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A NATIONAL REGISTER-BASED STATISTICAL
SYSTEM AND ITS IMPLICATIONS FOR LOCAL GOVERNMENTS

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1. INTRODUCTION

Local governments play an important role in the organization of national statistical services. Firstly, the local governments are consumers of statistics describing society. The need for statistics will of course depend on the size of the municipalities as well as on the number of tasks that have been put to the local governments. In most countries the municipalities are considered a major group of statistics users.

Secondly, local governments are themselves actors in the production process. Much of the basic information needed for social statistics, etc., originates from local authorities, and the same authorities may to a varying extent take part in the production of statistics; thus, the responsibility for compiling a specific kind of statistics may rest completely with the local government.

This dual role of local government leads to a range of possibilities regarding the division of labour between local and central statistics production.

The need for consistency and coherence speaks in favour of letting the Central Statistical Office compile a large part of the general statistics. It may also be argued that this organization is cost efficient. On the other hand, the local governments are in a better position to recognize and respond to local needs for statistics, especially if (most of) the data needed is already at their disposal. Is it possible to organize a central statistical service that is sufficiently flexible to supply quickly the diversified statistics needed for municipal planning, etc.? And what should be the role of local governments as data-suppliers in a centralized system?

The purpose of this paper is to discuss the problems stated above in the light of Danish experience. A large and growing proportion of the official statistics, in Denmark, especially in the socio-demographic field, is based on edp-based administrative records. Since the early seventies a full register-statistical system has been a goal in the strategic planning of Danmarks Statistik (the central statistical office), one of the aims of this strategy being to reduce response burden. This affects the way in which Danmarks Statistik and the municipalities co-operate. It should also be noted, that statistics production in Denmark is much more centralized than in many other countries.

As a necessary background for the discussion of the relationship between local government and central statistics, section 2 reviews the administrative and legal preconditions of the Danish development, and section 3 outlines the present statistical system in Denmark. Sections 4 through 7 present and discuss the implications of the statistical system for local governments.

2. STATISTICS PRODUCTION AND ADMINISTRATION IN DENMARK

2.1 Organization of statistics production in Denmark

The institution responsible for the production of the largest part of the general statistics on demographic, social and economic conditions etc. and for the general co-ordination of such statistics is Danmarks Statistik.

This institution was in its present form created by an Act of Parliament in 1966. It is an independent institution under the supervision of a Board, appointed by the Minister for Economic Affairs. The Board decides on Danmarks Statistik's working plan and lays down rules for the co-ordination problems. Furthermore, the Board decides the extent to which and the way in which information under the provisions of the Act must be collected.

Of special importance as regards the theme of this paper are two basic principles of very long standing. The first principle is that Danmarks Statistik - now according to the Act - is entitled to collect administrative data from public authorities for the production of statistics, and to organize the necessary co-operation with the various administrative registers.

The second principle is that data collected for statistical purposes and referring to an identifiable person or enterprise may not be passed on to any other government department or private person. This "principle of non-disclosure" has been strictly observed during a very long period of years. The only exception is that the Act on a Central Register of Enterprises and Establishments specifically authorizes Danmarks Statistik to furnish this register - which is administered by Danmarks Statistik - with some basic identification data. Such basic data may according to the Act be passed on from the central register to public authorities and to a certain degree to private persons.

2.2. Danish public administration and registration

Public administration in Denmark relies rather heavily on recorded information concerning the individual objects of their administration: Citizens, business enterprises, buildings etc. This is a tradition that goes far back in time. The focus of this paper will be on describing registration of persons. Registration of business units and buildings and dwellings will also be briefly described.

2.2.1. Registration of persons

Back in 1924, the Danish parliament passed an Act on Local Population Registers, which laid down that in that same year all Danish municipalities should each establish a local population register, ie. a file containing in-

formation about all persons resident in the municipality district, irrespective of their being temporarily absent.

The local population registers were to contain information for personal identification, such as occupation and name, date and place of birth. Apart from this the most important items of information registered were place of residence, family circumstances and citizenship.

The municipalities were to keep the files continually up to date by means of information about births, deaths, marriages, divorces, etc., received from various authorities. The individual persons themselves became liable to give notification of address changes direct to the local population registers.

In 1968 an important reform of the local population register system was implemented, the purpose being to render the total public registration of the population more efficient by means of electronic data processing. In addition to the local population registers, which continued to exist, the Central Population Register, CPR, was founded as a national magnetic-tape register of the Danish population, a major benefit being that the CPR and the local population registers can be updated by one integrated administrative process.

An essential part of the reform was the introduction of a permanent and unique identification number for each individual person: the Person Number. This number was considered a practical necessity for the operation of the Central Population Register. Moreover, the number was to be introduced into all sectors of public administration, replacing the many different number systems which had previously been employed by the various branches of administration.

The establishment of the CPR was first and foremost brought about by the wish to avoid multiple registration and thus to save resources. Another contributing factor was the prospect of a tax reform introducing the system of taxation at source.

The first direct consequence for the statistical work was that the annual vital statistics were reorganized in the period 1970-1973, so that by far the main part of their primary data are derived from the CPR. However, the CPR data concerning births and deaths are still supplemented by medical data from the health authorities. Since 1970 it has been possible - based alone on the CPR register - to compile annual population statistics with distribution by sex, age and marital status for highly disaggregated regions.

In relation to the statistical use, some of the important features of the CPR are:

- the register is used by almost every public authority, which helps to improve the data quality,
- the person number is a secure link to other person registers,
- family ties are indicated in the CPR, making automatic linking of family members possible,
- households are indicated by exact address designations, which also makes possible the linking with data from the Central Register of Buildings and Dwellings mentioned in section 2.2.3.

During the late sixties and the early seventies the use of edp in the Danish public administration grew very fast. This applies to central as well as to local government. Among the larger fields in which edp was introduced can be mentioned the Danish withholding-tax scheme (1970) and several social security schemes, such as social pensions, children's allowance etc. The registers established to serve these schemes are valuable sources of statistical information.

To a large extent the data processing in the technical sense is performed by two large edp bureaus owned by the state and the municipalities. However, some government agencies, including Danmarks Statistik, have their own edp installations.

2.2.2. Registration of businesses

Comprehensive business registration for public administrative purposes did not commence in Denmark until 1967, with the introduction of value added tax. In that connection the customs authorities set up a register of all business units liable to settle VAT in all sectors of the economy, except primarily the health services and passenger transportation. The registered data were made available to Danmarks Statistik, and were utilized for the production of statistics concerning sales, purchases, etc., in the various industries.

Additional improvements of the data available were achieved when it became possible to obtain further data on employers from the withholding-tax administration created in 1970 as a part of a tax-at-source reform.

As business registration grew in the public sector, there was a more and more pronounced wish for setting up a common and coordinated business register containing a few basic data types, such as identification code number, name and address, kind of activity performed and size category of the individual business units.

Such a register was founded under a special law in 1975, and called the Central Register of Enterprises and Establishments. The operation of the register was entrusted to Danmarks Statistik, who had for many years kept a register for statistical purposes.

The Central Register of Enterprises and Establishments now provides the basis for all of Danmarks Statistik's business surveys, either in the phases of sample selection and addressing of questionnaires or for the matching of data from other administrative sources, cf. Annex 1, item 1. With the availability of statistics produced in this way, it has not been considered necessary to conduct a traditional business census since 1958.

As its name implies, the register contains business units at enterprise level (legal units) and at establishment level (local units). For owners of enterprises the person numbers, too, are entered on the register.

2.2.3 Registration of buildings and dwellings

In the early 1970's there was widespread demand for setting up a nationwide register of buildings and dwellings for the benefit of local government planning and for use in the general public assessment of real property, so far

carried out every four years for taxation purposes. It was considered how such a register could be organized with a view to also serving statistical purposes, notably in the fields of housing statistics (including housing censuses) and construction statistics. In that same period it was discussed whether the population and housing census for the mid-1970's should be conducted by traditional questionnaire-based methods or possibly by alternative methods. At the time, population registration was already quite extensive, and it was therefore only natural that the matter of setting up a register of buildings and dwellings should be included in the overall considerations. The outcome was that in 1974 the government decided that a Central Register of Buildings and Dwellings ("Bygnings- og boligregistret", abbreviated BBR) should be established, and that there should be no population and housing census for the mid-1970's conducted by traditional methods.

A special law concerning the setting up of the BBR under the Ministry of Housing was enacted in 1976. The original data basis of the BBR was obtained in connection with the general public assessment of real property for 1977, and the updating is carried out by the local government authorities in connection with their supervision of new building projects.

Following various pilot projects in 1977-1979, annual housing statistics and quarterly construction statistics have been compiled on the basis of the BBR since 1st January 1980.

Special effort has been made to ensure that the address designations (the way addresses are written and spelt) in the CPR and in the BBR are exactly alike, so that via the address designations the dwelling data of the BBR can be matched with the person data of the CPR. Experience has now revealed that in Denmark this solution leads to a satisfactory degree of congruence between the address designations of the two register types. Thus for the dwelling stock statistics and the housing census at 1st January 1983 the housing situation of only 1.0 per cent of the population could not be accounted for. The corresponding figure was 4.0 per cent for 1st July 1979.

2.3 Privacy considerations

One principal precondition for the development of register-based statistics is that this development is accepted by the general public and by the legislative power. In this respect the Danish situation is and has been favourable.

The question of the use of edp register techniques by public authorities has been subject to some public debate, especially in the late 1970's. One case for discussion was the introduction of new statistics on recipients of social benefits, the need for which was created by a new Act on Social Assistance. Danmarks Statistik decided that the statistics should be based on data on the individual recipients of such benefits, identified by their person numbers. This technique was chosen mainly to reduce the respondent burden on the local governments to a minimum.

A few municipalities claimed their clients' right to anonymity and contested the right of Danmarks Statistik to demand such information, not accepting that the above-mentioned statutory provisions in the Act on Danmarks Statistik would apply in this case. It was argued that the use of person numbers, not least for statistical purposes, was dangerous and irrelevant. Eventually the Danish Supreme Court decided that Danmarks Statistik without any doubt had the right to demand - and the local governments the duty to pass on to Danmarks Statistik - identified information on recipients of social benefits for the statistical purposes in question.

In 1978, the Danish Parliament passed two bills on registers. One of them, entitled the Public Authorities' Registers Act, clearly stresses the rules of non-disclosure of statistical data that were already in effect, as well as the rules of accessibility of register data. Moreover, it ordered the establishment of a Data Surveillance Authority (DSA), to supervise the registers and the regulations concerning their operation, with a special emphasis on safety measures for the protection of information. The final competence in decisions regarding the setting up, etc., of registers rests with the political authorities (ministries and local government councils), but before a decision is made the DSA must be heard. The DSA must be notified in each case of matching of registers and the DSA may establish the conditions of how such matchings shall be executed.

Although the primary aim of the Act is to regulate the use of registers in public administration, the regulation also applies to registers that are used only for statistical and scientific purposes. However, the rules applying to such registers are different. Thus the linking of information from different registers can be administered without notification to the DSA when the purpose is strictly statistical, and the right of a person to know what the registers hold on him is not extended to statistical registers. The reason is that statistics cannot threaten privacy, because information about individuals cannot be identified from the statistical tables, and because individual information on statistical registers may not be passed on to others, nor be used for administrative purposes.

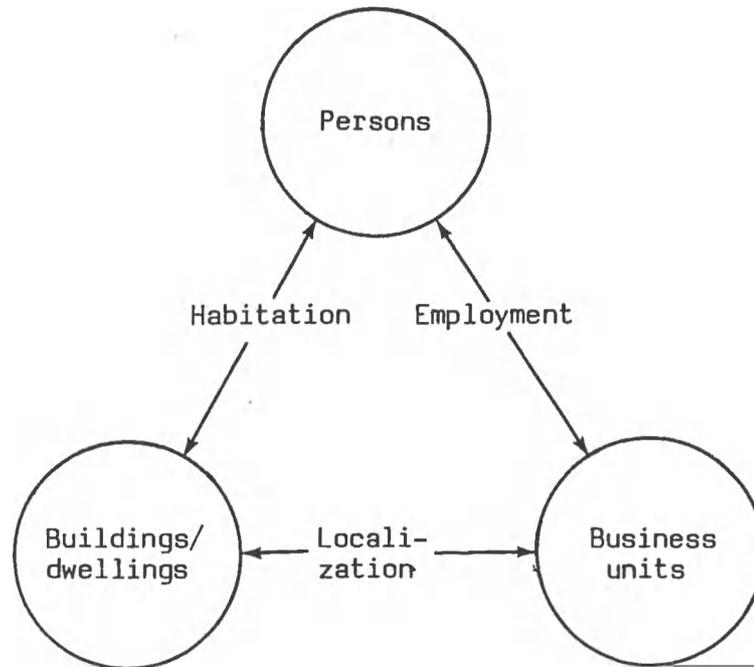
3. PRINCIPLES OF THE DANISH STATISTICAL SYSTEM

The Danish system of register-based statistics has evolved gradually since 1968. Some of the important events and decisions are shown in Annex 1. This section contains a brief description of the socio-demographic part of the present system.

3.1 A simple model

The central objects of the socio-demographic statistics are the persons. We need to know the relations of the persons to the dwellings in which they live, and to the business units where they work (workplaces) if they are employed. Thus, there are three kinds of objects which are interrelated as shown in fig. 1 below.

FIG. 1: A simple model



Another important relationship in the model which is not shown in the figure is that between family members.

Each type of objects has a number of attributes e.g. age, occupation, number of rooms in the dwelling, that may have a bearing on the social situation of the persons.

3.2 The data model

The aim of the statistical system is to create a description of the socio-demographic situation of the persons and changes in that situation. The description should enable the carrying out of many kinds of socio-demographic analysis. We should try to get data on the existence and the birth/death of objects, relations between objects, important attributes of objects, and changes affecting relations and attributes.

In Denmark it is possible to extract most data necessary to establish this model from the administrative registers mentioned in chapter 4. The statistical system has the same structure as shown in fig. 1. Each corner of the triangle is a number of more or less independent statistical registers, each containing the data necessary for one field of statistics, e.g. personal income statistics. There are by now some 35 statistical registers, most of them concerned with persons. They can be linked together by means of the unique and common identifiers of each type of object, most important of which is the person number. The relations between the different kinds of objects shown in fig. 1 are expressed in terms of the same identifiers.

A special kind of registers are called Systematized Data Modules. These are not aimed at one branch of statistics, but they contain data for general use in several fields. One example is the Employment Classification Module, furnishing employment data for a wide range of person statistics. One advantage of this arrangement - apart from its being resource efficient - is that comparability is secured between different branches of statistics, and when different groupings are used the differences can be reconciled. This makes for a suitable balance between the demands for standardization and flexibility.

In many cases, one statistical register is based on data from a number of administrative registers, because the data combinations used by the administration are not relevant to users of statistics. Consequently exact matching by means of person numbers, etc., becomes a vital part of updating procedures.

Experience shows that even the most reliable administrative data must be submitted to statistical data processing before entering the statistical registers. The reasons are:

- the time reference of register data must be adjusted because of varying delay in the updating of administrative systems,
- data must be controlled and validated (especially when the information in question is not used systematically by the administrative authority),
- it is necessary to compare and adjust data on the same subjects, stemming from different sources - sometimes a very complicated task.

3.3 Supplementing register data

Even in a country with a strong tradition for registration it is very unlikely if not inconceivable that all data necessary for the general statistical system should be contained in the administrative records. In some cases it is possible to collect the supplementary data by sample surveys. But often the supplementary data should be made available with a total population coverage, e.g. to allow compilation of tables with a high degree of geographical disaggregation. To solve this problem the method of "integrated data collection" has been applied with success in a few cases: making the administrative authorities extend their records with statistical data that are not needed for the purposes of the administrative authorities themselves. The problem of this method is that the authority responsible for the collection tends to see the extra statistical data as less important and as a burden. Much co-operation and understanding is required from the administrative authorities, if the resulting statistics are to be sufficiently reliable.

3.4. Use of statistical registers

The system is geared to two main types of uses: on the one hand the utilization of a single register in specific fields of statistics, and on the other hand, ad hoc utilizations of two or more registers or systematized data modules by matching data selected to suit the individual projects.

The power of the system and the scope for its utilization is illustrated by the fact that the 1981 population and housing census has been based exclusively on the registers, and a full census could be published every year, if needed.

4. DATA SUPPLY FROM LOCAL GOVERNMENTS

Much of the information that is used and originates in the municipal administration is well suited as a basis for a general statistical description of society. This is evidently the case when we talk of statistics about the way in which local government works: Social assistance statistics, statistics on employment and wages in municipalities, etc. But also basic information about citizens, real property and business originates here.

Thus, it has been mentioned earlier that the basic information of the Danish Central Population Register is collected and processed by the local population registers. The main source of general statistics on incomes and labour force is information from the tax administration which is also originally gathered and processed by the municipal tax authorities.

In some cases (eg. CPR, tax) the administrative organization itself includes a central pooling of the information collected locally. This means that nation-wide edp-registers are run by for instance the central tax administration, who will have the responsibility of co-ordinating the data. In this situation DS will receive the basic information directly from the central registers and the individual local governments will not be directly involved in the production of statistics. When the data are controlled and processed by DS it may however be necessary to ask the local authorities for explanatory information or corrections to individual pieces of data.

When there is no central data bank the exchange of data must be arranged in direct co-operation between Danmarks Statistik and the 275 municipalities. In many cases the information needed already exists in edp-registers kept by the local governments. It is normally necessary that Danmarks Statistik receives extracts from the registers of data on individual persons etc. with identification numbers; this is to allow for combining data from different sources. As mentioned in section 2.1, the Act on Danmarks Statistik authorizes the institution to collect data from the local governments. However, a number of problems tend to arise.

One general problem is the probability of misunderstandings in communication, resulting in errors in statistics. Fortunately, many municipalities in Denmark have decided to use common edp-systems for the administration of, say, pensions administration. These systems are run by a large municipal edp bureau (Kommunedata). This makes communication easier. The documentation of the registers - if complete - tells what the contents should be and how data should be interpreted. But the exact meaning of the documentation may be hard to understand for the statisticians who are not themselves users of the systems. And the individual local authorities may have decided to use the register in another manner than intended from the part of the systems builder. To give an

example: In the compilation of wage statistics for municipal employees, based on wage registers, it turned out that one municipality had entered not only personnel in the register but also machines that were hired from private companies. From the municipality's point of view an expedient way of handling the payment of the lease for the machines. This caused no problems to the administration, because every local user of the register knew how it was run. But it created some problems for the production of statistics until the matter was cleared up.

In some areas the municipal registers are not uniformly organized. A number of different systems may be used by different groups of municipalities and the same piece of information may be represented by completely different code-values in the different systems. Danmarks Statistik is seldom in a position to demand the information in one specific, uniform way as this would increase the work of the local authorities. So the co-ordination must be carried out by Danmarks Statistik. This enlarges the probability of errors and misunderstandings.

Another kind of problem arises if the data kept by the local authorities are almost but not completely in concert with statistical needs: A modification or extension of the data base is asked for by the statistics users (who, incidentally, may very well be a branch of municipal administration). Danmarks Statistik then must try to negotiate with the local authorities that keep the registers. This is not an easy situation.

In general, the central statisticians must always keep in mind that statistics is not the primary concern of the people that are to deliver the basic data. On the contrary: They have their own administration to run and may tend to see the trouble of satisfying statistical data needs as something irrelevant.

As a consequence of the problems mentioned in this chapter, the general experience is that it takes at least two or three years to establish a new data collection procedure and make it work in practice. But most problems can be overcome eventually.

5. LOCAL GOVERNMENTS AS USERS OF STATISTICS

Local authorities are intensive users of general statistics for planning and budgeting purposes, etc. Their needs are extremely diversified and the national statistical system has been designed to be very flexible and to satisfy such demands as far as possible. On the other hand it is unconceivable that it should be possible to satisfy local statistical needs by means of printed publications. So other forms of service must be employed if a centralized national system is to be useful to local governments.

The most flexible kind of service would be to give municipalities direct access to the statistical registers containing the most detailed information and identification numbers of persons, business units, etc. This would allow the user to produce any kind of statistics possible within the system - though

it would also raise problems of communication and oversight. But as has been mentioned earlier the principle of non-disclosure of statistical data applies: Recognizable data on individuals must not be passed on, not even to the authority that created the information in its original form. Instead, a number of different services have been established.

It has become customary that Danmarks Statistik responds to the reception of data from the municipalities by returning a rather limited set of overview tables, containing fully processed statistics covering the area of the municipality itself. This feed-back is of course not an attempt to fulfill all the statistical needs of the municipality, but it has been welcomed as background information.

More interesting are a number of statistical service systems, or "packages", that have been designed by Danmarks Statistik to fulfill local government needs. It should be noted that the use of these systems has to be paid for by the consumer. One benefit of this "market system" is that it helps to solve the difficult problem of determining what statistics should be produced from an enormous variety of possibilities.

The principle of the service systems is that the local authority orders the package and specifies some parameters according to its own needs. Output can be delivered in a few standardized forms, including a standard set of tables and magnetic tape containing aggregated data. The flexibility lies in the parameters. In one family of packages, the customer is free to specify any geographical break-down he wishes (e.g. school districts) and the output will be disaggregated accordingly; the contents may be population statistics, housing statistics, income and employment statistics, commuting statistics. This system of geographical break-down is utilized on a regular basis by more than half of the municipalities.

If the standardized packages do not satisfy the local consumer's needs, individual service programs can be tailored. Especially the larger municipalities make rather frequent use of this possibility. But this will normally be more expensive and take more time. At the same time it requires a certain degree of insight into the structure of the statistical register system to find out what can be produced. Here Danmarks Statistik has a serious communication problem, especially in relation to small-scale consumers.

A type of statistical service that is only just beginning in Denmark, is on-line databank service. Danmarks Statistik has decided to establish a Municipal Statistics Data Bank within the next few years.

6. ORGANIZATION OF CO-OPERATION

The preceding chapters have explained the need for close co-operation between local and central authorities in order to maintain a central register-based statistical system and make it useful to local governments. A number of decisions must continuously be made in agreement between the two parties - even though the law gives Danmarks Statistik the formal right to settle some of the questions.

It must be decided which data are to be collected from the municipalities, how it should be collected, and how data must be interpreted. Which statistics should be published regularly and which should be included in more flexible service arrangements. And it is necessary to give statistics users a clear idea of what statistics can be achieved within the system.

The difficult balancing between user demands and the burden on those who are to supply basic information is eased by the fact that both consumers and suppliers are in the same organizations - though often in different branches of municipal administration.

In Denmark a number of different forms of co-operation are applied, according to the different kind of problems to be solved. Some question must be discussed with representatives of the local governments, while others require direct contact to individual municipalities.

For the first kind of consultations the Board of Danmarks Statistik has established a number of advisory committees, most of which have participation from the local governments' organizations. One of the committees of special importance is the Municipal Statistics Advisory Committee which deals with all principal matters concerning the local governments as consumers as well as data suppliers and statistics producers. Other committees discuss questions relating to specific subject areas: Labour market statistics, social statistics, etc.

The technical co-operation necessary to agree upon the actual form of data deliveries from the municipal registers is often carried out by ad hoc working parties between Danmarks Statistik, the municipal edp-bureau (Kommunedata) and a few local governments (notably Copenhagen) that run their registers on their own computers. At the same time Danmarks Statistik participates in a number of committees established by Kommunedata where the contents and design of municipal systems are discussed.

Direct contact between Danmarks Statistik and local governments is also necessary. When preparing statistical service systems for municipal use Danmarks Statistik has found it very useful to co-operate with a few selected municipalities of different size. The purpose of this is to test Danmarks Statistik's own ideas of contents and design against the real needs of the local consumers. In a few instances Danmarks Statistik has also organized campaigns, inviting all local governments to meetings; the purpose can be to discuss municipal needs for statistics in a certain field or to inform about a new service system.

7. CONCLUDING REMARKS

The Danish register-statistical system undoubtedly offers a number of advantages, compared to traditional statistical data collection: Reduction of respondent burden on citizens and companies, low costs in the central production, and frequent, timely and flexible statistics. Even though some quality problems of register-based statistics remain, the teething-trouble is over and

reliability and relevance compare favourably with traditional statistics. A discussion of the quality aspects of register-based statistics can be found in Jensen (1983).

A precondition to the functioning of the system is a close co-operation between the state and the local governments. And it is essential that local governments are really concerned about the correct functioning of the system. In the opinion of the author, this close relationship and understanding between the authorities has actually been established in Denmark, and severe conflicts between the two parties seldom occur.

Of course the municipalities sometimes feel that Danmarks Statistik is not sufficiently flexible in reacting to their needs, and that the work of reporting data is heavy. But the power of the statistical system is widely appreciated. One of the benefits to local governments is that the system also has a reverse effect of reducing the burden of reporting data to central authorities: Government departments will in many cases refrain from demanding detailed information from local governments for supervising purposes or for the preparation of new legislation because well prepared data in a suitable form are accessible from the statistical system.

SUMMARY

In Denmark administrative records are the primary source of socio-demographic statistics. A coherent statistical system has gradually developed since 1970, and the 1981 Population and Housing Census is based exclusively on administrative registers. This has been possible because the administrative authorities keep a large number of edp-based registers with information on citizens. An essential precondition for the statistical utilization is the existence of a unique Person Number identifying each person. The number is used in practically all administrative systems, allowing automatic linking of data from different sources. Danish law for the protection of privacy recognizes the need for statistical utilization of administrative registers.

Danish statistics production is very centralized, the major part of general statistics on demographic, social and economic conditions being compiled by "Danmarks Statistik".

A national statistical system of this type demands strong co-operation and understanding between central and local authorities. Firstly, local governments are important consumers, demanding diversified and flexible statistics. A number of different types of service arrangements must be employed to satisfy municipal data needs. Secondly, local governments are data suppliers to the central system. This poses some problems of communication, and it is essential that local government should understand and accept the statistical system.

The present paper accounts for the efforts to overcome these problems in Denmark and for the forms of co-operation that have been applied.

RÉSUMÉ

Au Danemark les registres administratifs représentent la source la plus importante des statistiques socio-démographiques. Depuis 1970, un système statistique cohérent s'est progressivement développé, et le recensement de 1981 de la population et des foyers se fonde entièrement sur ces registres. Cela a été possible grâce à la conservation par les autorités administratives d'un grand nombre de fichiers informatisés contenant des renseignements sur les citoyens. L'existence d'un seul numéro national d'identification de chaque personne constitue la condition préalable essentielle de l'utilisation statistique.

Pratiquement tous les systèmes administratifs utilisent ce numéro permettant de relier automatiquement des données d'origines différentes. La loi danoise sur la protection de la vie privée admet qu'il est nécessaire pour la production statistique de se servir de registres administratifs.

La production statistique danoise est très centralisée, le "Danmarks Statistik" (le bureau central de statistique du Danemark cf. INSEE en France) élaborant la plupart des statistiques générales concernant les conditions démographiques, sociales et économiques.

Un tel système statistique national nécessite une étroite collaboration et compréhension entre l'administration centrale et les autorités locales. Premièrement, les autorités locales sont des utilisateurs importants demandant des statistiques diversifiées et flexibles: la satisfaction des besoins en données des communes exige un certain nombre de types différents d'accords de service.

Deuxièmement, ces autorités sont des fournisseurs de données au système central. Il en résulte quelques problèmes de communication. Par conséquent, il est fondamental que les autorités locales comprennent et acceptent le système statistique.

Ce papier rend compte des efforts déployés pour ressouder ces problèmes au Danemark ainsi que des formes de collaboration que nous avons adoptées.

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ANNEX 1.Milestones in Danish register-based statistics since 1968

1. With effect from 1968, statistics of sales, purchases, etc., are compiled for most industrial classification groups on the basis of registered data from the VAT administration combined with data from Danmarks Statistik's business register.
From 1971, similar statistics are introduced concerning employment.
After these statistics have been established, decennial business censuses are no longer conducted.
2. With reference to 1st May 1970, register-based statistics are for the first time compiled for the total population in the individual municipalities, analysed by sex, age and marital status. In the period 1970-1973 the rest of the current population statistics are converted to CPR basis.
3. From 1970 the income statistics are converted to a register basis, following the introduction of the system of taxation at source.
4. In 1971 Danmarks Statistik establishes a "Mini Population Register" for use in developing register-statistical methodologies, including data matching, and for use in carrying out analyses and ad hoc surveys.
5. Following a decision made in 1971, Danmarks Statistik in 1973 takes over from the Ministry of Education the micro-level statistics of pupils and students.
6. In 1974 the Minister of Economic Affairs at the advice of Danmarks Statistik decides not to conduct a traditional population census for the mid-1970's.
Instead a register-based population census (without housing data) is carried out for 1976.
7. With reference to 1st April 1977, building stock and dwelling stock statistics are for the first time produced on the basis of the recently established Central Register of Buildings and Dwellings. With reference to 1st January 1980, the first register-based housing census is conducted, combining data on dwellings and data on occupants.
8. With effect from 1979 it is decided at the initiative of Danmarks Statistik to extend the data contents of the tax authorities' registers by information on the permanent workplace of each employee.
9. On 1st January 1979 a continuously updated register concerning labour market affairs is established. The register (called CRAM) serves various purposes, including Danmarks Statistik's compilation of unemployment statistics.
10. With reference to 1st January 1981, the first full-scale population and housing census is conducted on the basis of registers.