 hours per farm and year. No precise data are available on the size of farm families, but certain surveys indicate that it is somewhere between 3.1 and 3.7 adults. It must be noted, however, that these figures also include persons working in sectors other than agriculture, and pensioners and students who only do seasonal work on farms. The total amount of work remained more or less unchanged in the 1970s. Because of the specialization and growth of agricultural production, efficiency in the use of labour improved during the period under discussion.

b. Income available to the farm family for private use

It is not easy to evaluate the comparative significance of farming income, forestry income and by-enterprise earnings respectively from the farm family's point of view. In terms of total sums involved, farming is by far the largest source of income (cash receipts), but its production costs (cash expenses) are also highest. Accounts showing the profitability of farming do not include expenditure on land purchases, building investments or machinery purchases. With the exception of land purchases these are annually accounted for as depreciation on property. However, farmers have to spend large sums on investments every year, which reduces the amount at the disposal of the family for private use. An attempt is made below to evaluate the income level at farmers' disposal on the basis of the cash receipts (difference between cash receipts and cash expenses) in each sector of the farm. Taxes, interest on loans and pension payments have been deducted from the net cash receipts from agriculture, forestry and by-enterprise earnings. A farming family may also receive family allowances and other social benefits or various other forms of income not connected with farming. Bank deposits and loan amounts may have changed during the survey year. Taking these factors into account, we arrive at a sum for private use which should reflect the income at the disposal of a farm family fairly well.

Average amounts available for household expenses (consumption) on bookkeeping farms in three different years:

	Money available for private expenditure, marks/farm		
	1970	1974	1978
Net cash receipts[1] from farming	6 858	9 026	29 161
Net cash receipts[1] from forestry	6 131	13 085	12 869
Net cash receipts[1] from by-enterprises	3 294	6 339	9 534
Total income	16 283	28 450	51 564
Deductions:			
Taxes	3 127	6 540	16 523
Interest, rent, pension payments	1 989	3 960	8 144
Additions:			
Private household income, loans, savings	3 689	5 620	12 995
Total available for private expenditure	14 856	23 570	39 892

[1] The difference between cash receipts and cash expenses

According to these figures bookkeeping farmers had about 40 000 marks at their disposal for private expenses in 1978. In other words, this sum was available for food and clothes, private car expenses, health care, travel, education costs and other family expenses. Expenditure calculated in this way naturally varies according to investments, forest sales, savings and loans.

The expenditure of bookkeeping farmers in comparable with that of farmers in the whole country. According to a sample survey on income distribution, based on taxation and other data, the expenditure of farmers in 1977 was distriduted as follows: Farms with 5-10 ha: 41 700 marks/household; 10-20 ha: 45 700 marks; and over 20 ha: 51 500 marks (cf. Table 1). In 1977 private expenditure on bookkeeping farms was 36 800 marks per farm. This does not include rent, which was estimated at 4 000 marks per year on bookkeeping farms. Taking into account the averege size of bookkeeping farms, over 20 hectares of arable land, their expenditure was slightly below that of the whole country according to the income distribution survey. It should be kept in mind, however, that the two surveys did not apply quite the same criteria.

Table 1. Income at farmers' disposal[1] as compared with the income of other population groups in 1977.

	Income available for private expenditure marks/household	marks/person
All households	38 300	14 200
Farmers on average	44 000	11 600
2 - 5 hectares	29 500	9 500
5 - 10 -"-	41 700	11 600
10 - 20 -"-	45 700	11 400
20 - -"-	51 500	12 000
Small-scale entrepreneurs	49 000	14 400
Wage earners and salaried employees on average	44 500	15 300
Salaried employees on average	47 700	17 000
With a university education	67 700	21 800
With vocational training	48 700	17 400
Others	39 100	15 000
Wage earners on average	41 800	13 900
Agriculture and forestry workers	32 900	10 300
Industry and construction workers	42 900	13 800
Service professions	40 700	14 000
Retired persons, etc.	20 900	13 100

1) The figures of the income distribution survey stand for the average of the whole Finland. Farmer income, wage income, income from property and income transfers received are included under the heading "Income". By deducting income transfers paid from total income, the income available for private expenditure has been obtained.

c. Income of farmers and other occupational groups

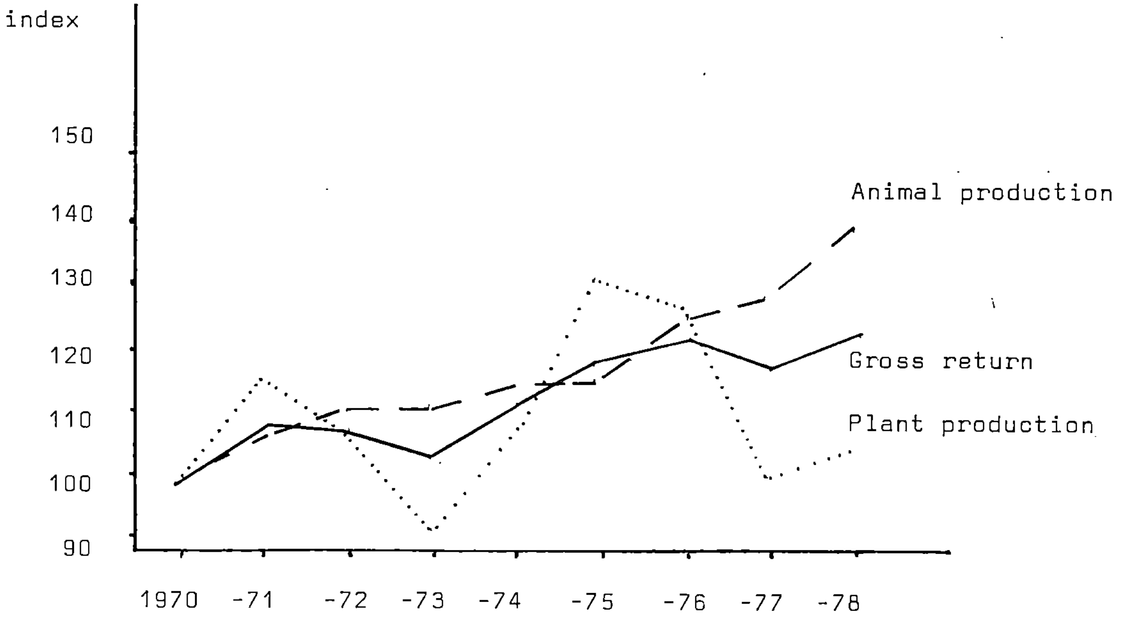
Comparing farmer income to the total income of other vocational groups, it can be seen that farmers with farms between 2 and 5 hectares have a lower level of income per household as well as per person, than wage earners in agriculture and forestry, for example. It is true that the difference is negligible (cf. Table 1). Farmers with farms of 5-10 hectares of arable land have almost the same income level as wage earners in the services, construction workers and industrial workers. Farmers with a farm of 10-20 hectares or over 20 hectares appear to have almost the same income level as skilled salaried employees. Here, too, a per capita calculation gives a different result. The results are based on data for only one year and income level has been rated on the basis of income at the disposal of a family (household). It should be noted that all forms of income have been included in income; farmer income, for instance, includes forestry income and other earnings.

3. Profitability of agriculture

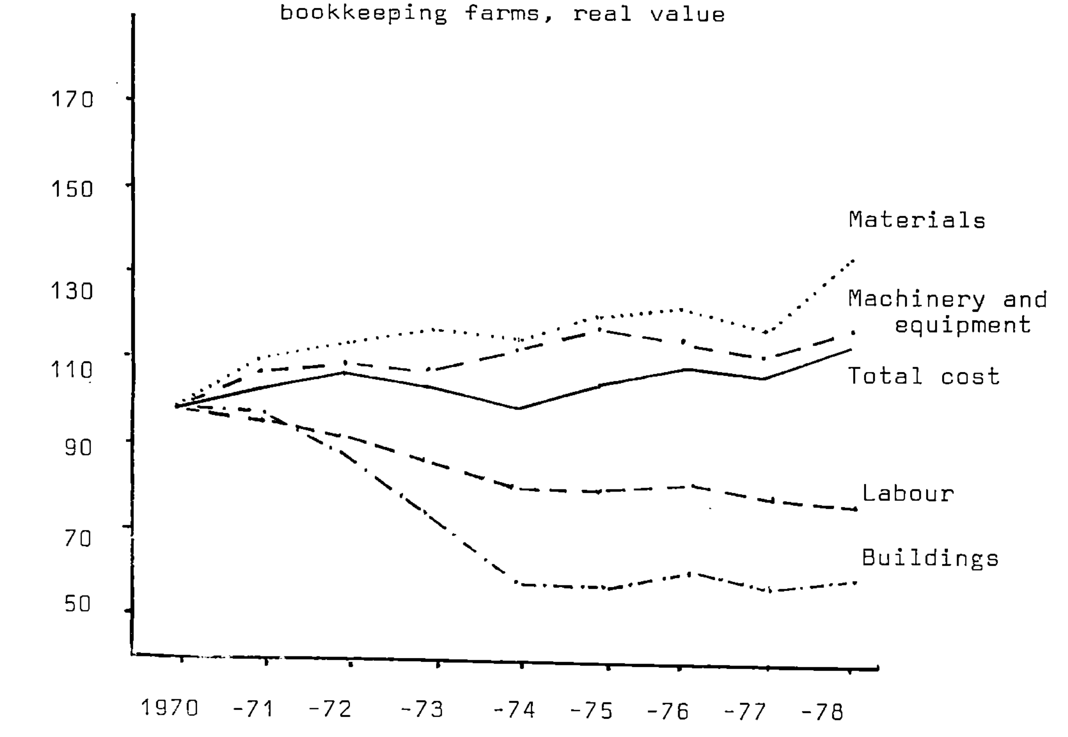
a. Development of gross return and costs in the 1970s

The profitability of agriculture depends on agricultural policy and various individual factors on each farm. Apart from crop and yield levels, producer prices and the price of production inputs are key factors in changes in profitability. The producer price level rose by about 140 per cent in the 1970s (from 1970 to 1978). Prices of livestock products rose by 150 per cent and crop product prices approximately doubled. Gross return per hectare grew by 26 % during this period. The last figure is based on results from bookkeeping farms (cf. Fig. 1).

Figure 1. Development of gross return (marks/hectare) on bookkeeping farms, real value



Development of cost items (marks/hectare) on bookkeeping farms, real value



Costs also rose sharply in the 1970s. Wages rose by 340 per cent, the price of farming materials by 170 %, building materials by 200 %, machinery and equipment by 180 %. Between 1970 and 1978, the prices of means of production rose by 190 % on average. The use of various farming materials (fertilizers, fodder), machinery and equipment increased in volume, while the use of human labour decreased. Building costs (depreciation and maintenance), fell, mainly for bookkeeping reasons. The volume of depreciations in the late 1960s and early '70s was in part due to a new taxation system introduced in 1968 and to bookkeeping practice.

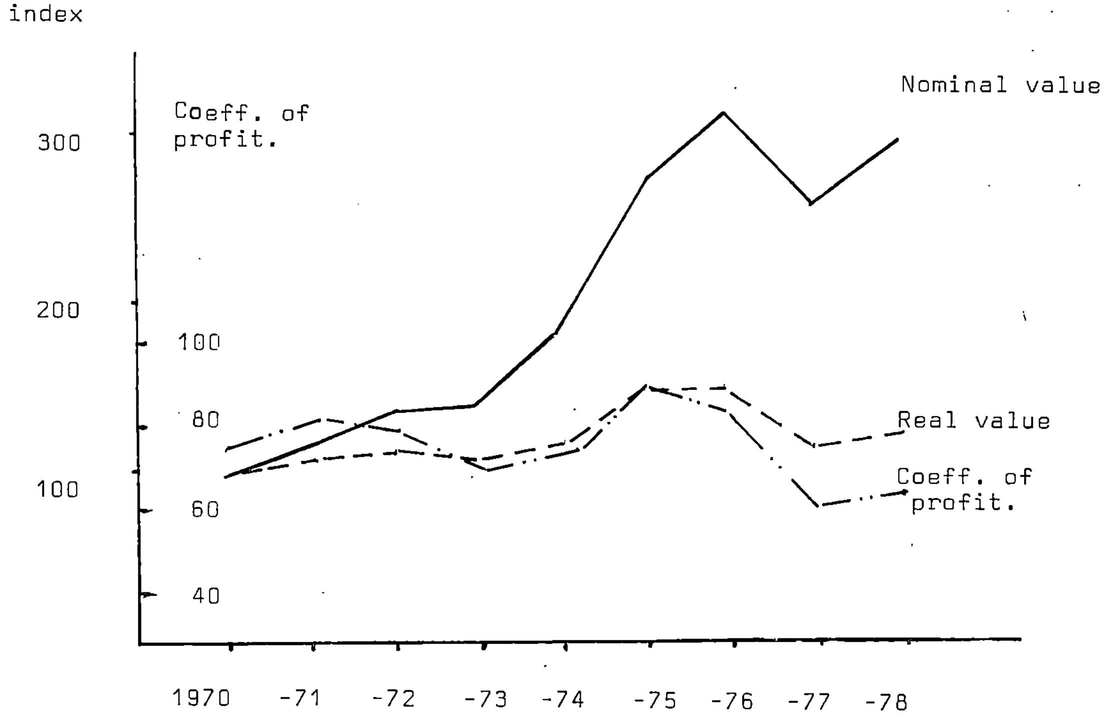
b. Economical result

Farm family income and profitability coefficient

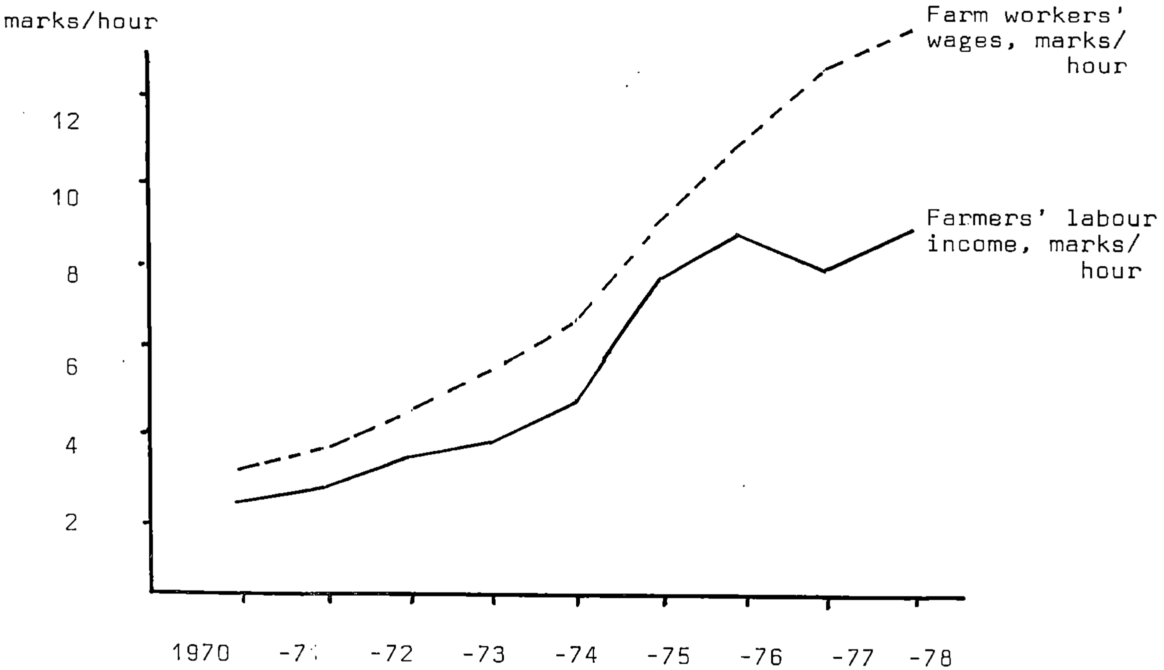
The financial result of farming has been examined below using the profitability coefficient and farm family income. These measures express the results from the point of view of the farm and of the farmer himself. The farmer's income from farm labour has also been calculated. This is expressed as income per farm family and the number of working hours done on the farm. This wage has also been compared with wage paid to farm workers in the same year.

The nominal farm family income per hectare of arable land rose from 550 marks to 1 660 marks during the period under review. This income could be used for the farm family's wage, for tax payments, as interest on capital, loan interest payments and any social security payments from the farm. If the cost-of-living index is used as a measure of the change in the value of money, the real rise in farm family income per hectare of arable land was more than 20 per cent during the eight-year period under review. The graph in Fig. 2 clearly shows the effect that the expectionally low yields of 1977 and 1978 had on results as well as the effect of normal annual fluctuations (cf. Fig. 2).

Figure 2. Development of farm family income (marks/hectare) and profitability coefficient on bookkeeping farms



Development of farmers' labour income and farm workers' wages, nominal values



The profitability coefficient shown is the ratio of the farmer's earned income to farmhands' wages, and correspondingly the ratio of capital invested in agriculture to the current rate of interest (5 %). Measured by the profitability coefficient, the financial result of farming has remained practically unchanged in the 1970s. Here, too, there are annual fluctuations, and the effects of the poor yields of 1977 and 1978 are also reflected in the results.

Some of the factors affecting profitability are detailed in the supplementery table. This shows that the crop yield level on bookkeeping farms rose in the 1970s, though there were annual fluctuations in yield volume. The average yield from cattle rose by some 20 % during this period, whereas the need for human labour decreased by about 20 %.

Labour income

The farm family's labour income (net return from actual farmwork) has also been calculated on the basis of bookkeeping farm results. This portion of farm income can be considered the farm family's wage. It is closest to the gross salary of salaried employees before the paying of tax. Because of accounting practice, the sum in question is not actually always available as such. If the farmer's annual investments exeed depreciation, he will have less of the labour income at his disposal.

Nominal labour income per family rose from 8 200 marks in 1970 to 30 200 marks in 1978. The hourly wage was just over 2 marks in 1970 and 8.21 marks in 1978. In relation to the 1978 price level, the real labour income in 1970 was over 20 000 marks, or 5.50 marks an hour. During the period from 1970 to 1978 (male) farm workers' wages were 20-30 % higher than farmers' wages in terms of labour income. The difference was even bigger in the exceptionally bad years of 1977 and 1978 (cf. Table 2 and Fig. 2).

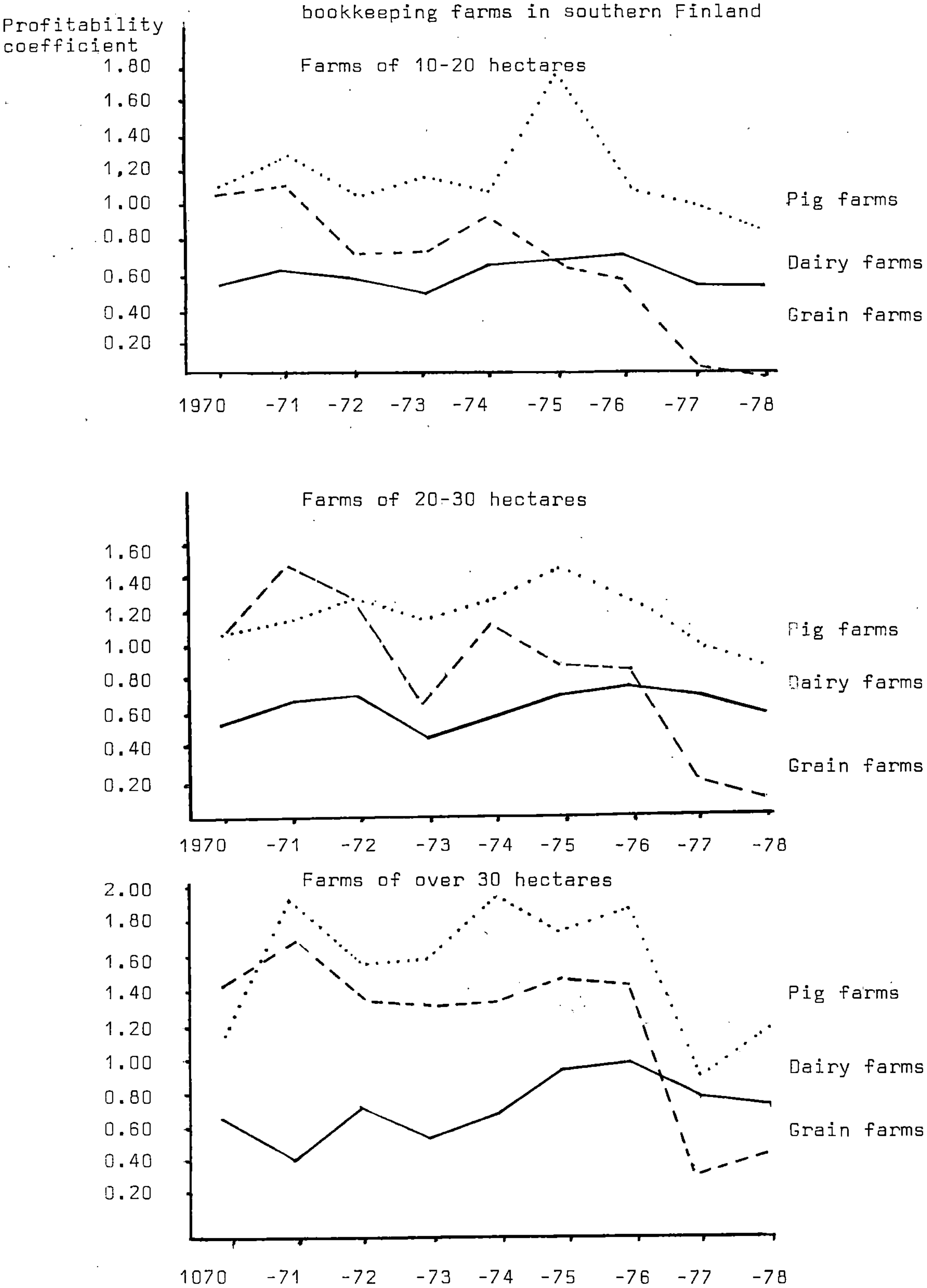
Table 2. Development of farmers' income from labour and farm workers' wages

	Farmers' labour income		Farm workers' wages
	marks/farm	marks/hour	marks/hour (men)
1970	8 223	2.27	3.20
1971	10 019	2.75	3.60
1972	11 646	3.23	4.30
1973	12 989	3.68	5.38
1974	16 856	4.65	6.50
1975	26 219	7.27	8.60
1976	30 335	8.33	10.80
1977	25 925	7.08	12.20
1978	30 170	8.21	13.40

Regional differences and differences between various sectors of production

It is not possible in the present context to examine in detail the differences in profitability in each region of the country and production line separately. A comparative survey of production lines has been made for southern Finland only, as specialization is more pronounced there than in other parts of the country. A general trend is that farmers specializing in pig husbandry achieve better economical results than others. Large farms have done better than average in terms of profitability. On grain-growing farms, earned income per family is quite low because less work is required. There are considerable annual fluctuations in the profitability of pig farms, and their profitability has deteriorated noticeably in the past few years. Moreover, the liabilities of pig farms are above average, and the sector is subject to risk in other ways, too. A common practice on pig farms is intensive cultivation of root crops, which affect profitability. The figure for labour income per hour for dairy farms is often lower than in other production lines. Total labour income per family is however high enough to sustain interest in milk production. Annual differences in profitability are smaller than in the other sectors of production (cf. Fig. 3).

Figure 3. Development of profitability coefficient on bookkeeping farms in southern Finland



There is a great discrepancy in natural production cosditions in different parts of Finland. In the southern and central regions either intensive specialization or production of several products is possible. In the northern and eastern parts of the country cattle farming and other livestock husbandry are practically the only alternatives. Crops are smaller there than in other parts of Finland, and so are the farms. The financial results of farming show discrepancies in favour of sourhern Finland. Results of bookkeeping farms demonstrate, however, that these inherent discrepancies have been substantially reduced by government price policy and subsidies.

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Supplementary table. Development of crop yield, milk yield and use of human labour in agriculture on bookkeeping farms.

	Average f.u. yield		Milk yield		Human labour	
	f.u./ha[1]	Index	kg/cow	Index	h/ha	Index
1970	3 215	100	4 526	100	206	100
1971	3 446	107	4 608	102	198	96
1972	3 478	108	4 830	107	189	92
1973	3 082	96	4 766	105	179	87
1974	3 286	102	4 882	108	175	85
1975	3 566	111	4 961	110	168	82
1976	3 755	117	5 319	118	168	82
1977	3 277	102	5 357	118	163	79
1978	3 463	108	5 526	122	160	78

[1] Includes straw and tops of root crops

TAXATION OF FARMERS IN FINLAND

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1. Farming

a. General

Up to the end of 1967 a system was applied in agricultural taxation which calculated a farm's income from agriculture on the basis of average net return per hectare. The net return varied by region, and the figures were confirmed annually by the covern- ment. As of the beginnings of 1968 the current system was adopted, with the farmers paying tax on their real agricultural income per farm.

For taxation the farmers must record their agricultural income and expenses, on the basis of which the net agricultural return is calculated. In this case 'record' refers to concise and fairly simple bookkeeping. When farmers sell farm products or buy supplies (e.g. fodder and fertilizers) they must obtain a receipt with the date, the name and amount or number of products (e.g. kg or pcs) and the price. The receipt must indicate the name of the business that has bought or sold the products and there must be a signed acknowledgement of receiving payment. Farmers must keep these receipts for six years for inspection.

Each January-February the farmers must fill in tax returns stating the past year's income and expenses on the basis of their notes and send it to the tax authorities. However, not all farmers fill in their tax retuns themselves but take their bookkeeping material to a bookkeeping office. Both producer and extention organizations have offices like this in various parts of the country. Banks offer such services, and there are also private offices. At the end of each year traders must inform the tax authorities of the products they have bought from various farmers and how much each farmer has received for his goods. In this way farmers' incomes can be monitored.

b. Calculation of net return

The net agricultural return is arrived at by deducting the expenses from the cash receipts. Normally the "cash principle" is applied, i.e. the income for the year is defined as the cash received by the farmer during the year in question, and the expenses paid during the same year can be deducted from this income.

Farming products and livestock constitute the bulk of agricultural gross return. Apart from this, various rent income, e.g. from rent of machinery and equipment, and other income from agriculture are taken into account. These earnings usually include State subsidy paid to the farmer.

The farming expenses to be deducted from gross return naturally consist of all normal annual expenses, e.g. fertilizers, fodder, electricity, fuel and lubrication, repair and maintenance of buildings (not dwellings), machinery and equipment, wages, diverse rents and purchase of livestock. Expenses include the value of timber felled in the farm's forest for the farm's own needs. Depreciation on machinery and equipment, farm buildings (not dwellings) and drainage make up a considerable proportion of these expenses. They are computed in percentages of the cost value before depreciation. The following example illustrates one such calculation.

Example:

Value of the farm's machinery and equipment 1.1.1979	100 000 marks
Increase:	
New machinery purchased in 1979	80 000 "
	180 000 marks
Decrease:	
Sale of old machinery in 1979	30 000 "
	150 000 marks
Depreciation 20 % (on 150 000 marks)	30 000 "
Value of machinery and equipment 31.12.1979	120 000 marks

The depreciation percentages are:

- machinery and equipment 0 - 30 %
- buildings 0 - 10 %
- drainage 0 - 10 %

The farmer may choose within these limits which percentage to apply. The paid price of small machinery can be fully depreciated in the year of purchase. The depreciation on buildings and drainage is computed in the same way as that on machinery and equipment.

The income tax to be paid to the State is determined according to a progressive scale, i.e. the higher the income the greater the income tax percentage. It is therefore advantageous to the farmer to try to keep his income level steady and avoid major fluctuation from year to year. This is, indeed, possible, thanks partly to the above-mentioned cash principle applied in taxation.

Farmers can decide whether to sell their crop at the end of one year or the beginning of the next. The same concerns expenses, e.g. purchase of fertilizers. In some cases it is possible to divide the sales income and purchase cost of livestock over three years. It must also be noted that net return calculation does not take alterations in the value of stocks and livestock into account. Depreciations, too, are important in balancing the income level. If the farming family has children over 14 who work on the farm, they can be paid wages for their work input. The children then pay tax on their income separately. On this way the farm income can be split into several parts and the tax paid is thus smaller than if the income were handled as one lump sum. It must further be noted that the final taxation process divides the income of the farm between the farmer and his wife in proportion to their respective work inputs. This is of great significance for the farm.

2. Forestry

In taxation, the income from forestry is calculated on the basis of average yield. Thus farmers do not need to make notes on forestry income and expenses. For taxation, forests are classified into five classes according to their potential yield. The annual yield per hectare for forests in the different classes is expressed in cubic metres of timber. The amounts of various kinds of timber included in this "taxed cubic metre" vary by class and by region. The average cash value of the tax cubic metre is determined annually for each region. By multiplying the average money value of the tax cubic metre by the number of tax cubic metres of the farm we arrive at the net return on forestry.

As the net return of each farm is determined according to average yield, the farmer must also pay tax on forest in years in which he sells no timber. On the other hand, if he sells a lot one year, he still pays tax on the average yield.

An example to illustrate the net return on forestry on two farms.

Taxation class	Farm A South Finland Forest area in hectares	m^3/ha	m^3 total	Farm B North Finland Forest area in hectares	m^3/ha	m^3 total
I A	10.0	6.9	69.00	2.0	2.9	5.8
I B	-	5.7	-	18.00	2.4	43.2
II	15.0	3.7	55.0	-	2.2	-
III	10.0	2.5	25.0	10.0	1.4	14.0
IV	-	1.6	-	5.0	0.8	4.0
Total	35.0 ha			35.0 ha		
Tax m^3 total			149			67.0
Tax m^3: cash value			68.20 marks			40.30 marks
Net return total			10 161 marks			2 700 marks

3. Earnings of a farming family in taxation

When the net return on agriculture is added to the net return on forestry and the interest on debts is deducted from the total, we arrive at the net return on both agriculture and forestry. If we take other income and the relevant deductions into account we arrive at the total income of the farming family. When this is divided between the farmer and his wife, and the personal and other deductions are made, we arrive at the taxable income of both the farmer and his wife.

The following table shows the average income and property of farmers and their wives. The figures are from a research study based on taxation data in 1977 and 1978.

	Averages for the whole country	
	1977 marks	1978 marks
Total income of farmer and wife in taxation		
- State taxation	29 723	30 622
- municipal taxation	29 264	30 564
1. Earnings		
- State taxation: farmer	6 410	6 621
wife	2 815	3 032
total	9 225	9 653
- municipal taxation: farmer	6 406	6 621
wife	2 813	3 032
total	9 219	9 653
2. Income from agriculture and forestry		
- State taxation: total	18 596	19 099
- municipal taxation: total	18 025	18 711
3. Income from real estate etc.		
- State taxation	1 915	1 885
- municipal taxation	2 020	2 200
Income of farmer and wife together		
- State taxation	19 983	19 880
- municipal taxation	25 619	26 520
Total taxable property of farmer and wife	118 156	120 972
Total debts	34 495	39 733

The average earnings of the farmer and his wife amounted to a total of approximately 30 000 marks in 1978. A major proportion i.e. 2/3, was accounted for by income from agriculture and forestry, which was approximately 19 000 marks. One third of the income was wage, real estate of other such income. Approximately 2/3 of the total wage earnings of nearly 10 000 marks was accounted for by the farmer, and 1/3 by his wife. When some further deductions are made, which are normally larger in State than in municipal taxation, the final taxable income is arrived at. In 1978 this averaged 20 000 marks in State taxation and 26 500 marks in municipal taxation. In the same year the property of the average farming family was 121 000 marks and debts 40 000 marks per farm.

Income of a farming family in State taxation in 1977 and 1978 by farm size:

Arable land area	1977 marks	1978 marks
2 - 4.9	20 142	20 886
5 - 9.9	23 450	24 356
10 - 19.9	33 675	34 998
20 - 29.9	46 463	47 430
30 - 49.9	58 595	57 955
50 - 99.9	75 939	71 309
100 -	126 105	98 413
Average	29 723	30 622

The table shows that income increases with farm size. The income of larger farms, in particular, went down on the previous year. This was due to the bad weather conditions - particularly in South Finland. Income varied clearly by region, in South Finland (Uusimaa province) it was c. 37 500 marks and in North Finland (Lapland province) 22 800 marks in 1978. There was a lot of variation, particularly on farms concentrating on crop farming only.

4. Amount of tax

a. Income taxation

Like other population groups, farming families must pay income tax to the State and the municipality, plus certain other taxes (e.g. churchtax) and tax-related payments. The following scale was applied in State income taxation for 1979. The scale is the same for all population groups.

Income in marks	Tax at lower limit marks	% on excess
9 300 - 12 400	11	6
12 400 - 15 400	197	13
15 000 - 19 000	535	19
19 000 - 23 000	1 295	23
23 000 - 31 000	2 215	28
31 000 - 44 000	4 455	29
44 000 - 60 000	8 225	33
60 000 - 92 000	13 505	38
92 000 - 153 000	25 665	45
153 000 - 275 000	53 115	50
275 000 -	114 115	51

For example, the tax on an income of 10 300 marks is 11 marks + (6 % of 1 000 marks) 60 marks = 71 marks. The progressive scale raises the tax percentage as incomes increase.

The municipal tax payable is approximately 15-17 % of the income and other taxes and tax-related payments on income are approximately 2-4 % of the income. These percentages are not progressive.

b. Property taxation

Like all other population groups, farmers pay State tax on their property. The value of machinery and equipment applied in income taxation for depreciation calculations is applied in property taxation, too. The value of farmland, forest land and other property is also taken into account. When debts are deducted from the sum total, the taxable property remains. Farm stocks and livestock are taxfree in property taxation. Tax on 1979 property is paid according to the scale below. This, too, is the same for all population groups.

Property in marks	Tax	
	at lower limit marks	% on excess
180 000 - 250 000	100	0.8
250 000 - 350 000	660	1.0
350 000 - 500 000	1 660	1.3
500 000 - 750 000	3 610	1.5
750 000 -	7 360	1.7

Thus, on property worth 300 000 marks the farmer pays 660 marks + (1 % of 50 000 marks) 500 marks = 1 160 marks.

The size of the tax is illustrated by the following table for bookkeeping farms for 1978. The cash receipts are the gross return before the deduction of expenses incurred from production. The tax figures include both property tax and total income tax.

Cash receipts, taxes and debts on bookkeeping farms in 1978

	Bookkeeping farms average	South Finland farms with 10-20 ha	farms with 30-50 ha
Arable land ha/farm	25.1	14.8	38.5
Forest -"-	62.7	32.0	68.0
Total cash receipts marks/farm			
Agriculture	156 407	94 184	210 127
Forestry	15 843	9 477	22 700
Ancillary earnings	11 263	13 274	13 507
Total (A)	183 513	116 935	246 334
Other incomes	5 829	4 783	7 423
All total	189 343	121 718	253 757
Tax in marks/farm	16 428	11 428	26 331
Tax in % of A	9.0	9.8	10.7
Debts marks/farm	125 725	73 765	186 392
Interest, rents -"-	8 144	4 302	12 918

The figures show that approximately one tenth of the total earnings go into taxation on bookkeeping farms. The proportion is nearly the same in all farm size classes. An average of 16 500 marks of tax was paid on bookkeeping farms, 11 400 marks on farms with 10-20 hectares, and 26 300 marks on farms with 30-50 hectares in South Finland. The amount of tax is influenced by debts and the interest on them, too, and therefore these figures are included in the table.

c. Taxpaying

The farmers pay the year's tax monthly in advance. The tax authorities estimate the tax on the basis of the previous year's income, and the sum is divided into twelve equal parts, to be paid monthly. When the tax return form has been examined by the tax authorities, the final tax can be computed. If the advance paid is too small the farmer must make up the lacking amount. If the farmer has paid too much tax the excess amount is returned to him.

LITTERATURE:

Income distribution statistics 1977. Statistics report IV 1979:1. Duplicate issued by the Central Statistical Office. Helsinki.

Results of bookkeeping farms for 1978.

ADMINISTERED PRICE FORMATION OF AGRICULTURAL PRODUCTS AND THE USE OF COMPUTER MODELS IN FINLAND[1)]

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1. Introduction

Unfavourable natural conditions, a relatively large agricultural population and small farm size are characteristic of Finnish agriculture. Crop yield is low, which naturally increases the unit costs of production. Animal production dominates Finnish agriculture. Milk and beef production make up about 60 per cent of the gross return. Combined with pork and egg production these products account for approximately 85 per cent of total production value. Bread grain and potato are the most significant products in plant production.

The bias towards animal production can be understood from the fact that only feed, in particular hay production, is risk free in northern conditions. Present development seems, however, to be leading to increased grain production at the expense of hay production. At the same time, milk production is decreasing or remaining constant and meat production increasing.

Finland's aim is to safeguard a regular supply of food under all circumstances. At present, agricultural production corresponds well to domestic consumption and there is, in fact, a considerable overproduction of some of the main products. Overproduction of milk has been 20-25 per cent, and that of eggs 40-60 per cent. Due to the poor crops, the grain supply has been insufficient in recent years but it should be possible to raise it above the domestic needs once again.

The development of the agricultural structure is also one of the targets of agricultural policy. In most cases, it means specialisation and enlarging of farms. This activity is, however,

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1) A paper presented at the OECD seminar "Price formation processes and the changing nature of food systems", 30th June - 2nd July, 1980, in Paris.

contradictory to the attempts to maintain rural settlement. Migration from the countryside has caused many social problems, of which a biased age structure is one. The average age of farmers is high, and this is seen as a problem for agricultural policy. Getting young people interested in agriculture, is therefore a challenge to agricultural policy.

Against this background it is easy to see the difficulties of Finnish agricultural policy and, in particular, those of price policy. Raising prices would help low-income farmers, but it increases export subsidies. Farmers cannot easily raise their income by producing more since overproduction is even now considered too high. Increasing farm size is contradictory to the attempts to keep the rural population.

In any case, price policy is the main instrument of Finnish agricultural policy. A review of the price policy is presented in the following. Setting target producer prices forms the core of the price policy and therefore most attention is given to that. At the end of this paper, a computer model to help set the prices of milk products is presented briefly. It serves as an example of the new methods of handling pricing problems.

2. Administered price formation and income development

2.1. Farm Income Acts

Since 1956, producer prices of agricultural products have been regulated by Farm Income Acts. The aim of these Acts is to support the development of farm income and to maintain a level of self-sufficiency for the products which can reasonably be produced within the country. The Acts have also included stipulations on regional price policy and income distribution.

The present Act was passed in 1977 and is effective for the 4 year period 1979-81. It gives a framework for price negotiations between the State and the farmers' organisations. It also includes certain rules for price setting, which is a two-phase process. Firstly, the rise in costs is calculated and the farmers receive compensation in full. Secondly, the State and the farmers' organisations negotiate how much farm income should be raised so that farmers get an equitable share of the rise in the general living standard.

The Farm Income Act defines "target price products", for which target producer prices are set. They are rye, wheat, feed oats, feed barley, milk, beef, pork, eggs and mutton. Prices of oil seeds, sugar beets and potatoes are also partly connected to this system. Other prices are determined by free market forces.

Target prices are reviewed twice a year: on 1st March and 1st September. In autumn, the farmers are compensated only for rises in costs. The negotiations must, of course, be conducted before the dates so that the government can make the necessary decisions to fulfill all the requirements of the agreement reached by the State and the farmers' organisations.

Price determination is discussed in detail in the following. The realisation of target prices is also described.

2.2. The compensation for costs

In the first phase of negotiations, the farmers receive compensation for the rise in production costs. This is done by applying a total calculation which consists of the gross return and total costs of agriculture and their difference, i.e., the farm income. The costs do not include the labour input of the farm family or the capital input owned by the farmer. The farm income is the compensation for these inputs and is dealt with in the second phase of the negotiations.

The total calculation comprises the average of outputs and inputs from the 3 previous calendar years. Prices are from the 15th January and 15th July. The total calculation is actually a price index with changing weights from the previous 3 years. Table 1 illustrates the calculation for spring 1979.

The fixed target prices are used for the target price products in the total calculation. The observed prices are used for the other products and the change in the gross return is taken into account.

Table 1. The total calculation for spring 1979

	Price level in autumn 1978 million FIM	Price level in spring 1979 million FIM	Change
Gross return			
Target price products	8137.7	8137.7	
Other products	658.9	692.0	+ 33.1
After payments	192.2	192.2	
Price support	919.2	919.2	
Total	9915.0	9948.1	+ 33.1
Return to prices	117.6		
Total gross return	10 032.6	9948.1	- 84.5
Total costs	6020.7	6144.3	-123.6
Farm income	4011.9	3803.8	208.1

A separate calculation is made showing the deviation of observed prices from the target prices. This deviation, which was FIM 117.6 million in autumn 1978, must be taken into account for the next price period. Since the target prices were exceeded by FIM 117.6 million, the target prices had to be lowered by the same amount for 1979. This difference was, however, returned to the farm income in spring 1979. The basic idea of the Farm Income Act is that target prices have to be achieved exactly. If this does not succeed in the price year, the corresponding adjustment is made for the next price period.

The method used to calculate the cost compensation has been basically the same since 1956 when the Price Act was applied for the first time. The new feature in the present act is that costs are compensated twice a year. This practice became necessary during the years of rapid inflation.

2.3. Adjustment of farm income

The farm income is raised in the second phase of the negotiation. This part of the Act has usually been changed when the Act was renewed. The development of farm income was earlier tied to some indicator of income development in other sectors of the economy, such as the wage and salary index. It can be said (somewhat loosely) that farmers' income was supposed to develop in the same way as the income in the other sectors. In 1967, an Act was passed which was totally different from the earlier ones. Producer prices were then tied to a weighted index of the farm costs and living expenses of the farms. This Act was applied only once.

In the present Act there are no provisions as to how the farm income should be developed. It is completely up to the parties concerned to agree on any increase in farm income. The final result depends on the bargaining power of farmers.

The present negotiation system is still under development. The Central Union of Agricultural Producers (MTK) has advocated a new method which is based on a model farm of 10-20 hectares of arable land. MTK would like to follow the income development on this farm and their request is formulated so that the increase in wage per hour (in pennies) would be the same as in the general wage and salary agreement. MTK considered this a more just way than to raise the income by the same percentage as is done in other sectors, since the farmers' income level is lower that than of wage and salary earners.

In spring 1979, an increase in farm income by FIM 221.5 million was agreed. Taking into account the first phase of the negotiation, the final increase in gross return was FIM 454.0 million:

	Million FIM
Compensation for the rise in costs	208.1
Deviation of producer prices from target	24.4
Increase in farm income	221.5
	454.0

2.4. Realisation of target prices

As mentioned earlier, target prices are supposed to be achieved exactly. Any deviation is taken into account in the next price period. Two methods are applied to realise the target prices:

a) controlling retail prices, and
b) regulating the supply of agricultural products

Agricultural markets are basically closed to foreign markets, which makes it possible to regulate prices by domestic means. Export subsidies guarantee that world market prices do not affect domestic prices.

2.4.1. Fixed retail prices of milk and grain products

The government sets the maximum retail prices for milk and grain products. Price margins are followed by government officials, and they are usually checked and raised, if necessary, at the same time as the new target prices become effective. The retail prices are set so that dairies are able to pay the target price of milk to the producer. Almost all dairies are co-operative dairies, i.e., non-profit organisations. Their ability to pay farmers for milk varies considerably. On the average, the target price has been achieved quite well.

Target producer prices of grains are actually prices paid by the State Granary. Again, retail prices of the most important grain products are regulated (fixed) by the government and price margins are raised to the extent that mills are able to pay the producer price to farmers or to the State Granary.

2.4.2. Meat and egg prices

Producer and retail prices of meat and eggs may vary according to the supply and demand situation. The government will and must step in if the producer prices deviate too much from the target price. The deviation should not be larger than ± 5 per cent.

If the producer price is above the target, the government gives permission to (co-operative) meat companies (slaughterhouses) to import meat in order to increase supply and to lower the producer price. Accordingly, if the producer price is below the target, exports are allowed.

Production of eggs has been much above domestic consumption for a long time. But since there have been no problems in exporting eggs and since export subsidies have been sufficient to cover the difference between the world market price and the target price, the observed producer price has been quite close to the target.

2.4.3. Other products

The producer price of potatoes has proved to be difficult to stabilize even though it would be in the interest of producers and consumers. The price depends mainly on the yield, which varies greatly from year to year.

Some years ago, the retail price of first class quality was fixed by the government. It proved difficult to realise and was abandoned in 1977. Nowadays, a producer price recommended by the State and farmers' organisations is applied in accordance with the agreement reachen during the price negotiation between the State and farmers.

A deficiency payment system is applied to sugar-beet, which does not belong to the target price products. The Special Sugar Act provides for the producers to be compensated by the State for the difference between the guaranteed producer price, which is agreed upon during the general price negotiations, and the observed price.

A system similar to that for sugar-beet is applied to oil seeds and to wool.

2.5. Institutions

The Ministry of Agriculture and Forestry has, of course, the main responsibility for price policy. The government has appointed negotiators who form the counterpart to farmers' organisations in the negotiations. Several organs help in the work of the Ministry. There is an Agricultural Price Council which consists of government officials and representatives of farmers' organisations and consumers. Its task is to prepare and accept the total calculation for cost compensation.

There is also a special Marketing Council appointed by the government, whose task is to prepare any necessary actions to achieve the target prices. It mainly follows the development of markets and makes plans for foreign trade in agricultural products. It is assisted by a working group which forecasts production and consumption as well as the need to export and/or import in order to keep the producer prices close to the targets.

The Agricultural Economics Research Institute is where most of the practical work on price policy is carried out. It furnishes price statistics, price indices, total calculations, etc. to different bodies. It follows the evolution of producer prices and reports the development to the parties concerned each month.

The setting of retail prices is prepared in the Board of Trade and Consumer Interests. One of its tasks is the control of retail prices and follow-up of price margins.

3. Administered price formation and structural development

Price policy serves mostly as a tool for income policy. At the same time it also guides production. Farmers tend to produce that product for which the profitability is highest. Decision makers know very well that when they change prices they not only affect farmers' income but they may also affect the production of different products. Sometimes the needs of income and production policy may be contradictory to each other.

This is the case in Finland. An attempt is made to control oversupply of milk, meat and eggs by means of production ceilings, which determine the responsibility of the State in financing the export of overproduction. Farmers have to export the quantities above these ceilings at their own expense and since the world market prices do not cover the production costs, extra exports naturally lower the income of farmers. This hampers attempts to improve the income of milk producers whose income is very low, and at the moment milk production is above the ceiling. It seems probable that the production ceilings will have to be abolished, because it is estimated they will reduce farm income by about 5-7 per cent this year.

Another problem is usually faced when price policy is used for income policy purposes. When prices are raised, those who produce most also gain most, i.e., price policy favours large farms. This cannot be avoided even though there are means to equalise income differences. In Finland, this is partly done by price support which is paid to low income farmers according to the area under cultivation. The milk price is also 2 pennies per litre higher for amounts below 24 000 litres per year. A particular feature in the control of income distribution is that permission is needed for the establishment of new, large animal units. The purpose of this legislation is to keep agriculture in the hands of family farms.

4. A computer model for price setting of milk products

Setting retail prices for milk products is a rather complicated matter. The producer price of milk should be realised by means of proper retail prices. The problem is that farmers sell one product but the dairies produce several products from it. Milk consists of protein, fat and other substances, the price ratios of which have been changed and may be changed again in the future. The protein and fat content of the final products may also be changed.

When the producer price of milk is changed, the retail prices of milk products are also adjusted accordingly. The changes in the marketing margins are usually taken into account at the same time. Experience is one of the best methods in this task but many computations are still needed in determining the prices. A computer model has recently been made to facilitate this work (figure 1).

The model is intended primarily for short-term analysis, but it can also be applied to long-term planning if production, consumption and price development are known.

The model consists of two sub-models:

1) price formation model
2) optimisation model for the production plan

The total returns and expenses of the government are calculated as a result of these two sub-models. The models are not completely tied to each other but after the retail prices are obtained from the first model the model user has to estimate the consumption, which is then fed into the optimisation sub-model. Other inputs (prices) go directly from the first to the second part of the model.

There are 22 products in the price formation model. They are divided into domestic and export products. Domestic products consist of butter, cheese, milk products and liquid milk products. Export products cover butter, cheese and milk powder.

The price formation model calculates the retail prices for the pilot products of each group. The model also produces the expenses and returns of the government. As can be seen from figure 2, the programme starts from raw material costs and ends through different marketing stages in the retail prices.

A linear programming model is applied to estimate that distribution and marketing of milk products which minimises the costs of the State. The inputs are partly obtained from the price formation model (prices and estimated consumption), and they are partly set by the user of the model. Quantitative constraints take care of the reality of the model as to the applicability of production distribution and domestic demand and export.

The optimisation model is very flexible, and the constraints have a decisive effect on the solution. The constraints have to be set so that the solution is feasible and may be ralised. For example, production capacity is one of the most important constraints in the model. There are also some technical constraints. For example, the production of whey is tied to the production of cheese.

5. Concluding remarks

Political factors make the practice of agricultural policy in Finland more difficult than in many other countries. The Social Democratic Party, which represents workers (and consumers), and the Centre Party, which is supported mostly by farmers, do not seem to agree on agricultural policy. Even small problems make their relations difficult and long negotiations are needed before agreement is reached. It is especially difficult to formulate new policy goals or measures. Progress is made in small steps only, starting from old positions.

The Social Democratic Party and the Centre Party are often the core of coalition governments in Finland. Agricultural policy issues have often hampered the work of this kind of government, and sometimes the government has collapsed because of these problems.

The reason for this antagonistic situation is, of course, general attitudes and conflicts of interest between producers and consumers, and competition for power leads the parties to seek policy issues which also appeal to voters. Agriculture has traditionally been one of these issues. It is often admitted that the problems are not very important but there is still insurmountable difficulty in agreeing on agricultural matters.

In spite of the difficulties, the administered price system has hardly been questioned. Many factors support the self-sufficiency policy of Finnish agriculture. It cannot be realised without some protectionism which, in turn, requires the intervention of of the State in the price formation.

On the whole, there have been no dramatic changes in the price system since 1956 when the first price law was passed. Slight revisions have, of course, been made in the course of time. Most significant is the change in the negotiations. As price setting had previously been virtually automatic, bound to the law, as the cost compensation still is, raising of farm income has become an object of real negotiation, which is guided by no rules. Farmers have now gained a position which allows them to determine their income level requirements freely. This does not mean, however, that they can expect to be able to attain any goal they want.

Figure 1. The two parts of the computer model

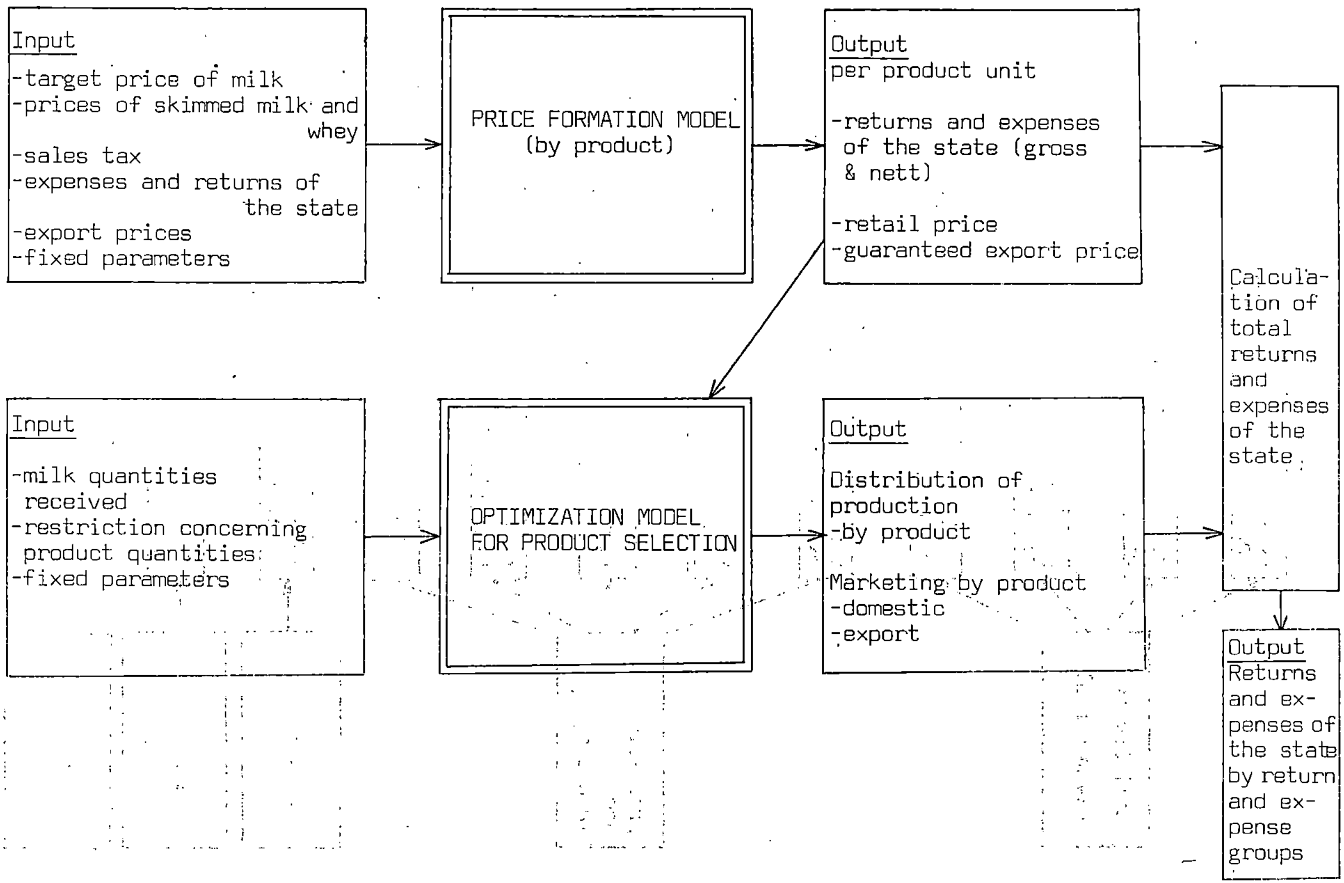
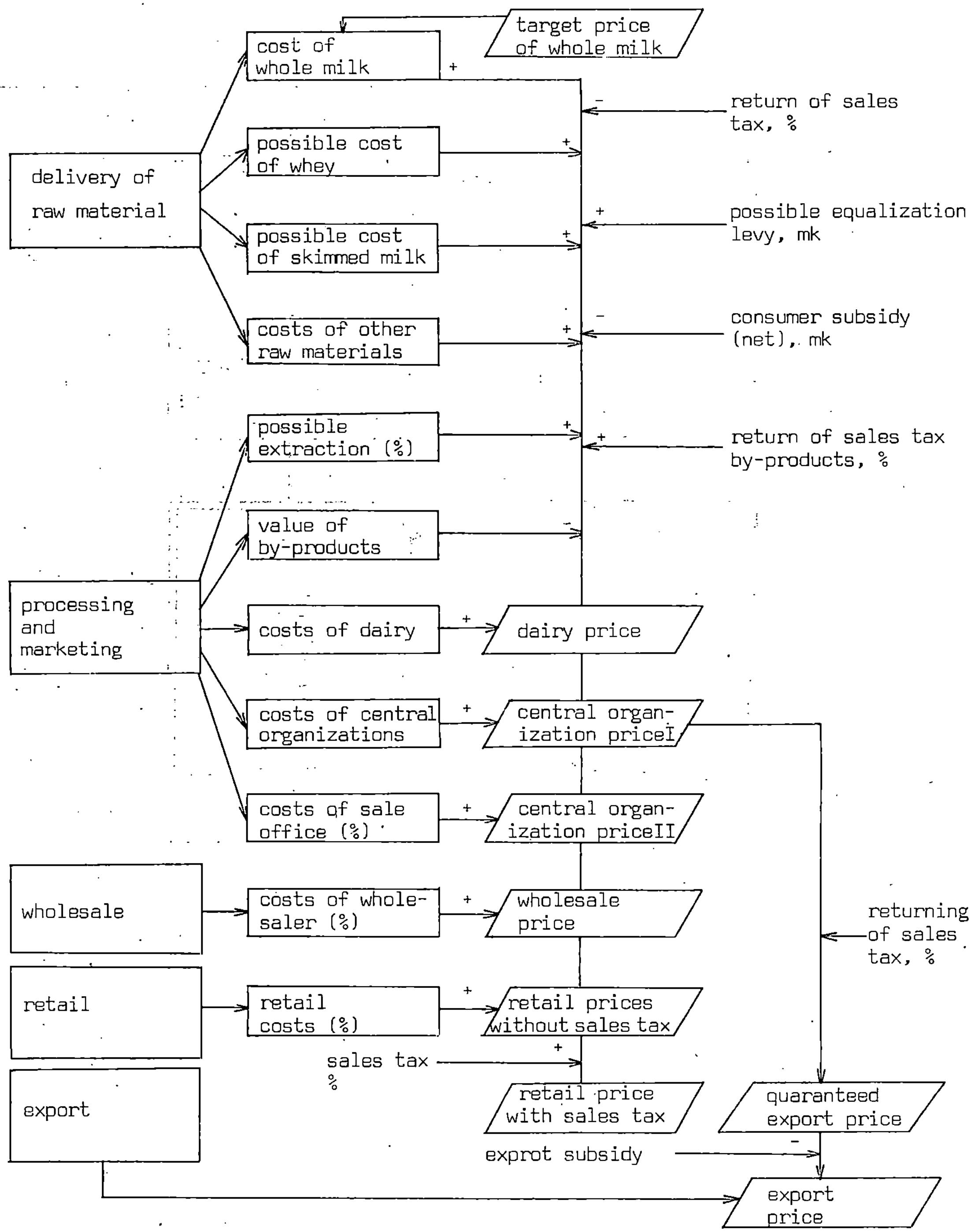


Figure 2. Price formation for milk products.



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