ECONOMIC RESEARCH AND AGRICULTURAL POLICY IN THE NETHERLANDS

INTRODUCTION

The contribution of economists and of economic research to the objectives and the means of agricultural policy is limited. In a political decision many considerations additional to economic ones play and must play a part. The economist will never be able to have a decisive voice in this voluntary process. In policy-making he has a service function. He will have to increase knowledge of the situation and the economic relations in agriculture. This knowledge is required for a better insight into the economic implications of alternatives in agricultural policy.

Stressing the service function of economic research in agricultural policy does not mean an underestimating of the importance of this function. Policymakers still have to operate too much without a sufficient knowledge of the economic consequences of their decisions. The politicians can not be blamed for this. They are faced with problems that call for decisions at short notice. We may at most ask ourselves whether the politicians, in making these decisions, make adequate use of the knowledge and the insight that research has so far provided. This is a matter of communication and coordination between research and policy, about which later will be said something more. Honesty compels to state here that economists among themselves often fail to agree about elementary matters like supply response, factor mobility and impacts of price support. No wonder that politicians go their own way.

The late H.D. Louwes, an outstanding man in the Dutch agricultural world, used to say: "It's not economists that we need in the first place, but statesmen". This may be true: the relative shortage of real statesmen is probably greater than that of economists. But in agricultural policy, like in other fields too, the politician cannot do without economic research. To put it in even stronger terms, in the coming decades agricultural policy will have to be increasingly guided by the results of economic research.

Before describing how agricultural economic research in the Netherlands has developed in the course of time in close relation to the development of agricultural policy, a short description is given of agricultural problems and the objectives of the government's endeavours with agriculture.
THE AGRICULTURAL PROBLEM IN THE INDUSTRIALIZED COUNTRIES

The view regarding the essence of agricultural problems must largely determine the goals of agricultural policy and the means to be used. A profound analysis of the problems — and that is the agricultural economist’s task — is a prerequisite of an agricultural policy aiming at solving these problems or alleviating their social consequences.

The problems of agriculture in the industrialized countries with a rapid economic growth after the World War II may be subdivided into (a) a price determination problem and (b) a structural problem.

price problem

After the period of food shortage during and in the first years after the Second World War, a relative surplus of many agricultural products manifested itself in the course of the 1950's. On the world market the prices dropped to a level at which the producers in many countries were no longer receiving a reasonable reward for their productive effort. Practically all industrialized countries then switched to protection of their agricultural producers. With the aid of a whole range of instruments the national markets were primarily reserved for the national producers. As a result of this growing nationalism the world market became a caricature of the concept of market. In the beginning the price-fall of agricultural products was regarded as a temporary recession; price policy was motivated as a policy of stabilization of price fluctuations in the interest of both the consumer and the producer. But soon the drop in the price-level proved to be of a structural nature. The policy of price stabilization became one of price support, with steadily increasing charges on the national budget.

The cause of the structural overproduction in respect of the effective demand must be sought — to put it briefly and therefore incompletely — above all in the technical development in West European and North American agriculture. Through the use of new agricultural techniques (fertilization, disease-control, selective breeding, mechanization, etc.) the productivity of land and labour increased rapidly. This increase in productivity is manifested in a rapid growth in output. The total input in agriculture has not decreased; the reduction of the factor input (notably of labour) has been compensated for by an increase in the non-factor input (the use of labour-saving and land-saving capital: machinery, artificial fertilizer, more productive varieties of plants and breeds of animals).

As a result the total supply has grown more quickly than the effective demand for agricultural products. This demand, at the relatively high level of prosperity in Europe and North America, rises only slightly as prosperity increases further. The output-increasing effect of technical development results therefore in a drop in price-level and (without price supports) in a drop in the income-level of the farming section of the population.

This price drop does not lead to a noteworthy contraction of the supply
and to restoration of the market equilibrium. The main cost-items in agriculture (land, durable capital goods and family labour) have in general a very low alternative yield if used outside agriculture. The factor mobility is therefore very low, even medium-long term. Consequently the price elasticity of supply is very low. Incidentally, the same applies to the demand for many agricultural products. The market mechanism therefore responds particularly badly to the important role allotted to it in our market economy. We expect the market mechanism to work in such a way that product supply and demand are keyed to each other and that the remunerations of labour and capital in the various lines of production do not differ much from each other. In agriculture little comes about of this dual-effect.

structural problem

The mention of technical development as an important cause of the price problem in agriculture has also indicated the heart of the structural problem, the second aspect of the difficulties in agriculture. Owing to the changed price relationship between labour and capital (under the influence of the general economic development), mechanization of labour has become more and more profitable. However, the production units in agriculture have become too small to achieve an optimum relation between labour, capital and land. On an increasing number of farms the labour supply has fallen to the minimum of one man. In that case a further increase in labour productivity (a prerequisite of income increase) is possibly only by increasing the size of the farm. With the given total agricultural area, increasing farm sizes are possible only if the number of farm decreases. The process of farm liquidation is going on, but it proceeds much more slowly than would be desirable from the purely economic point of view. A farmer does not leave agriculture willingly. Many farms are only terminated when there is no successor.

AGRICULTURAL POLICY

Against the background of this short description of the problems of agriculture, the measures that the governments of the industrialized countries take for the agricultural industry may be arranged in two groups, viz.: (a) market and price policy and (b) structural policy.

The aim of market and price policy is to protect the income position of the farmers against the consequences of unbalanced price determination. These measures, which consist in an isolation and regulation of the national market (by levies or restrictions on imports, subsidies for exports and support buying on the home market) cure symptoms, so to speak. They try to improve the market position of the national producers at short notice.

Structural policy is the sum of measures that try to speed up the process of adjustment in agriculture. The main theme of this policy is the acceleration of the outflow of labour from agriculture and the improvement of the farm size structure. It will be clear that the effect of struc-
tural policy on the profitability and income position of agriculture can only be evident long-term.

It seems useful to consider the difference between price policy and structural policy when discussing the role of agriculture economic research in shaping agricultural policy.

The situation and development in the Netherlands are taken as an example. The reader must bear in mind that for some years now agricultural policy has increasingly become a matter for the European Economic Community (E.E.C.). It is consequently inevitable that also have to be dealt with the contribution of agricultural economic research towards the common agricultural policy of the E.E.C. The proposals of the European Commission regarding future agricultural policy in the E.E.C., the so-called Mansholt-Plan, will therefore also have to put in an appearance.

AGRICULTURAL ECONOMIC RESEARCH AND PRICE POLICY

In the Netherlands the relation between price policy and agricultural economic research finds evident expression in the founding of the Agricultural Economics Research Institute (AERI), the only research institute in the Netherlands that engages in agricultural economic research. The founding of the AERI just before the Second World War resulted from the need of farmers organizations on the one hand and the Minister of Agriculture on the other for an objective basis for the price fixing for agricultural products. The AERI was given an independent status and was financed on a 50/50 basis by the authorities and farming.

Price policy was thus clearly the reason for systematically undertaking economic research in agriculture. The objective of price policy was to guarantee a reasonable income for the farmers on farms satisfying certain conditions regarding size. The production costs on these farms therefore determined the level of the guaranteed prices to be fixed. The AERI was given the task of calculating these production costs. To be able to do so the AERI kept (and still keeps) the accounts of some 1500 to 2000 farms, scattered all over the country. As stated, these farms had to meet certain criteria of price policy, notably with respect to the size of the farm and the quality of the farmer.

These accounts gave a good picture of the profitability of farming in the various parts of the Netherlands. From them the AERI made unit costs-calculation per product. These calculations formed the basis for the annual negotiations between the farming industry and the Minister of Agriculture on the level of the guaranteed prices.

These calculations were keyed to their aim: determining guaranteed prices. Thus with regard to the evaluation of land, own labour and own capital, certain guidelines applied which had been drawn up by the government and the farming industry and which formed a starting-point for the AERI.

We may conclude that the function of economic research in price policy in those days was still a highly passive one; the AERI functioned as
a calculating centre.

But this relatively subordinate role did have important side-effects on the development of agricultural economic research in the Netherlands, notably on farm management research. Owing to the large number of farm accounts kept by the AERI a considerable amount of reliable, empirical statistical material became available, which could and can be used for many more purposes than price policy. Using these data, the AERI has made a thorough investigation of the causes of the considerable differences in farm operating results. Use has been made for this of factor analysis, among other techniques. These accounts are also an important source of data for farm programming.

The conclusion can be that the requirements of price policy have been a major injection (financially too) for the development of farm management research. The agricultural extension services have in turn been able to use this in advising the farmers.

from product-approach to farm-approach

Price policy in the Netherlands was, as mentioned before, based on the unit costs calculations of the Agricultural Economics Research Institute. In principle these unit costs were only starting-points for the fixing of product prices with the aim of guaranteeing the farmers a reasonable income. In practice the cost prices calculated by the AERI proved to be taken as gospel, notably by the interested parties. As a result the government did not have enough scope to follow a real price policy. Even a slight difference from the calculated unit costs in the fixing of the support prices encountered great opposition from the farmers-organizations and Parliament.

A price policy based on cost calculations per product, as followed for years in the Netherlands, proved notably to offer inadequate scope for making allowance for the developments of production and consumption on the market. If for a given product, e.g. wheat, the sales outlets decline through a decreasing consumption, it is of course necessary to pass on this market development in price policy, for instance by reducing the price of wheat in respect of other products. A price policy based on unit costs calculations per product proves to have insufficient scope for these market considerations. One of the few incentives in the price sphere to which agricultural production still reacts properly, namely changes in price relations, is placed under too much restraint in such a price policy.

When it gradually became clear at the beginning of the 1960's that price policy could no longer turn a blind eye to market developments, the product approach in price policy was replaced in the Netherlands by the farm approach. The unit costs calculations per product were replaced by profitability calculations per farm. From then on the prices of products were so fixed that the income aimed at could be achieved per farm.

Since then the Agricultural Economics Research Institute has not made any further cost price calculations per product. The accent now lies on the results of the farm as a whole. The farmers were at first against this relativization of the function of the cost price as a basis for
price policy. This opposition soon ebbed away. In those years (from 1962) the gradual build-up of the common market and price policy in the EEC limited the freedom of national policy. In that period the gradual equalization of the price-levels in the six member-states of the EEC was decisive for prices, which in those days still had to be fixed nationally.

price policy in the EEC

The common market and price policy in the EEC, which has entered fully into effect since 1968, introduced a new phase for agricultural economic research in the Netherlands, but also in the other countries of the EEC.

Now that the EEC fixes the common price-level, an obvious question is what criteria apply to the level of these prices (i.e. the target prices and guide prices). It must be said that these criteria are not yet in existence. The very generally defined objective in the agricultural section of the Treaty of Rome "stabilization of the markets and reasonable consumer prices" is not a clear guideline for the determination of price-levels. Nor is there present in the EEC as a whole a representative picture of the economic results of the farms in the various regions and farm types. This is a prerequisite of the concretization of a given objective with regard to the income position of the farming population. This lack has also been clearly felt. The European Commission is therefore building up what it calls an information network: the accounts will be kept in a uniform manner and the results calculated of about 15,000 farms scattered all over the EEC.

We thus see here the same development as in the past in the Netherlands (and also in West Germany). The need to have a basis for price policy calls for a considerable amount of agricultural economic research. This consists in the first instance of the registration of farming results, but will - as in the Netherlands - definitely also entail the analysis of the results. As a consequence, knowledge of facts and interrelations in agriculture will be increased.

The chance that in the EEC price policy will be fitted into a strait-jacket of calculations (as threatened in the Netherlands) is in our opinion not great, for two reasons. In the first place the circumstances of production within the EEC differ greatly. Within the large common market the spread in incomes will always be particularly large for this reason, whatever calculation basis should happen to be chosen for the fixing of prices. Average unit costs per product or average farm results have much less force of expression than in a small and relatively more homogeneous region like the Netherlands. In the second place, the common price policy has been confronted from the very outset by high and moreover rapidly rising costs, which are the expression of a growing disequilibrium between production and consumption. This holds in particular for milk, a very important product for income in agriculture. In these circumstances there is little chance that the common target price for milk would be determined unilaterally by the wish to reimburse the cattle farmers for their costs, the market aspects being ignored. In fact the opposite is more the case, as evidenced by the proposals of the Euro-
pean Commission in its Memorandum "Agriculture 1980". According to these proposals, price increases for products with surpluses are out of the question for the time being despite the steady rise of costs.

**Projections of supply and demand**

As a result of these increasing surplus-problems, the significance and the function of agricultural economic research in respect of price policy have been considerably changed. At first the task of the research - as we have seen - was confined to cost calculations or profitability data that formed the most important basis for price policy.

In the course of the 1960's it has proved impossible to maintain a price policy that tried exclusively to adjust the prices of agricultural products to rising costs. For products with an export surplus the costs of this price policy became steadily higher, because the prices on the world market underwent a real drop and because domestic production of certain products (notably milk) rose more quickly than consumption, as a result of which the export surpluses increased.

These developments compelled the government to make increasing allowance in its price policy for the developments of production and consumption on a medium-long term. The attention of agricultural economic research was and is directed above all towards these matters. The AERI has also made a forecast of supply and demand of agricultural products in 1975 for the Netherlands.

Forecasts of production and consumption are difficult investigations. As stated, they are nowadays frequently made (FAO, OECD, etc.), but there is a great diversity in methods and assumptions. In general it must be said that the forecasting technique is still in its infancy and that the results of forecasts have a great uncertainty margin.

The key to these problems lies in the reaction of the supply of agricultural products. This is an old controversy among agricultural economists. The fact that it still exists proves that all the research that has so far been done in this field has been unable as yet to give sufficiently decisive answers. In the A.E.R.I. study for the Netherlands we have taken a lot of trouble to include in the forecasting model the factors that determine supply (and there are many of them). By means of a regression analysis of the changes in supply in the period 1952-1962 the coefficients of the factors which we consider relevant have been quantitatively determined. This supply function is extrapolated to 1975, taking into account the changes that may be expected to occur in the coming period in the exogenous variables (prices of products and means of production, income, increase in productivity). So far the supply model has proved to offer a reasonable explanation of the changes that have occurred since the base period. There are discrepancies, but these are largely ascribable to changes in exogenous factors which were not foreseen. From the methodological point of view the investigation is, in our opinion, not without merit; this in no way implies that for this reason the predictive power of the forecasting model is better than that of simpler forecasting methods; that is something only the future can show.
Much attention is paid to this forecasting investigation because it is closely connected with the problems facing agricultural policy today, not only in the EEC but also in the USA, for instance. An increasingly central position is being occupied by the question whether the political desire to protect incomes in agriculture will still be possible via the traditional instruments of agricultural price policy. The European Commission says openly that the farmers cannot expect too much more from price policy, because the market no longer permits of further price increases. It therefore thinks that the improvement of the income position will have to come above all from a more rapid structural improvement.

In these circumstances the importance of agricultural economic research to agricultural policy becomes in our opinion of greater weight than before. Its position becomes more that of adviser in the formulation of the ends and the choice of the instruments of agricultural policy.

In the first place research will have to try, by improving the forecasting techniques, to inform the politician earlier and with more certainty about the consequences for the market and for the Treasury of an unchanged continuation of the existing measures.

In the second place research will have to confront the politician with the consequences of alternative measures, so that he can see the effect of a choice from these alternatives.

Research will also have to try to protect the politician against too onesided a view of the surplus problem. A government always tends - as does the Commission of the EEC - to identify the costs of agricultural policy with the budgetary expenditure involved. In this reasoning a price policy for a product with an export surplus is a charge. Products with a degree of self-sufficiency of less than 100 come off much better. The consequence of this view is that attempts are made to reduce the production of products with an export surplus (by relative price reduction or far-reaching measures such as slaughtering bonuses), the products for which there is still an import requirement being left alone. It needs no further explanation that such a policy must lead to an increasing isolation of the domestic market from the outside world, and that the possible economic advantages of international specialization and international exchange are in this way completely subordinated to the endeavour to minimize the charge for the Treasury (instead of for the national economy as a whole). This point is stressed because this one-sided approach to price policy (not only in the EEC, but also in the USA) is leading to an increasing disintegration of world production and world trade of agricultural products. This practice of agricultural price policy is the complete opposite of the many statements that the solution of the problems on the agricultural markets will have to be sought in worldwide commodity agreements.
Interpreting structural policy in the broad sense, it may also be taken to include the large investments of governments in technical agricultural research, extension and education.

This agricultural policy, which has been followed in the Netherlands (and in many other countries) since the turn of the century, had after all the aim of increasing the productivity of agriculture and in this way strengthening the farmer's income position. Without a doubt this policy has had tremendous results. Thanks above all to these public investments agricultural production has been able to keep pace with the rapid population growth in the last century. Productivity of the soil and of labour have regularly increased, so quickly, indeed, that agricultural producers as a group have suffered more than they have gained from technical development, as we already noted in the brief description of the price problems in agriculture. It had been primarily the non-agricultural sectors that after all have reaped the benefits of government investments in agricultural technical research, etc. This agricultural policy has therefore primarily been one of general development, which has had a considerable effect on economic growth in the industrialized countries of Western Europe and North America in the last century.

However, in this context the word "structural policy" is restricted to the measures for furthering the adjustment of the agricultural structure. The agricultural structure is the whole of circumstances of production that can't be changed by the individual farmers. The following instances may be given: subdivision of holdings, the size of holdings, the size of farms, the opening-up of agricultural areas, alternative employment. In the introduction we have seen that, under the influence of the rapid technical and general economic development, it is precisely these structural circumstances of production that form a handicap for an efficient recombination of factors of production in agriculture, notably labour and land.

Gradually the conviction has grown in the postwar years (sooner in the one country than in the other) that government must give agriculture a helping hand in this process of structural adjustment. In the present circumstances a good structural policy will have to set itself the aim of accelerating the reduction of the farming population. To achieve this goal a range of measures is required, of which the creation of non-agricultural employment in rural regions is the most important, but probably also the most difficult. In the Memorandum "Agriculture 1980" of the European Commission the stress is rightly laid on the need for these large-scale structural changes.

pioneer function of economic research

What is the role of economic research with regard to this structural policy? For an answer to this question, too, the situation in the Netherlands is considered first.

Unlike the research into price policy, that into structural policy has played the part much more of "pioneer". In the shaping of price policy,
As we have seen, research played mainly the passive part of calculator. The structural problems of agriculture on the other hand, were already pointed to and analysed by the economists (and notably by the AERI) in an early stage. Long before the authorities and the farming organizations dared to speak openly about the need for an outflow of people from agriculture, the AERI was making studies in depth of the adverse effect of an unfavourable man/land ratio on operating results. Agricultural economic research has, with these studies, greatly fostered the knowledge of and the development of opinion on the fundamental problems of agriculture. In this way it has gradually convinced the farmers themselves and their leaders that the future of agriculture cannot be assured only by a policy of support prices, but that in addition the organization of agriculture will have to adjust drastically. It is understandable that it cost the agricultural organizations some effort to face up to this. It takes courage as leaders of a farmers organization to recognize and to admit to your members that the number of farmers is much too large and that many of them will have to disappear. Such a process takes time. Moreover, it is a necessary condition for the implementation of a structural policy by the government. After all, such a policy will not be acceptable - and therefore politically feasible - until the people concerned sees the need for such measures and is prepared to cooperate in their implementation.

Research has now made thinking in agricultural circles - certainly in the Netherlands - ripe for following a policy which essentially aims at structural improvement. This is an important achievement of economic research. It was able to perform this function only because there was a basis of trust. Farming regarded the Agricultural Economics Research Institute as its own institute, which worked in its interests by making calculations for the fixing of prices. The farmers were ultimately also prepared to accept - though at first hesitantly - the need for radical and painful changes in agricultural structure. The reaction would have been more negative if research had not been so close to agriculture.

The conclusion from the above must be that agricultural economic research in the Netherlands had made an essential contribution towards the shaping of structural policy and has played an active part in this process. And it will definitely have to continue to do so in the future.

memorandum of the European Commission

In the discussion of the radical structural policy that the European Commission has opened in its Memorandum, agricultural economic research will also have a major contribution to make. Let me mention a few issues that seem important:

The European Commission voices the expectation that with a modernized farm structure - i.e. considerably fewer farms with a much larger area on average - the market mechanism for agricultural products will be much better able to perform its function. The Commission expects that the farmers (possibly organized in producers' organizations) will start to react again to prices in such a way that the market will not become glutted. It therefore expects from the structural improvement a
solution to the present problems of surpluses. As a result of this, the costs of price policy will by 1980 have fallen to charges which the Treasury can bear. Many economists do not share this expectation of the Commission. The poor functioning of the market mechanism is not a consequence of the outmoded farm size structure but of the very large number of suppliers who each, as individuals, have no influence on the price. This will not change essentially if the number of farmers in the EEC reduces from 10 million to 2.5 or even 1 million. The economists will have to warn the EEC politicians about this illusion of the Commission, even though this contains the recognition that neither the traditional price policy nor the structural policy will be able to key production to demand.

Another point of importance to research is the size of modern and efficient farms to be aimed at in the EEC. In the Memorandum a number of norms are given for this: 80-120 hectares (200-300 acres) for arable farms; 40-60 cows for cattle farms. These norms are considerably higher than the actual average farm size. And yet the Commission wishes to bring about these farms as quickly as possible by means of subsidies and by merging a number of smaller farms. After these large units have been formed the too dense labour force will have to be thinned out. This view of the route to be followed and the final target is in our opinion insufficiently founded on the results of economic research on various points; this relates both to the norms for the farm size and to the effectiveness of the route suggested.

As third point is to mention the land policy that will have to be created as a part of structural policy. In the first place there is the problem of the mobility of land: how is the creation of efficient working units to be fostered? Needless to say, this is closely connected with the rate of farm termination. In the second place there is the problem of the financing of the land. It will become increasingly difficult for the farm in the future to finance the land itself. This may mean a handicap for the so desired process of farm amalgamation. It is therefore of great importance that the farmer is not obliged to own the land, but can lease it. This requires well-regulated leasehold law and sufficient interest on the part of non-agriculturists in investment in farmland. The economist too will have to ponder these problems.

COORDINATION OF RESEARCH AND POLICY

In the Netherlands research was for a long time a joint affair of farmers and agricultural workers on the one hand and the government (Minister of agriculture) on the other. In our opinion that was a good form of organization, for two reasons:
- research was close to those concerned and thus could expect a positive attitude towards the results;
- in this way research was given guidance by the practical questions of the farm and of agricultural policy. This has greatly benefited the efficiency and the utility of the research performed.
On the strength of the experiences in the Netherlands, attention have to be drawn to this interaction of research and policy. In the EEC common price policy is now definite and there are plans for the harmonization of structural policy. However, economic research is still far from coordinated. The machinery of the European Community in Brussels has only a very limited research capacity. Spread over the six member-states there are certainly a large number of institutes that engage in agricultural economic research, but this capacity is still insufficiently directed towards the problems that common agricultural policy faces now and will face in the future.

As an example may serve the forecasting research into agricultural product supply and demand in the medium-long term. In all member-states of the EEC studies are being made in this field. However, there is still a large degree of diversity in assumptions and methods. Aggregation of the national forecasts into a consistent forecast for the EEC as a whole, for which there is a considerable need, has as a result not yet proved possible. And yet a reliable insight into the developments of supply and demand on the big EEC market is precisely a prerequisite of drawing up a reliable forecast on a national basis. That certainly applies to a relatively small area like the Netherlands. As just explained, the AERI has made a forecast for the Netherlands which we are rather proud of, especially from the methodological point of view. However, the weak spot in this forecast is the influence of the developments of supply and demand in the rest of the EEC. We tried to incorporate these exogenous factors in our forecasting model via an estimate of the prices that the Dutch producers will receive for their products in 1975. In these prices we have been obliged to capture the whole of the EEC influences on the sales possibilities of Dutch agriculture. It will be clear that the uncertainty of this mass of factors is particularly great (growth of production in the EEC, location of production within the EEC, growth and location of consumption, the influence of the common price policy, etc.). These external influences of the big EEC market are so dominating for the future of Dutch farming that it may be asked whether our study in depth of the supply response of Dutch farmers had any point to it, given the great uncertainty with regard to the exogenous influences.

To deepen our forecasting investigation on this point we are at present making a study of the interregional competitive relations within the EEC and the changes which it is expected will occur in them. As a small institute we are therefore now obliged to extend our field of work to the large area of the EEC. It is becoming evident that such an investigation is beyond our capacity, in the first place because we cannot put enough manpower on the job, but also because we do not have sufficient knowledge of agriculture in the various regions of the EEC.

This illustrates quite clearly that the common agricultural policy will have to lead to a coordination of agricultural economic research in the EEC, in order to avoid fragmentation of research capacity and to guarantee an adequate orientation of research towards the problems facing agriculture and agricultural policy. From the necessary interaction of economist and politician both agricultural policy and agricultural research will reap the benefits.