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(OECD)**

## **THE FUTURE ROLE OF AGRICULTURAL STATISTICS**

### **How to respond to new needs**

**Invited paper from the Ministry of Agriculture, Food, Fisheries  
and Rural Affairs (MAAPAR), France\***

### **Summary**

The public statistics system in France is built around a central Statistical Institute which coordinates the whole of INSEE with the specialized statistical services in individual ministries.

The specialized services gather and analyse statistics on the fields for which their respective ministries are responsible. Hence the Ministry of Agriculture, Food, Fisheries and Rural Affairs (MAAPAR) keeps statistics on agriculture and agri-food processing.

French agricultural statisticians have long striven to pay the closest attention to social demands relating to agricultural topics, and to respond to them, whether the requests emanate from the public authorities, professional farming associations, private economists, farmers or indeed the general public.

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Pressure on the agricultural statistics system is mounting steadily and substantial new requirements are emerging; account will have to be taken of these.

## **I. An up-to-date, essentially economics-oriented set-up adaptable to new needs**

1. The public statistical system in the agri-food sector was developed in the first instance to respond to the need for economic information - put more simply, the need for market knowledge associated with changes in agricultural policy: national policy in the first instance, then the European Union's Common Agricultural Policy. Later came the need to provide general background information for the national accounts. The Ministry of Agriculture's Central Office for Statistical Surveys and Studies (SCEES) is responsible for producing economic statistics on farms and agri-food processing industry. These statistics are basically concerned with the structural characteristics of the production system and output. INSEE produces statistics downstream of the production system, on marketing ventures and household consumption. It is also responsible for price indices, both farm- and factory-gate and consumer. Figures on trade in produce between France and the rest of the world are produced by the statistical office in the Customs Administration, and are drawn on extensively by the other services.

2. More recently, the development of new information needs has led SCEES to take an interest in other areas, expanding its output of agri-food statistics beyond the traditional economic field to encompass structures, output, consumption and foreign trade. While in part this expanded coverage remains closely concerned with economic questions (business innovation, globalization of trade and output ...) it is also, in part, concerned with remoter topics and specific concerns: the rural environment, environment protection or again, in yet more rudimentary form, food product quality. The answers provided in these new fields for statisticians are as yet only partial, while the difficulties encountered are many.

## **II. "Traditional" agri-food economic statistics still a priority**

3. Economic statistics still underpin operations in the public agri-food statistics system. The way this system is set up overall, and the corresponding statistics-gathering tools in use, have changed little in substance for years even though growing statistical harmonization within Europe has led to some alterations.

### **II.1 Structural statistics on the production system**

4. As far as agricultural holdings are concerned, structural statistics comprise periodic farm censuses, supplemented by structural surveys in off-census years, and the Farm Accountancy Data Network (FADN). SCEES is directly responsible for these operations, which are carried out on the ground by regional and departmental farming statistics services. The collection of this information has been closely controlled and harmonized by European statistical rules for over 35 years. Farm censuses and structural surveys basically provide information on productive potential (land under cultivation, livestock, jobs, equipment and facilities ...). In the absence of a regularly updated central register of farm holdings, censuses are also used to establish the sampling frame for sample surveys. FADN serves a special purpose: it is expressly designed to provide accounting information on the returns on "commercial" holdings, i.e. those larger than a certain minimum size.

5. The situation as regards agri-food processing is quite different: statistics on this form part of the broader category of French business statistics, coordinated across different industries by INSEE. A long-standing inter-administration register of businesses and establishments (SIRENE), regularly brought up to date and maintained by INSEE, is an essential element of this arrangement. It provides the starting-point, in particular, for the Yearly Business Survey (Enquête Annuelle d'Entreprise, EAE), the basic structural survey of non-farming businesses, enabling many of the demands set forth in the 1996 European regulation on structural business statistics to be met. Brought in gradually from the 1960s onwards, the Yearly Business Survey today is a coordinated exercise undertaken by the statistical offices of the various ministries, each working within its own domain. SCEES conducts it in the agri-food processing sector. Businesses for surveying are divided up among the surveying offices on the basis of their principal business activities: none is omitted or counted twice. The data collected are chiefly to do with economic returns as shown in the accounts, factors of production (jobs, investment) and activities pursued - the latter enabling the principal business activity to be identified and the SIRENE registry to be kept up to date.

## **II.2 Output statistics by product**

6. For raw agricultural produce, it is the Ministry of Agriculture's statisticians, being present throughout the country in each NUTS 3-level (Nomenclature des Unités Territoriales Statistiques, Nomenclature of territorial units of statistics) geographical region, who run the system.

7. In their respective areas of authority they establish figures on surface areas, yields and output of a large number of products, both plant and animal. They work throughout the year so as to be able to respond both to needs arising out of current local or temporal circumstances and the more specific requirements of overall yearly summaries of basic French output. These summaries, which are produced using a standardized European set of methods, are a means of bringing consistency to the various sources of information on output, foreign trade, processing and consumption.

8. The system is fed by sample surveys conducted by regional and local statistical offices following national protocols. It is supplemented by local expertise and by statistical processing of information from administrative and regulatory sources. Some of the statistical surveys are designed not only to determine output but also the timing of produce arriving on the market for sale as in the case, for example, of fruit and vegetables.

9. Notable in French public statistical monitoring arrangements for produce processed by the agri-food industry is the role played by professional organizations in collecting and producing data. In many sectors of activity these organizations are directly responsible for conducting output surveys under the technical coordination of SCEES which conducts surveys itself where for one reason or another professional organizations are unable or unwilling to do so. Involving professionals in statistics-gathering in this way has the advantage of allowing closer proximity to the entities surveyed, which may help to make the inquiries more relevant and the businesses readier to respond. On the other hand, it requires a great deal of coordination by Ministry statisticians of survey files, concepts and nomenclature, the statistical methods used

(data-checking, estimates of non-returns etc.) and deadlines. Agreement on greater coordination has recently been reached with the signature of a “quality charter” between SCEES and approved professional organizations, setting out the rules of good statistical practice to be observed while the surveys are under way.

10. Output statistics for the agri-food industry have two main objectives. One is to provide a current window on economic activity by means of monthly sample surveys of ranges of products considered to be representative of each branch: these feed into the industrial output index calculated by INSEE, in particular (in accordance with the 1998 rules on current business statistics). The other is to provide detailed information on output by product by means of (generally) yearly surveys. Read together with foreign trade statistics, these surveys afford a means of evaluating the French domestic market. The introduction of the Prodcom rules on industrial output statistics required a substantial effort to bring the whole statistical apparatus into line: aligning the questions asked with the list of products and adding questions on product value, whereas surveys had previously been concerned only with physical quantities. Besides data on output and/or deliveries, the surveys in several branches of the industry also include questions on the consumption of raw materials.

### **II.3 Sales and consumption statistics**

11. Detailed statistics on household food consumption by product come from a survey conducted every five years by INSEE. This is not specifically concerned with spending on food, but covers all expenditure (including such items as taxes and charges, insurance premiums, and loan repayments); household resources and composition are also recorded so that household behaviour can be studied. Food products include items produced for home consumption. They are monitored with the help of a detailed 260-item list, in which consumption outside the home is recorded under separate headings.

12. As part of the national accounting exercise, INSEE also produces yearly estimates of consumption by product, combining the different sources of information available (output data, panel surveys by private institutions, foreign trade ...).

13. INSEE also produces statistics on the structure of the French distribution chain by surveying wholesale and retail vendors. Spot surveys of the same businesses provide information on consumer trends by major product groups.

### **III. Emerging needs for statistics in connection with agri-food**

14. While there is still substantial traditional demand for economic information on the agri-food sector, which has, indeed, recently been brought together in European statistical rules on such matters as processing industry, new needs are emerging and public statisticians will have to adapt to them.

15. This expanded demand for information is, in part, still closely concerned with economic questions: efforts to measure new economic phenomena which cut across most sectors of activity - innovation, business restructuring, increasing interpenetration with the world economy, new information on communication technologies ... . Over the past 10 years or so “thematic” surveys have been developed in France by public statisticians to respond to these needs in

agri-food processing as in other industrial and tertiary activities. These surveys are small by design, generally consisting of four-page questionnaires distributed by post to a sample of companies. Some - for example, surveys on innovation in industry - have been conducted in response to international recommendations, in a harmonized fashion across the European Union under the coordination of Eurostat. There is at present a growing move towards this kind of Europe-wide harmonized thematic survey. European integration, enlargement and the obliteration of borders may also be expected to lead to change - if they are not doing so already - in the economic information required of current public statistical services at the national level.

16. But new needs for agri-food related information in France have also turned up in sectors further removed from economics, such as changes in the rural environment and environmental protection. The public statistical system, and SCEES in particular, has been striving to respond to these at least to some extent. Statistically measuring phenomena in such sectors is often especially difficult: there are conceptual and methodological problems with the exact definitions of the “features” to be measured, and with actual opportunities to collect data from the entities surveyed (information already available or prohibitively expensive to obtain). Besides, most of the resources available to statistical services continue to be taken up with the production of “traditional” economic statistics. Care must also be taken not to make responding to surveys too burdensome for the entities approached, so that they do not reject the exercise altogether.

17. In spite of these problems it has been possible to undertake a number of operations to shed light on some aspects of these not strictly economic questions. The earliest relate to the rural environment: besides demographic data from population censuses, the Ministry of Agriculture’s statisticians and INSEE have conducted four surveys since 1969 on businesses and services in communes and their related catchment areas, leading to the identification of *bassins de vie* (natural clusters of communities). Growing environmental concerns led to the institution in 1990 of yearly surveys of spending by industrial ventures on environmental protection, which covered the agri-food processing sector; the production of information on this subject was later written into the 1996 rules on structural business statistics, which were extended to encompass current spending on environmental protection. The same environmental concerns within the farming sector are addressed by the statisticians at the Ministry of Agriculture, with specific efforts to connect with farmers. For example, surveys, representative at the regional level, are conducted into farmers’ crop-growing practices and the characteristic features of buildings for livestock. The objective is to gather the information needed to establish indicators that can capture situations and how they develop, with particular attention to water, fertilizer, pesticides, erosion and nitrate leaching.

18. Community concern over food “quality” has emerged still more recently. Statistically speaking, this poses formidable problems with concepts and measurements, for a variety of reasons: the features to be measured are often poorly defined, situations change rapidly, some phenomena are just emerging and do not readily lend themselves to statistical evaluation, etc. It is therefore not surprising, albeit regrettable, that French public statisticians have been providing highly piecemeal answers to questions that have yet to be properly framed.

19. The summary statistics compiled by health and safety inspection services are somewhat special. They describe what the services have been doing, and are often tricky to interpret if the

data have been gathered by survey: on efficiency and cost grounds, surveys may be slanted towards sub-populations that are thought to be “at risk”, and so may not be representative of the population as a whole.

20. The statisticians at the Ministry of Agriculture are concerned with one particular aspect of the question: measuring output under official labels of quality and origin (appellations of controlled origin, labels, certificates of conformity, organic farming). Here the features to be measured are precisely defined in regulations, which means that the conceptual aspects of the problem have by and large been dealt with; the problem lies in the measurement exercise itself, and in how regularly it should be undertaken. Whilst the development of such official stamps of quality is now a prime focus of national policy to reorient French agricultural output and move it up-market, for the time being there is no official statistical provision that applies uniformly across the country. Such data as are available are produced by a variety of different bodies with no overall coordination. The National Institute of Appellations of Origin, for example, has long had its own system for surveying the economy of appellations of controlled origin which relies on information supplied by the various producers’ associations. The data assembled on other marks of quality and origin are collected and processed by different bodies, and are sometimes patchy.

21. Thus in 2002 SCEES launched a first experimental survey of produce covered by official marks of quality and origin (other than organic farming), to shed some consistent light on the subject. The survey, which is now being analysed, was not of producers or processors themselves but of the associations and bodies in charge of the quality marks.

22. Figures on the growth of organic farming - land area, number of operators, output volumes - are at present gathered by the National Organic Farming Observatory under the auspices of the country’s chambers of agriculture. The statisticians at the Ministry of Agriculture are as yet directly involved only at a very rudimentary level: a question was added to the most recent farm census so as to identify some broad characteristics of the farmers engaged in organic farming, and a rider on “organic milk” was added to the traditional yearly survey of dairies.

#### **IV. Outlook**

23. Producing and analysing “traditional” economic data on production facilities and output remains an important part of the work of the French public statisticians responsible for agriculture and the agri-food sector. The demand for economic information has not slackened, in part because of new phenomena that affect the agri-food domain: the growing entrenchment of the European Union, the globalization of trade and business, the increasing role played by innovation and new technology, new business models and so forth.

24. Partly because they are thick on the ground, agricultural statisticians are alert to changes in information needs. Their presence within the Ministry of Agriculture also helps them to be aware of certain policy-related requirements. The producers and users of statistics within such structured bodies as the National Statistics Council work together constantly. These arrangements indicate an exploration of topics that are not strictly economic, among them the rural environment, environmental protection and, more recently, the “quality” of food products.

25. These new topics are not easy to deal with. They often pose entirely new conceptual and methodological problems: how to define the features to be measured, how to reconcile the definitions with information readily available in the entities surveyed at a cost acceptable to them, how to design appropriate sampling frames and so on. Getting from a voiced need to a suitable statistical tool for responding to it is always a long process, especially if the need is presented in woolly terms. New, rapidly changing phenomena, which would be particularly interesting to capture, are often hard to measure statistically at an affordable cost because no one has previously established reference points in the entities concerned. Besides, the human resources devoted to agricultural and agri-food statistics are generally on the decline in France, while the demand for “traditional” information remains strong.

26. More and more, European unification is making it necessary to establish coordinated statistical monitoring arrangements. For the moment, these work more or less satisfactorily in traditional agricultural and agri-food statistics. As far as the new topics are concerned, it is likely to be a long haul. Over and above the conceptual and methodological problems referred to earlier, which will, besides, have to be dealt with consistently and in concert by the different States of the European Union, the questionnaires to be sent to surveyed entities are liable to be so complicated that face-to-face interviews by well-trained researchers will often be essential, and this will immediately raise problems of cost.

27. At the strictly national level, a recent forecasting exercise for the period 2004-2008 suggests that demand as regards food safety and quality tends to be expressed at the national and Europe-wide levels, but to be limited within countries and locally. Requests, where they exist, also turn out to be relatively poorly formulated.

28. Given this situation, statisticians need to be ready for the methodological investment necessary to be able to respond later on.

29. As regards statistics on geographical areas, space management and the environment, which are coming very much to the fore, three key notions come to mind: improve; adjust the balance; and innovate:

- Improve, i.e. be better able to localize information by turning to georeferencing and geographical information systems so that the responses we give can be adjusted to match fluctuating territorial divisions that sometimes bear no relation to administrative ones;
- Adjust the balance in agricultural statistics between information on economic matters and better knowledge of the space used by agriculture, especially spaces used for other economic activities, so that developments - and possible conflicts of use - can be observed;
- Innovate by quantifying in statistical terms the interactions between agriculture and the environment so as to meet the need for agro-environmental and sustainable development indicators.

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