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EEC AGRICULTURAL STATISTICS:
PROBLEMS IN THEIR
INTERPRETATION AND USE

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CENTRE FOR EUROPEAN AGRICULTURAL STUDIES

In September 1973, Wye College established a Centre for European Agricultural Studies. Its purpose is to offer:

To agriculture and industry

Research and investigation programmes

Opportunities for bringing together European farmers, business executives, politicians, administrators, scientists and academics to engage in post-experience courses, study groups, seminars and conferences

To developing countries

Recognition of the special problems of countries whose agricultural economies are linked with Europe

To other countries

A monitoring base where developments in European agriculture can be interpreted and transmitted back to official agencies

To other European universities and research organisations

Opportunities to develop the exchange of personnel and information, and to collaborate in the development of linked research projects and teaching programmes

To all participants in its work

The advantages of a strong university establishment, providing an impartial forum for the exchange of information and ideas

Ian G. Reid

Director

CENTRE FOR EUROPEAN AGRICULTURAL STUDIES

EEC AGRICULTURAL STATISTICS:
PROBLEMS IN THEIR INTERPRETATION AND USE

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FOREWORD

The Centre for European Agricultural Studies arranged this Seminar in conjunction with the Agricultural Division of the Statistical Office of the European Communities (SOEC).

The objective was to give the users of the data published by the SOEC the opportunity to meet Professor Louwes (Head of Agricultural Directorate, SOEC) and members of his staff, and to discuss with them at first hand the strengths and weaknesses of this data and its proper interpretation for particular uses.

The Seminar also afforded the opportunity to explore the possibility of improvements in this data and its presentation.

It is hoped that the publication of these proceedings will engender further discussion of this activity which is of fundamental importance to all those concerned with the study and the administration of EEC agriculture.

IAN G. REID
Director, CEAS

December 1977

THE STATISTICAL OFFICE OF THE EUROPEAN COMMUNITIES:
ITS TERMS OF REFERENCE AND RELATIONSHIP TO THE EEC COMMISSION

Professor Stephanus Louwes

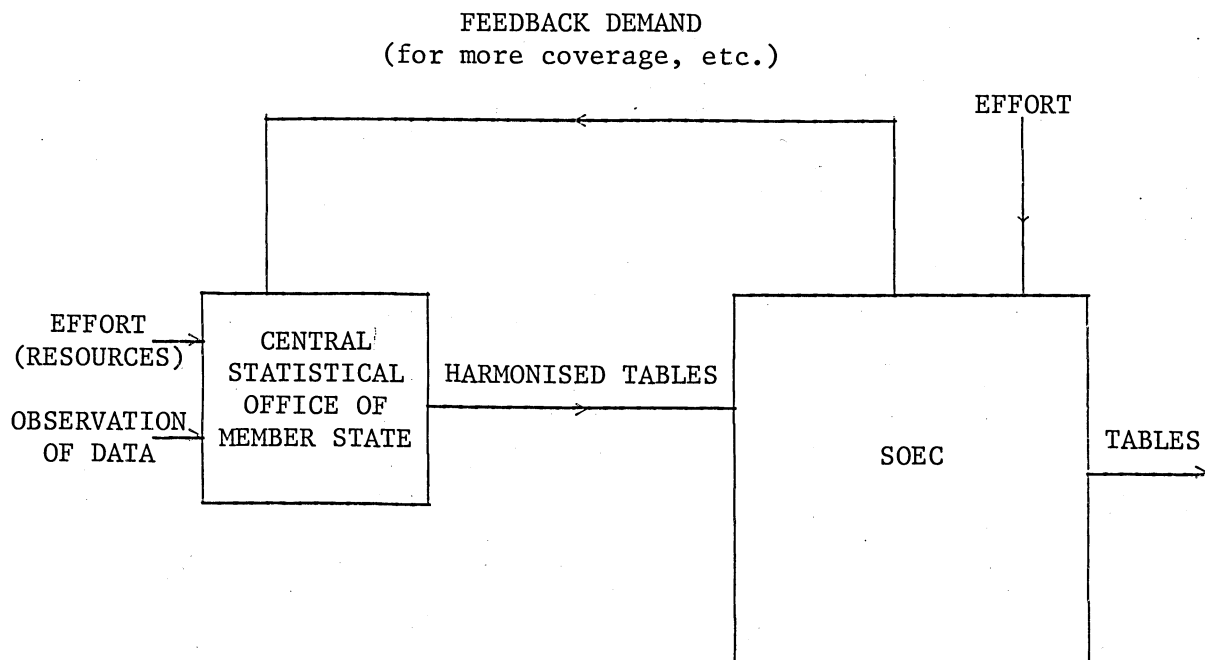
FUNCTIONS

The function of the Statistical Office of the European Communities (SOEC) is to harmonise the statistical systems of each member state in order to produce sets of comparable tables of statistics for its users - government, politicians, academics and businessmen. The three inputs to each statistical system are:

1. Observations by member states' statistical offices on farm and market activities.
2. Efforts by member states' data collectors and statisticians (including analysis and interpretation).
3. Feedback demand for different methods or wider coverage of 1.

The one output from each system is: Statistical Tables.

RELATIONSHIP BETWEEN THE STATISTICAL SYSTEMS OF MEMBER STATES AND THE SOEC



The main user of the statistical output of the SOEC's Agricultural Directorate is the Directorate General for Agriculture (DG VI) in Brussels. The SOEC's Agricultural Directorate consists of 19 graduate level staff, 16 executives and 14 secretaries. This high proportion of graduate to secretarial staff in comparison with most statistical offices is due to the fact that the SOEC carries out much less direct data collection and processing than do most official statistical offices in member states.

Representatives of the central statistical offices and Ministries of Agriculture in each state meet once or twice a year in the Agricultural Statistics Committee (ASC) to discuss problems of harmonising data and other conceptual problems, and to debate SOEC's proposed work programme.

Ideas and proposals are then discussed in separate working groups of the ASC by statisticians from member states and representatives of the services of the Commission. If a legal instrument (Regulation or Directive) is deemed necessary by SOEC, DG VI is closely consulted. Regulations are needed for the launching of major surveys while Directives are usually concerned with product definitions, lists of products to be surveyed, sample plans, maximum allowable sampling errors and the methodology of result presentation (frequently the content and lay-out of tables and computer tapes are specified). The consent of DG VI to the draft instrument is required before the proposals are submitted by the Commission to the Council of Ministers who will refer them, for further technical discussion, to a working group of its own. If the proposals require finances to be approved (e.g. for new surveys), a budgetary working group will consider these implications. The formal agreement of the Committee of Permanent Representatives (COREPER) and the Special Committee on Agriculture is also required before the draft instrument is sent to the Council for final approval. Because the Regulation or Directive has to be translated into six languages, statisticians are involved in ensuring meaningful and consistent translation of technical terms. At every stage procedural safeguards are present to ensure that proposals are not passed hastily. On some matters the Council of Ministers will consult with the Social and Economic Committee and with the European Parliament before approving the instrument which then enters the Official Journal and becomes law.

Although the Council has political power, financial resources and machinery to produce and enforce its legal instruments, nevertheless, in matters of statistics there is no desire to use the ultimate sanction, and throughout all the various procedures leading to the approval of a Regulation or Directive a spirit of gentlemanly cooperation usually prevails. Member states' statisticians are very keen to improve the effectiveness of their national offices, and the existence of Community legislation assists them when seeking additional resources from their national treasuries.

PROBLEMS

Initially, the SOEC's objective was limited to obtaining as much data covering as many fields as possible in order to permit comparisons to be made, no matter how crude; now it is very much concerned with maximising the quality and the degree of harmonisation of the data collected. Definition is an important aspect of quality: a common definition for a product to which a single average price in each country must refer is almost impossible to specify when countries have different grading systems or when tastes for high quality (defined in terms of freshness or lean/fat ratios) vary so greatly. The quality aspect, therefore, must be taken into account when comparing data; observations must be made at the same point in the distribution chain (or at some agreed point where systems differ); and a sufficiently large sample of markets must be observed. As a further example of the problems of harmonisation, comparisons of live-stock production based on carcass weights must take account of variations in killing-out percentages.

The acquisition of more reliable statistics, however, once definitions have been decided, costs money, and the extra costs must be justified. A rational user will use past data to forecast the situation in which his decisions will be made. This forecast will have a probability distribution (determined partly by uncertainties surrounding the phenomena being investigated, partly by observational error, and partly by sampling error), from which the decision-maker will construct a loss function giving him a set of costs for each strategy within a range of all possible situations. A decrease in the expected loss brought about by a reduction in the probability distribution around the forecasted situation through reductions

in sampling and observational errors should not be less than the marginal cost of the extra data collection and improved interviewing techniques necessary to reduce these errors. This approach gives, in theory, an optimal solution which in practice, however, can in most cases only be achieved approximately, and then only if the SOEC has a good idea of who its users are, what precision they demand from the statistics, and what they will use the statistics for. The problem is that the SOEC does not know how precise it needs to be and therefore how much to spend on acquiring precision. It would help the SOEC to know to what extent users construct loss functions in their decision-making, and what degree of precision they feel they require.

QUESTIONS

Several questioners emphasised that a table of statistics does not just reveal comparisons between countries but also shows comparisons within countries over time; consequently the second of these two comparisons may well be invalidated by attempts to improve the first. In situations where the user wishes to look at directions and rates of change, the accuracy of absolute levels may (up to a point) be less important than maintaining constant the definitions already in use. Estimates of trends, cycles, seasonalities and elasticities can all be acquired with samples which might give very biased estimates of absolute levels. So far as the econometrician is concerned, the observational error inherent in a time series (due, for example, to farmers giving inaccurate answers in a postal survey) is multiplied by a change of definition. Professor Louwes replied that the effects of definitional changes can often be indicated by "linking" the old and the new data. This rightly puts the responsibility for explaining such changes on the statistician rather than the user.

Another questioner felt that the SOEC should be asking whether the statistics collected do actually measure the concepts and variables which are going to play a part in the decisions made by users, and should be striving less hard for harmonisation per se. The answer given was that it is up to the user to inform the SOEC through the feedback mechanism bearing in mind that statisticians are in a good position to know the kinds of questions likely to elicit accurate answers from farmers and to judge whether it is possible to measure the variables required by the

decision-maker. (For example, the coverage of farm incomes and part-time farming is inadequate at present because of member states' reluctance to include questions of finance in their surveys).

In reply to a further question, Professor Louwes stated that the SOEC has very little day-to-day contact with users, apart from politicians, students and a few companies which usually ask highly specific questions. Commercial users are not represented on the working groups of the SOEC but, at least in the UK, can make their views known at the annual users' conference of the CSO. Ideas generated here are fed back to the SOEC.

The Director of the Economics Division of the NFU (Mr. Strauss) congratulated the SOEC for its success to date in achieving comparability in the statistics, and for timeliness in their publication. The only gaps he could see were in the farm income and accounts data which made it very difficult to see trends by groups of products. Seasonal reporting and 7-month ahead forecasts of net farm income are made by the UK Ministry of Agriculture, but he had seen no comparable SOEC forecasts, and no calculation beyond net product of the various agricultural product groups. Professor Louwes replied that DG VI had responsibility for farm incomes data through the Farm Accounts Data Network. So far as the SOEC were concerned, they were now compiling estimates of the aggregated net product three months before the end of the calendar year in anticipation of member states' submission of their agricultural accounts in July of the following year. In addition, "pipe-line" forecasts are made for those agricultural reproduction processes already in motion, "Short term projections" of past trends, and "Forecasts" for one or two years ahead. The extent to which SOEC should be involved in longer term forecasting is under debate at present. One difficulty is that politicians and commercial users differ in their requirements: commercial users generally need more individual product data than politicians. Furthermore, politicians might place excessive reliance on forecasts and try to evade responsibility if the forecasts were proved inaccurate. Again, the SOEC cannot ensure that member states are providing truthful rather than self-serving data. In conclusion, the Chairman cast an envious eye on the United States Department of Agriculture's Statistical Service with its huge entourage of model builders and statisticians and seemingly few problems of feedback and communication with users.