

# Interne notater

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## INTERNATIONAL TRENDS IN OFFICIAL STATISTICS<sup>1)</sup>

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Mr. President, Ladies and Gentlemen,

## I. INTRODUCTION

First I would like to thank you, Mr. President, for the kind words of introduction. I hope that my presence here can be of some use for your important work on reorganization of the Statistical Institute, and also, perhaps, to some degree for your prospective work on official statistics. I shall speak to you this afternoon on certain international trends in official statistics.

Perhaps the most dominating trend internationally is that the use of official statistics is expanding very rapidly. In some countries the use of official statistics has expanded almost explosively. But this is not the topic of my lecture. I shall focus on methodological aspects, i.e. on trends in techniques, methods and administration.

However, before I proceed, let me say a few words on objectives. Of course, the primary objective of the official statistics is to maximize benefits for its users. To enable such maximization, official statistics have to be relevant, objective, reliable, consistent, and last but not the least, punctual and timely. The National Statistical Service has to see to it that resources are allocated properly among different groups of users, i.e. to set priorities correctly. Finally, the objective of the Statistical Service is not only to produce, but also to disseminate statistics so as to become usable and used. That is a necessary condition for maximization of benefits.

## II. DATA COLLECTION

The first international trend which I like to point out relates to data collection. Official statistics are based partly on data collected by administrative agencies - we call them administrative data - and partly on data collected directly from the data suppliers by the statistical agencies - we call them directly collected data. Originally, the official statistics used to be based mainly on administrative data like foreign trade data from the customs authorities, birth data and death data from birth and death registers, criminality data from the courts and the police, and so forth.

Later on, more and more data were collected directly by the statistical agencies. During recent years there has been internationally, I think, a definite trend in the direction of utilizing administrative data

more and more, that is, utilizing data collected from the suppliers (individuals, enterprises, establishments, etc.) by administrative agencies because such data are cheaper and not seldom better raw material for production of statistics than directly collected data. They are cheaper from the point of view of the statistical agency because they are already collected by an administrative agency, and they are cheaper in the sense that utilizing administrative data one does not bother suppliers twice, so also from the point of view of data suppliers such data are relatively cheap.

There has been a definite trend in utilizing such data, whenever usable, but in order to use them, of course, such data have to be placed at the disposal of the statistical agencies by the administrative agencies. In some countries, such a practice involves legal difficulties but in most countries transfer of administrative data from administrative agencies to the statistical agencies does not imply serious problems. To the contrary, for example in my own country, the administrative agencies are glad that we produce the statistics for them, so they need not bother with that. Their job is not to produce statistics, but to use statistics for their policy purposes.

There are also problems in utilizing administrative data due to the fact that from the point of view of the administrative agencies, their task is administration and not to produce statistics, and these two tasks may conflict due to scarcity of resources. However, if the statistical agency and the administrative agency concerned are both willing to co-operate with a view of utilizing the data for statistical purposes, as a rule solutions can be found so that the administrative data become satisfactory also from a statistical point of view.

Another trend in data collection is that more and more statistical agencies organise a staff of trained interviewers - people with interviewing as a profession - spread all over the country in such a manner that they can be used for collecting data for sample surveys, as full-time or part-time employees. The availability of such a staff for collection of data is of extreme importance particularly in countries where the Postal System is not efficient and where people cannot easily fill in forms. But also in countries where the Postal Service is excellent and everybody can fill in forms, for many kinds of subject-matter statistics it is better to use interviewers than to collect data by mail. It is better because an interviewer can persuade the respondent that he ought to respond and can explain the purpose and the definitions of questions asked in a more

detailed manner than otherwise possible. Therefore, on some subjects for which one cannot collect data by mail one can do it by interviewing.

### III. COORDINATION AND INTEGRATION OF STATISTICS

I shall not expand on this, but proceed to the next trend which is very pronounced as regards data processing, and this trend related to the fact that to be useful for those who need statistics, the official statistics ought to be well coordinated and integrated, in order to enable the development of a system of statistics where everything relates to everything else. Nowadays users of statistics need statistics from many fields, and this means that all the statistics from all the fields ought to be logically related, inter alia so that they can be compared both across time and along time.

There are several tools by means of which statistics can be integrated. One tool is a set of statistical standards - standard concepts and definitions, standard classifications, (classifications of industries, of commodities, of diseases, of cause of death, etc.), and also standard methods. It is extremely important that such standards are established and, in addition, that these standards are used in all statistics. Only if they are used in all fields where they are relevant can statistical standards contribute to integration and coordination of statistics.

Another means of integration is represented by the National Accounts and similar frameworks. By seeing to it that economic statistics fit into the system of National Accounts, one can automatically ensure that economic statistics become well integrated at macro-level.

Furthermore, a central control of the statistical questionnaires issued by Government agencies is very important. Only if such questionnaires are consistent with the standards established will, of course, the data collected and the succeeding statistics become consistent. Therefore, a statistical system needs a central unit which sees to it that all the questionnaires issued are consistent in the sense that they use the same standard definitions, classifications, and also, preferably, it is important that the same standard methods are applied whenever applicable.

Finally, and perhaps the most important tool for the integration of statistics is central mailing lists or central registers of statistical units to be used by all those who collect data on these units. If you have a central mailing list, and if this list is used by all those who collect

data from the unit concerned, for example the establishment, and use the same coding system as regards industry and other aspects, then statistics can be integrated even at the micro-level, i.e. at the level of the individual respondent, and automatically the macro statistics become integrated.

I shall not deal further with such multi-purpose registers, but once more I would like to emphasize that for economic statistics it is particularly important that a central list of establishments is used as a basis for the collection of all data from establishments.

#### IV. DISSEMINATION OF STATISTICS

As regards dissemination of the statistical information there are also some international trends worth-while pointing out. In the first place I dare say that in a number of countries there is now being placed increased emphasis on the dissemination as compared with the production of statistics. I think that most directors of statistics will agree that we have not done relatively enough in seeing to it that the statistics produced are also satisfactorily used, i.e. that they are used by all those who can benefit from using them, and that they are used in a proper manner which, of course, is a difficult thing. It is a very important responsibility of the statistical agencies to see to it that they not only produce statistics but also bring them out to the users.

I shall not go into detail as regards the various means of ensuring increased use of the statistics available. However, I would like to mention that one should use different types of publications for different groups of users. One should not only use publications (including press releases) as a means of dissemination, but also store tables that are too extensive for publication, so that those who are interested in details included in such tables can use them and copy them. One can also disseminate statistics on microfilm for particular users. Finally, for some users one can make available print-outs from the computer with the greatest details included. In my own Bureau we have about eleven hundred customers of foreign trade statistics who monthly receive computer print-outs with detailed import and export statistics for their particular field of interest. Of course, the newest development is direct access to the computer from terminal, but in most countries and particularly in small countries there are not many users of statistics who can afford to have a terminal and who are able to use a terminal for direct access to stores of data.

In addition to the dissemination of standard statistics discussed above, production of tailor-made statistics for particular users on contract against pay is now internationally becoming more and more practiced. This practice is expanding very rapidly in a number of countries, partly due to the fact that individual data (data on enterprises, establishments, individuals, etc.) are more and more stored in data archives, which are such that one can get easy access to them. Also computer programmes are stored, so that they can be used quickly in order to produce tables which are not included in the statistical publications because in such publication one must limit oneself to a small fraction of all the possible tables that can be produced.

When the individual data are stored in such a manner that they can be easily retrieved, and when programmes are available for processing of tables, then it is relatively easy to provide statistics on contract and against pay to those customers who wish tailor-made statistics. Such customers may be Government agencies but they may also be private business enterprises. In my Bureau we carry out each year a couple of hundred jobs of this kind. The incomes from such jobs we can use for the expenditures required by the job in addition to the regular budget appropriations for expenditure.

I shall not go further into detail on the present trends in dissemination, but I should like to mention one more very important trend, viz. promotion of the use of statistics. Statistical agencies are internationally becoming more and more active in promoting the use of official statistics, for instance, by issuing pamphlets and guides to statistics, so that the users may know how to find what they need, by visiting big users such as Government departments, making contacts with them, and seeing to it that they establish libraries of statistical publications perhaps in a central unit, etc. Promotion of statistics is a relatively new trend as regards dissemination of statistics. This is a time- and labour-consuming activity requiring that a statistical agency has a central unit for information and public relations, which can perform this function more actively than it is possible by those who are engaged in the various subject-matter divisions of a statistical agency.

## V. PROVIDING STATISTICAL INFORMATION FOR PLANNERS

In this connection, I should mention another trend connected with the fact that more and more countries are planning their economies. Planning does not necessarily mean that the governments concerned are controlling their economies by direct intervention, but that they are preparing plans for how to perform the economic policy. This activity, of course, requires statistics and also imposes duties on the official statisticians. For official statistics to become useful for economic planning they have to be a good base for preparation of a plan and also for monitoring the plan. To be a good base for these two functions the same standards (standard concepts, definitions and classifications) have to be used in the official statistics and in the plan. And to ensure such a consistency between the plan or the plans and the official statistics, planners and statisticians have to work closely together in order to see to it that the same logical system is used as a basis for their work, respectively for production of statistics and for preparation of the plan.

Timeliness is, of course, urgent for planners because they are preparing the plan for a certain period of time and they need statistics for the pre-plan year. Since they start preparing the plan before the end of the pre-plan year, the figures for the pre-plan year have to be more or less projected. Also for monetary and other plans governments need very timely statistics and for that purpose some predictions have got to be made. Planners cannot wait for figures one or two years but need projected data for the pre-plan year and for the current year to be monitored. Such projections can be made by the planning agency itself, but I am quite certain that most planning agencies would appreciate that the statistical agency make such projections so that they need not bother about it and can concentrate their resources on planning and not in the preparation of projections for past and current years.

Numerical models are more and more used for the purpose of preparing economic plans. In most countries performing planning, such models are developed by the planning agency. However, in a few countries, among those France and my own country, numerical models are developed mainly by the central statistical agency for the planning agency, and are also maintained for the planning agency by the statistical agency. Our experience has clearly indicated that for statistical work it is extremely useful to develop and use numerical models.

I think that I have to proceed in order not to use too much time on this subject, but before I leave planning I would like to point out the urgency of having good data on Government activities.

In most countries Governments are influencing the economy to a very high degree by their own activities and consequently it is very important that good statistics on those activities are available and that they are consistent with the rest of the statistical system. I am thinking particularly of the Government accounts. Only if the Government accounts can be arranged according to an economic classification it is possible to analyse the effects of the Government activities, i.e. the impact of the Government budget, in a proper manner. Preferably, the Government accounts should be kept in such a manner that both the economic classification and the traditional classifications would emerge from the same book-keeping system. In such a case it is not necessary to reclassify the accounts to arrive at the economic classification and it enables much quicker use of data on Government activities than otherwise possible. For Norway the Government accounts were arranged in this way already in 1960 and also at the same time Government accounts were changed from budget year to calendar year. I think that for planning purposes this was an extremely important change.

## VI. RESEARCH AND ANALYSIS

Then let me proceed to research and analysis. It is more and more widely recognized that to produce statistics properly one has to take advantage of the available statistical theory and methods, in particular the sampling theory and sampling methods. However, a great gap exists between statisticians working in statistical agencies and those working in universities and colleges on mathematical statistics. The two groups of statisticians are as a rule not even able to speak to each other professionally. I know it by experience because one of my sons is a mathematic statistician and we very seldom talk about statistics because I do not know his mathematics and he is not interested in my administrative problems.

One way of avoiding this is to see to it that the statistical agency has a unit of statisticians with thorough theoretical knowledge, so that they can communicate with the academic statisticians and at the same time communicate with the other staff of the central statistical agency. In more and more countries such units are being established, and I think that much of the qualitative improvements made in official statistics of such countries during recent decades are due to the fact that these units have contributed

substantially to the improvements of methods. Of course, the Census Bureau of the United States has been a leading agency in this respect.

There is less agreement as to which degree statistical agencies should engage in analysis of the statistics produced. That more and more statistical agencies have engaged themselves in such analysis during recent years is a fact. Their experience, I believe, is that analysis is a useful activity from which the production of statistics can benefit in the sense that the statistical agency gets to know more about the weaknesses of the statistics produced, acquires a better sense of their relevance and obtains a higher ability for priority setting.

One kind of analysis which fits particularly well for a statistical agency is analysis of current economic trends. This requires the use of a number of time series of various kinds. Such use provides a test of how good the series are and how they can be utilized. The analysis of economic trends is performed by statistical agencies in quite a few countries. Another kind is socio-demographic analysis, for example, population projections, which requires the building of numerical population models. This activity is also performed in a number of statistical agencies. I think that the experience from this kind of analysis is good, it stimulates the right kind of population statistics, and, particularly, it stimulates efforts of making the population statistics consistent. This is very important because in socio-demographic statistics we have nothing yet a system corresponding to the National Accounts as a means of integrating economic statistics. However, the building of population models and the extending of such models into other fields, for example, education, labour market, etc., can promote consistency between population statistics of various kinds and different periods of time.

## VII. ORGANIZATION OF STATISTICS

The final trend I shall comment on concerns the organization of official statistics. Of course, this is a wide subject and it would deserve a lecture by itself. Consequently, I cannot go deeply into the subject.

In small and medium size countries, I think, there is a definite trend towards centralization of most official statistics in one agency. Many countries previously had a so-called decentralized statistical system, that is, their statistics were partly produced by the Ministry of Labour, partly by the Ministry of Commerce, partly by the Ministry of Industry, and

partly by other ministries concerned with health, education, etc. Gradually, more and more of them have centralized statistics in one agency. In Norway we have had a rather centralized system since the beginning, but we have made important steps towards almost complete centralization as late as in 1963 and 1964. Still we have some statistics prepared by outside agencies, but they are not many.

Sweden had a very decentralized system until twenty years ago. Now they have a rather centralized system. I could mention several other examples too.

In larger countries there is also a move in the same direction. Of course, a very large country like the United States could hardly centralize all statistics in one agency because that would mean an agency of perhaps fifty or one hundred thousand employees, which would probably be rather unmanageable. As it is, they have tried more and more to coordinate and integrate statistics by having a particular agency with the responsibility to coordinate and integrate statistics.

In the United Kingdom the set-up is somewhat similar. They have a central statistical office with the responsibility of coordinating the statistics prepared by other agencies and their statistics have become more and more centralized over the last decade. Statistics of the United Kingdom still are rather decentralized. Nevertheless, the U.K. Statistical Office emphasises very much integration of statistics by means of the kind of tools already discussed.

Whether coordinating bodies of the kind they have in the United States and in the United Kingdom are effective in making statistics integrated, is a question that has not yet been fully answered. Personally, I have the feeling that coordination in some cases is more on paper than in fact. According to my experience it is difficult enough to integrate statistics even if you have them all under your own roof and certainly it must be much more difficult if the production of statistics is spread on a number of agencies.

One trend as regards organization relates to the manner statistics are produced within a statistical agency. In most agencies over the last decades more and more functions have been centralized. For example, administration has been centralized in administrative departments or offices, punching and processing of data by computer or punch card equipment have been centralized in one department. Today, it seems funny that this activity should not have been centralized, but when I became a director of our

Bureau, I found three different punch card units. One of the first decisions I made was to merge them into one unit. Additional functions that might be centralized are, of course, registers and other service functions. The registers should not only be centralized, but the director should see to it that all subject-matter divisions actually use the centralized registers instead of having a register of their own - which they tend to. Of course, they can get copies of the central register.

In some countries also data collection, editing, and coding have been centralized so that they only to a small degree are performed by the subject-matter division.

There is no unanimity on the usefulness of going that far. Some countries, I think, prefer to centralize these functions to a high degree while other countries believe that it is better that data collection, editing and coding are performed by the subject-matter concerned. Many years will probably pass before we shall have an agreement on to what degree these functions should be centralized.

As regards organization, it is certainly important that the production of statistics is organized in an efficient manner, but it is even more important to ensure that sufficient resources are available and that the right kind of people are engaged. If you have money and good people, you may be successful almost irrespective of what kind of organization you have, at any rate that seems to be my experience. Of course, to achieve the best possible results it is necessary to have a good organization, but it is not sufficient. One must have devoted and interested employees who find the work stimulating. And to get good results, of course, it is necessary to have a sufficiently large budget. I think that also as regards the budget resources for statistics, the international trend has been quite encouraging - more and more resources have been allocated for statistical purposes in more and more countries - although in recent years difficult economic conditions have motivated some countries to put a break on the expansion. In most countries staffs of central statistical agencies have expanded rapidly during recent years, and also equipment of various kinds have been provided more generously than ever before.

#### VIII. CONCLUDING REMARKS

Finally, there has been a trend towards giving the statistical agencies a higher status. In ever more countries the head of statistical system has now got the same rank as the top civil servant of a Ministry. And

in more and more countries the statistical agencies have been given greater and greater professional independence which is very important not the least for the supply of data, so that suppliers can be ensured that data are treated confidentially. I think that the higher status that has been provided has also enabled statistical agencies to recruit better and better people. Of course, in all countries there is a great competition for good people and the statistical agencies have in particular to compete with the planning agencies. It is important that both agencies get good people and that there is not a malallocation in this respect which is typical in some of the least developed countries. I have been an advisor to some of the least developed countries, and one typical feature is that the planning agency gets all the best people. If the statistical agency succeeds in recruiting a good employee or training a good one, then he is often stolen by the planning agency. I think this is a foolish policy because it means that in such countries planners have to do a lot of statistics themselves as they do not get them from the statistical agency. It is now being recognized in more and more countries that there should be a proper balance in the allocation of staff between the statistical agency and the planning agency.

Well, Mr. President, these were the trends I would like to convey to you and I hope that it has been of some interest. Thank you.

