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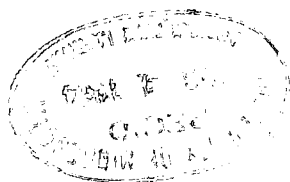
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**The Changes of Eight
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AGRICULTURAL ECONOMICS IN SCOTLAND

MODERN economic thought, and in particular the application of Keynesian principles, has applied equally to the administration of agriculture as to other parts of the national economy. As a result, the emphasis of agricultural economics, or at least the work done by agricultural economists, has undergone a considerable change. Before the war agricultural economists were, in the main, engaged in a study of the ways in which the agricultural industry obtained and organized the factors of production. In addition, they utilized the knowledge obtained by themselves and their predecessors for teaching and advisory purposes. Agriculture was organized on the basis of private enterprise, and the price the farmer paid for his production requirements or received for his products was determined by the free play of supply and demand. It is true that governments interfered to some extent. Apart from controls which affected agriculturists and other people alike—for example, those relating to education and the maintenance of law and order—there were special controls for agriculture: examples are tariffs, subsidies, measures for the regulation of imports, legislation for the promotion of marketing schemes, and the like. But these were as nothing compared with what happened after the outbreak of war when agriculture became subject to a greater and greater measure of control. Prices farmers paid and received were prescribed, and to a large extent the volume and type of production were dictated, by the government.

As the scope of control extended so did the field of the agricultural economist. So much so, in fact, that for years there has been little time to develop along the research, teaching, and advisory lines so prominent before the war. Work has, of course, still been going on in these directions, but it has, of necessity, been soft-pedalled and most of the new work in agricultural economics has been associated either directly or indirectly, first with war-time control, and latterly with the launching of the post-war agricultural policy.

On occasions agricultural economists have, of necessity, strayed outside their proper field even in its widest interpretation. Man-power difficulties, for example, have sometimes caused them to undertake administrative or executive functions. But generally, they have not

done so. Rather have they changed the emphasis of their activities in their capacity as one of the essential elements in the formulation of control policy.

In this article, therefore, the term agricultural economics will be used not in any academic sense, but rather as connoting the work done by agricultural economists during the war and post-war periods.

As has already been mentioned, the developments since 1938 in Scotland, and for that matter throughout the United Kingdom, have been conditioned by two major factors. The first of these was the war itself, and the second was the recognition by the government of the basic principles of Keynesian economics. Associated with the latter and arising also out of war-time experiences was the openly expressed intention of ensuring for agriculture a measure of stability and prosperity it had not previously experienced.

There were, and still are, four Agricultural Economics Departments in Scotland, one at each of the three Scottish agricultural colleges and one in the government department responsible for the administration of agriculture—the Department of Agriculture for Scotland. The functions of the college and government economists are to a large extent distinct. In addition to teaching work the college economists are responsible for the collection of economic data from farmers and for its use for research and advisory purposes. The economists in the Farm Economics Branch of the Department of Agriculture for Scotland, on the other hand, are more concerned with the national aspects of agricultural economics. Data relating to individual farms are supplied to them by the college economists. These are supplemented with information from such other sources as appear desirable and used as an aid to the proper understanding of national problems.

In the years before the war probably the main difference between agricultural economics in Scotland and elsewhere in the United Kingdom was the emphasis placed in Scotland on farm accounts¹ as an aid to the correct understanding of farmers' problems. This emphasis had persisted since the inception of the organized study of agricultural economics in Scotland in the late nineteen-twenties. The peculiar value attached to farm accounts in the study of farm-management problems lay in the fact that they gave information about the farming unit as a whole. The degree of integration of the various production processes on the farm is so advanced that it was considered undesirable,

¹ By farm accounts is meant a statement showing, for the farm as a whole, details of receipts and expenditure, and of the opening and closing valuations of crops, livestock, &c.

except in very special circumstances, to examine the separate enterprises in isolation as is done, for example, in enterprise costs studies. It was recognized that the best examination of farming problems could be made through the medium of complete costs. But this method was laborious in operation and could not be undertaken on a basis sufficiently wide to provide an adequate view of the universe. Enterprise costs and complete farm costs were used, as was also the survey method, but they were overshadowed by the importance attached to the farm accounting method.

The college economists circulated a number of reports based mainly on accounting data and aiming at describing conditions in their areas, and they engaged in teaching and advisory work as circumstances permitted. The Department of Agriculture published annual reports on the Economics of Farming in Scotland. These reports were in the nature of economic addenda to the official agricultural statistics. Unlike the accounting reports of the college economists, which were prepared in the main with farm organization problems in view, the departmental reports had as their objective the presentation of a national picture of the agricultural industry. Also in the years before the war the Department had undertaken investigations into the marketing of livestock, potatoes, grain, and grass seeds, while a study of the marketing of eggs was cut short when war broke out in 1939. However, relatively few resources were available for work in agricultural economics and progress was slow.

With the outbreak of war British agriculture assumed a new importance as a supplier of foodstuffs for the nation. The blockade made it necessary to employ every possible means of increasing the output of Scottish agriculture. Agriculture was controlled in almost every way. Production directions were issued, prices were fixed with the intention of attracting production of desired types, potentialities were surveyed, and plans for the future were made. As far as Scottish agriculture was concerned the responsibility for all this lay mainly on the Department of Agriculture for Scotland. Like others, they found it difficult to make bricks without straw, and during the war years much of the energy of Scottish agricultural economists was directed to supplying some of the necessary straw. Personnel were greatly increased and the college economists were asked to supply more and more data. The emphasis was still on accounting data relating to the farm as a whole and the farm accounting scheme was greatly extended. This information was of great value, particularly in the later years of the war, in

assessing the economic position of the farming industry. It enabled changes in farmers' incomes to be measured, not only for Scotland as a whole, but for the different types of farming in different districts.

But the needs of the time led to other kinds of investigation. A major departure from pre-war practice was the initiation of a national scheme of costing individual farm products. The need for the latter arose mainly from the price-control scheme adopted.

Before the war prices of farm products, even those subject to marketing schemes, were, in the main, fixed by the free play of private enterprise. Under such conditions it was not necessary for any individual to take decisions about prices. The economy as a whole sorted things out for itself, sometimes with disastrous effects on the producer. But during and since the war decisions of many kinds have of necessity been promulgated. On many occasions, for example, it has been necessary for committees of various kinds to make definite rulings about price levels. Many considerations other than economic ones have been taken into account in arriving at these decisions, and indeed those other considerations have frequently outweighed the economic point of view. But soundness of judgement has generally depended on an adequate knowledge of the economic background. It was the task of the agricultural economist to provide part of this. Part of the background was information about production costs of individual farm products or, what was more important, data showing how particular changes in the price paid by farmers for their requisites affected cost of production. This information could only be provided on the basis of a cost structure for the individual commodities, and the enterprise cost studies were undertaken mainly with this end in view.

War-time control led to developments in other directions. It was frequently necessary, for example, to infer from sample data the position on the national farm. Such inferences required a knowledge of the universe which was not available. It was not known, for example, how many holdings there were in the country. The official statistics provided information about numbers of livestock and acres of crops, but the only information they provided about numbers of holdings related to the number of occupiers completing an agricultural return. It was well known that this in no way represented the number of real farm units, and years before the war a careful classification of the official agricultural returns for 1927 provided a lot of additional information on the subject. But although very useful the 1927 classification did not go far enough for most inferential purposes and more work was

necessary to discover how many farms of different types there were, how these farms were organized, and where they were located. Considerable progress was made in this direction during the war.

Apart from the pre-war official agricultural statistics, the agricultural economist relied for his raw material on the information he was able to collect voluntarily from farmers. As a result of the war, however, a tremendous amount of most important economic data has been collected, much of it relating to the whole agricultural universe. The Ministry of Food, for example, are now virtually the sole buyers of many agricultural products. Fat cattle, sheep and pigs, wheat, barley, oats, and potatoes may be instanced. Or again, the Agricultural Executive Committees, in carrying out their war-time duties, have obtained vast amounts of data about the holdings in their areas. Other examples arise from the administration of the various subsidy schemes—hill sheep, hill cattle, and marginal agricultural production assistance. Comparatively little of this information has as yet been publicly released but it is hoped that much of it will become available for research in the future. Its value, particularly in connexion with farm organization and marketing problems, cannot be over-estimated. Although it cannot yet be used by the bulk of agricultural economists it has been of great assistance to the rapidly growing body of government economists. It has provided information, particularly about agricultural output, which there was no hope of obtaining with the pre-war methods of investigation. It has shown how particular price relationships affect the organization and output of different types of farming, how far farmers are capable of reorientating their farming system without adversely affecting production, to what extent factors of production in relatively good supply can be substituted for factors in scarce supply—for example, home-grown for purchased food, and capital for labour—and a host of other things.

Another war-time development which should be recorded was the first major Scottish effort at co-operation between agricultural economists and husbandry experts. This happened in 1941 to 1943 when it was decided to make a survey of the potentialities of the whole of Scottish agriculture. The objective of the survey was to provide information useful in the first instance for the prosecution of the food production campaign, and secondly to provide a guide in the formulation of post-war policy. The inquiry was carried out by the executive officers of the Agricultural Executive Committees under the guidance of the college economists. It involved visits to a stratified random

sample of approximately 6,000 farms, and the assessment, amongst other things on each farm, of future potentialities—assuming optimum management—and the extent of the factors at present retarding optimum production. The information was collated and analysed by the Farm Economics Branch of the Department of Agriculture and a report has been published.¹

If it is no exaggeration to say that war-time control drew attention to the part agricultural economics should play in furthering the objectives of the agricultural industry, then it is equally true to say that an event to which reference will now be made consolidated and confirmed the position.

This event was the declaration by the Minister of Agriculture and Fisheries on 15 November 1945 of the statement of United Kingdom agricultural policy. A cardinal point in the policy is the adoption as an essential and permanent feature of agricultural policy of a system of assured markets and guaranteed prices for the principal agricultural products. In order to promote a very necessary feeling of confidence within the industry it was announced that minimum prices for live-stock and livestock products would be fixed for some years ahead—on a system of overlapping four-year periods with biennial reviews. It was agreed, further, that the annual discussions which would be necessary to implement this plan would be based on economic data relating to different types of farming and sizes of farms supplemented by costings material.

Here indeed was a development and a recognition of the function of agricultural economics. On agricultural economists rests the responsibility of providing an accurate and up-to-date picture of the economic conditions of the agricultural industry, a picture which will have a major influence on the future of the industry.

Nor is this the end. Indeed if the control policy is continued it may well be only a beginning of the contribution to be made by agricultural economics to the well-being of agriculture. The agricultural policy is as yet only an infant and it will have many problems to meet and difficulties to overcome if it is to grow up satisfactorily. For example, we are not yet past the stage of legislating and planning for the average farmer. Every effort is made by way of commodity price adjustment to keep the balance even between farmers operating under good and bad conditions. As a supplement to price adjustment, acreage payment, subsidy schemes, and marginal agricultural production assistance are

¹ *Agricultural Survey of Scotland* (His Majesty's Stationery Office, price 8s. 6d.).

examples of further measures taken to see 'fair play'. But these have their dangers, of which perhaps the most obvious is that of perpetuating inefficient production. Subsidy schemes undoubtedly have their constructive side, but they are in the main palliatives. Sometime, and probably sooner than later, the assistance of agricultural economics must be invoked to find the answer to the problems of how to deal with unprofitable farms in a controlled democracy. Indeed, the effort to go farther has already begun. The Hill Farming Act which applies to both England and Wales as well as Scotland is now on the Statute Book. This Act, which is directed towards the rehabilitation of hill sheep-farms, one of the depressed sections of the farming industry to-day, requires for its successful consummation all the help agricultural economists can give. During the next five years it is proposed to spend a large sum of the tax-payer's money in an attempt to improve these farms. Where is this money to be spent? Where would it be wasteful? Agricultural economists must provide the answers.

The demands made on agricultural economists during the last seven years for help in formulating and administering control policies and programmes has prevented much progress in the ordinarily accepted lines of agricultural economics development. Such fundamental research as had been going on, and this in the ultimate analysis lies at the root of progress, was to a large extent arrested. There was, of course, some research. It was, however, of an *ad hoc* investigational kind directed more to the solution of the pressing problems of the day. Its scope was limited by the needs of the moment, and excursions into the deeper realms, which, although often abortive, do at times yield most valuable results, were impossible. There was a job to be done and agricultural economists, like many other people, had to sacrifice their own inclinations and get down to it. Comparatively little has been done, for example, in the way of market research, farm organization studies, and the like. However, the time has not been wasted. The experience resulting from war-time developments and the data which it is hoped will be made available as a result of war-time activities will be invaluable in the future.

Certain advances of a non-bread-and-butter kind have already been made. An investigation has been made into the economics of mechanization on the arable farms in the east of Scotland and a report on combine harvesters has been issued.¹ Labour efficiency has been

¹ *Combine Harvesters in East and South-east Scotland*, 1945. (Issued by Edinburgh and East of Scotland College of Agriculture, 13 George Square, Edinburgh, 8.)

studied in the north and north-east of Scotland; and an inquiry into the economics of milk production is under way in a general manner over the whole of the country and in more detail in the west of Scotland.

On the technique side detailed consideration has been given to the difficult question of evolving a satisfactory method of dealing with overhead costs in enterprise costs investigations. This problem, which does not arise in connexion with complete farm costs, has achieved a special significance in view of the widespread costing schemes for individual enterprises which are now being undertaken. Difficulties arise, partly because on any particular farm the total amount of overhead charges is not known, and partly because it is difficult to find an allocation basis which ensures that the enterprise being costed bears its proper share of overhead charges. There are, of course, many possible methods of allocating a given amount of overhead charges; per acre, per unit of rent, per £ labour, per unit of direct expenditure, per man hour, or a mixture of these methods may be instanced. The Conference of Scottish Agricultural Economists decided in 1946, after an examination of the issues involved, to use a combination of methods. Firstly, it was decided that those overhead charges such as labour, insurance, &c., applicable to all enterprises, should be allocated per unit of direct manual labour; secondly, those applicable almost entirely to crops, such as implement repairs, should be allocated on a tractor/horse-power basis; and thirdly, that repairs to buildings and rates should be allocated on an acreage basis. The actual magnitude of the amounts to be allocated under each of these three heads was arrived at after an extensive examination of financial accounts relating to various types of farming. A report on this technique investigation has been issued.¹

A number of problems of technique have been met and solved in the process of an investigation of unprofitable farming in Scotland. It may be of interest to know that this latter investigation, which was carried out by a specially recruited field staff of the Department of Agriculture for Scotland, aimed at locating every farm in Scotland which was not making a satisfactory profit in 1944. The farms located were surveyed, described, and compared with other farms in the same environment. The inquiry, a report of which will be issued in the near

¹ Report on Methods of Assessing and Allocating Overhead Costs for the Purposes of Enterprise Cost Investigations (issued by Department of Agriculture for Scotland).

future, has brought together a body of economic data which will be invaluable in meeting some of the problems of the future.

In conclusion, therefore, developments in agricultural economics in Scotland since 1938 have been essentially of a practical nature. Times have changed, and with the changes a reorientation of agricultural economics activity has taken place. Adam Smith's 'hidden hand' has not entirely gone, but it is weaker than it was. We are committed to a degree of planning not known before, and events have called upon the agricultural economist, not to change his role, but rather to change the emphasis of his activities and play his part in the new era.