

Use of administrative sources for business statistics purposes:

Handbook on good practices



EUROPEAN
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THEME 4
Industry,
trade
and services

4

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TABLE OF CONTENTS

◆ Eurostat Seminar for Countries of the European Economic Area

Report of main items of discussion.....	7
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◆ Handbook of good practices

Introduction	21
--------------------	----

Part I - Synthesis of specific themes

The legal framework	27
Some Community legal texts relevant to the use of administrative sources for business statistics purposes	31
Administrative procedures	35
Matching administrative and statistical records in registers	37
Adding value with administrative and statistical sources	41

Part II - National experiences using the administrative sources

Belgique/België	47
Denmark	53
Deutschland	59
Elláda	65
España	69
France	75
Ireland	85
Italia.....	91
Luxembourg	101
Nederland	107
Österreich	117
Portugal.....	123
Suomi/Finland.....	129
Sverige	135
United Kingdom	143
Iceland	153
Norway	161

Eurostat Seminar for Countries of the European Economic Area

ISTAT - Istituto Nazionale di Statistica

ROME
3 - 4 December 1998

GENERAL INTRODUCTION

The Seminar took place under the chairmanship of the Head of Eurostat Unit D1 (Mr de Geuser). Representatives of 17 countries of the European Economic Area (EEA) attended, together with officials of Eurostat Units D1, D2 and E2. Practical arrangements for the Seminar were made by the Eurogramme Company in association with the National Statistical Institute of Italy (ISTAT).

The purpose of the Seminar was to provide an opportunity for EEA countries to meet together and with Eurostat to exchange information about the current situations at national and European levels concerning the use of administrative sources for purposes of making business statistics.

This Seminar was placed in the context of a wide-ranging project involving the whole of Eurostat, for which Unit D1 now had overall responsibility. Work on this project had begun in earnest following the Seminar on Use of Administrative Sources for Statistical Purposes held under Eurostat's auspices in Luxembourg on 15 and 16 January 1997. That Seminar had highlighted the important role that administrative sources could play at both the national and the European levels in helping to reconcile increasing demands for statistics with the alleviation of statistical reporting burdens on households, business enterprises and other entities.

The main document discussed during this seminar was

"Version 0" of the Eurostat Handbook of Good Practices on the Use of Administrative Sources for Business Statistics Purposes.

The draft Handbook consisted of two parts, the second and longer of which contained reports of the situations in 1998 in each of the 15 EU Member States, plus Norway and Iceland. The first part of the draft handbook synthesised some themes of common concern to all countries. These themes related to the legal framework governing access to administrative sources, the administrative procedures needed to ensure satisfactory supply of administrative data to national statistical institutes (NSIs), techniques of matching and integrating records in administrative and statistical registers and approaches to adding value to administrative and statistical sources

The seminar had been organised in four consecutive sessions corresponding to the specific themes presented in the part one of the manual of good practices. Each Session was chaired by a representative of Eurostat, a representative of an NSI acted as discussant and following general discussion, a representative from another NSI reported back the main points arising for consideration to the Second Plenary Session. In performing their tasks, the discussant and the reporter took particular account of their own national situations.

Summaries of the discussions in the Special Sessions are as follows:

SESSION A - "LEGAL FRAMEWORK"

Chair: Mr Leppo, Eurostat Unit D1

Discussant: Mrs van Krimpen, Statistics Netherlands (CBS - NL)

Reporter: Mrs Poschl, Statistisches Bundesamt (StBA - D)

Mr Leppo said that the three-stage scheme of "foundation", "consolidation" and "evolution" proposed in the "Legal Framework" section of Part 1 of the Handbook could be useful to keep in mind during discussion. He also drew attention to the section on Community legal acts in Part 1 and to the relevant headings in each of the country reports in Part 2.

Mrs van Krimpen said that the new powers in the Statistics Act of 1996 to seek access to administrative sources were a considerable step forward for Statistics Netherlands or, as it was also known, the CBS. All the same, there were problems still to resolve before CBS could reach the favourable legal situation in the Nordic countries. Since the 1996 Act did not over-ride other legislation governing administrative sources, actual supply of administrative data was always a matter for negotiation and sometimes the other legislation had to be changed.

The 1996 Act also contained various provisions that in practice did not always work in the same direction. On the one hand, the Act had retained elements from the original Royal Decree of 1899 that obliged CBS to serve not just the needs of official policy-makers but also those of the academic community and the wider public. On the other hand, the Act specified that administrative data should be used for statistical purposes only and it had updated the provisions in the Law of 1936 about reporting obligations and confidentiality regarding information from enterprises. A further provision of the 1996 Act required CBS to collect information in ways that minimised the reporting burden on enterprises and institutions, for which knowledge of individual records in official registers could be needed.

Mrs van Krimpen observed that CBS's current legal situation regarding administrative sources bore resemblance to its counterpart at Community level. It was therefore important in her view to ensure that Community legislation should be developed to provide a strong and internally consistent basis for both

effective access and use of administrative sources by official statisticians at the national level. This course was additionally advisable because of the current activities under the Commission's SLIM (Simpler Legislation for the Internal Market) initiative, particularly BEST (Business Environment Simplification Task Force). An Article on the need and criteria for Community statistics was included in the proposed new Union Treaty. This Article would certainly be helpful to statisticians in their negotiations with custodians of administrative sources but legislative follow-up in the form perhaps of a Regulation would offer even better support. It was also Mrs van Krimpen's opinion that such a Regulation should provide specifically for the introduction of common business identity numbers in order to make the most of the new information technology.

In discussion, several participants were agreed on the point that whereas current statistical legislation usually dealt in some way with access to administrative sources, it had little to say about the uses that could be made of the administrative data that NSIs received. This was thought to be an important point to resolve because custodians of administrative sources were sometimes reluctant to allow their data to be used for other than strictly specified purposes. There was also need to acknowledge unease among the wider public about the possible use of data on identifiable individuals for, say, matching records of sole business proprietors in different administrative and statistical registers. Equally, a situation should be avoided in which the statistical reporting burden had to be increased because users could not otherwise get the information they needed.

Some participants felt that the extent of access to administrative sources required further clarification. In some countries, these sources were understood as entire registers or databases while in other countries statisticians were interested in only a limited range of variables within them. Similarly, the possible statistical uses of administrative data could take many forms and recent advances in computing power and analytical techniques were tending to multiply these. This in turn prompted the further point made that any legislation on the subject would need to be brought forward more quickly than in the past and it would have to be adapted to circumstances which were continuing to change rapidly.

Some support was offered for the suggestion made that a Community Recommendation should be promulgated about ethical rules that NSIs could follow in handling data they obtained on individuals, households, enterprises and other entities. Possible models for this might be Statistics Canada's policy on record linkage and the UK Official Statistics Code of Practice, both of which had been published.

Participants were divided about the merits of giving legal support at Community level to the general introduction of common business identity numbers. Some concern was expressed that any move towards an identity number system covering both businesses and individuals would inevitably provoke the data protection authorities, with consequent difficulties for statisticians. Experience in the countries that kept the two types of identity number separate suggested that any problems were manageable. Other participants from countries where several different systems of identity number could co-exist for businesses indicated their active interest in the possibilities for further integration of these.

The view was also expressed that it was not necessarily a shortcoming for a statistical law just to empower an NSI to seek access to administrative sources rather than to compel the custodians of the sources to give the access. The law might be framed like this because it was proven to be the most effective way of operating in a particular historical, cultural and institutional environment.

There was general agreement among participants that an adequate legal framework was important as a starting point but that what in the long run mattered more

was the cultivation by official statisticians of satisfactory working relationships with custodians of the administrative sources they sought to use. It was furthermore considered very desirable that these relationships should start as early possible in the development history of the sources. The positive experiences reported by countries where statisticians, sometimes supported by legislation, can contribute to proposals for changes to existing administrative information systems or for introduction of new ones was noted with considerable interest.

In her report back to the second plenary session, Mrs Poschl reviewed points made in the discussion and she commented on their possible significance for the situation in Germany. She observed that all countries represented at the Seminar had a legal framework of some kind for dealing with administrative sources and that the development of this framework to a higher degree was a recent or current issue in some countries. Mrs Poschl emphasised that the need to reduce the statistical reporting burden had high political priority in her country and that the StBA still had much work to do on it. She therefore looked forward to learning more in due course about CBS's experience in using its new statistical law both to achieve reductions in the statistical reporting burden on Dutch businesses and to gain better access to administrative sources.

Mrs Poschl said that maintenance of public confidence that individually identifiable data held in official sources would not be used in unauthorised ways also continued to be an active issue in Germany. She accordingly took particular note of the suggestion made that a Recommendation on ethical data handling should be promulgated at the Community level.

SESSION B - "MATCHING ADMINISTRATIVE AND
STATISTICAL RECORDS IN REGISTERS"

Chair: Mr Raulin, Eurostat Unit D2

Discussant: Mr Garofalo, assisted by Mr Rapiti, ISTAT

Reporter: Mr Perry, Office for National Statistics, (ONS - UK)

In his introduction, Mr Raulin remarked that it was possible to find a formal solution to the "matching problem" for individual units in an exhaustive population by using a system of unique identifiers. However, it should always be remembered when matching records from administrative sources for statistical purposes that these sources existed to serve other purposes. The matching process should accordingly follow the principles of coherence and consistency so that meaningful relationships could be deduced from the matched units.

Mr Garofalo said he preferred to re-title the session "Integration of Administrative and Statistical Records in registers because this better described the work that ISTAT had been doing to construct the new ASIA statistical business register system. Besides matching, integration involved achieving consistency in the activity classifications of the units and in the definitions of the variables associated with them that were taken from the seven main source registers for ASIA. Achieving such consistency was one of the three conditions necessary for the integration process to be successful. The other conditions were knowledge of the universe of possible register records involved and the formulation of rules for coding, linking and conversion to transform administrative units into statistical units. It was also necessary to distinguish between the matching of the units themselves to determine statistical units, known as "delineation", and the matching of the attributes of the units.

One favourable circumstance for ISTAT was the presence of a Fiscal Code number in about 95 per cent of the records in the source registers. The records for natural persons and for legal persons typically had a definite structure and, for instance, a municipality code was usually included in both types of record. ISTAT had encountered four types of error in the records it had tried to integrate, namely (1) over-recording, (2) under-recording, (3) wrong attribution either in space or time and (4) missing information. Integration had been able to cope with (1) and (4) but not (2) and (3).

The matching process within integration followed the formal approach originally proposed by Fellegi and Sunter in their pivotal article "A Theory for Record Linkage" (Journal of the American Statistical Association, 1969). The basic idea was first to identify the definite links, the possible links and the definite non-links, then to apply a decision rule for minimising the number of the possible links, i.e. an assumption was made about the existence of as many definite links as possible. ISTAT knew about software packages for matching records or parts of records that had been developed and applied with some success in North America. These included "AutoMatch" available from Mach Ware Technologies Inc, the Generalised Record Linking System (GRLS) developed by Statistics Canada and AutoStan for standardising names and addresses.

ISTAT's own experience with automatic techniques was that the records to which they were applied quite often needed "upstream" adjustment, e.g. names and addresses could refer indiscriminately to legal units or to plant locations. Moreover, even when administrative records had been through the matching and integration processes, they were still essentially administrative in nature. "Downstream" adjustment was then necessary to create units having continuity through time as well as the properties of statistical units. Records for large and complex enterprises invariably required more work than SMEs.

Mr Rapiti gave an illustration of ISTAT's methods for assessing and adjusting the quality of administrative sources used for statistical purposes. This involved the matching of the attributes of units in administrative and statistical registers. The example he chose was employers' monthly returns to local INPS (social security) offices. ISTAT already used INPS data for the ASIA register system and it now wanted to use the monthly returns for producing short and annual statistics of employment and labour costs.

ISTAT's preliminary work had revealed that the monthly data had three main quality problems, relating respectively to misclassification of economic activity, delineation of the units and definitions of variables not in accordance with statistical concepts. The first two problems could be managed by using Fiscal Codes to find the corresponding information in the current version of ASIA and over-write the INPS data. The third

"definitions" problem was less tractable and in Mr Rapiti's view, this type of problem had not received sufficient attention either in the draft Handbook or at the previous Luxembourg Seminar. In the INPS data, it was for instance possible for the monthly returns to include any workers employed for at least one day in the month. By contrast, ISTAT business surveys related to employment either at the end of the month or to monthly or annual average employment. INPS data could therefore over-estimate the "true" employment figure surveyed by ISTAT.

Mr Rapiti said that work on the definitions problem in the INPS data was still in progress but ISTAT had decided to test the approach recommended in the Eurostat document "Quality of Business Statistics", namely to specify and fit a model in order to generate a Quality Report. This model used INPS data together with monthly ISTAT business survey data for 5,000 enterprises in 1995 to generate estimates of possible bias between INPS and "true" monthly data. Mr Rapiti gave some preliminary results and said that although further work was still needed, a quality evaluation based on modelling was evidently feasible.

In discussion, participants gave further examples of how matching of units and attributes of units was done in other countries. It was acknowledged that a very advantageous situation would be one in which the NSI could be responsible for defining, classifying and attributing unique identification numbers to all units for businesses used in the public administration. This situation would substantially reduce matching problems and if the NSI was also actively involved with development and application of the General Accounting Plan (where it existed), the definition problem could similarly be alleviated. It was recognised, however, that such a situation could only be achieved by introducing statistical policy concerns into the administration at a very high level. Some participants strongly recommended that NSIs should assume sole public responsibility for classifying units as the minimum condition for further progress to be made. It was further suggested that statistical business

registers compiled by NSIs could be the points from which such progress might start.

Participants noted with considerable interest the emphasis that ISTAT was giving to quality evaluation of administrative sources. The point was made that quality probably mattered most when administrative data were being used as primary sources for statistics rather than when they being used as stratification or auxiliary variables. Quality was a particularly difficult issue regarding household and other socio-economic data and it was agreed that much work still had to be done. The modelling approach seemed to be very promising and it was considered that further research should be concentrated on this.

Participants agreed with ISTAT's conclusions about software packages. In particular, different algorithms were needed for large and complex businesses than for SMEs where straightforward decision rules (based, for instance, on common ownership on units) had worked well in practice. Attention was drawn, however to the use of statistical business registers for demographic studies of enterprises, for which continuity of the units was very important. This accentuated the matching problem in that matching had to be done within sources as well as between them, thus necessitating more complicated rules.

In his report of the discussion, Mr Perry additionally referred to the situation in the UK where many administrations currently operated their own identity numbers for businesses. The ONS was now working with other government departments to investigate the possibilities of introducing a system of common business identity numbers. It was unlikely in Mr Perry's view that administrative sources would replace statistical activities as ways of determining statistical units and other information for large and complex businesses. For matching and other purposes relating to such units, "profiling" by means of visits and other direct contacts would doubtless still be necessary. Register proving surveys were also likely to continue even though these were expensive and had to be limited to the minimum number of units.

SESSION C - "ADMINISTRATIVE PROCEDURES"

Chair: Ms Benassi, Eurostat Unit E2

Discussant: Mr Utvik, Statistics Norway

Reporter: Mr Martinez, Instituto Nacional de Estadística (INE - E)

Ms Benassi began the session by referring to the "model procedure" proposed in the section on this subject in Part 1 of the draft Handbook. This set out what seemed to be the key points that NSIs should keep in mind when negotiating agreements with other public bodies for the supply of data from administrative sources. Ms Benassi suggested that the session could usefully pay particular attention to the recommended provision in the model procedure for payment to be made. She observed that, in practice, "payment" could cover not simply a monetary transaction but also the transfer of information and expertise from the NSI to the custodians of the administrative sources. Such technical co-operation might be strictly limited in nature or, as in some countries, it might develop into full co-ordination of administrative and statistical requirements.

Mr Utvik made a presentation of the role of Statistics Norway (SN) in the system of public registers operated in his country. SN's position in the public administration was determined by the Statistics Act of 1989, under which further Regulations had been made in 1990 to set out SN's powers in more detail. In essence, SN had the right to use administrative information systems for purposes of official statistics and, furthermore, it was entitled to be involved in formulating proposals for introducing or changing such systems. The 1989 Act had been framed to take account of new arrangements for access to administrative sources following the establishment in 1988 of a national Register Centre to draw together the system of public authority registers.

Mr Utvik explained that since 1995, the centrepiece of the system had been the central co-ordinating Register for Legal Entities (ER). The ER was a master register containing a few key items of information for all legal units and sub-units ("establishments"). Each unit and sub-unit had a unique organisation number that was replicated in all the registers contributing to the ER, including SN's own statistical business register (BOF). The Register Centre determined the legal units but SN was responsible for the sub-units. SN also assigned all units with economic activity and institutional sector

codes, which information was on the ER in the public domain. Additionally, SN completed another ER field for total of employees but along with capitalisation details, this was accessible only to the authorities.

Following the 1989 Act, SN had started to compile an inventory of all official administrative data-processing systems within its scope and there were now entries for more than 250 such systems. SN had made agreements under the Act and the 1990 Regulations with all public authorities, excepting some concerned with health services. Neither the Act nor the Regulations were explicit about payment but following a test case with the Mapping Authority in which the Ministry of Finance had intervened on SN's behalf, all information was assumed to be available to SN free of charge.

Mr Utvik said that SN's relations with other public authorities were generally good and that the quality of the administrative data supplied was overall quite satisfactory. SN did not seek to exert its legal powers overtly but emphasised instead its expertise in register management techniques and its possibilities for adding value and improving quality by comparing the contents of different registers (within the limits set by confidentiality obligations). In Mr Utvik's view, this approach was particularly advisable in the current climate of restricted budgets and tight deadlines in many public services. SN took particular care to frame any requirements for new variables to be relevant as far as possible also for other administrations' own needs.

Mr Utvik underlined the need for statisticians to seek involvement with development of administrative information systems at the earliest possible stage because worthwhile co-operation took time to establish. SN sought representation on all Working Groups concerned with information systems so that any changes in standards and other requirements could be mediated before they occurred rather than afterwards. In practice, some proposals were notified to SN a little late but lost time could usually be made up. It helped that while formal inter-service agreements were made in a standard form from a central office in SN, the practical work of following through the agreements was the responsibility of the directorates concerned with the statistical subject matter. Similarly, SN had employed its own accounting experts to ensure that statistical needs were reflected in the forthcoming legislation on accounts and its associated model General Accounting Plan.

In discussion, various participants commented on the appropriate balance between legal compulsion and friendly co-operation in the light of their own national experiences. The general view was that legal powers were undoubtedly useful to have in reserve even though their impact in practice might be limited, especially in statistical systems with elements of decentralisation. Equally, the cultivation of good relations between official statisticians and custodians of administrative sources could certainly yield mutually beneficial results.

However, some participants considered that an NSI could act most effectively in relation to other public authorities when it had, as in Norway, responsibility for determining classifications throughout the administration and also influence in formulating standards for form and contents of accounts. At the same time, it was acknowledged that these activities entailed additional demands on the NSI's resources. Disputes with enterprises about classifications were not uncommon and

from experience in some countries, the NSI would need to back up its decisions with survey activity from time to time.

In his report back to the plenary session, Mr Martinez noted that Spain's Statistics Act, like Norway's, dated from 1989. The Spanish statistical system was, however, characterised by both institutional and territorial decentralisation. Within the system, INE had a special role to promote the statistical uses of administrative sources and it was able to ask for administrative data to be supplied free of charge. Further stimulation in this direction had come from enactment of the Regulations for Structural (SBS) and Short Term (STS) Business Statistics. For example, INE had recently been able to negotiate successfully the supply of micro-data from the national administration for taxation that was subject to fiscal secrecy provisions. Mr Martinez added that INE had guaranteed that this data would also be covered by the confidentiality provisions in the Statistics Act.

SESSION D - "ADDING VALUE
WITH ADMINISTRATIVE AND STATISTICAL SOURCES"

Chair: Mr Struijs, recently Eurostat Unit D1

Discussant: Mr Grandjean, Institut National de la Statistique et des Etudes Economiques (INSEE - F)

Reporter: Mr Egmosé, Danmarks Statistik (DS - DK)

Mr Struijs opened this session by listing ways in which administrative sources were used for statistical purposes and by reviewing criteria for assessing such sources. Main points under both headings are included in the Annex to this Report.

Participants welcomed this information as a very useful summary of the current possibilities. Mr Grandjean then gave a presentation of practice in France and he was followed by Mr Egmosé who outlined the situation in Denmark.

Mr Grandjean said that the main administrative sources for French business statistics included VAT, annual tax declarations made by businesses (BIC) and employers' annual social security declarations (DADS). INSEE had accumulated experience of using administrative sources over many years. For instance, BIC returns had been used since 1947 and their systematic matching with information from INSEE's own Annual Business Surveys (AES) had started in the late 1970s. Uses for the statistics compiled with the aid of administrative sources had also diversified as INSEE had acquired new responsibilities, for instance in the field of National Accounts.

Mr Grandjean drew attention to INSEE's own close and high profile involvement in the activities of the public administration. Key features of this were INSEE's influence in formulating the General Accounting Plan (PCG), its responsibilities for statistical classifications which now constituted a common inter-service language and its control of the SIRENE system of business identity numbers in use throughout the administration. The possibilities for statistical use of administrative sources had developed correspondingly.

Availability of the BIC returns meant that INSEE could tailor the contents of AES questionnaires to particular sectors and also limit the amount of information sought by questionnaires to what could not be obtained in any other way. This represented a considerable reduction in the statistical reporting burden, especially for SMEs.

Additional benefits realised from BIC returns were greatly improved coverage of the business population as a whole and the comprehensive enumeration of information on financial as well as operational variables for individual businesses. Furthermore, application of new technology had already improved the timeliness of BIC information by about 12 months and more improvements were expected in future, particularly from the wider introduction of electronic data interchange (EDI) methods.

Mr Grandjean remarked that certain drawbacks to using the BIC system nevertheless remained. Despite the existence of SIRENE, the tax authorities also continued to apply their own codes to businesses and there was no single system of these. Moreover, the units used in tax and other administrative registers were typically based on legal units and businesses sometimes created these to gain particular advantages such as favourable tax treatment. The figures in the returns were ones declared by the businesses and the tax authorities might afterwards settle on different figures but INSEE did not see these. There was also the fundamental consideration that businesses tended to declare rather different information to tax collectors than to statisticians. Overall though, it was INSEE's view that the benefits from using the BIC returns outweighed any possible deficiencies in the quality of this source.

Mr Egmosé described how the Register-Based System of Business Statistics at Statistics Denmark (DS) combined information from administrative and statistical sources for the production of structural business statistics. The core element was a new accounts-based information system combining survey results obtained by DS with accounting data available from registers held by other authorities. The survey covered all enterprises with 50 or more employees and a sample of enterprises with between 5 and 49 employees. The survey questionnaire sought information on more than 100 items from the enterprises' accounts. Information from the in-scope enterprises not included in the survey (about 65 per cent of the total population) came from annual returns made by nearly all businesses to the Customs and Tax Authority. These two sets of information were then combined and grossed up to estimated values for the whole population of businesses, using universes based on employment and taken from the Register-Based Statistical System. Additionally,

information on demographic variables for businesses came directly from DS's Central Business Register. This latter Register was in turn derived from various administrative sources, including again the Customs and Tax Authority.

Mr Egmore said that the use of a register as a frame for grossing up sample results to population values was standard practice at DS. It was the principal way of adding value to the contents of the different registers in the Danish statistical and administrative systems. As in France, a key role in linking the registers was played by the systems of common identity numbers in general use for individuals and businesses. DS did not however, operate a system of integrated databases for producing business statistics. The contents of registers were drawn together, as needed for statistical purposes but the registers themselves remained physically and legally separate.

In discussion, experiences were reported from other countries about the more intensive statistical use of existing sources such as VAT and the opening up of new sources such as social security records and business accounts. Reservations were expressed by some participants about the use of methods that implicitly assumed that there were no significant differences between the characteristics of large businesses and those of SMEs. Some concern was also voiced about the possibly adverse effects of changing requirements in the Fourth and Seventh Council Directives on Accounts.

The important point was also made that adding value

had an international dimension as well as a national one. So long as NSIs were basing their business statistics on units in administrative sources without clear relationships to statistical units, the prospects for meaningful comparisons at the European level would be doubtful. A call was made for research to quantify the effects of using non-statistical units for key business statistics variables (e.g. concerning factors of production) and to investigate methods for adjusting the quality of these to the standards required in the European Statistical System.

In his report back to the plenary session, Mr Egmore noted that the objective to control statistical reporting burdens was important almost everywhere and that administrative sources had an important role to play in achieving this. At the same time, it was evident that many countries were now looking beyond this admittedly urgent issue to explore the potentialities for using administrative sources to produce better-based statistics or even new kinds of statistics. Research about the quality of such statistics would therefore be very timely. Mr Egmore observed that the countries with current projects for adding value had adopted various distinct information technology approaches. One approach was to build a comprehensive database system in which all sources and processes for production of business statistics were fully integrated. Another approach was to make use of a network of separate but linked databases in which records had common or mutually compatible identity numbers. The approach chosen evidently depended on what was both appropriate and feasible in particular national circumstances.

GENERAL CONCLUSIONS

The presentations and other interventions made by representatives of the countries revealed that administrative sources are used in all countries for statistical purposes to at least some extent. The most frequently used source was VAT, usually for compiling statistical business registers, but annual tax declarations by businesses and registers of companies were also important in various countries. The very considerable statistical potential of records held by social security administrations was of increasing interest to many NSIs.

Pressure almost everywhere to reduce statistical reporting burdens on businesses gave NSIs a strong incentive to make more use of administrative sources, especially when estimating activity by small and medium-sized enterprises (SMEs). Recent advances in computing and analytic capabilities had at the same time speeded up the availability of administrative information and had facilitated the handling of the very large numbers of records often involved. Certain NSIs were operating or developing large-scale systems by which administrative and statistical sources reinforced each other and sometimes combined to produce new kinds of statistics. The existence of common business identity numbers in the various registers was recognised as helpful for these purposes.

One of the conclusions that commanded general support at the Seminar was that official statisticians should always seek to work as closely as possible with those responsible for administrative sources in order to maximise the potential of the sources for statistical purposes. While it could certainly be advantageous for an NSI to have explicit legal powers of access to administrative sources, the effectiveness of such powers in practice often depended on the quality of inter-service co-operation. It was also generally agreed that further work was needed to assess and adjust the quality of business statistics produced from sources

based on units and attributes of units that were administrative rather than statistical in nature.

All participants welcomed the opportunity for sharing their views and experiences at the Seminar. In light of the recent very rapid pace of change in the administrative sources field, there was a wish for the Handbook of Good Practices to be kept up to date and for Eurostat and the NSIs to remain in touch with each other about future developments.

Following presentation and discussion of the reports from the Special Sessions, participants considered actions that might usefully be pursued following the Seminar. They identified these actions under three headings as follows:

- (1) Consideration should be given to drawing up a code of practice for ethical handling of data from administrative sources, to apply at both national and European levels. It was suggested that this code would have most value in the form of a Commission Recommendation.
- (2) Research should be commissioned into methods that could be used to assess - and, as necessary, adjust - the quality of administrative sources used for statistical purposes. Special attention should be paid to the effects of using different kinds of units. Consideration of the attributes of units should also be included.
- (3) "Version 0" of the Handbook of Good Practices should be amended as soon as possible to take account of various comments that countries had already signalled. Further versions of the Handbook should be produced in due course to take account of new developments and circumstances as they occurred. Additionally, Eurostat should work with countries to develop a "Virtual Group" which could share information over the Internet.

ANNEX TO REPORT OF ROME SEMINAR

Note: The following information was presented by Mr Struijs in his introduction to the proceedings of Special Session D.

(1) Uses of administrative sources

- substitution of (part of) survey
- new statistics
- sampling frame
- frame for grossing up survey results
- source of stratification variables
- use of auxiliary variables (imputation)
- coverage improvement
- survey data validation (at micro or aggregate level)
- linking of domains
- providing regional or other breakdowns
- production of provisional results
- improving timeliness
- updating contact information
- other uses

(2) Assessment of administrative sources

- relevance of contents
 - objects/units
 - coverage
 - variables
 - quality of data
 - timeliness
 - access
 - formal
 - practical
 - costs
 - payments and other compensation for use
 - operational costs
 - possibly negative effect on quality of statistics
 - benefits
 - savings
 - response burden reduction
 - possible improvement of quality of statistics
 - further considerations
 - stability of source
 - investments required (e.g. to analyse the quality of the source)
 - time series continuity
 - possible alternatives
 - other considerations
-

HANDBOOK OF GOOD PRACTICES

- VERSION 1 -

INTRODUCTION

The aim of this handbook is to bring to general attention the practices which various countries have established or are in the course of developing for making effective use of administrative sources for business statistics purposes. Eurostat believes that this exercise will be helpful for all countries of the European Economic Area which are considering how best to meet the business statistics requirements of the European Statistical System.

Various attempts have been made from time to time to define administrative and statistical sources and thus to demarcate them from each other. In some countries, statistical sources are those associated with activities in the official statistical programme or else the difference between statistical and administrative activities depends on the official body which regulates the form of the documentation for each of them. However, no succinct definitions of either seem to fit all the particular circumstances of different countries.

The Canadian statistician Brackstone wrote more than ten years ago that "it may be less important to have a watertight definition than to have an understanding of the features that distinguish administrative data from data from statistical sources in the context of statistical use."

He suggested that the features in question were as follows :

- I. The agent that supplies the data to the statistical agency and the unit to which the data relate are different (in contrast to most statistical surveys);
- II. The data were originally collected for a definite non-statistical purpose that might affect the treatment of the source unit;
- III. Complete (100 per cent) coverage of the target population is the aim;
- IV. Control of the methods by which the administrative data are collected and processed rests with the administrative agency.

Brackstone commented that "each of these features affects the character of administrative records and has implications for the way administrative records are used within a statistical system". [1]

The above approach is an illuminating one but it

leaves open the question of what constitutes an administrative agency. This is particularly important in the current European context because the boundaries between public administration and other institutional units in the economy are becoming less distinct. Some European countries are in any case drawing on sources located on both sides of the boundaries.

Administrative sources are for present purposes, probably best defined very broadly as sources containing information which is not primarily collected for statistical purposes. Taking account of the sources known to be used in various EEA countries, they include the following:

1. Value Added Tax data
2. Personal Income tax data
3. Business (including Corporate) Taxation data
4. Social Security data
5. Business registration and administration records
6. Published business accounts
7. Records held by Central Banks
8. Records (other than VAT) held by Customs and Excise Authorities
9. Records of non-domestic consumers held by public utilities
10. Records held by regulators of e.g. public utilities and financial services
11. Records held by associations of employers, of employees and of businesses and professions
12. Records held by other private sector bodies, e.g. credit-rating agencies.

The business statistics purposes for which administrative sources may be intended can be defined rather more precisely. These refer to the Commission's requirements of statistical information relating to businesses which are classified to Industry and Construction (NACE Rev.1, Sections D,E and F). Businesses of all sizes are in scope but small and medium-sized enterprises (SMEs) are of particular interest. The information required concerning

businesses of all sizes is in terms of the units and variables specified in the Council Regulations relating to Business Registers, Structural Business Statistics and Short Term Statistics. Over the years, interest in using administrative sources for business statistics purposes has fluctuated considerably.

It is well known that administrative sources have traditionally provided the starting points for official statistical systems in all European countries. Government departments often created statistical offices to collate and analyse information collected as part of their departmental responsibilities. In some countries, the activities of these departmental statistical services were eventually absorbed into centralised National Statistical Institutes (NSIs). In other countries, the departmental services have maintained (or have in time re-asserted) their separate existence and operate in varying degrees of partnership and co-ordination with the NSI.

Many official statistical services began from the 1940s onwards to make more and more use of mathematically-based sample survey methods for collecting statistics, especially from businesses. Governments at this time started to operate demand management techniques for steering their national economies within the new framework of national accounting. Economic policy makers therefore developed needs for business statistics which were timely, reliable and conceptually appropriate for use in the production accounts of the new framework.

In due course, results from statistical surveys came to predominate in meeting these needs in many countries because they could be purpose-designed and were cost-efficient. Additionally, countries which already had well-established censuses of production could use the comprehensive structural data from these to benchmark the survey results.

Even in countries which have developed business survey methodology to a high degree, administrative sources have nonetheless continued to feature in the business statistics system to some extent. The activities of constructing and maintaining statistical business registers, reinforced by the Council Regulation on the subject, indeed depend on the comprehensive kind of information that administrative sources alone can provide. One administrative source found long in statistical use for these purposes everywhere in the European Economic Area is Value Added Tax. Another source in widespread use is represented by the annual income declarations that businesses make to the fiscal authorities. Such declarations are particularly valuable when they can

also be used as sources for calculating structural variables and this is evidently the case in countries where a General Accounting Plan exists. Some countries have also been at work for some time on opening up the great potential of a third source, namely social security records.

In recent years, the issue of using administrative sources more extensively for statistical purposes has moved noticeably higher on the agenda in many countries. The seminar organised by Eurostat on this subject in Luxembourg on 15 and 16 June 1997 attracted a large attendance and some of the most interesting papers subsequently published in the official proceedings were about business statistics applications.[2] The reasons for this quickening of interest also come out fairly clearly from the published papers and can be summarised as follows :

- NSIs are trying to meet more exacting demands for business statistics - including those entailed by the European Statistical System - at the same time as they are under pressures to contain their own collection costs and reduce the reporting burdens that statistical surveys place on businesses.
- Rising proportions of GDP and employment are being contributed by small and medium-sized businesses (SMEs), for which sample surveys are often neither easy to conduct nor always efficient as sources for reliable estimation of target variables.
- Recent and continuing advances in information technology have made the large arrays of data characteristic of administrative sources a great deal easier to handle and have opened up new possibilities for linking different statistical and administrative databases.

It has also been acknowledged that greater utilisation of administrative sources is not a panacea for the problems mentioned above and that indeed these sources raise problems of their own that cannot always be answered completely satisfactorily. Problems that readily come to mind here include different coverage, lack of timeliness, inappropriate definitions, wrong activity classifications and poor data quality. Nevertheless, concerted and sometimes imaginative attempts are being made to mitigate or accommodate these problems as the country reports in Part II of this Handbook indicate.

The country reports also indicate that the situation in most countries is not one in which statistical surveys are being displaced substantially by administrative

sources. Rather, new uses are being found for administrative sources to supplement or otherwise reinforce results from statistical surveys. In some countries, administrative and statistical sources are being made to interact with each other to their mutual benefit and this is particularly true where "one-stop shops" are operating to streamline administrative procedures for businesses.

The existence of business identity numbers which can be used or linked in both the statistical and the administrative contexts is obviously helpful for this purpose and also for operating the powerful register-based statistical systems that exist in certain countries.

The remaining chapters in Part I of the Handbook identify some broad themes which are relevant to national practices regarding administrative sources. Chapter 2 deals with the legal framework in which administrative sources can be progressively developed at the national level and the Annex to that Chapter sets out the main legal acts associated with the European Statistical System. Chapter 3 discusses issues which should be taken into account when devising administrative

procedures to cover transfer of administrative data for statistical purposes.

Chapter 4 is about the methods being used to match data in administrative and statistical systems, whether or not common business identifiers exist in the countries concerned. Techniques for using statistical and administrative data to add value to each other are described in Chapter 5.

References

- [1] G. J. Brackstone: *"Statistical Issues of Administrative Data: Issues and Challenges"*, in *"Statistical Uses of Administrative Data - An International Symposium"*, organised by Statistics Canada, 23-25 November 1987 (Proceedings published by Statistics Canada, Ottawa, December 1988).
- [2] *"Proceedings of the Seminar on Use of Administrative Sources for Statistical Purposes, Luxembourg, 15 and 16 January 1997"* (Eurostat, Luxembourg, 1997)

PART I :
SYNTHESIS OF SPECIFIC THEMES

THE LEGAL FRAMEWORK

National statistical institutes (NSIs) necessarily obtain their raw materials of data sources from third parties, whether these are individual contributors to statistical surveys or keepers of administrative records. According to their respective missions, the NSIs may also wish to process and analyse the data in particular ways as well as to disseminate the results of these activities to interested parties elsewhere in the government and to the wider public. A legal framework of some kind within which the NSIs can operate is therefore invariably present at the national level. This framework, as it bears on the utilisation of administrative sources for business statistics, is the subject of the present chapter. Countries which participate in the European Statistical System additionally adopt the *acquis communautaire* of legal acts at the European level. The Community legal acts likely to be of most relevance here are the subject of the Annex to this chapter. It is worth noting now that the frameworks at both levels encompass more than legislation specifically about statistics. Other legal acts on form and content of business accounts and on data protection and privacy are also relevant even though statistics may be only one of their fields of application.

Every NSI in the European Economic Area is legitimised either by a basic statistical law or by a formal agreement to determine its place and role in the machinery of central government. In turn, many of these legal or formal instruments include provisions for obtaining and using administrative data for statistical purposes. This is particularly true of existing statistical laws that have been revised and new statistical laws that have been promulgated or proposed during the past ten years or so. It is at the same time also true that some NSIs have been able to orientate their national legal frameworks further towards the effective statistical use of administrative sources than other NSIs.

A variety of historical, political and cultural factors might be adduced to explain this situation but such an exercise does not seem very helpful for present purposes. Moreover, the supra-national legal framework of the European Statistical System as outlined in the Annex to this chapter represents a new circumstance which is likely to assume increasing importance for all the NSIs concerned over the coming years. It may instead be more illuminating to think in terms of a process by which the national legal framework can be developed in stages to arrive eventually at the fullest possible statistical utilisation of administrative sources.

For convenience of exposition, the stages in this process can be broadly categorised as "foundation", "consolidation" and "evolution". Each stage leads to the next as the legal environment is progressively accommodated to more complex statistical applications of administrative sources. There is a certain logic to this process but it is not an inevitable one. The outcomes in each stage also vary according to the prevailing circumstances of time and place. Moreover, there is no set time-scale for completing the process. Some NSIs have already gone all or most of the way through the stages while others are making progress as and when they can find or make suitable opportunities. Experience does however suggest that it is better to start the process sooner rather than later.

The first stage in the process can be called the foundation stage, in which occur the formal recognition of the NSI as part of the public administration, the identification of the NSI's tasks and the establishment of the NSI's constitution. The elements of particular relevance here for administrative sources appear to be as follows:

- The powers given to the NSI very often include general rights of access to and use of administrative sources held by other bodies. This is a necessary condition for any further progress to be made although by no means often a sufficient one.
- The NSI needs to be either a separate, high-status government department in itself or else an autonomous part of another department which possesses sufficient authority to support the NSI during any inter-departmental negotiations about accessing and using administrative sources.
- The mission of the NSI and also the status of its directing officers and staff should be framed in terms of their professional independence and impartiality. This is particularly important regarding NSIs that are administratively associated with finance or home affairs ministries also concerned with e.g. collecting taxes or fees from businesses.
- Confidence about the professional integrity of the NSI is customarily reinforced by legislation on statistical confidentiality that prohibits use of data obtained about identifiable individuals or

businesses other than for statistical purposes. Most of such legislation was originally framed with respondents to statistical surveys in mind but its generalisation to all data sources, including administrative ones, has been helpful for avoiding problems with data privacy legislation in at least one instance.

- The constitutional arrangements for nearly all NSIs provide for a governing board, consultative council or advisory committee. It can be useful for such a body to adjudicate or monitor the implementation of the statistical programme by using availability of administrative sources as one of its criteria. In at least one instance, a body of this type is also legally enabled to arbitrate in any disputes that may arise between the NSI and custodians of administrative sources.

The foregoing points are straightforward enough in the context of an NSI providing a centralised statistical service as part of the government of a unitary state. However, the statistical services of some EU Member States are to varying degrees decentralised along functional lines (sometimes also with a territorial element) while some of the other statistical services are operating in countries where there are federal or proto-federal systems of government.

So far as utilisation of administrative sources is concerned, an important issue to resolve in both cases is how far it is possible to introduce uniformity into the different laws which may apply in the various parts or levels of the systems. One solution found is to give the NSI (or a central point within the statistical service) the legal power to apply instruments of statistical co-ordination, including statistical classifications and standard methodology, in other parts of the public administration. Another solution, which is relevant in both cases under consideration but particularly so to actual or inchoate federal systems, starts by specifying the division of labour between the statistical offices in different parts of the system. These offices then partake in a common responsibility to identify and develop administrative sources suitable for use at different levels in the system.

This process is assisted by committee structures, which in some cases may also be specified by law. A crucial point is how to ensure that data can move between different parts of the system without legal impediment.

To date, every NSI has evidently put in place the elements of the foundation stage that it judges appropriate to its own situation. In the second or *consolidation stage*, NSIs attempt to use the legal

framework actually to consolidate administrative sources into the resources available to them for producing statistics. The elements involved in this consolidation stage have been assimilated much more so by some NSIs than by others. There is a basic position in which some NSIs are using, or seeking to use, their general powers to obtain information from a few specific administrative sources, often one source for one purpose at a time. The data flows one way only from the administrative source to the NSI and in doing so its content and character remain unchanged. An example here is the use of VAT or another tax-related source to maintain a statistical business register dedicated to statistical purposes.

In contrast, some NSIs are participating with other public or quasi-public bodies in operating complex and dynamic information systems in which statistical and administrative data are interacting on a large scale. Data may be flowing in more than one direction and also between bodies at different levels, changing its content and character as it goes. As an example, the NSI can be operating a statistical business register as part of a network of official registers, defining or redefining units and assigning statistical classifications to the units for use throughout the network. It is usual for the existence of such a network to have formal recognition in law and the special functions assigned to the statistical business register within the network may also have their own legal basis.

Whatever the scale of the attempted use of administrative sources, there are legal issues to resolve before satisfactory progress is possible. The legal power to require holders of administrative information to render it to NSIs is in practice rarely sufficient by itself to achieve the desired result. This comment is especially true concerning the NSIs which have framed their legal powers in fairly general terms but it also applies to their counterparts in countries where separate legal authorisation is necessary for any given activity of a statistical nature. Some of the legal issues involved are reasonably straightforward and can fall entirely to the NSI. Other issues are more difficult and necessarily involve third parties. All of the issues entail further action of some kind.

In perhaps the simplest case, the wording of the statistical legislation may not be clear or comprehensive enough. For instance, the NSI may have the power to request the information but no corresponding obligation is placed upon the administrative body to supply it. This asymmetry may exist intentionally by reason of the official culture prevalent at a particular place and time. On the other hand, it may simply represent a lacuna that the NSI can no doubt remove by judicious redrafting at the next convenient

legislative opportunity. Again, the statistical legislation may not adequately describe the form, content and intended purpose of the administrative information that is actually required. One way forward is to link administrative data as closely as possible to the specific statistical purposes it is intended to serve and to introduce detailed descriptions of what is required into the statistical legislation authorising those purposes. An example from recent practice is the specification of administrative registers, archives and micro-data as information legally required as part of a census of industrial production and services. An alternative way to the same result which has also been tried in practice is to give the NSI a general power to make supply agreements with holders of administrative data in specific cases. Such agreements are considered in more detail in the next chapter. With both courses of action, it is also advisable to be as clear as possible about the terms and conditions, e.g. payment, for supply of data that will be acceptable.

A more difficult issue concerns the status of the statistical legislation at the NSI's disposal in relation to other national legislation that may affect the availability of administrative sources. Put briefly, there can be a conflict between statistical legislation seeking administrative sources for statistical purposes and administrative legislation which prevents the use of administrative sources other than for the administrative purposes originally intended for them. Some of the NSI's that have encountered this difficulty in recent years have worked closely with the custodians of the administrative sources concerned to introduce the necessary changes into the administrative legislation. Concomitant changes have also been made to the statistical legislation, again to facilitate and improve the terms and conditions for supply of the data. Inevitably, however, these outcomes take some time to achieve and they may not be negotiable for certain types of administrative data. Fiscal authorities in some countries are, for instance, resistant to disclosure of personal income tax records other than for the statistical purposes of their own departments.

A related issue is about the impact of data protection legislation. More precisely, there is a distinction to be made between legislation for the protection of data about identifiable individuals, businesses and other entities and laws about the protection of individual privacy.

The first type of legislation is essentially about permissible practices in handling data and the circumstances in which such data may or may not be disclosed to third parties. The second type of legislation essentially obliges "data controllers",

including NSIs, to consult with "data subjects" about the nature, processing and intended purposes of any data held about them, suppressing or modifying such data as the subjects may wish.

In the first "data protection" case, it is usually possible to mitigate the possible impact of the legislation on using administrative data for statistical purposes. This is because it is quite usual for the legislation either to give explicit recognition to a special position for statistical purposes or else to incorporate procedures for obtaining dispensations from the data protection authorities. Factors that are known to be helpful here are the existence of tried and trusted statistical confidentiality legislation and the general publication of codes of practice about data disclosure to third parties, including by the linking of databases. The second, "data privacy" case is less tractable and, in principle, only transfer of aggregated and anonymised administrative data may be possible. The impact in practice evidently depends on how the case law develops.

A special case arises with persons who are trading by themselves, typically as "sole proprietorships", when data of a personal nature (e.g. name) exists in identifiable form alongside data about the business. This poses a disclosure issue for all NSIs and especially for those in countries which operate official identity number systems for individuals and for businesses, permitting links to be made readily between the two kinds of entity. One solution is to coordinate legislation, including statistical legislation, so that the two types of identity number can be used for *bona fide* statistical purposes. Another, less formal, solution may be possible in practice when there are good relationships of mutual trust between the statistical and the data protection authorities. This is to make a separation of the "legal" operational characteristics of the owner's business from the owner's own "natural" characteristics on a case by case basis. Experience in some countries suggests that the data protection authorities tend to examine proposals for statistical use of administrative data about natural persons more rigorously than similar proposals concerning legal persons.

The final stage in the process of adapting the legal framework as suggested in this chapter is the "*evolution*" stage. This differs from the earlier stages in that the NSIs that have reached it have created legal opportunities to change the form and content of administrative sources in ways making these more useful for statistical purposes. Actions at this stage may be limited to making proposals for redefining, extending otherwise changing a few fields in the record structure of an existing administrative source.

At the other end of the scale, the NSI may be seeking substantial and long-term participation in the development or redevelopment of complete administrative information systems with a view to maximising their statistical aspects.

Examples of legal powers relevant to this stage are not as yet general among EEA countries but some of the basic statistical laws that have been amended or recast in recent years have made provision for them. In one variant, the NSI has the right to be consulted about any proposals on the future form of administrative information systems and the administrative bodies concerned is obliged to accept any reasonable opinions and recommendations that the NSI may make. In another variant, the NSI in effect assumes the position of monitoring all development activity on

information systems throughout the administration and has the right to determine whether and how such systems should be adapted to serve as the basis for official statistics. To ensure effective implementation of the monitoring system, it is also provided that the NSI should maintain an inventory of administrative development proposals on the basis of reports made by the administrative bodies responsible. Whichever the variant adopted, it is in fact vital that the NSI should be informed about any proposed development in good time to take worthwhile action.

It is also the case that legal provisions, however well they are drafted, can only amount to a starting point for any co-operation between the NSI and the developers of administrative systems that subsequently takes place.

SOME COMMUNITY LEGALS TEXTS RELEVANT TO THE USE OF ADMINISTRATIVE SOURCES FOR BUSINESS STATISTICS PURPOSES

Various pieces of Community legislation are relevant to the use of administrative sources for business statistics. The legislation that has been promulgated can also be categorised as acts primarily of a statistical character, acts on the form and content of company accounts and acts relating to data protection. Eurostat produced a useful compendium of legislation relating to the first two categories, "Legal Texts Relating to the European Business Statistics System", in June 1998.

The purpose of this Annex is to identify and summarise the legal acts most likely to be relevant for using administrative sources to make Community business statistics. Included below are acts that facilitate the use of administrative sources together with those that may affect the way in which administrative sources can be used. Both of these aspects may sometimes be present in the same act.

Statistical Legislation

A. General Applications

The primary reference of general application is the **Council Regulation (EC) No 322/97 of 17 February 1997** on Community Statistics, the so-called "Statistical Law" or, as it is often abbreviated, the "CRCS Regulation".

- Chapter I, Article 1, provides a legislative framework for the "systematic and programmed production of Community statistics". Responsibilities for producing the statistics are allocated in accordance with subsidiarity between national authorities at national level and Community authorities at Community level. The requirement is specified that the statistics thereby produced should meet uniform standards and, where appropriate, should result from harmonised methods.
- Chapter III lays down six principles to follow in ensuring high quality of the results required. As expressed in Article 285 of the proposed text on the Consolidated Treaties on European Union, "the production of Community statistics shall conform to impartiality, reliability, objectivity, scientific independence, cost-effectiveness and statistical confidentiality; it shall not entail excessive burdens on economic operators."
- Chapter V prescribes in Article 16 that "in order to reduce the burden on respondents... the national authority and the Community authority shall have access to administrative data sources, each in the fields of activity of their own public administrations... The practical arrangements and the limits and conditions for achieving effective access shall be determined where necessary by each Member State and the Commission in their respective spheres of competence."
 - This significant statement is made in the context of other provisions in Chapter V, which deal with statistical confidentiality. Among these provisions, it is stated in Article 14 that "transmission between national authorities and between national authorities and the Community authority of confidential data which do not permit direct identification may take place to the extent that this transmission is necessary for the production of specific Community statistics".
 - Article 15 adds that "confidential data obtained exclusively for the production of Community statistics shall be used... exclusively for statistical purposes" unless respondents have unambiguously agreed to its use for any other purpose.
 - Article 16 also says that "the use of confidential data obtained from administrative sources by the national authorities or by the Community authority for the production of Community statistics does not affect the use of the data for the purposes for which they were originally collected".
- Chapter VI, article 20 assigns a broad competence "for the adoption of the measures necessary for the implementation of Chapter V" to the Committee on Statistical Confidentiality set up by the **Council Regulation No 1588/90 of 11 June 1990** on the transmission of data subject to statistical confidentiality. Article 2 (1) of Regulation No 1588/90, which had effectively

left Member States to use their own methods of identifying the confidential data in question has been replaced by Article 13 of the CRCS which defines confidential data in terms of the "objective" criterion of direct or indirect identifiability by a third party of statistical units containing individual information. However, an exception is made in Article 13 in that "data taken from sources which are available to the public and remain available to the public at the national authorities according to national legislation, shall not be considered confidential."

B. Specific Applications

Sources for the creation and maintenance of statistical business registers are dealt with in the **Council Regulation (EEC) No 2186/93 of 22 July 1993** on Community co-ordination in drawing up business registers for statistical purposes.

- Article 7 of this Regulation states that " each national statistical institute shall be authorised to collect for statistical purposes information covered by this Regulation which is contained in the administrative or legal files compiled on its national territory, in accordance with the conditions determined by national law."
- Article 5, which covers updating of entries in the business register as well as of specified information held for legal units and enterprises, also lays down " a general rule (that) information obtained from administrative files or annual surveys shall be updated annually."

The Business Registers Regulation requires business registers to consist of information held in respect of three types of unit. These are enterprises engaged in economic activities contributing to Gross Domestic Product at market prices; legal units responsible for these enterprises; and local units dependent on these enterprises. The Business Registers Regulation is thus directly related to two other statistical Regulations that precede it.

One of these Regulations is the **Council Regulation No 696/93 of 15 March 1993** on the statistical units for the observation and analysis of the production system in the Community.

This "Statistical Units" Regulation defines the units specified in the Business Registers Regulation as well as others, including the institutional unit, the enterprise group, the kind-of-activity unit (KAU), the local unit and the local kind-of-activity unit (local KAU).

The Business Registers Regulation also has a direct operational link with the **Council Regulation No 3037 of 9 October 1990** on the classification of economic activities in the European Community (later amended in minor detail by the **Council Regulation No 761/93 of 24 March 1993** with the same title). The classification in question, NACE Rev.1, is required to be applied either directly or through the medium of a strictly compatible national activity classification to all statistics compiled for Community purposes at the national level as well as at the European level. It follows that the activities of the units defined in the Statistical Units Regulation, including those also specified in the Business Registers Regulation, must be classified for Community purposes in conformity with NACE Rev.1.

According to the Annex of the Statistical Units Regulation, all the activities of a unit that are not ancillary activities are ranked by the gross value added (GVA) that each of them generates. A distinction is made between principal and secondary activities. If one activity accounts to more than 50 per cent of total GVA, this activity determines the classification of the unit. If information on GVA is not available, other information on, for example, employment, payroll, turnover and assets may be used to get the closest possible approximation to a GVA-based outcome.

The legal acts of immediate concern for the compilation of actual Community statistics themselves are the **Council Regulation No 58/97 of 20 December 1996** concerning structural business statistics (the "SBS Regulation") and the **Council Regulation No 1165/98 of 19 May 1998** concerning short-term statistics (the "STS Regulation"). Article 6 (3) of the SBS Regulation says that "in order to reduce response burdens, the national authority and the Community authority shall, under the limits and conditions fixed by each Member State and by the Commission in their respective spheres of competence, have access to administrative data sources covering the fields of activity of their own public administrations to the extent that these data are necessary to meet the (specified) accuracy requirements..." These requirements are described in Article 7. One requirement is for the data transmitted to reflect the structure of the population of the units laid down elsewhere in the Regulation. Another requirement is for the possibility of a quality evaluation to be made, using information provided by the Member States about benefits of having the data available on the one hand and the collection costs and reporting burdens involved (especially for SMEs) on the other.

Provision for such a quality evaluation is also written into the STS Regulation (in Article 10) which similarly but more briefly in Article 4 identifies administrative

data among the sources from which to compile the required variables. Both the SBS and the STS Regulations in fact provide for compilation using a combination of compulsory surveys and "other appropriate sources" of equivalent accuracy and quality, including administrative data, as well as statistical estimation procedures. Member States are given the possibility of acquiring the necessary data from these different sources, "applying the principle of administrative simplification".

The STS Regulation specifically allows the variables on new orders received for work included in Annex A on Industry to be approximated from business opinion surveys and for variables on new orders included in Annex B on Construction to be approximated from information on building permits. Both Regulations additionally commend greater utilisation of electronic data collection (and transmission) and automatic data processing.

Legislation on Company Accounts

European accounting standardisation is currently based on the **Fourth Council Directive of 25 July 1978 (78/660/EEC)** on annual company accounts and the **Seventh Council Directive of 13 June 1983 (83/349/EEC)** on consolidated accounts.

Accounting statements prepared under the Fourth Directive must :

- be audited
- give a true and fair view of the financial position and profit and loss
- be published or made available for public inspection
- consist of a balance sheet and an income statement that contain explanatory notes and comparative figures.

Most of the above requirements in the Fourth Directive also apply to the (group) consolidated accounts that are the subject of the Seventh Directive. The latter Directive says that additionally in consolidated accounts :

- intra-group profits and indebtedness must be eliminated
- on acquisition of a subsidiary, a figure for goodwill must be calculated
- the assets and liabilities as well as the

profits or losses must be included in the consolidated financial statements in full, with interests held by outside persons shown separately (but proportional consolidation is permissible for joint ventures).

The Fourth Directive allows choice between two balance sheet formats and four profit and loss account formats. The choice may be reserved to Member States themselves or may be delegated at the Member States' discretion to individual companies. The balance sheet can be presented either horizontally or vertically, as can the profit and loss account. Within the two prescribed presentations of the profit and loss account, two classifications are allowed. One classification represents the so-called "functional breakdown", which allocates the expense items under three prescribed functional headings of cost of sales, distribution costs and administrative expenses. The other classification represents the so-called "expense breakdown", which allocates expense items to headings according to the nature of the items such as raw materials, staff costs and depreciation.

Modifications of the reporting requirements under the Fourth Directive are permitted in respect of small and medium-sized companies. Company size is determined from the three criteria of value of turnover, number of employees and balance sheet total, lower levels being set for small companies. To qualify, a company has to satisfy any two of these criteria. Member States may exempt small companies from publishing their profit and loss accounts and from being audited while medium-sized companies may be allowed to publish an abridged profit and loss account and be exempted from publishing other information.

The Fourth Directive also deals with valuation rules by setting up some basic concepts such as the "going concern" basis, prudence and the matching of income and expense items. Regarding valuation, the Directive concerns itself primarily with the rules relating to historic cost accounting. Some departure from historic cost is, however, permitted under certain conditions when either the replacement value method or other methods taking account of current values may be used.

The Fourth and Seventh Directives were originally designed to serve as components of a framework of company law for the Community. The **Commission Recommendation of 13 September 1995** on the use of the statistical classification of economic activities in the European Communities for breaking down net turnover by type of activity (95/377/EC) provides for companies to apply the NACE Rev. 1 classification in their accounts.

It remains, however, that the form and content of Community legislation on company accounts is likely to evolve primarily by taking heed of developments in the international accounting environment. Such developments, for instance a possible shift from the expenses breakdown towards the functional breakdown in profit and loss accounts, may not always be helpful for statistical purposes.

Data Protection Legislation

The act of concern here is **Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995** on the protection of individuals with regard to the processing of personal data and on the free movement of such data. Member States are required to "bring into force the laws, regulations and administrative provisions necessary to comply with the Directive" no later than three years from its adoption.

- Article 1 of the Directive expresses the intention that " Member States shall protect the fundamental rights and freedoms of natural persons, and in particular their right to privacy with respect to the processing of personal data".
- The definition of personal data in Article 2 is in terms of an identified or identifiable natural person, described as a "data subject". Identifiability can be, among other things, by reference to an identification number or to factors pertaining to economic identity.
- The scope of the Directive in Article 3 extends "to the processing of personal data wholly or partly by automatic means"
- Article 12 requires Member States to guarantee that data subjects can obtain information about the nature, processing and intended purposes of any data held about them and that they can, "as appropriate, obtain the rectification, erasure or blocking" of such data.
- However, Article 13 permits Member States to restrict the rights granted in Article 12 "when data are processed solely for purposes of scientific research or are kept in personal form for a period which does not exceed the period necessary for the sole purpose of creating statistics."
- Article 27 states that the Member States and the Commission shall encourage the drawing up of codes of conduct "intended to contribute to the proper implementation" of the Directive at the national level.

ADMINISTRATIVE PROCEDURES

The formal legal acts discussed in the previous chapter provide to varying degrees a framework for regulating the NSIs access to and use of administrative sources. However, these acts are rarely detailed enough to deal with the precise arrangements under which data from particular administrative sources shall be transferred for specific statistical purposes. Over time, a number of NSIs have developed administrative procedures to cover these arrangements. Such procedures are variously known as «administrative protocol», «service level agreements » or by other titles according to national context.

A few NSIs that are strongly pro-active in the development of administrative sources for statistical purposes are operating large numbers of administrative procedures, sometimes with 60 or more different official bodies. In effect, these countries have policies for managing, monitoring and developing their procedures from a central point. Other NSIs are as yet working with just a few official bodies and in accordance with procedures negotiated bilaterally on a case by case basis.

The actual legal basis for the administrative procedures that are operated varies from country to country but it would appear that such a basis is everywhere necessary in most, or perhaps all, cases. The power to introduce the procedures is sometimes conferred on the NSI by the basic statistical law or by an equivalent quasi-legal framework agreement.

Sometimes again, formal procedures are not actually set up in detail but the data is passed under a written Ministerial direction which as a minimum specifies the data in question and the statistical purpose for which it may be used. Given that statistical legislation in some countries allows but does not oblige the inter-departmental transfer of administrative data, it may not always be possible to reach agreement on a procedure for obtaining every kind of data the NSI might like to have.

Taking account of the procedures actually established in various countries, it would seem desirable that any « model » procedure should cover at least the items as follows :

- The legal basis for the procedure (which may refer not only to statistical legislation but also to other acts regulating the specific administrative source as well as to data protection legislation)

- The names and/or official positions of the persons entitled respectively to transfer the data and to receive it (and, if different, the same information for the persons authorised on the respective sides to conclude the agreement covering the procedure)
- A sufficiently detailed description of the data to be covered by the procedure
- The frequency at which the data is to be supplied
- Agreed standards of the quality that the data should satisfy
- The statistical confidentiality regime to be applied
- Provisions for any payment which may be necessary for supply of the data
- Stipulation of the period during which the procedure is to be in force
- Procedures for dealing with any changes that may be proposed either on the « demand » or the « supply » side, including identification of the circumstances in which re-negotiation of the procedure may be necessary.

All the items mentioned above merit careful attention but the question of payment is likely to be a critical one for some NSIs. The availability of some types of data may in fact depend on the financial arrangements that can be made, particularly if the custodian of the administrative source can reasonably argue that the NSI's particular requirements entail extra expense. This is obviously a problem when, as is often currently the case in many countries, the NSI is short of money.

The problem is further compounded in some countries by the trend towards re-structuring national administrations to create executive agencies with greater operational responsibilities for managing their own budgets. Potential sources of administrative data may become fragmented and the individual agencies may only want to make their data available as commercially saleable products.

A number of courses of action have been tried with some success in response to this situation. First, the national legal tradition may permit an interpretation that the existence of a basic statistical law empowering the

NSI to obtain administrative data constitutes an entitlement to receive the data free of charge. Secondly, the NSI is often in a position to offer its expertise in information management and analysis to administrative bodies in exchange, either wholly or in part, for the data it needs. Thirdly, there may be important potential customers elsewhere in the administration, e.g. Ministries of Finance, for the statistics the NSI hopes to produce from the administrative source in question. The NSI might then be able to persuade such bodies to intervene on its behalf. Alternatively, a formal arbitration procedure may exist, or can be created, at a higher level to deal with cases of this kind.

The issue of quality of the administrative sources transferred under a procedure also needs to be treated carefully. Many NSIs, and indeed Eurostat as well, accept an obligation in their public mission statements to provide their users with a high quality statistical service. Insofar as the sources for the statistics are under the NSI's own control, the NSI can determine the acceptable standards and put in place appropriate measures designed to achieve these. The NSI obviously does not have the same degree of freedom so far as administrative sources are concerned.

The emerging consensus is that quality is « user-

driven » meaning, for instance, that a source is of good quality when it is fit for the purpose that the user intends for it. However, the NSI is neither the only user nor even the main user of administrative sources. The administrative bodies actually responsible for the sources usually apply their own priorities and standards which frequently do not coincide with those the NSI would find satisfactory. Indeed, administrative bodies quite often regard the extra requirements which are sometimes written into administrative records as a nuisance and spend little time on validation work regarding them.

It is therefore highly advisable that procedures for transferring administrative records should provide for some minimum standards that are acceptable to both sides. Such standards might be in terms of the content of records, e.g. the acceptable proportion of records in a given batch containing an incorrect activity classification.

They might also be in terms of timeliness, e.g. the NSI should receive records for a given reference period within a stated number of days following the end of that period. It is also very advisable that the procedure should provide for some kind of machinery to deal with disputes that may arise about the operation of these standards in practice.

MATCHING ADMINISTRATIVE AND STATISTICAL RECORDS IN REGISTERS

Many possibilities are now available for putting administrative and statistical records together in ways that add value to both of them for business statistics purposes. A survey of some of these possibilities is attempted in the next chapter. The present chapter deals briefly with the particular issues associated with matching and statistically validating records used in statistical business registers.

NSIs in the European Economic Area are currently devoting much attention to the development of statistical business registers of a central or inter-departmental character. Some NSIs have only recently introduced such registers or are still at work on them. Others have found that their existing registers need considerable overhauls to bring them into line with current requirements. Statistical sources were at one time the principal means used for register maintenance in some countries and these still play some part almost everywhere. However, the predominant part is now usually played by administrative sources because of their comprehensive nature. Most countries have a number of administrative sources at their disposal from, for instance, tax administrations, chambers of commerce and social security agencies. It is rarely the case, however, that any one of these sources is by itself sufficient for business register purposes.

The legal acts at Community level of most relevance here are the Council Regulations on Business Registers and Statistical Units. The Business Registers Regulation does not lay down the purposes that such registers should serve but all the statistical business registers currently existing or under construction in the EEA are in practice designed to include some basic features as follows :

- A list of names and addresses for mailing questionnaires
- A frame for selecting samples of businesses included in surveys, sometimes operated in conjunction with facilities for co-ordinating and controlling survey programmes
- A population of statistical units itemised as individual records containing identifiers, activity and size classifications and various items of "performance" data for use in generating business demographics and in grossing-up information from survey returns.

For some countries, these features constitute no more than a starting position. The business registers in question are seen as key components of systems of statistical and administrative databases which are intended to generate a range of social and economic data, including business statistics. One aim, which is carried furthest in so-called "register-based statistical systems", is to create new data resources to supplement or substitute to some degree for statistical surveys. This aim is sometimes associated in certain countries with another aim, which is to integrate statistical business register operations with the workings of various administrative registers also concerned with businesses.

The idea is to bring about a unified and simplified regime for the official transactions that businesses are obliged to make with the authorities by, say, operating a "one-stop shop". Only a few countries have so far made progress with the implementation of this idea but a number of other countries are currently looking at it. There are some obvious attractions not only from the point of view of reducing business reporting burdens but also because of the possibilities for introducing statistics-friendly standardisation into administrative processes.

Despite its silence about purposes, the Council Regulation is specific that the units in business registers should consist of the enterprises that contribute to GDP, the legal units responsible for these "statistical" enterprises and the local units that depend on such enterprises. Other statistical units as defined in the Statistical Units Regulation are also in use or in view at Community and national levels.

The kind-of-activity unit (KAU) features in the Council Regulations on Structural Business Statistics and Short Term Statistics. Various countries are also using for their own purposes two other statistical units, the enterprise group and the local KAU. Some countries have even created additional statistical units of their own below the enterprise level. Their reasons for doing so have been to introduce clear distinctions between statistical units and legal and administrative units that exist at the local level. At least one country produces detailed employment and earnings statistics by linking the two types of unit.

Statistical business registers were at one time seen as a necessary but low-level part of the activities of many

statistical offices and professional attention was concentrated on surveys. Nowadays, the demands placed on such registers are of an increasingly higher order and many countries regard registers as important resources in their own right for producing statistics. Correspondingly more is therefore expected concerning the quality of the sources employed to construct and maintain registers. This faces NSIs with the need to solve two main problems.

The first problem arises from the fact that registers can only usually be made comprehensive in their coverage by calling upon several different sources. The contents of the records in these sources may differ in concept and even if the concepts are similar, there may still be important differences in detail. The register needs to be not only comprehensive but coherent as well. How to put together the different sources to create a register with both these desirable properties can be called the "matching problem."

Furthermore, comprehensiveness and coherence are not the only properties required of a statistical business register. To be fit for its intended statistical purposes, the units held in the register must evidently include correctly defined statistical units. How to determine these statistical units in the register and also clearly distinguish them from legal and administrative units can be called the "statistical validation problem".

Both problems are formidable ones because they have to be solved not once but many times over - or even continuously - in order to keep a usable statistical business register functioning. In small countries, the records needing to be matched can run into tens or hundreds of thousands while in large countries many millions of records can be involved.

The abundance of administrative data means that some NSIs have to manage data flows with care and decisions must sometimes be made to examine the data only at certain times. In practice, the matching and the statistical validation problems usually have to be tackled together in the same set of operations. The two problems are related but it is as well to remember that they are conceptually distinct.

Among the various administrative sources available to NSIs, the commonest and most significant ones appear to be as follows:

- **Registers of chambers of commerce and national business registration authorities**

These are often the primary sources for information on legal units. They can also contain information relating to local units, "establishments" or

even to undefined individual members. Coverage may be limited to particular legal forms of business and to only some industries. Members of liberal professions and self-employed people in general may not be obliged to register. On the other hand, owners of businesses in scope may have possibilities for registering a variety of businesses under the same registration numbers. In some countries, these registers have been the only feasible sources of information on business start-ups, closures and other changes in structure and activities.

- **Declarations and returns for Value Added Tax (VAT)**

These cover legal and natural persons liable to pay VAT, thus providing for some countries evidence of the existence of legal units and often of enterprises. Construction of enterprise groups is also sometimes possible. Some VAT systems are very comprehensive but others exempt businesses below certain thresholds and those operating in certain trades. As with some other forms of taxation, it is often possible for a group of businesses to be registered under one number. In some countries, links exist in principle between VAT registration numbers and other registration number systems for legal and (sometimes) natural persons. The potential of this source for information relating to the short term is considerable.

- **Employers' returns of tax and social security payments deducted for employees**

These can relate to enterprises, "workplaces" or "pay points". An employer may sometimes have several registration numbers. As with VAT, there are sometimes exemptions based on thresholds and trade of the employer. The concept of "employer" may not always relate well to that of "business". Information in the returns about numbers of employees and their earnings may not correspond to the equivalent information from surveys. By definition, the returns cover "employees" rather than "persons employed". Despite these drawbacks, sources of this type are still very comprehensive and are usually of good quality.

The work of bringing these and other administrative sources together for constructing records in statistical business registers is often very resource-intensive. Some countries have developed systems of common business identifiers or else operate various official registration number systems that can readily be linked.

Incidentally, the existence of a common business identifier does not necessarily mean that it is the sole official numbering system in use. Many official bodies, including statistical offices themselves, often want to retain other numbering systems for their own particular purposes.

For countries which have common or linkable registration number systems, the work of filtering records is undoubtedly more straightforward than for other countries which do not have such systems. Experience suggests, however, that the lack of such systems does not prevent the work being attempted with at least some chance of success. Some countries have been able to use commercial software packages to do an appreciable proportion of the necessary work to match names, addresses and contextual information for candidate units in the different sources. Computerised look-up tables are similarly available to help with correct statistical classifications of the units. It must all the same be admitted that a good deal of clerical work may still be needed and that, as a last resort, direct statistical inquiries may have to be made to units remaining in question. Other countries may not find these actions either practicable or affordable.

Perhaps the most useful piece of advice to offer for dealing with both the matching and the statistical validation problems is to proceed in accordance with a clearly defined strategy. Following elements of the practice of one EU Member State that has formulated and worked through such a strategy, it seems advisable to make some rules to cover specific issues as follows:

- Coding rules, for standardising codes used in different administrative sources for such things as economic activity, legal form and geographical location;
- Linking rules, for converting units in administrative sources to exact or approximately equivalent statistical units;
- Conversion rules, for estimating values of statistical variables from what administrative information is available, e.g. breaking down "total persons employed" into "employees" and "self-employed persons".

It is also very important to construct records in the register in such a way that the same unit does not in effect appear more than once. A serious consequence of such multiple entries is overestimation in sample surveys based on the register. There are no easy

answers to this problem and even the identification and quantification of the problem can require considerable work. One EU Member State has, however, recently tackled the problem effectively with the aid of data confrontation techniques.

It is equally important to deal with units that appear to be identical but actually are different. The serious consequences here are for the countries which operate statistical business registers as parts of official register networks using common business identifiers such as "organisation numbers". As an example, a failure to discriminate can lead to an employer being registered with a workforce belonging to somebody else.

Finally, something should be said about the "statistical validation" problem. Failure to deal with this problem satisfactorily can also lead to bias in surveys based on the register. The root cause of the problem is that the register up-dating procedures in many countries rely on administrative sources which are good for identifying births but much less good for notifying closures or temporary cessation of activity. Many countries accordingly devote considerable effort to sifting legal units to find the ones that are genuinely economically active and hence can be regarded as statistical units.

Examination of as many administrative sources as are available can be very helpful but not necessarily conclusive for this purpose. For instance, the existence of a new legal unit may be notified by a company registration office and as soon as the unit registers for VAT, business taxation and as employer, it will be deemed to be economically active.

On the other hand, the observation subsequently that the unit no longer pays VAT or has any employees does not necessarily mean that the unit is dormant or effectively dead. The business could have shifted to VAT-exempt activities or the owner may be running the business by himself. Conversely, the continuing presence of the unit in the company register is not necessarily evidence of activity as the business may have ceased trading but financial claims are still pending.

The only sure way that some NSIs have found to get the necessary information is by register proving surveys. These surveys are expensive for some countries and hence are often only carried out for businesses with more than one local unit or else where employment is thought to be significant. Administrative sources therefore usually continue to be the prime sources for businesses consisting of single local units.

ADDING VALUE WITH ADMINISTRATIVE AND STATISTICAL SOURCES

This chapter is a brief survey of the ways in which countries of the European Economic Area are using administrative and statistical sources for compiling business statistics in ways that add value. As was indicated in the Introduction, statistical surveys continue to play a leading role in business statistics systems almost everywhere but applications for administrative sources are growing in number and scale. Of particular interest is the prospect that administrative sources offer for production of statistics that are likely to be beyond the capabilities of statistical surveys alone. The situation in many countries is therefore increasingly one of partnership between the two types of source. National practices are described in detail in Part II of this Handbook and some examples of imaginative combinations of administrative and statistical sources are to be found there. The present chapter highlights the different general approaches that are being tried and draws attention to the possibilities for the two types of source to interact in ways beneficial to them both.

Three administrative sources were mentioned in the previous chapter concerning business registers, namely information from business registration authorities, registrations and declarations for VAT and employers' returns of tax and social security deductions for employees. The latter two sources also feature prominently among the sources used to compile business statistics but in this context a third source also deserves particular mention, namely declarations of business income for tax. All three sources either separately or in combination are used in different countries for a variety of purposes.

As an example, the purposes for which the VAT source is in use or in view in various countries include the following :

1. As a source of legal units for registers
2. As an indicator of economically active units
3. As building blocks for constructing statistical units
4. As a size indicator for units, using VAT turnover
5. As a sample stratification variable
6. As a means of balancing samples, using detailed activity classifications based on VAT turnover

7. As input to survey data validation procedures, e.g. by test ratios of turnover per head
8. As a base for imputation of values for survey non-respondents
9. As a universe for grossing up survey returns
10. As a variable for grossing, using turnover
11. As a basis of estimation regarding small and medium-sized enterprises (SMEs) not included in surveys
12. As a basis for calculating regional breakdowns of national results, using breakdowns of turnover
13. As a basis for evaluating survey results, using comparisons of VAT and survey turnovers
14. As direct input to annual and quarterly national accounts, using aggregated turnover and breakdowns for domestic and foreign consumption
15. As direct input to series of external trade statistics
16. As direct input to calculation of monthly sales indices

Cases where administrative sources provide the only sources for given business statistics are actually quite rare although one example found in several countries is the use of building permits to compile statistics of new orders for building and civil engineering work. One country is also currently looking at the possibility of using VAT data as its future source of key short-term statistics.

More commonly, however, administrative sources are being used to improve the efficiency of surveys and to enable concentration of expensive survey resources on the larger businesses that tend to have complex reporting structures. Some countries are streamlining their structural business surveys and intend to rely on estimation techniques using administrative sources for most or all of their data on SMEs. One country indeed abolished its structural surveys several years ago, the requisite data now being generated from a register-based business statistics system. This, again, is a rarity at present but a number of other countries are moving towards such a system, taking encouragement from the evident success of the register-based approach in the social statistics field.

The possibility for rationalising structural business surveys usually arises because of the availability of comprehensive and usable accounting data for enterprises. Some countries have operated General Accounting Plans on a mandatory or voluntary basis for many years. These Plans typically provide for standardised balance sheets and profit and loss accounts based on the formats included in the Fourth and Seventh Council Directives on Company Accounts as well for supplementary information to serve particular national needs. NSIs have frequently been involved in the formulation and development of these Plans to ensure their usefulness for statistical purposes. The ideal situation is one in which the accounting treatments used by enterprises themselves, by the business tax administration and by the NSI for business statistics are aligned as far as possible with each other. Several countries have in different ways achieved -or are working towards- alignment in two of these cases or, sometimes, in all three. Enterprises or their agents may render the accounting data to the tax authority, which then passes it to the NSI. Alternatively, the NSI may obtain the data directly by survey. Some countries are involved in development of accounting software packages and of techniques of Electronic Data Interchange to facilitate these processes.

It is a logical next step to put the accounting data, however it is obtained, in a database together with the structural data that continues to be obtained by direct surveys. As the number of standardised accounting headings may easily run into three figures, a good idea in practice is to concentrate in the database on a few dozen items that are common to both the accounting data and the survey returns. The two sources can then be made to complement each other in three ways. First, the coverage of enterprises is greatly extended and the basis for estimation of activity by SMEs is accordingly much improved. Secondly, the quality of each of the two sources can be enhanced by comparing records and filling gaps in both of them. Thirdly, data on the operational variables collected in the surveys can be supplemented by information on financial variables in the accounting data. In this way, a very good picture is produced for enterprises of production, employment and earnings, investment in capital formation and financial results.

In principle, there is no restriction on the number of different administrative and statistical databases that can be put together to generate this kind of synergy. It is highly advisable, however, to formulate in a systematic manner any plans that may involve production of statistics from operations in several different dimensions. One EU Member State has decided to produce many of its structural and short term business

statistics by combining different registers maintained by chambers of commerce, the tax administration and various social insurance boards. For this purpose, a data model was constructed to schematise the actual contents of each of the participating registers and to simulate the optimal flows between them. This model has proved very useful as an indicator of what needs to be done both for integrating the different registers as a system and for organising and processing the data in them to produce the actual statistics.

As all countries which have reached this stage of development has found, the necessary condition for combining data from the records in different registers effectively is to standardise their units, apply the appropriate statistical activity classifications and as far as possible harmonise definitions of variables. This process is sometimes formally described and conceived as the creation of "statistical register modules". It is an essential element in the realisation of a genuinely integrated system for the production of and management of business statistics. One such system currently under development is comprised of three basic elements. An input database contains mixtures of real and imputed micro- data for business statistics variables, serving as a co-ordination tool for statistical production processes. An intermediate database will hold statistical variables with respect to individual statistical units. Results will then be generated at higher levels of aggregation for storage in a relational database.

The NSIs which are actually or prospectively involved in integrated statistical and administrative register networks will undoubtedly enjoy a comparative advantage in operating business statistics production systems of the kind just described. The responsibilities usually given to these NSIs for determining units, assigning statistical activity classifications and (sometimes) for allocating identification numbers for use throughout the networks are especially helpful in this connection. When the identification numbers are general or linkable with other registration systems in force for legal and natural persons, the way is open (at least, technically) for large-scale production of statistics both cross-sectionally and longitudinally, using registers for individuals, populations, businesses, buildings and other populations. But as mentioned in the previous chapter, it is sometimes necessary to create special statistical units below enterprise level in order to demarcate statistical uses from administrative ones.

Pure register-based systems for production of business statistics are not yet fully in place anywhere but the value of the register-approach for producing social, including socio-economic, statistics has been

well documented in certain countries. Additionally, Gaasemyr and Struijs [1] have recently drawn attention to the great statistical potential to be realised from construction of Register-Based Job Files (RJF). These authors define an RJF as "a linked file of centralised administrative data systems of Social Security, Tax and Employment Service Agencies" and identify one of its main advantages for a country as "that it provides the tool for linking data on persons employed with data on businesses". The unit that provides the link is the job, reported from the side of the persons employed in statistical sources such as the Labour Force Survey and reported from the side of the employers in sources used for business statistics.

In one RJF currently under development, the aim is essentially to construct estimates for "hours worked", "employment", "wages and salaries" and "turnover" from a combination of administrative and statistical sources. The main statistical source is the LFS. The administrative sources are registers respectively for employers and employees, employers' deductions from earnings for tax and (once again) VAT. The approach being used for putting the data from the different sources together is an eclectic one. For instance, one use of the resulting statistics will be for national accounts, for which the LFS is considered to yield better quality employment figures than the register for employers and employees.

However, the register offers much more detail. The statistical source will therefore supply the aggregated totals and the administrative one will be used to break down the totals to sector level and below.

Concluding remarks

In concluding this brief tour d' horizon, some comments about the respective strengths, weaknesses, opportunities and threats associated with administrative sources are in order.

Chief among the **strengths** of these sources is their comprehensiveness as compared to most statistical sources. It follows that administrative sources are particularly suited as starting points for statistical registers and for multi-stage surveys of the type now enabled, for instance, by social security registers. Moreover, they are much better adapted for making cross-sectional (e.g. regional) and longitudinal analyses than are statistical sources.

A well-known **weakness** of administrative sources in statistical work is their vulnerability to changes in their controlling administrative regimes. In one EU Member State, controversy about the statistical consequences of changes in rules of entitlement to unemployment benefit seriously damaged the public reputation of the official statistical service. Proposals currently under consideration at Community level about possible changes in the prescribed form and content of accounts may similarly lead to difficulties for a number of EEA countries.

Organisation re-structuring which has recently been done or is under way in some NSIs creates **opportunities** for greater utilisation of administrative sources. In some business statistics directorates, the "pipeline model" which organised collection work on a survey by survey basis is being replaced by a new form of organisation. The various stages of collecting and processing business statistics common to all surveys are being re-allocated to new function-specific units. One consequence of this is to permit re-appraisal of collection methods and consideration of a wider range of sources. Gaasemyr and Struijs [1] have pointed to the particular opportunity offered by constructing RJF to develop closer co-operation between departments for labour statistics and business statistics.

Administrative sources in many countries have traditionally been national in character and nation-wide in scope. Developments have been gathering pace in recent years that could be seen as **threats** to this situation so far as concerns the continuing feasibility of using these sources for business statistics purposes. Administrative fragmentation arising from the deregulation policies pursued in some countries was mentioned in the Introduction. Such fragmentation can, of course, also occur because of decentralisation of central government powers to other parts of the polity. Decentralisation of this kind is either under way or in prospect in at least three EU Member States at the present time.

Reference

- [1] S. Gaasemyr and P. Struijs: *"The Role of International Standards in Developing Register-Based Job Files"* and *"The Role of International Standards in Using Register-Based Job Files"*, papers presented at The 1998 International Symposium On Employer-Employee Matched Data.

PART II :
NATIONAL EXPERIENCES USING
THE ADMINISTRATIVE SOURCES

B E L G I Q U E / B E L G I Ë

The Belgian National Statistical Institute (INS) currently uses VAT and social security sources for maintaining and updating the statistical business register. Although there is no common identification system for legal persons, the INS is able to link these sources satisfactorily. Availability of social security data is currently only at the company level but this will soon be extended to data at the individual level. Partial replacement of employment data from surveys should then be a possibility. A third source, analyses of company accounting statements made by the central bank, is used to check returns from the Structural Business Survey. The legal framework is generally favourable for statistical use of administrative sources and the draft new statistical law is designed to improve this situation further.

Institutional Position

1. Official statistics go back to the emergence of the State in the 1830s but centralisation to some extent was only achieved about a century later. Since 1940, work on most statistics including economic statistics has been carried out under the general responsibility of the Ministry of Economic Affairs. In their present forms, the National Institute of Statistics (INS) and the Higher Statistical Council (CSS) both date from 1946. The Public Statistics Act, 1962, defined the INS's responsibilities in relation to those of other bodies at the national, regional and community levels. In 1985, another Act concerning statistics determined that the INS instead of being a centralised office should be given a co-ordinating role for the national statistical system as a whole. A further revision in 1994 to reorganise functions within the Belgian government provided for financing the INS using an annual allowance. It also authorised the establishment of a separate National Accounts Institute (ICN) under the joint management of the INS, the National Bank (BNB) and the Planning Bureau. A system of five INS regional bureaux with their own documentation and information services dates from 1977.

Legal Framework

2. The basic statistical law is the 1962 Act. This law codifies the long-standing requirement for a general population census and also provides for inquiries distinguished between purely statistical ones and others of an administrative nature. An

amendment in 1985 further identified inquiries that are voluntary in nature, carrying the implication that all other inquiries are compulsory upon their respondents. All compulsory inquiries must be authorised by Royal decree whereas surveys authorised by a Minister do not involve an obligation to respond and their voluntary character must be indicated on the questionnaire forms. Surveys made for purely statistical purposes are clearly subject to statistical confidentiality. The law nonetheless leaves open the possibility of disclosing data to the interested public bodies with the provisos that confidentiality is preserved by them and that no legal or administrative measures are taken against the respondents. Moreover, law a category of non-confidential individual data is defined which in practice is limited to the names and addresses of businesses and their classification by employment size class. The guiding principle here is that "statistical confidentiality is deemed to apply to any data which could not be learned lawfully without some action being taken by the interested party."

3. The current legal framework is to be modified by a new statistical law that is now in preparation. The new law will comply with the Regulation on Community Statistics and will also supersede other provisions of the earlier legislation. In particular, there will no longer be the possibility of the INS carrying out inquiries on behalf of administrative bodies and the monthly production (PRODCOM) survey will have a new legal basis.
4. Article 24 bis of the 1962 Act obliges all types of public administration bodies in Belgium to give

the INS details of individual data held by them, including identification numbers, for the purposes of statistical investigations. In certain circumstances, payments may be made for this information. The INS currently pays for the information provided by the National Office of Social Security (ONSS). No information source from an administrative body has thus far been rejected on grounds of excessive cost. Each such body has to notify the INS of any decision to treat statistically the data in its possession. The Minister of Economic Affairs is entitled to recommend the use of standardised statistical methods to any administration or service with a view to co-ordinating statistical activities. The Minister may also invite such administrations and services to produce statistics on the basis of the information that they hold. However, this latter power has not as yet been invoked.

5. A National Register of natural persons was established by law in 1983. The Register holds names, codes for gender, dates of birth and addresses. It also assigns a unique identification number. This number may be used by all administrations on approval by the Commission on Protection of Privacy. Proposals were made in 1985 concerning protection of individual privacy and these were enacted into law in 1992. Individuals thereby individuals have the right of access to the records of information held about them.

Business Statistics System

At the national level, the INS is the only institution responsible for the collection of the information necessary for business statistics excepting financial and economic statistics of banking and insurance institutions for which the BNB is responsible. All variables for the Structural Business Survey (SBS) are provided by a single body which is the INS for all economic sectors apart from those previously mentioned. The INS maintains the statistical business register (DBRIS). This serves as the framework for the design and sampling plan for the SBS. The survey consists of a complete enumeration of large and medium-sized companies and of a sample of small companies and independent traders. It replaces the old sources of statistics on production in Industry and Construction.

Specific Sources

6. DBRIS records are compiled from four administrative sources:

- the VAT register on businesses from the Ministry of Finance which contains for each VAT registration number namely the VAT turnover data and a NACE code initially attributed at the creation of the register entry
- the ONSS register on employment which contains against each registration number namely an employment size class and an employer NACE code
- the ONSSAPL register on employment in the provincial and local administrations which contains against each registration number namely an employment size class
- the National Register of legal persons which contains against each registration number namely the legal form.

Analyses by the Centrale de Bilans of the BNB may also be used as an auxiliary source for retrieving NACE information. In view of the inconsistencies in administrative coding, the INS is currently applying a system of preferential activity coding. All the statistical surveys - Prodcom, SBS, Trade etc - are used as auxiliary sources to improve NACE coding information that the DBRIS contains. The section in the INS responsible for the DBRIS analyses the information returned from the aforementioned surveys to check the NACE coding and contacts the companies concerned in cases of doubt. The natural persons without employment or VAT registrations are covered by a selection of the register of personal income taxation.

7. Social security (ONSS) data at the company level are a source for establishing universes and sampling for the statistics on wages paid. Individual - level data on wages paid may be made available in the near future. Most of the variables needed for these statistics could then be retrieved or calculated from register data. It might then be possible to replace the existing statistical survey by a less frequent supplementary one to gather information on variables not covered by the register.
8. Administrative sources are also being used in support of the SBS. Data from the BNB's centrale de bilans are being used as the main means of checking results from the SBS forms. A law of 1978 requires all Belgian and foreign enterprises that file annual accounts with commercial tribunals to send copies of these accounts to the BNB which in turn is obliged to

make them available to the public. The accounts are in a standardised format (with an abbreviated version for small companies) in accordance with the Belgian General Accounting Plan. The analyses available from the BNB include balance sheets, profit and loss statements, value added and investment. For larger and medium-sized companies which publish according to the complete scheme, about a quarter of the variables needed for SBS Regulation requirements could be retrieved from these analyses. However, since the analyses are usually not available until nine months after the end of the accounting year, the INS continues to collect the information from the SBS.

Progress, Problems and Plans

9. Some administrative sources not currently used for business statistics may be introduced in the future, namely personal income taxation data and corporate taxation data. The first is already being used in the field of social statistics and may be extended to the business statistics system for reference years from 1998 onwards, particularly to get information on professional services provided by sole practitioners where DBRIS coverage is lacking. Practitioners with employees, however, will continue to be covered by structural surveys. Corporate taxation data may be used as a means of obtaining usable data for small companies under all NACE headings that are not adequately covered in the BNB centrale de bilans analyses.
10. The National Register system for individuals does not extend to businesses. The INS has

been able to link VAT, the National Register of legal persons and social security files although these do not share a unique identifier. There seem to be no particular legal or technical obstacles to a more thoroughgoing linking of statistical and administrative databases.

11. The steady federalisation of the nation points towards the allocation to the regions of several administrations that were previously unitary ones. This means that the INS will need to make many more agreements in order to maintain the supply of data from administrative sources. There is also the risk that if the regions create independent statistical institutes, collection practices across the country may begin to diverge with adverse effects on data comparability. The INS is therefore conscious of the imperative to continue inter-service co-operation on the widest possible scale if the possibilities of using administrative sources are not to be lost.

Special features

12. Features of the Belgian system of interest for statistical use of administrative sources include the following:
 - 1) successful linking of VAT, the National Register of legal persons and social security files, despite absence of a common business identifier system
 - 2) availability of analyses from the BNB's Centrale de Bilans for checking SBS returns.

Select Bibliography

D E N M A R K

Statistics Denmark (DS) possesses a well-known and long-established register-based statistical system. The fundamental characteristic of the system is its ability to link registers of persons, workplaces and buildings and dwellings by means of common identifiers applied respectively to natural persons and to legal persons. The register-based system specific to business statistics has as a key component the Central Business Register dating in its current version from 1995/95 and other components are formed from statistical inquiries, other statistics and a variety of administrative sources. Information stored in this system will provide many, though not all, of the data required for structural business statistics. Annual statistical surveys are still needed to obtain business operating account variables but even these will use questionnaires following the formats used for annual declarations that businesses make to the Customs and Tax Authority. Such declaration taken together will also be used to gross up sample survey returns to population values.

Institutional Position

1. Centralisation has been a principle of the organisation of Danish official statistics from 1850 onwards. Since its creation in 1966, Statistics Denmark (DS) has been responsible for all stages of the gathering, production and dissemination of most official statistics, excepting statistics on environment, finance, fisheries, health, public services and R&D. These latter are produced by the ministries concerned in co-operation with DS, usually through the media of advisory committees. Administratively, DS comes within the sphere of the Minister of Economic Affairs and its Director General, the National Statistician, is ranked as the head of a government department. DS is, however, legally an autonomous institution under its Board of Governors and financially also enjoys considerable independence arising from its ability to sell statistical and research products to external customers.
2. The National Statistician chairs a Planning Committee in which heads of DS departments also participate to draft the annual statistical work programme. This draft programme is submitted to the Board of Governors for approval, following which the programme is published. Associated with the published programme is an annual Guide that systematically lists the sources of Danish statistics. The Board of Governors in practice advises on priorities for the work programme, co-ordination of the

means for accomplishing it and developments in users' statistical needs. In this work, it can call upon advice from 7 subject-specific Consultative Committees, the members of which collectively represent the great national interests including education and research, industry, labour organisations and local administrations.

Legal Framework

3. The legal environment, especially concerning the utilisation of administrative sources for business statistics purposes, is comprehensive and relatively straightforward. The milestones in its development have followed logically upon one another and the main ones are indicated below:
 - Act No.196 on Statistics Denmark of 1996, as subsequently amended, empowers DS to:
 - (a) act as the central authority for Danish official statistics
 - (b) undertake collection, processing and publication of information for local authorities, organisations and private enterprises
 - (c) oblige other public bodies with proposals for statistical activity to notify DS of these with a view to their co-ordination
 - (d) supervise or assist in the establishment and use of administrative registers, which can also be used for statistical purposes.

- The Population Registers Act of 1968 authorised the Ministry of the Interior to create the Central Population Register (CPR). This is a national computerised register existing alongside the traditional municipal registers and containing a fixed identification number for each natural person that is also used throughout the public administration.
 - The Business Register Act of 1975 authorised DS to introduce a Central Business Register of Enterprises and Establishments. This register contains details of legal units, together with their departments or branches (workplaces), which are entitled or obliged under other legislation to register with public authorities or institutions. Again, the Act requires a numbering system for the units in this register that should also be used in all public business registers. Personal numbers from the CPR are also held for individuals if, as business operators or employers, they are the owners of business enterprises and have liability in respect of them.
 - An Act of 1977 set up the Register of Buildings and Dwellings (BBR) containing identification numbers and other information of specific use for statistical purposes such as age, size, use and amenities.
 - The Danish Public Authorities' Registers Act of 1978 permits data from administrative and statistical registers to be linked on the strict conditions that the purpose for doing so is purely statistical and that no information about individuals is disclosed. In general, individual data from statistical registers must not be communicated to third parties and in particular statistical registers must not be used as a basis for administrative decisions concerning individuals. A Data Surveillance Authority monitors operations of all registers maintained by public bodies.
4. This legislative activity has had a number of favourable outcomes for Danish statistics in practice:
- DS can co-ordinate the development of all registers of actual or potential statistical interest.
 - Statistical utilisation of information in administrative registers is entirely within the competence of DS.
 - All administrative registers use the same identifiers.
- The three main identifiers in the CPR, the Central Business Register and the BBR can be used together with information in other registers to obtain statistics relating to individuals, their workplaces and their housing conditions without recourse to special statistical inquiries.
 - While the Central Business Register forms the nucleus of the Register-based System of Business Statistics, DS can also operate it for the benefit of other public bodies in matters of business registration and with a view to linking and simplifying business registration processes.
 - The Danish data protection law recognises a special position for statistics because these are held to be distinct from administrative activity based on individual data.

Business Statistics System

5. Administrative registers play an important part both directly and indirectly in the production of business statistics but by no means the only part. Their early impact was, however, considerable. DS developed statistics of turnover from VAT returns in 1968. Statistics of employment in business enterprises based on employers' returns to the Supplementary Pension System followed in 1971 and statistics of total wages paid taken from tax authorities' data were added in 1974. The general business enterprise censuses previously carried out at 10 yearly intervals thereafter lapsed. Some statistical surveys are nonetheless still carried out. The main survey takes the form of the direct collection of balance sheet and profit and loss account data combined with administrative data, for which more details are given in paragraph 8 below.
6. Developments further to the consolidation of the Central Business Register in 1975 culminated in the introduction of an integrated, modernised business register system in 1994/95. In addition to the characteristics noted at paragraph 3 above, the Register contains details of location, form of ownership, principal activity classification and size. The Register is used as a source for the Register-based System of Business Statistics, the Register of Statistics on Workplaces and the Employment Classification Module. Another important source for the two last-mentioned is the Central Register of Salary Information (COR) compiled the Central Customs and Tax Administration and containing

annual information on payments for work and transfer payments made by employers, pension funds etc.

7. The Register-based System in turn has as its nucleus a base register containing key cross-reference identifiers such as SENR (identification number in both the VAT and PAYE settlement systems), JUR (business register number) and the workplace code. Additionally, there are nine sub-registers covering various sectors including industry, construction, wholesale and retail trade, tourism and transport as well as a special one for multi-activity businesses. Each sub-register contains all the available key data for every business in scope, taken from survey questionnaires, other statistical sources, the Central Business Register and about a dozen other administrative registers.

Data sources for SBS

8. The use of the Register-based System is illustrated by the sources that DS proposes to use for meeting the requirements of the SBS Regulation.

Business demography variables

The variables in question relate to numbers and changes in respectively enterprises, local units, kind of activity units, retail stores, and fixed stands or stalls. The Central Business Register will be the main source and in particular information from the Customs and Tax Authority's files on VAT and personal income tax. Surveys done by DS in collaboration with the Customs and Tax Authority will provide additional information for local kind of activity units.

Employment data

The variables here relate to numbers of persons employed, employees, part-time employees, apprentices, numbers of full-time equivalents and number of hours worked by employees. The main sources will be the CPR and other registers for income tax, unemployment compensation, wage payments and labour market policies (e.g. on job-training). Supplementary data for LKAUs will again come from special surveys.

Accounts data

These data relate to the variables for turnover, gross

operating surplus, purchases, stocks, labour costs, gross investments, marketing expenditure, share transactions and payments to sub-contractors. Figures for these variables will come from the new accounts based information system that combines survey techniques with administrative data. The survey questionnaire is a very detailed one that seeks information on a large number of variables from enterprises' accounts. The questionnaire will go to all of the largest enterprises and a sample of smaller ones. Survey results will be supplemented by information that almost all businesses must render to the Customs and Tax Authority for important items in the balance sheets and profit and loss accounts. The combined results will then be grossed up for the total population of businesses using universes from the Register-based Business Statistics System.

Other variables

For the remaining SBS variables, no administrative sources are available and direct statistical surveys will be used.

Special Features

Special features of the Danish statistical system of interest for the statistical use of administrative sources include the following:

- 1) A body of statistical legislation consciously developed over many years to permit taking full advantage of administrative sources for statistical purposes.
- 2) A system of personal identification numbers of natural persons dating from 1968 and a system of identification numbers for legal persons dating from 1975, both of which must be used in all relevant public registers.
- 3) An integrated register-based business statistics system with subject-specific sub-registers, all containing data for in-scope units taken from statistical inquiries, the central (statistical) business register and numerous administrative registers.

Select Bibliography

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DEUTSCHLAND

The Statistical Office of the Federal Republic of Germany (StBA) operates within a statistical system characterised by substantial delegation of collection processes to state governments (Länder) and by strict compliance with laws designed to protect privacy and uphold legitimacy of government activities. Administrative sources have nonetheless been utilised in various statistical fields although only to a very limited extent as yet for business statistics. The StBA started in 1995 with the methodological work to compile a statistical business register, using the contents of four administrative registers respectively for VAT, employees' social security records and details of memberships of Chambers of Commerce and Handicrafts. The new act on statistical registers of June 1998 provides the legal basis for this. The StBA's aim is to combine the contents of these registers so as to achieve maximum coverage of units, whilst at the same time avoiding duplicate registrations. The legal environment effectively precludes use of a common business identifier in the different registers and the StBA has therefore resorted to matching businesses by their addresses. Because of the fact that matching addresses is only successful in about 30% of the cases, there will be surveys to find out the registration numbers of the units in the administrative sources. These numbers will be part of the business register data to be used for the identification of the units for the yearly up-dating processes. Coverage of structural business statistics surveys is currently limited to businesses with employment of 20 or more but, again, extension of coverage to smaller businesses is under consideration. The findings of a research institute's study about making more use of administrative sources to cut down statistical reporting burdens on businesses are expected to be reported to the Economics Ministry in January 1999.

Institutional Position

1. In accordance with the federal structure of the Federal Republic of Germany, statistical tasks are distributed between the Federal Statistical Office (StBA) and the statistical offices of the sixteen Länder. While the StBA is in overall charge of the preparation of federal statistics, the Land offices are -as a rule- responsible for the collection and processing of data at the Land level. The StBA compiles and disseminates the results for the country as a whole.
2. The StBA's place in the German government is as an independent agency within the ambit of the Federal Ministry of the Interior. The President of the StBA is appointed by the Head of State. As well as having statistical duties, the President is responsible for supervising general elections at the Federal and European levels. In his statistical capacity, the President chairs the Statistical Advisory Committee (SB) which is composed of representatives of various federal

ministries, the heads of the Länder statistical offices, representatives of business, labour unions and science as well as the Federal Data Protection Officer. The SB is itself assisted by a system of technical committees and expert groups. In Germany, each activity in the field of statistics requires a specific legal foundation. The responsibility for preparing these legal foundations rests with the competent federal ministries, e.g. with the Economics Ministry for economic statistics. Some agencies compile and publish their own statistics, notably the agriculture, transport and labour administrations, and the Bundesbank.

Legal Framework

3. Official statistics are regulated by the Act on Statistics for Federal Purposes of January 1987. This Act replaced the statistics act of 1953 and the statistics act of 1980 which had revised the 1953 act. The act of 1987 also reflected the

contents of the 1983 Decision of the Federal Constitutional Court concerning the Population Census (which in consequence was delayed from 1981 until 1987 and was then held in a much revised form). The statistical confidentiality provisions of the Act protect "individual statistical information" which includes all information provided by a natural or a legal person enabling a set of federal statistics to be compiled. The permissible bounds of statistical activity concerning natural persons are further affected by the Bundesdatenschutzgesetz (Federal data Processing Law) of December 1990 that revised an earlier statute of 1977, again in view of the more rigorous legal climate.

4. The Decision and the subsequent Acts have all been the subjects of extensive commentary but briefly and at the risk of some simplification, it has been made clear that the legal environment of statistical work at the federal level has some distinctive characteristics.

- The Federal Basic Law states that any State interventions affecting the fundamental rights of citizens must have a legal basis. These interventions include official statistical surveys and also the use of many administrative sources for statistical purposes.
- Each law to authorise a statistical survey must state whether or not the requirement to respond is compulsory. Surveys carried out for statistical purposes at the European level can only be carried out on a compulsory basis if the governing Community legal act explicitly provides for this. Surveys may be carried out for short-term special purposes without due legal process but their scope is limited to 10,000 individuals and compliance is voluntary.
- Legal authorisation is not necessary to make federal statistics by "drawing exclusively upon data from generally accessible sources". Access for statistical purposes to "closed" databases such as those on taxation and social security that exist at the Federal or Land levels is limited, however, by statutory rules that such databases may only be used for the purposes which are identified in the underlying legislation. Moreover, such access is only possible at the Federal level and is also circumscribed by obligations to respect confidentiality of individual records.

5. Other legal provisions relate specifically to the need when processing survey returns to

separate from "primary" data (and suppress as soon as possible) the "auxiliary" data such as names and addresses and to the strict division between "statistical" and "administrative" activities. It is also worth noting that the federal principle in general means that Federal laws are implemented by each of the 16 Länder. The constitutional environment is therefore unfavourable to any attempts from the Federal level to impose uniformity in matters of detail. Moreover, the attribution of any common business identification number to sole proprietorships and the self-employed has proved to be a particularly sensitive data protection issue.

Business Statistics System

6. Notwithstanding the present situation, administrative sources have found applications in making statistics for, e.g. population demographics, employment education and social services, public finance, administration of justice, agriculture, insolvencies, turnover tax (i.e. VAT) revenues and the environment. With the partial exception of statistics of construction (i.e. where information based on building permits have been used), administrative sources have not, however, been applied to any extent in the field of business statistics. Short-term and structural business statistics for national and Community requirements have for the time being continued to be compiled from the results of primary statistical surveys. These surveys have so far generally covered enterprises with 20 or more employees. A comprehensive statistical business register of the type envisaged by the Community Registers Regulation of July 1993 did not exist. Meanwhile the separate files of addresses to conduct these surveys are matched and form the basis of a statistical business register with about 2 mio units. Even units from external sources have already been added, as far as there was access to them (banking, insurance, research institutes).

Progress, Problems and Plans

7. The StBA carried out a survey in 1993 to establish which administrative files would be suitable as sources for the particular items of information needed to set up and run the statistical business register in accordance with the Registers Regulation. It was found from the survey that no single administrative file could be used to supply all the units and the information about them

needed for the proposed register. There was however the possibility of assembling the contents of the register by combining administrative information from four particular sources. The StBA accordingly began negotiations in 1994 with the authorities responsible for these sources with a view to identifying and overcoming the legal difficulties of obtaining access to them. The progress with these negotiations reached the point at which it was possible to prepare a draft Law on Statistical Registers for submission during 1997 to legislators. This Law came into force on 24 June 1998.

Sources have been chosen which singly or together can provide key information, namely

(1) Tax authority records

These can be used for figures of turnover. The data file contains names of all "taxable persons" liable for VAT. The file includes enterprises that engage independently and continuously in a commercial or professional activity for purposes of realising receipts. Enterprises with taxable annual turnovers below a set threshold (DM 32,500 in 1996) are excluded. Coverage is also affected by the practice of treating all members of an enterprise group as a single taxable person. Where a taxable person is recorded under a private address rather than a company address, the count of enterprises can again be affected.

(2) Federal Labour Office (BA)

The BA's data files relate to establishments with employees liable for social security contributions. While the files are very extensive, they do not contain anything about sole proprietorships or other self-employed categories.

(3) Chambers of Industry and Trade and

(4) Chambers of Handicrafts

These sources are particularly valuable for information missing from the BA files on sole proprietorships and the self-employed. Membership of both types of Chamber is compulsory for the business-people concerned. Membership files are maintained from information generated by trade registrations. These latter are nationally standard forms which commercial enterprises and local units use to notify their local authorities about business start-ups, closedowns and other relevant changes. Data files are in many cases

held centrally by computer. Ensuring continuous income from memberships provides a motive for maintaining maximum coverage, currency and reliability of the files. The Chamber of Industry and Trade files are also sources of information separately on enterprises and local units and on ownership links between these.

1. The StBA is well aware of the problems, which are likely to arise from differences in definitions and other idiosyncrasies in the administrative files chosen. Even addresses are unlikely to be recorded in a standardised manner. Again, turnover recorded in the tax files does not always conform to the definition used in the Fourth Accounting Directive. The immediate task, however, is to compile the new business register from the combined administrative and statistical sources without including the same units more than once. This task is complicated by the absence of any common business identification numbering system. Matching of addresses in the different files is the next best option and Eurostat funded a project that allowed the StBA to test commercial software packages for doing this. It turned out that even the one package which met all the technical criteria could not provide a complete solution and that substantial manual work to eliminate multiple registrations would still be necessary. If the units cannot be found by matching addresses, the units concerned will be asked straightforwardly to enter their identification numbers on a survey questionnaire. In this way, it should be possible to match and link together the units.

2. The Federal Economics Ministry has commissioned an economic research institute to carry out a study on the scope for greater statistical use of administrative data. This study has the particular aim of reducing compulsory reporting obligations by businesses. A provisional report was made to the Economics Ministry in April 1998 and the study will be finished in January 1999.

8. The StBA is now working to introduce a statistical inquiry system that will meet the core needs for Community structural business statistics for reference years from 1999 onwards. It is under consideration whether coverage of the primary

survey system can be extended to enterprises with fewer than 20 employees on the basis of a fairly small sample for which an abbreviated questionnaire should be used. The amount and the content of the information obtained in this way for the smaller enterprises included in this part of the survey system could form the foundation for estimating population parameters of key SBS variables. Universes for this estimation process will be provided from the contents of the fields held in the new statistical business register which is in conformity with the Community Registers Regulation. The StBA's intention is that the new statistical business register should be up-dated from information held in four administrative registers supplemented with the regular information from the primary statistical surveys. It is hoped that this course of action will avoid placing additional burdens on businesses, about which there is considerable political pressure coming from the highest level.

9. Concerning the information for the Community structural business statistics and the Community short-term statistics for those fields, where there are no or only few national statistics (i.e. NACE I,K,M,N,O), there is a discussion, whether the information can be derived from alternative sources. It is not possible to create new quarterly primary statistical surveys for that purpose. There are two administrative sources which will be used for the yearly business register updating, where also monthly or quarterly data are available on employees and turnovers. These data could be combined with the business register and which will be used for estimations of statistical data. But up to now it is not sure whether

it can be managed for the data from the administrative sources to be delivered more frequently and in time for the proposed use.

Special Features

10. Features of the German statistical system of interest for statistical uses of administrative sources include the following:
 - 1) With very few exceptions, no statistical activity (including statistical use of administrative sources) is permissible at the federal level without a specific legal basis
 - 2) Public sensitivity about confidentiality precludes any possibility of introducing common business identification numbers for use in different government databases
 - 3) Collection of statistical information is the responsibility of the Länder and the StBA does not interfere in matters of detail about this.

Select Bibliography

Statistikregistergesetz, (Bonn, Bundesgesetzblatt, June 1998)

Entwurf des Endberichts "*Möglichkeiten verstärkter Nutzung von Verwaltungsdaten für Zwecke der Wirtschaftsstatistik und zur Entlastung der Wirtschaft von statistischen Berichtspflichten*" (Tübingen, Institut für Angewandte Wirtschaftsforschung, September 1998).

ΕΛΛΑΔΑ

Industry, construction, distributive trade and services (NACE Rev.1, D, E, F, G, H, I), especially SMEs

Institutional Position

1. Statistical departments were established within government ministries in 1910 and a National Bureau of Statistics followed at a later date. The Statistics Law of 1956 created the National Statistics Service of Greece (NSSG) which is an independent public agency within the domain of the Ministry of National Economy. The NSSG consists of a Central Service with 15 divisions; the statistical services attached to Ministries, public services and authorities; and regional statistical offices in each of the 51 nomoi into which Greece is administratively divided. The staff of these services all belong to the NSSG.
2. The 1956 Law was developed by further Laws in 1989, 1986, 1988, 1991 and 1996. These together authorise the NSSG to collect, classify, process and analyse all national statistics required both for Greek and international needs. The NSSG is also required to co-ordinate the tasks of the divisions of the Central Service with the activities of the statistical services attached to the ministries, so that the country is supplied with an overall statistical programme, "avoiding duplications, limiting expenses and securing the conformity, accuracy and general acceptability of data". The NSSG submits the proposed statistical work programme to the Minister for National Economy for decision; where activities concern ministries, decisions are taken jointly with the relevant Ministers.

Legal Framework

3. The 1996 Law contains provisions on the supply of data from administrative sources and on the development of registers for statistical purposes. All services are required to provide such information as the NSSG may require for statistical purposes. The obligation to supply statistical information is also defined more generally and

there is clarification of the circumstances in which such information is considered confidential. Questionnaires and tables must state if the information may be used for fiscal purposes or in connection with military conscription. If this is not the case, the contents are marked "Confidential" and may not be used by a government authority in connection with liability to income tax or any other levy, or regarding legal disputes.

Business Statistics System

4. The NSSG currently compiles structural and short term business statistics by means of statistical surveys. The sampling frame for all surveys for reference years from 1995 onwards will be the new statistical business register based on enterprises. The register is compiled using information from the VAT Register held by the Ministry of Finance. On the other hand, if a previous Annual Survey has shown a difference in the sector of activity of an enterprise, this is taken into consideration in the Survey that follows. The VAT Register includes a registration number, the name and address of the enterprise, the principal economic activity (recorded at the 4-digit level of NACE Rev.1, value of turnover, number of persons employed and the legal form.
5. For structural statistics for reference years up to 1996, complete enumeration has been made for local kind of activity units (LKAU) with employment of 10 or more and samples have been taken for LKAU with lower employment. The NSSG believes that smaller units may only contribute about 5% in terms of total turnover and value-added which, if confirmed, would render sampling uneconomic. The turnover and employment data held in the VAT (and business) register will be needed to estimate for the whole population of businesses and hence test this hypothesis. A sample survey on very small

enterprises (less than 10 persons employed) has been conducted recently by NSSG. The results were very different among the various sectors. As an example, sector 15 covers approximately 10% of the total value added although sector 16 covers only 1%.

Progress, Problems and Plans

6. In 1993, the NSSG carried out a feasibility study on the use of administrative sources for obtaining information on enterprises. The motives for this study were to alleviate the statistical reporting burden on businesses and to reduce the NSSG's own survey costs. The study found that

the only source sufficient for the NSSG's purpose was in fact the VAT Register. Sources available, for instance, from Chambers of Commerce and trade associations had only part of the VAT Register's coverage. For the time being therefore, the NSSG has no plans to investigate the statistical possibilities of administrative sources any further.

Special Features

7. The co-location of NSSG staff in various Ministries provides at least the possibility of gaining access to administrative sources if this is thought worthwhile.

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E S P A Ñ A

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The National Statistical Institute (INE) at present only makes use of administrative sources for compiling its statistical business register. An investigation is in progress about extending use of such sources in connection with statistical surveys, particularly to obtain information currently lacking on sole proprietorships. Provisions for the INE to encourage the use of administrative sources throughout the Spanish statistical system are included in the basic statistical law. Other provisions in this law about confidentiality are designed to avoid problems with national legislation on processing of personal data. The Spanish experience of working to resolve the issues for official statistics entailed in moving away from a strongly unitary state towards more decentralised arrangements is of interest farther afield.

Institutional Position

1. A General Statistics Office of the Realm was established in 1856 and this was eventually reconstituted into the National Institute for Statistics (INE) in 1945. The Public Statistics Act, 1989, gave the INE a higher status within government and guaranteed its scientific independence in statistical matters. The INE is now an autonomous agency attached to the Ministry of Economy and Finance. Apart from the head office organisation in Madrid, the INE has a branch office in each of the 50 Spanish provinces to execute the local components of national statistical tasks. The 1989 Act also established the relationships operating in statistical matters between the Central Administration and the 17 Autonomous Regions which are empowered to carry out statistical work independently for their own purposes. A further dimension to the Spanish statistical system is provided by the statistical services of other national government ministries which work with the INE and produce statistics deriving from their own activities, some of which are also found at provincial level.
2. The INE is responsible for overall co-ordination of the statistical services provided by the national administration. It supervises the technical aspects of those services and works to harmonise and standardise concepts, definitions, classifications and methodologies of statistics produced throughout the State system. These issues are regularly considered by the Inter-Ministerial Statistics Commission that is headed by the Chairman of the INE and comprised of the INE's directors and representatives of each ministerial statistical service. The Commission can also recommend projects for inclusion in the National Statistical Plan. The Inter-Territorial Statistics Committee also chaired by the INE has the same remit regarding relations in statistical matters between the national administration and the statistical services of the Autonomous Regions. Co-operation between the State and Regional systems is brought about through voluntary agreements and conventions that enable regional participation in some or all stages of national statistical activities.
3. The INE formulates the National Statistical Plan that covers the INE itself, the ministerial statistical services, the Autonomous Regions and local communities. The Plan covers a four-year period and is broken down into annual work programmes, each of which is authorised by Royal Decree. All the work in the Plan is required to be carried out and national statistics are defined as the statistics included in the Plan, regardless of whether these statistics originate from surveys or administrative sources. The Higher Statistical Council, which is chaired by the Minister of Economy and Finance and comprised of a representative range of users and suppliers, gives a non-binding opinion on the draft Plan.

Legal Framework

4. The 1989 Act defines the INE's functions and regulates its relations with other parts of the

Spanish statistical system. Among the specific tasks assigned to the INE are "the use for statistical purposes of the data from administrative sources, as well as promotion of its use by the rest of the State services". Tasks are also assigned to statistical services of ministries including the "use for statistical purposes of the data of administrative origin derived from the Department... to which they are attached". Furthermore, "the Ministries themselves will put in order the registers and files of their activities which might have statistical use, computerising them to facilitate the use of administrative data for statistical purposes and the release to interested parties of any information contained in such registers and files on the terms stipulated in the laws on the subject". To deal with the regional dimension, the Inter-Territorial Statistical Committee is charged to "promote the joint use, by the State and the Autonomous Communities, of the data resulting from the various administrative sources which is suitable for use in the development of statistics for State or Regional purposes".

5. The Act also makes provisions regarding obligations for responding to statistical inquiries and for statistical confidentiality. Response to inquiries is only compulsory when it is specified in a statistical law enacted for the purpose. In practice, recurrent inquiries included in the National Statistical Plan have been identified in an appendix to the Budget Law as a technical device to obtain the necessary authority. The 1989 Act is likewise relatively strict about statistical confidentiality which is, moreover, applicable to all parts of the statistical system. As an expert commentator (Georges Als) has written, "individual data may be communicated only between statistical services for statistical purposes and then only on condition that the receiving statistical service has the necessary means of preserving confidentiality." An important consequence of this approach is that the INE was successful in keeping statistics outside of the scope of the law of 1992 which regulates the automated processing of personal information.
6. The 1989 Act entitles the State statistical services to request data from any natural or legal person in Spain, including other State institutions, Autonomous Regions and Local Authorities. When administrative sources are required for statistical purposes, the authorities that hold them are required to "co-operate quickly and proficiently". Exceptions are made for authorities concerned with National Defence

and State Security. This is also in practice the case with tax data because of its sensitive nature: only anonymised and aggregated data can be transmitted.

Business Statistics System

7. The current situation is that the INE itself only makes use of administrative sources to compile its Central Register of Enterprises (DIRCE). All short-term and structural business statistics continue for the time being to be compiled from statistical surveys, for which the DIRCE provides the statistical frame. The specific administrative sources used to maintain and update the DIRCE are as follows:

Tax system sources

- Files derived from the Economic Activities Tax (IAE)
- Files derived from Income Tax (IRPF)
- Special operations on files for VAT and Tax on Profits of Corporations

Social sources

- Files on counts of Social Security Contributions
8. For structural statistics, INE is introducing an Annual Industrial Survey system consisting of a core inquiry to about 40,000 units and satellite inquiries to smaller constituencies on specialist topics such as R&D and environmental statistics. Annual surveys currently make complete enumerations of all enterprises with employment of 20 or more and enterprises with employment of 1 to 19 are sampled. Enterprises with no employees (i.e. sole proprietorships) are excluded from these surveys on the grounds that, though numerous, they are difficult to keep track of, have problems in responding and contribute relatively little to total business activity.
 9. Regarding short-term statistics, the Institute of Fiscal Studies (IEF) which is also part of the Ministry of Economy and Finance has experimentally constructed an Index of Turnover from monthly VAT returns made by large enterprises. When compared with a surrogate Index for all enterprises constructed by multiplying together the Index of Industrial Prices and the Index of Industrial Production separately compiled by the INE, the results are encouraging. The IEF has

pointed out that further work would be possible to compare differences in the VAT and statistical sources at enterprise level because the Fiscal Identification Number is included in the INE's surveys and DIRCE as well as in the VAT files. For the time being, the INE does not have any plans for further work with the IEF on this project. The possibility of the Index first been run and issued by a department within the Fiscal Administration is been considered. A temporary delegation from the part of the INE and a corresponding supervision of the task could help launching the project.

10. It is to be mentioned that the IEF is the department within the Fiscal Administration that has produced yearly statistics based purely on fiscal data, covering the period 1989-1995. Three statistics are published including variables such as: number of salaried and retired persons, number of unincorporated enterprises, value added, turnover, exports, imports, wages ... as well as the number of incorporated firms and the corresponding accounting data. The fiscal sources supporting these statistics, most of them mentioned above, are: the VAT, the Personal Income Tax (IRPF), the Corporate Income Tax (IS) and the Economic Activity Tax (IAE). Some problems remain to be solved, such as the delineation of local units within the enterprises and the construction of an accurate measure of employment at enterprise level. All three statistics are included in the National Plan for Statistics. The future prospects of these register-based statistics depend on a satisfactory agreement to be concluded between the INE and the Fiscal Administration.

Progress, Problems and Plans

11. The Spanish statistical system has been extensively reconstructed in recent years and the various bodies involved are still in the process of refining their working procedures with each other. It is felt by those involved with the system that a useful next step would be for these bodies to co-operate more closely via agreements or legal provisions that would make it easier to use administrative information for statistical purposes. The INE is particularly concerned about the information gap represented by sole proprietorships in its statistical survey system and is currently studying the possibility of using administrative data to obtain firm data on this group. Results of this study should be available later in 1998.

Special Features

12. Features of the Spanish statistical system of particular relevance for the use of administrative sources for business statistics purposes include the following:
 - 1) inclusion of confidentiality provisions in the basic statistical law that are designed to avoid problems with legislation on processing personal data, e.g. for sole proprietors
 - 2) evolution of a statistical system characterised by significant functional and geographical decentralisation.

Select Bibliography

FRANCE

The National Institute of Statistical and Economic Studies (INSEE) has a long-established and extensive involvement with other parts of the public administration in using administrative sources for purposes of business statistics. INSEE manages the central business register (SIRENE) for the administration as a whole and the identification numbers it assigns to enterprises (SIREN) and establishments (SIRET) are legally required in all official transactions concerning businesses. The activities of maintaining and updating SIRENE are done within a network of information flows generated by many different bodies such as the Centres for Administrative Formalities serving as "one-stop" shops for business registration purposes. Sources for different aspects of SIRENE upkeep include monthly VAT files, annual accounting statements filed for tax purposes (BIC) and annual declarations of social data by employers for social security purposes (DADS). The SIRET numbers held in DADS and SIREN enable matching of the records in both of these sources. The VAT source is also used for compiling a monthly turnover index but otherwise short-term statistics are based on statistical surveys. The BIC source and increasingly the DADS source are important contributors to structural business statistics. The statistical source of Annual Enterprise Inquiries (EAE) is the primary one for businesses with employment of 20 or more but the BIC source when combined with EAE in the SUSE database provides the basis of estimating the necessary figures for smaller businesses. The DADS source is also used in conjunction with the OCEAN business sample selection facility as the starting point for statistical surveys of labour market behaviour. Statistical law in France enables but does not oblige the transfer of administrative data for statistical purposes. Taking additional account of the partially decentralised nature of the statistical system, INSEE therefore operates a system of formal inter-service protocols to regulate the flows of administrative data that it needs. Legislation on data privacy is applied strictly to identifiable data concerning individuals but in practice this does not impede the availability of information about one-man businesses. The effectiveness of administrative sources for statistical purposes has been enhanced by INSEE's activities in the field of statistical and accounting co-ordination. For instance, public authorities are required to use the statistical activity and product classifications for which INSEE is responsible. INSEE has also been involved in developing the General Accounting Plan (PCG) that determines the form and content of business accounts. The formats for the BIC and EAE also take account of the PCG.

Introduction

1. The statistical use of administrative sources in France has a long history. Attempts to exploit public records using electro-mechanical technology began more than 60 years ago and the national registration system of personal identification numbers (NIR) dates from 1941. Progress in this field accelerated in the post-war period which can conveniently be dated from the foundation in 1946 of the National Institute for Statistics and Economic Studies (INSEE) as a self-contained Directorate General in the Ministry of Finance. In the economic field, the agenda set by the National Planning Commission (CGP) gave impetus to the systematic compilation of national accounts and to the standardised presentation of business accounts in accordance with the General Accounting Plan (PCG). An official environment of inter-service co-operation in the production of economic statistics using both statistical and administrative sources also developed from this period. Among the administrative bodies which then began to work with INSEE were social security agencies and also the Directorate General of Taxes (DGI) in another part of the Ministry of Finance.
2. During the middle decades of the century, the contours of the official business statistics system took shape under the influence of the national

accountants. A basic division was established between branch production statistics and activity sector statistics with appropriate statistical units of observation, economic classifications, concepts and definitions assigned to each. An objective was set moreover to create a fully articulated national accounts system in which a set of "intermediate accounts" would serve to put accounts of enterprises at the micro-economic level into coherent relationship with the broad aggregates at the macro-economic level. Collection of branch production statistics had been substantially delegated during the wartime years of shortages to trade bodies acting as "approved organisations" which were empowered to conduct surveys on a compulsory basis. This arrangement has continued and the statistical law of 1951 gave it formal recognition.

3. The possibilities for exploiting administrative sources for business statistics have subsequently increased more or less in line with advances in information technology. Milestones in this progress were the introduction of inter-service data transfer by tape in the late 1960s and afterwards by other electronic means; the development of a dual administrative-statistical business register (SIRENE) from 1973; and the compilation of relational databases from 1976 onwards. Two factors have since emerged which in different ways have influenced how far administrative sources can be accessed and analysed for statistical purposes. One factor, which encourages greater statistical utilisation of administrative sources, is the concern to reduce the response burden placed on businesses by statistical surveys. The other factor, which tends towards restricting such utilisation especially regarding the linking of databases, is the concern for protecting the privacy of individuals this is further discussed below. The present situation results to some extent from the continuing interplay of these two factors.
4. The extent to which statistical sources are currently used is also much influenced by the accessibility and timeliness of administrative sources developed by public administration services in regular contact with businesses. In the field of activity sector statistics, three particular administrative sources have all now been in use for more than 40 years. These are:
 - the file of monthly VAT returns (CA3) supplied by the Directorate General of Taxes (DGI)
 - the Annual Fiscal Declarations of Industrial

and Commercial Profits (BIC), again supplied by DGI

- the Annual Declarations of Social Data (DADS) which employers file with DGI and social security offices.

These administrative sources each play some role in the operation of the National Register System for Enterprises and Establishments (SIRENE) and in the production of structural business statistics. (The CA3 source is also important for constructing a monthly sales index to complement the Index of Production but sources for short-term statistical statistics are more usually statistical ones). Underlying the operation of SIRENE is a complex and extensive information-exchange network of "associates" and "information partners" within which the contents of statistical and administrative sources circulate and interact at many levels.

Institutional Position

5. Responsibilities for operating the French public statistical system (SSP), including collection and compilation of business statistics are shared nowadays between INSEE and the statistical services of other government ministries (SSM). The precise division of responsibilities tends to vary with changes in government organisation but the general rule prevails that INSEE is responsible for co-ordinating the public statistical system and the SSM for gathering and presenting information for the broad economic sectors of concern to their particular ministries. The present SSM include those for agriculture (SCEES), industry (SESSI), transport and the construction industries (SES), labour (DARES) and the environment (IFEN). Certain other public bodies have important statistical responsibilities, particularly the Customs Directorate that produces foreign trade statistics and the Bank of France that compiles financial statistics. The legal basis for their collection operations is not, however, the statistical law of 1951.
6. Chambers of Commerce and Industry also carry out statistical surveys, sometimes on a regular basis. With the rare exceptions of surveys done under contract for INSEE or the SSM, these surveys are regarded as private ones. Neither the Chambers nor the "approved organisations" are considered part of the public statistical system but they, like many more organisations at national, regional or local levels, are in practice all involved with the system in some way.

Development of public statistical sources like direct enterprise surveys is, however, a matter reserved to INSEE and the SSM.

Institutional and Statistical Co-ordination

7. INSEE can use various means of co-ordination to ensure that its own role in this network is a central and leading one. The Director General of INSEE sits on the National Council for Statistical Information (CNIS) which has the right to be consulted about the statistical programme and give an opinion about it on an annual basis. The Ministers who have oversight of INSEE and the SSM effectively decide the programme of work, the Minister responsible for INSEE signs the annual decree authorising the programme and the Director General of INSEE promulgates it.
8. Only data collected by statistical surveys covered by the CNIS and which are listed in the annual decree are classed as "official statistical data". What fundamentally determines the dividing line between statistical and administrative activities is the legal basis for organising collection work. If collection is under authority of the statistical law of 1951, the activity is "statistical". If collection is under authority of another law, this will produce an "administrative source". All data collections classed as administrative are carried out on the basis of "administrative forms" which, at the present time, must be approved by the Centre for Registration and Revision of Administrative Forms (CERFA), an authority directly responsible to the Prime Minister. CERFA will in due course be replaced by another body.
9. INSEE also provides the secretariat for three important CNIS committees. The first of these is the Approvals Committee, which has the "survey control" functions of examining the needs for new surveys and the conduct of existing ones. The second one is the Confidentiality Committee which supervises the rules about disclosure of data on identifiable units within the confidentiality framework established by the statistical law of 1951. The third one is the Appeals Committee which considers action to be taken against non-compliance with requests for information.
10. Two other types of co-ordination likewise underwrite INSEE's special position. The first arises from application of statistical norms such as statistical units and classifications that are

necessary for compiling national accounts. Here, special mention must be made of INSEE's responsibilities for making statistical activity and product classifications and for overseeing their implementation throughout the public administration. These classifications in fact have the status of a compulsory inter-administrative language. It is decreed that "they will be used in official texts, decisions, documents, studies and research and in the data processing systems of administrative authorities..." The second type of co-ordination, described in more detail below under "Business register activities", is exercised through INSEE's management of the SIRENE business register.

Legal Framework and Administrative Protocols

11. INSEE's basic law has since 1986 allowed - but not obliged - information held by administrative bodies on legal entities and on individuals (other than about health or sexual activity) to be passed to INSEE and SSM for their use exclusively in connection with statistical purposes. The transmission mechanism is always a formal signed protocol that is bilaterally negotiated according to the circumstances in each case. Protocols are periodically re-negotiated, sometimes not without effort, when circumstances governing use and conditions of supply of information change. New arrangements require new protocols and admission of additional parties to existing protocols requires new signatures. Payment for services rendered under protocols is sometimes necessary, again according to circumstances. DGI's supply of CA3 data to INSEE is effectively free of charge. Nor does INSEE need to pay DGI for the DADS data sent directly to DGI by "special regime" enterprises such as Air France or SNCF, the national railway company. However, INSEE does make payment for its participation in the administrative network that processes DADS data reported by other enterprises and by certain public bodies at local levels.
12. Inter-service transmission of data is subject to the Act of 1978 on Computerised Data Files and Privacy Protection. If the data concerned relate to individuals who are directly or indirectly identifiable, the National Commission for Data Processing and Personal Rights (CNIL) established by the Act must give its approval before transmission is possible. In practice, the Act is

much more relevant to natural persons than to legal persons. INSEE does declare to CNIL details of surveys that it addresses to individual business-people such as sole proprietors. It usually turns out that CNIL is more concerned about questionnaire headings seeking information about personal characteristics like educational qualifications or nationality than it is about performance data such as turnover or wage costs. It follows that any proposed data linking involving the NIR is very carefully scrutinised by CNIL whereas utilisation of the business identification number in the SIRENE business register, whether this relates to legal or to natural persons, is as a rule without restriction.

Business Register Activities

13. INSEE processes administrative information on businesses as part of its special role established by law in 1973 of managing the SIRENE business register on behalf of all public administration services. Key information about births, deaths and changes of legal status of businesses is channelled to INSEE by about 1500 Centres for Administrative Formalities (CFE) each responsible for dealing with all administrative obligations for particular groups of businesses. INSEE receives this information on unitary declarations in standard format. After the declarations have been validated and processed, INSEE re-diffuses the information on them to "associates" in the administration including the CFE and to "information partners" including the SSM.
14. An important part of INSEE's register maintenance activities is the assigning or up dating of unique SIREN registration numbers for each enterprise and of SIRET registration numbers for each establishment. A law was voted in 1994 to require the use of unique identification numbers for enterprises in their relations with the administration. A further law in 1997 specifies that these identification numbers should be the SIREN numbers. Linking of information about businesses in different official (as well as some private) databanks is thereby greatly facilitated.
15. INSEE has a second important role in managing the register which is to attribute a principle economic activity code (APE) drawn from the French activities classification (NAF), which is the national version of NACE Rev.1. This code is in the public domain and is allocated by INSEE for statistical purposes on the basis of declarations made by enterprises. There is the risk that other administrations might be tempted to use this code in the context of their own regulations and this could cause difficulties with the enterprises. Nevertheless, INSEE still considers that this drawback does not outweigh the great advantage that most French enterprises have a unique and high-quality APE code.
16. The main statistical purposes of SIRENE are as a source of statistics on the demography of businesses and as a starting point for organising direct statistical surveys. The legal unit and the local legal unit (i.e. SIRET) initially defined in SIRENE are not ideal for these purposes, given that the organising principles of the business statistics system are ultimately derived from the National Accounts. INSEE therefore seeks to create proper statistical units by identifying as enterprises only those legal units which actively exercise power of decision over use of economic resources and by supplementing the SIRET local legal unit with the ETEC local economic unit denoting a set of local production factors. The local legal unit controlling such factors may change its address, thus causing the SIRET number to change, but because the factors remain objectively the same, the ETEC number will not change.
17. Most of the key activity and status variables held in the SIRENE records for these units are checked and up-dated either directly or indirectly from the administrative sources mentioned earlier. In detail, the sources and their respective uses are as follows:
 - the CA3 source is used to provide an indicator of whether a unit has ceased trading, given that non-payment of VAT for some months is reasonable evidence of this
 - the DADS source serves for up-dating register employment of legal units, including establishments
 - the BIC source is used for up-dating register turnover of enterprises.

Updating of principal economic activity codes (APE) for units are, however, mediated by OCEAN which is a dual purpose tool designed to manage sample survey selections and to organise feedback from survey results for up-dating the actual selection parameters. The source for

some of these updates is actually the Annual Enterprise Inquiry (EAE) but as this is based on a stratified sample with relatively low coverage of SMEs, APE updates can also come from administrative sources. In cases of dispute with enterprises, INSEE seeks supplementary information on which to determine APE codes directly from those concerned.

Sources of Enterprise Statistics

18. The nucleus of structural business statistics data for use at the national and European levels is provided from the long-established Annual Enterprise Inquiries (EAE) system. The inquiries currently cover about 190,000 enterprises, including all of the 80,000 largest ones. The traditional concern of EAE is with the components of Gross and Net Value Added but needs for performance information such as competitiveness and investment activity are now also being increasingly addressed. For more than 20 years, INSEE has also compiled the Unified System of Enterprise Statistics database (SUSE) which combines EAE micro-data with the balance sheets and profit and loss accounts in the BIC for 2.4 million enterprises. The matching of EAE and BIC records is made possible by the presence of SIREN numbers in both systems and is made meaningful by the conformity of the contents of both types of record to the norms of the General Accounting Plan (PCG).
19. By concentrating on about 40 common variables held for each of 80,000 enterprises, the two sources are made to complement each other in SUSE in three ways. First, the coverage of enterprises is greatly extended and the basis for estimation of activity by small and medium-sized enterprises (SMEs) is much improved. Secondly, the quality of the two sources is enhanced by comparing records and filling gaps in both of them (some further information is added from the third source of accounts deposited with Commercial Court Registrars). Thirdly, data on the operational variables in EAE can be supplemented by the financial accounting information in the BIC. SUSE is accordingly the database of choice for a wide range of information at the enterprise level about production, workforce, investment and financial results. Furthermore, SUSE enables comparison of activity sector data with branch production data. This comparison is the basis for INSEE's "Intermediate Accounts" system that provides a bridge between the micro-data of enterprise accounts and the highest levels of aggregation in the National Accounts.
20. The chief drawback of the BIC source remains the relatively long time taken for results to become available. This has meant, for example that a proposal to discontinue the section on the operating account in EAE which duplicates part of the BIC has been abandoned because the latter cannot be made quickly enough for statistical needs. Instead, it is now likely that the EAE system will now only sample SMEs every two to four years (depending on the sector) to provide a benchmark for estimations based on BIC in other years. Timeliness of BIC is nonetheless gradually improving and the SUSE operation for each year is now closed within 19 months of the reference year-end, so enabling one of the four versions of national accounts to be discontinued. Another, less tractable, drawback arises from the origination of BIC in the highly decentralised French tax administration that has about 800 local offices. Losses of information in transit mean that returns for some enterprises are missing.
21. Mention must also be made of a possible threat identified by INSEE to the long-term viability of both the BIC and EAE sources. The contents of these two sources conform to the norms of the General Accounting Plan (PCG) which requires French enterprises to follow a uniform presentation of their accounts in accordance with common concepts, definitions and classifications. The current version of the PCG dates from 1982 and incorporate the model formats and contents of company accounts prescribed by the Fourth and Seventh Community Directives on Company Law. Statisticians, including national accounts specialists, have always been consulted about successive versions of the PCG so as to make information in accounting statements relevant for purposes of macro- and micro-economic analyses. Proposals for new forms of accounting presentations are now under consideration by the International Accounting Standards Committee (IASC) which is responsible for making accounting standards at the world level. These proposals address the need to reflect the increasing globalisation of company operations by recognising all domestic and foreign transactions in the main accounting statements. Whether the effect of these proposals at national level will be to render accounting statements less useful for official statisticians is currently (August 1998) a matter of some concern.

Sources of Labour Statistics

22. As in various other national statistical systems, INSEE's statistics of the labour force and earnings have a social aspect as well as an economic one and their units of observation and analysis differ somewhat from those of enterprise statistics. The statistics are consequently associated with the enterprise statistics system but not fully integrated into it. For many years, the main administrative source for the annual statistical reports on earnings and to a lesser extent on employment has been the Annual declarations of Social Data (DADS) which are compiled from employers' annual declarations of wages paid to their individual employees. Here again, a "one-stop shop" system operates: employers send their declarations to an appropriate single point which integrates them and redistributes them to various official bodies, including INSEE, on a "need to know" basis. The inter-ministerial transmission system used for this purpose is called "Social Data Transfer" (TDS) and it permits employers to submit to the chosen "guichet unique" in tape, diskette or (increasingly) electronic forms. At the same time, a not insignificant volume of DADS information continues to be notified by employers on paper.
23. Thorough utilisation of DADS is still in the process of being achieved. This is partly because of the enormous size of the information system. INSEE receives and processes 2 million DADS containing about 30 million "employee lines" annually. Moreover, the contents of the "employee lines" are not particularly well suited to statistical analysis. A heavy investment was nevertheless made in re-design of the information system, beginning in the mid-1980s and finishing in the early 1990s. This has improved data quality, introduced a regional dimension, accelerated availability of results (provisional results within 9 months of the reference year - end, final results within a further 6 months) and altogether has made the work of adapting DADS for statistical purposes considerably easier.
24. INSEE's approach to the problem of making DADS statistically usable started from the fact that DADS records contain SIRET numbers for employers' establishments and NIR numbers for the wage and salary earners in the establishments. It was therefore possible to use the 1994 DADS in conjunction with OCEAN as a frame for selecting employers and employees to take part

in sample surveys to obtain information on labour market variables. Among these variables were total workforce, total annual paid hours, annual and monthly pay, components of annual pay and other beneficial payments made by employers. Those selected for the samples were also asked to check personal information held about them in DADS that was pre-printed on the survey forms with the approval of the CNIL. The level and quality of response to these surveys were considered good enough to plan for a new method of meeting national and European requirements for information on earnings structure and labour costs. Instead of carrying out burdensome large-scale statistical surveys, INSEE will get the results needed from a combination of DADS with supplementary and smaller-scale statistical surveys.

25. INSEE additionally takes advantage of the existence of SIRET fields in both SIRENE and DADS to update register employment in SIRENE by matching both files at the SIRET level. The existence of the NIR field in DADS makes possible a check on the completeness of DADS as a source. Another use of the NIR field is for matching lines in DADS for different years, which generates a very rich source of data for longitudinal studies.

Special Features

26. Features of the French official business statistics system of particular interest with respect to administrative sources include the following:
- 1) System co-ordination is ensured by a combination of formal committees, national accounts-driven statistical norms and management responsibility for a dual-purpose business register, in all of which INSEE plays leading roles.
 - 2) The passage of administrative data for statistical purposes is in practice regulated by a series of inter-service protocols that are made necessary by the discretionary nature of the 1986 statistical law and by the scrutiny provisions of the 1978 data privacy law.
 - 3) Actual access to some kinds of administrative data, e.g. DADS, is greatly facilitated by the practice of combining various kinds of administrative documentation for businesses into a single declaration which a designated agency verifies and circulates among the other bodies concerned.

- 4) The widespread use of SIREN and SIRET numbers has opened the possibility of linking information about businesses and their employees in different databanks but this has not yet occurred to the fullest degree because of concern for protecting the privacy of individuals.
- 5) Enterprises' own accounts, their annual fiscal declarations and the contents of the statistical inquiry forms they receive all conform to the norms of the General Accounting Plan, a situation which (for the time being at least) helps to reduce reporting burdens and improve analytical possibilities.
- 6) Considerable efforts are made to add statistical value to administrative sources whether by using them as frames for statistical surveys (DADS), by combining them synergistically with statistical sources (BIC and EAE) or by redefining their basic units and causing them to interact dynamically (SIRENE).
- 7) Statistical sources are likely to remain the predominant ones for short-term statistics and for structural business statistics of large enterprises; statistics of SMEs for most years are likely to be based on estimations using administrative sources in conjunction with benchmark statistical data.

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I R E L A N D

Most official statistics, including business statistics within the scope of Community legislation, are compiled by the Central Statistics Office (CSO). There has been explicit recognition since the 1980s of the need to exploit administrative sources more thoroughly for statistical purposes. The Statistics Act of 1993 has facilitated the CSO's access to these sources. Changes now in hand about the way the CSO organises compilation of business statistics and also the forthcoming implementation of a new Combined Business Register are likely to lead to more efficient utilisation of the administrative sources accessed. However, such sources will continue to be used only in support of business register maintenance and statistical surveys. Introduction of an integrated system of business and personal identification numbers that might permit production of statistics from inter-linked public databases is not a possibility for the foreseeable future.

Institutional position

1. Following national self-determination in 1922, most official statistics work in the new State was concentrated in the Statistics Branch of the Department of Industry and Commerce. The Statistics Act, 1926, (amended in 1946) provided a statutory basis for this work. In 1949, responsibility for official statistics was transferred to a new Central Statistics Office (CSO) in the Department of the Taoiseach (i.e. the Prime Minister). The CSO is administratively part of the Civil Service and the Taoiseach is accountable to Parliament for the CSO's activities.
2. The Statistics Act of 1993 defines the CSO's functions, as "the collection, compilation, extraction and dissemination for statistical purposes of information relating to economic, social and general activities and conditions in the State." The 1993 Act also designates the Director General as the head of the CSO and affirms his independence in statistical matters. The total core staff of the CSO is currently about 500. Since 1994, about 370 staff members are located in Cork and 130 staff in Dublin. There is no regional organisation structure except for field staff engaged on large-scale activities such as the Census of Population and the Quarterly National Household Survey.
3. Following a government White Paper on the institutional structure of the CSO in 1985, a National Statistics Board (NSB) was established in 1986 to advise on strategic policy. The NSB drew up a plan for statistical development in the period 1987-1992 and reviewed progress on its implementation by the CSO in annual reports. This five-year strategic planning and review system continues. It was put on a statutory basis in the 1993 Act. The system is supplemented by a three-year corporate planning cycle within the CSO.
4. The 1993 Act designates the members of the NSB as the Director General, one nominee each from the Prime Minister's Department and the Department of Finance and five other members, including users of official statistics. The NSB identified at an early date one of the gaps in the Irish statistical system as being insufficient statistical use of administrative sources. Subsequently, the 1993 Act has given the NSB an arbitrating power on "any conflicts which may arise between the [CSO] and other public authorities relating to the extraction of statistics from records or to the co-ordination of statistical activities". There has been no occasion as yet for needing to use this power.
5. The basic statistical law is the Statistics Act,

Legal Framework

1993, which superseded and further developed upon the earlier legislation of 1926 and 1946. In addition to the provisions mentioned above, the 1993 Act sets out a framework in which the information within statutory scope can be collected from persons, undertakings or public authorities on voluntary or compulsory bases according to need. The principle is laid down that the information is to be used only for statistical compilation and analysis purposes. It is further provided that no information identifying persons or undertakings can be disclosed without their consent. This approach is compatible with that of the Data Protection Act, 1988. A workable compromise between statistical needs and individual privacy therefore operates.

6. A major innovation in the 1993 Act is Part IV which is wholly concerned with the "Use Of Records Of Public Authorities For Statistical Purposes". Section 30 empowers the CSO to request any public authority to grant access to any records in its charge so as to obtain copies or extracts from these. Exceptions are, however, made for records relating to the judicial system, the police, prisons and the work of the Ombudsman. Access to specific medical records also requires agreement of the Minister of Health. Section 31 obliges public authorities to consult with the Director General of the CSO and "accept any recommendations he may reasonably make" when they are planning to "introduce, revise or extend any system for the storage and retrieval of information." This is relevant to administrative bodies that are producing statistics from their own data. Examples here include health, education, environment and criminal justice statistics. Operation of this part of the 1993 Act is still coming into effect and Section 31 in particular has yet to be fully tested in practice.

Business Statistics System

7. Work on business statistics has traditionally been split up on a thematic ("product") basis between teams responsible for all stages of particular inquiries from questionnaire and sample designs to analysis and publication of results. Following recommendations of an external review in 1997, this "product-based" structure is being adapted in the business statistics directorate to a "process-based" structure. The different teams will be organised on a functional basis dealing, respectively, with data capture and editing and with analysis and publication of results. This will have the advantage that the different business inquiries can be brought together for all the work, including contact with individual business enterprises, done by a particular functional team. The possibilities for applying standard working methods are accordingly increased. Moreover, the conditions are created for exploiting administrative sources more extensively and systematically. The combination of the monthly and quarterly inquiries is currently being examined on a pilot basis to assess the practical issues involved.
8. In concert with the move from a product-based to a process-based division of inquiry work, the traditional system of sector-specific business registers is being replaced by a single Combined Business Register covering Industry, Construction and Services for both enterprise and local unit statistics. The new Register, developed in collaboration with Statistics New Zealand, is due to come on stream by the end of 1998. The main objectives for the new Register include ensuring that common and EU-compatible units and classifications are used consistently in all inquiries; providing a sampling frame for inquiries; and enabling better management of the response burdens on SMEs. The new register is a statistical tool solely for the CSO's own use. Because of public concern and legislative provisions about data protection, there is presently no system of common identifiers for either natural or legal persons which public authorities might use to link contents of different administrative databases. However, the Revenue Commissioners, who are responsible for direct and indirect taxation of individuals and businesses, are developing a new, integrated business registration system that may improve the statistical potential of taxation records in the future.
9. Structural business statistics for Industry and Construction will continue to be compiled primarily from results of annual surveys of enterprises and local units. All 4,400 enterprises in Industry with 3 or more employees are surveyed but those with fewer than 13 employees and below a given turnover threshold receive a shorter inquiry form. For Construction, the current register contains about 6,800 units, of which about 6,500 have employment below 20 and 2,000 consist of self-employed persons. The coverage of small building enterprises has traditionally been very problematic because of the

volatile nature of small enterprises in the sector, the easy switch between employee and self-employed statuses, the use of contract workers and the absence of a comprehensive up-to-date register source. Only the approximately 300 units with 20 or more employees are therefore eligible for inclusion in the current annual survey. Survey returns for Construction are grossed up to population estimates by means of employment estimates from other sources such as the Labour Force Survey.

Specific Sources

10. The main sources for the current business register system are VAT administrative records and the listing of the non-domestic customers of a national public utility. These are supplemented by the comprehensive industrial local unit register maintained by the national authority responsible for industrial development and a range of different but incomplete sources relating to the construction sector. All newly identified enterprises (i.e. births) are surveyed in a statutory business register survey (with a field follow-up of slow respondents). The register particulars of existing enterprises are updated from their returns to existing surveys and by postal inquiry on a four-year rotating basis.
11. Tax administration data are an essential component of the system used to compile national accounts. A statistical section within the office of the Revenue Commissioners compiles data on profits of incorporated businesses and the self-employed. Import and export returns for large enterprises derived from the Customs and INTRASTAT survey systems are also compared with industrial survey data at the level of the individual enterprise to identify and reconcile differences.
12. The administrative sources with the greatest potential for statistical purposes are the VAT and personal income tax (PAYE) systems. However, the potential of the VAT system is currently limited by the existence of a "zero rate" for a large range of goods (e.g. food and clothing). Turnover and Purchases are not consistently reported by traders for this category. In the PAYE system, only employer tax returns are available in the short term with the related employment and earnings information returned annually, only after lengthy delays.

Progress, Problems and Plans

13. An infrastructure has been accumulating over about the past 10 years in which further and more systematic exploitation of administrative sources can be facilitated. The necessary condition for so doing has already been met by introduction of the Statistics Act, 1993. The sufficient condition is on the way to being met as the shift continues within the CSO from the product based to the process-based organisation of business statistics inquiry work and as the implementation date for the new Combined Business Register approaches. National cultural and public concerns about confidentiality and data protection legislation mean, however, that there is unlikely ever to be an integrated personal and business registration system of the type existing in some other countries. The maintenance of comprehensive up-to-date business registers and the direct collection of most business statistics will therefore continue to be very demanding on the CSO's time and other resources.

Special Features

14. The features of the CSO's work of particular interest concerning statistical uses of administrative sources include:
 - 1) the provisions of the Statistics Act, 1993, which give the CSO the right not only to gain access to administrative information systems but also to be consulted about statistical aspects of proposals to develop such systems
 - 2) the reorganisation of work on business statistics inquiries in a way conducive to application of common working methods, especially as regards effective use of administrative sources
 - 3) the use of administrative sources for calculating profits in the national accounts and for comparing import and export statistics for large enterprises.

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ITALIA

Work to develop administrative sources systematically for statistical purposes, including compilation of business statistics, started in the 1990s. This followed the creation by decree in 1989 of SISTAN, the Italian National Statistical Service, and ISTAT, the National Institute of Statistics, which plays leading and co-ordinating roles in SISTAN. The 1989 decree requires all public bodies to provide information needed for the national statistical programme but this is not enough in practice to secure access to particular administrative sources. The 1996 law authorising ISTAT to carry out the Intermediate Census of Industry and Services contains provisions of a more specific kind about such access and will probably be a precedent for future actions in other fields of business statistics. The existence of a national system of Fiscal Codes to identify natural and legal persons is potentially helpful for linking data from different official registers. Data protection legislation, which would permit the statistical use of data on individuals and households, is pending. This may lead to increased statistical use of social security data and to the widening of access to fiscal sources from VAT records to income and corporation tax declarations. The possibility is also being explored of introducing a system of formal inter-service protocols to regulate the transfer of administrative data for statistical purposes. ISTAT has given priority to constructing the ASIA statistical business register. Along with data from surveys, ASIA combines the contents of several major administrative registers in a statistically optimal way to provide simultaneously a sampling frame and a database of key enterprise information. The Intermediate Census of Industry and Services, which began in October 1997, is using ASIA as an information platform. Other projects under way include an investigation of converting contents of enterprise annual financial statements into statistically usable form and the further exploitation of social security data for labour market statistics. Initial applications of administrative sources are therefore concentrated on demographic and structural statistics of businesses. Applications for short-term statistics are as yet little developed except partially in Construction. Statistical surveys will continue to be the main sources of statistics for enterprises with more than 50 employees. Administrative sources will become increasingly important ones for statistics of SMEs, particularly as survey response rates continue to deteriorate. ISTAT is investigating methods for interfacing information systems for statistics and for business accounting with a view to alleviating the related problem of statistical reporting burdens on businesses. Administrative sources are nonetheless unlikely to provide a complete answer to the under-estimation problem posed by the continuing existence of a significant informal economy.

Institutional Position

1. Official statistical activity at both the national and provincial levels began by decree in 1861 and a Central Institute of Statistics was established in 1926. This situation was reformed by further decree in 1989 with the creation of a new National Statistical System (SISTAN) to provide official statistics for national and international purposes. The Central Institute was at the same time re-organised and re-named the National Institute of Statistics (ISTAT). These extensive changes were made to bring about a uniform policy environment, standardisation in organisation and rationalisation of information flows between different parts of the statistical system.
2. The 1989 decree has also established the position of ISTAT as an autonomous legal personality independent of the rest of the public administration.
2. The Italian system as it now exists has the characteristics of partial decentralisation. SISTAN is comprised of ISTAT and of other official entities as follows:
 - statistical services of ministries and of autonomous authorities, concerns and agencies created or recognised by the 1989 decree
 - statistical offices of government Regions, Provinces and Autonomous Provinces

- statistical offices of individual or associated municipalities and of local health-care units
- statistical offices of Chambers of Commerce, Industry, Handicrafts and Agriculture
- other public statistical agencies or bodies identified by decree of the Prime Minister

ISTAT has about 2,400 staff divided between eight offices in Rome and other offices in each of the regions. About 6,000 or so staff work elsewhere in SISTAN. The President of ISTAT is nominated by decree and the Director General by decision of ISTAT's Governing Board, which the President chairs. It can be said that the President co-ordinates SISTAN and the Director General co-ordinates ISTAT. This separation of powers is considered essential both for the perceived independence of ISTAT and for the effective operation of SISTAN.

3. ISTAT's position and responsibilities are defined by the 1989 decree, which specifies that ISTAT co-ordinates SISTAN. The President of ISTAT chairs the Policy-making and Co-ordinating Committee for Statistical Information, which consists of representatives of the other entities in SISTAN as well as two academics. The main tasks of this Committee are to initiate and carry out the national statistical programme; to establish criteria for the organisation and operation of the various entities in SISTAN; and to regulate the exchange of information between SISTAN entities within the established legal framework.
4. Each body working within SISTAN has autonomy in its statistical activities. Powers to collect business statistics are vested at the national level but they are not reserved exclusively to ISTAT. About half of all statistical surveys are done by ISTAT, the rest mostly by ministries. For instance, the Ministry of Industry collects statistics of mining and statistics for the tobacco industry are the responsibility of a state board. ISTAT additionally plays the key roles of supervising SISTAN organisation, controlling survey methodology (including approval of questionnaires) and setting statistical classifications and other standards, all of which are obligatory for entities in SISTAN.
5. Other responsibilities assigned to ISTAT include liaising with international organisations, publishing the main statistical series and, very importantly, drafting the national statistical programme. Only activities in the national statistical

programme as published in the Official Journal are official statistics and nobody is obliged to respond to surveys that are not in the programme. Some public bodies nevertheless occasionally initiate statistical activity outside the SISTAN framework.

Legal environment

6. A key provision of the 1989 decree requires all public bodies "to supply any data and information that is requested of them for the surveys provided for in the national statistical programme." Another provision of the 1989 decree charges ISTAT to "pursue the promotion and computer development for statistical purposes of management files and collections of administrative data". The first-mentioned provision has not in practice proved sufficient to guarantee access to the administrative data required. However, the law of 1996 which authorised the current Intermediate Census of Industry and Service Sector Businesses obliges public bodies to give statisticians access specifically to administrative registers, archives and, crucially, to micro-data. ISTAT views the 1996 law as providing a valuable precedent for possible use in future negotiations with holders of administrative data. The second-mentioned provision has consequences for data protection and clarification has been sought about these with the relevant authorities.
7. The 1989 decree authorised the circulation within SISTAN of "individual, but not nominative, data for purposes of subsequent statistical processing." Additionally, the decree established a Commission for the Protection of Statistical Information, which is attached to the Cabinet Office and reports to the Prime Minister. A core duty of the Commission is to ensure that data supplied to ISTAT and other SISTAN entities complies with regulations governing confidentiality. The decree laid a specific task on the Cabinet Office to promote agreements between the Ministry of Finance and ISTAT "in order to ensure full respect for the anonymity of individual taxpayers and fiscal secrecy."
8. There is already a joint venture between ISTAT and the Ministry of Finance for the production of external trade statistics from VAT returns. ISTAT would like to extend this kind of arrangement to other public bodies holding administrative databases, preferably by means of a series of official protocols. ISTAT interprets the use of data for statistical purposes very strictly but the free

circulation of micro-data within SISTAN and the possibility of two way flows between statistical and administrative authorities have raised issues of protection of data on identifiable units. Discussions to clarify the position have been held with the Commission for the Protection of Statistical Information. More generally, a bill to "protect persons and other taxpayers in respect of the processing of personal data" was presented to Parliament in June 1996. Included in the bill are provisions that recognise the importance of personal information for research and the production of statistics. ISTAT is therefore optimistic that the legal framework can be developed in ways helpful to the further exploitation of administrative sources.

ASIA project

9. ISTAT has given first priority to the development of a new statistical business register, the Statistical Archive of Undertakings and Institutions (ASIA), which began in 1995. The universe for the enterprise survey system was for many years identified from the results of 10-year Censuses of Services and Industries, the Seventh of which in 1991 took three years to process. This situation was clearly unsatisfactory as a basis for carrying out shorter -term surveys during intra-censal periods because survey registers became out-dated and in particular failed to cover changes in the populations of SMEs. A new annual enterprise survey system started in 1996 with the purposes of obtaining better data for national needs and of meeting the requirements of the Council Regulations on Structural Business statistics (SBS) and the European System of National and Regional Accounts (ESA 95). A correspondingly new business register system is therefore urgently required and the ASIA project is in part designed to provide this. The immediate aim of the ASIA project is to have the foundation data for the new business register in place by October 1998. This will enable a first register up-date to follow in February/ March 1999 in time to select the businesses for inclusion in the 1998 annual survey starting in the spring of 1999.
10. The master aim of the ASIA project is the creation of a single and complete national statistical record of enterprises and local units. The items of information held for each unit consist of its ASIA number, name, address, legal form, principal economic activity classification, and recorded values for turnover, employees and wages and salaries. The contents of each item, i.e. the "integrated data", are found by making an optimal selection from all the relevant information currently available in state administrations and agencies (including ISTAT) to which economic transactors of various kinds are required to notify their identities and other characteristics. Each integrated data item is converted from its original administrative unit to a statistical unit and quality checks are also applied to it.
11. There are three ASIA products as follows:
 - 1) The DAT.INT record of integrated data
 - this is sent to each contributing administration or agency but only in respect of the units held in its own records
 - 2) The DAT.TER territorial record of statistical data
 - this is a publicly available set of tabulations of the data compiled in terms of statistical units and classified according to territory (e.g. Province, Region etc)
 - 3) The LIS.TER territorial record of the statistical units themselves
 - these are in effect sub-registers containing the details of unit identification and stratification which territorial offices of ISTAT and other SISTAN entities use for the exclusively statistical purposes of designing and carrying out surveys.

A further ASIA product is planned to generate economic aggregates, including those needed for National Accounts purposes. This entails moving from the statistical record of businesses to a general system of statistics of businesses and hence will take some years to accomplish.
12. A temporary version of the ASIA archive containing integrated data records up-dated to 31 December 1996 is serving as the information platform for the current Intermediate Census. This operation illustrates how ASIA can work in practice. The first stage of the Census to the end of March 1998 involved about 700,000 businesses, including all businesses with more than 50 employees and a sample of over 100,000 businesses without employees. The questionnaires sent to these businesses were already partially completed with information from the corresponding ASIA integrated data records. The businesses were asked to return the completed questionnaires, including verification or otherwise of the pre-printed information, to territorial

offices of ISTAT and Chambers of Commerce or, in the case of large, complex businesses, to ISTAT in Rome. The intended outcome of this first stage was to generate a final version of ASIA, as of 31 December 1996.

13. In the second stage of the Census, a further questionnaire seeking more detailed structural statistics for reference year 1997 goes to all businesses with employment above certain thresholds (varying from sector to sector) and also to a sample of the smallest businesses. All being well, Census results will be disseminated in summer 1999 and the Archive will be finally updated to 31 December 1997. Meanwhile, a temporary version of the Archive will be made available in February/March 1999 as a basis for launching the annual enterprise survey for reference year 1998.

14. The units in which ASIA integrated data records are expressed need to be compatible with the requirements of the Council Regulations on Units and Registers. This primarily means being able to identify enterprises and local units which are genuinely deciding on, and actually making use of, production factors. Contents of the records are being drawn from a combination of seven main sources, only one of which - ISTAT's own survey results archive (SIRIO-NAI) - is in terms of statistical units. The other six are administrative data sources as follows:

- Chambers of Commerce (CCIAA) registers - these consist of local units but because each unit is associated with a unique Fiscal Code, it is possible to add local units up to enterprises
- VAT Register of the Ministry of Finance - enterprises can be constructed from the identifiable subsets of legal and natural persons liable to pay VAT
- Employers' national insurance contributions to the National Institute of Social Welfare (INPS) - the "contribution numbers" assigned to each employer can be matched with Fiscal Codes to construct enterprises but since each employer can have more than one number, identification of local units is not possible
- Employers' accident insurance premiums payable to the Occupational Health and Safety Institute (ENAIL) - the "insurance numbers" have the same possibilities as the INPS "contribution numbers"

- Records of non-domestic consumers registered with the National Electricity Corporation (ENEL) - supply connections coincide in most cases with local units but ENEL does not cover all the national territory and enterprises cannot be constructed reliably
- Subscription records for the national Yellow Pages telephone service (SEAT) - many subscribers are single local units or enterprises but it is also possible for combinations of local units or enterprises to be single subscribers

Additionally, some sector -specific sources are being tapped, including the National Tourist Office for travel agencies, the Nielsen (market intelligence) Company for distributive trades and the Bank of Italy for financial intermediaries. These sources again use their own particular units.

15. The chosen administrative sources are considered to be good indicators of actual activity in the business statistics sense. The ENEL Register, for instance, has about 85% coverage of the target population when checked against other information. Their contents must nevertheless be put into a statistically usable form and statistical standardisation is therefore the first important task of the ASIA project. This is not always straightforward because definitions, classifications and quality standards vary between registers. Sometimes the same turnover and employment for a business appear in different registers even though definitions are known to vary. The INPS Register does not cover the self-employed but the INAIL Register includes "owners" who may be self-employed or even employees. Small-scale surveys may be undertaken to resolve these and other anomalies.

16. Administrative information is converted to standardised statistical information by positing "standardisation functions" consisting of rules for coding, linking or converting various pieces of data. Coding rules convert codings for e.g. economic activity, legal form or location by using devices like look-up tables. Link rules are used for converting different units in an administrative source to exactly or approximately equivalent statistical units, e.g. by adding up INPS contribution numbers to get enterprises. Conversion rules use administrative characteristics to assign statistical characteristics, as when "employed personnel" reported to INAIL are broken down into actual employees and self-employed workers.

17. The second task is to choose which source or combination of sources is the best one for filling each of the fields in the individual ASIA records, especially when information on some fields such as activity classification and employment is available from more than one source. For this purpose, a "specification function" approach consisting of selection rules and estimation rules has been used. Selection rules involve selecting a value for a given variable from a range of values available from different sources by using probabilistic optimal allocation techniques. Estimation rules are used for estimating values for a given variable from information available from one or more other variables within pre-set error bounds; for example, employment may be estimated from VAT turnover and/or electricity consumption subject to a standard error not exceeding (say) 2 per cent.
18. Results obtained from the rule-based approach have been tested by fieldwork in Cagliari Province and by retrospective comparison with Census and survey results, especially for SMEs. The main conclusion so far from this work is that the allocations over-estimate for genuinely active businesses at specific times within a reference year but that they may nevertheless be good enough to estimate for the active population existing during the whole of the year. Starting with an array of about 27 million data items from all the sources combined, it has therefore proved feasible to construct a first version of ASIA containing 3.7 million records for a mixture of legal units, enterprises and local units.
19. Integration of the different sources is made easier by the widespread use of the so-called Fiscal Code for both individuals and businesses. The Code once assigned does not change and must be used in official correspondence, especially concerning taxation. The Code for each business is a unique numeric and is considered to be evidence of the existence of a legal unit. The Code for individuals is an alphanumeric and supposedly also unique but a fault in the system has made duplications possible. The obligatory use of the Code regarding taxation means that a link is possible in the Ministry of Finance's Tax Register with VAT numbers. These numbers are not invariant and are only one and the same as the Fiscal Code in the special circumstance of first registrations of incorporated businesses, which subsequently do not change their legal status, or region of VAT registration. On the other hand, VAT numbers do not change when the business changes its activity or combines with another. ISTAT is currently investigating cases of records in the Tax Register with different VAT numbers assigned to businesses which in other respects such as name, location and activity appear to be the same one. Registration numbers in ASIA are different from Fiscal Codes and VAT numbers and will not be passed to other administrations.
20. ISTAT intends to use ASIA as the definitive source for demographic statistics of businesses. ASIA will also very probably be combined with survey results to produce structural statistics of production, purchases, persons employed, subcontracting etc. Surveys will be the usual source for up-dating structural information on the 20,000 largest enterprises with employment of 50 or more. SMEs will mostly be up-dated from administrative sources through the medium of ASIA plus estimation, probably using ratio methods, for variables not in the integrated data records. This will represent a real saving on the present situation in which annual surveys are going to more than 100,000 businesses, 60% of which fail to respond by first reminder stage. Special topics such as R&D expenditure and employment will continue to be handled by surveys. Reliance on surveys needs to be further reduced in the longer term because response to surveys, especially the complex ones at annual or longer intervals, is already barely adequate and likely to deteriorate more. ISTAT's aim is to use ASIA as the first step towards an Integrated Information Modelling System, a relational database which would link data on businesses obtained from a variety of statistical and administrative sources by means of a series of keys including the Fiscal Code. An exercise linking data from the Innovation Survey with a sample of annual accounts has given encouraging results here.

Accounting data projects

21. The annual accounts which incorporated entities are required to file with Chambers of Commerce by no later than June following the reference year are an administrative source which ISTAT would like to exploit much more. These represent a huge source of information, albeit not all statistical, for about 600,000 enterprises. The immediate practical obstacle is the law that accounts must be filed in hard copy. The more

deep-seated conceptual obstacle is the lack of a General Accounting Plan such as exists in France. Thanks to the EU Fourth and Seventh Company Law Directives, Italian company balance sheets and profit and loss statements are reasonably well standardised but the Directives do not extend to the Notes to the Accounts. These latter are valuable for explaining and adding to the information shown in the main financial statements. However, their use for statistical purposes is limited so long as enterprises are free to present them in their own formats. ISTAT has commissioned consultants to devise a scheme to "re-classify" all the contents of the accounts into a statistically usable form and to check re-classified data from selected accounts against corresponding annual survey results.

22. In parallel with the company accounts project, ISTAT is also looking at the scope for alleviating reporting burdens by allowing businesses to respond to surveys in their own accounting terms which statisticians will then "translate" with the aid of standard software packages of the SAGE type. This activity is closely linked with EDI and ISTAT is carrying it out as a Fourth Framework Project under the auspices of the TELER group steered by Eurostat. The two projects are seen as complements to each other rather than as alternatives and their outcomes might take a variety of forms so far as provision of data required by the SBS and ESA 95 Regulations is concerned. Statistical surveys and analyses of samples of accounts could be combined in different proportions and business accounts-based responses to the surveys could be either direct or through specialist intermediaries as in the Netherlands. ISTAT is currently weighing these various options.

Labour statistics

23. Legal restrictions on third party use of personal data have prevented any studies being made of labour market characteristics of individual workers in relation to the businesses that employ them. The INPS source is nonetheless still very valuable statistically. The database has been computerised and is available from 1994 in two variants, thus allowing the source as a whole to be validated for coverage and reliability. It is certainly the most comprehensive source available on regular employment in small businesses. The design of the Annual Survey of Employment in Industry and Services has accordingly been

modified as a complete enumeration of employees of businesses employing 50 or more, together with a sample of small businesses mainly to identify the self-employed. Survey results taken together with INPS data then give estimates for the whole working population.

24. ISTAT has a number of other studies in progress, notably concerning the use of two forms completed by employers for the INPS. Form DM 10 yields monthly information concerning individual employees in sectors other than agriculture and public administration on the wage bill, other labour costs, and labour market variables such as the manual/ non-manual split, apprenticeships, managers and types of contract. The prospective use of this information is to help compile a Quarterly Labour Cost Index. The reporting unit is not the same as the local unit and some delays in transmitting the data have been encountered but some solutions are likely by this autumn. Form 01M also contains individual information, particularly on age, sex and days worked, in a form permitting more detailed breakdowns, including geographical ones which are urgently needed. The information is potentially useful for meeting quarterly Labour Force Survey requirements - which provide a key component of the quantum of work underlying Gross Domestic Product - but is currently only available with a delay of 18 months. For the moment, this source is serving to check results of surveys and impute for missing returns.

Construction Statistics

25. In the Construction sector, ISTAT compiles a monthly series of building permits based on a universe of 8,000 communes. The possibility of compiling other short-term indicators such as indices of production and hours worked are also being explored. For production indices, data on expenditure of public clients is under consideration. It is recognised that monthly VAT data would be the better source - and not only for Construction - but at present it cannot be made available quickly enough. For hours worked indices, discussions are currently being held with one possible external source CASADILI, the organisation that compensates workers for downtime. In general however, data collected by trade associations is considered to be unreliable.

Concluding Remarks

26. The prerequisite for opening up access to administrative sources has undoubtedly been the creation of SISTAN. The progressive accumulation of statistical legal acts at the European level has also provided ISTAT with the necessary authority and methodological framework to start using these sources systematically. ISTAT's current budgetary situation is moreover favourable towards expanding activities in this way. Working together with compilers of administrative registers on the ASIA project has enabled ISTAT gradually to attract the bodies concerned within SISTAN's orbit. These trends seem likely to continue, given the legal precedent established in 1996 for the Intermediate Census and the probable introduction of data protection legislation conducive to statistical purposes.
27. One area where further progress is evidently highly desirable is the utilisation of declarations made by legal and natural purposes for income and corporate taxation. At present, the only fiscal source available to ISTAT is the VAT returns file. VAT micro-data contributes to the ASIA integrated data records and aggregated VAT data is used by the national accountants to estimate numbers of second jobs held on a self-employed basis and hence the economic activity arising from these. Removal of the legal restrictions hitherto applied to fiscal sources would undoubtedly improve the quality and range of statistics that can be generated from administrative sources at both micro and macro levels. For the time being, the problem of underestimation persists in the business statistics system. Comparison of results from the Labour Force (LFS) and Family Budget (FBS) Surveys reveals a substantial gap between household expenditure and declared income sources. This is circumstantial evidence for the existence of many unincorporated businesses that do not appear on any register at all. Greater utilisation of administrative sources, especially in combination with each other and with statistical sources, may well reduce this statistical grey area but not eliminate it altogether.

Special Features

28. Features of special interest for the use of administrative sources for business statistics in the Italian system include the following:

- 1) The existence of SISTAN, which provides a framework for producing official statistics with the co-operation of offices at many levels, including those close to administrative sources
- 2) A basic statistical law empowering access to administrative sources (but which needs supplementing in practice) and a data protection regime likely to recognise statistical purposes for using personal data
- 3) The development of the ASIA Archive which combines the functions of a business register, a survey design and management tool and a database for generating statistics of SMEs
- 4) The use in ASIA of rule-based procedures to construct statistically standardised and integrated data records from a range of statistical and administrative sources
- 5) The development of social security data as a supplementary source of employment statistics, especially for SMEs
- 6) The statistical potential still to be tapped of fiscal sources and of annual business accounts

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L U X E M B O U R G

STATEC, the national statistical institute for Luxembourg, seeks to meet national and Community requirements for business statistics by using administrative sources to supplement results from surveys, especially for SMEs. An important maintenance source for the statistical business register that supports the surveys is the national registration system of legal and natural persons operated by the Government Computer Centre (CIE). STATEC has direct access to the CIE register system for specified statistical purposes. Other important sources are VAT files on turnover and social security data on employees. STATEC perceives the main attraction of administrative sources as the possibilities these offer for reducing statistical reporting burdens on businesses. The potential source thought most likely to have the best possibilities is accounting data compiled by businesses. Introduction of a "centrale de bilans" is therefore in view as a medium-term objective.

Institutional Position

1. The first official statistics service began in 1900. In 1945, a General Statistics Office was created at the same time as a separate Economic studies and Documentation Service. In 1962, these two bodies were merged into STATEC, the Central Service for Statistics and Economic Studies, under the authority of the Minister for Economic Affairs. STATEC consequently has dual statistical and economic roles. As well as carrying out statistical inquiries and studies, STATEC is also responsible for economic research, monitoring of the economy.
2. The basic law of 1962 follows the "principle of centralisation" in organisation of the Luxembourg government whereby, in particular, STATEC is the central point for collation and dissemination of all official statistics. Furthermore, no statistical survey for general purposes may be conducted by any other public or private organisation without STATEC's prior authorisation. The national bodies responsible for agriculture, education, health and social security all compile their own statistics but in accordance with the principle of centralisation, the essential elements of these are published in the STATEC Yearbook. Under the same principle, STATEC and all other government bodies make use of the Government Computer Centre (CIE) for computing needs.
3. The Director of STATEC and his staff are public officials but in practice the government delegates them considerable autonomy in statistical matters. Within the general parameters set by the basic law, government policy and international statistical commitments, STATEC draws up its own annual statistical work programme and manages dissemination of statistics. The Director of STATEC chairs the High Council of Statistics, created in 1971, which is comprised of representatives of suppliers and users of official statistics, including outside experts. The Council advises STATEC on its annual work programme and also helps STATEC in its role of co-ordinating the national statistical system.
4. STATEC's co-ordinating role involves development of statistical definitions, classifications and methodologies for the benefit of all providers of statistical information. The CIE National Register of natural and legal persons is coded by STATEC according to NACE Rev.1 (principal activity and up to three secondary activities) and is used by other administrations (e.g. the Inspectorate General of Social Security and the Chamber of Commerce) for their own statistical purposes.

Legal Framework

5. The basic law of 1962 identifies STATEC's

functions and determines its mode of operation. Public authorities and utilities as well as all natural persons and other legal persons are obliged to provide whatever statistical information STATEC may require. Correspondingly, the interpretation of statistical confidentiality is very strict and disclosure of information for fiscal purposes is expressly prohibited. A law of 1979 that regulates the use of personal data in information processing reinforces this position. Databases containing personal information can only be established or exploited by authority of a specific legal act and this in turn cannot be made without a prior favourable opinion from a standing Advisory Committee. The legal framework is about to be revised, among others to incorporate latest developments in the European Union legal framework.

6. Also by law in 1979, the national registration system was established to give natural and legal persons identification numbers which can be used for general administrative purposes. The National Register is maintained by the CIE. The records for natural persons contain dates of birth and gender while those for businesses contain the date of registration and legal form. STATEC is able to use the records of legal persons for updating its statistical business register. STATEC has direct access to the CIE database and a file is received once a month containing new registration data.

Business Statistics System

7. Structural statistics for Industry, Construction and Services as well as those for SMEs are compiled from a mixture of statistical inquiries and administrative sources. The administrative data used are those relating to turnover, the number of enterprises and employees. These data are centralised for the most part in STATEC's statistical business register whence they can be utilised as information supplementary to the annual statistical inquiries. The legal units to which the administrative data relate also correspond in the majority of cases to the statistical unit of the enterprise. The section responsible for the statistical business register works closely with the section responsible for statistics of businesses to ensure coherence of information from the administrative and statistical sources.
8. Structural data for large enterprises are obtained partly from completed survey questionnaires

and partly from the annual balance sheets and profit and loss statements, which the enterprises also submit. Variables required under the Community SBS regulation are usually not reported as such in these accounts but they can be calculated from the information contained in them. Survey returns, consisting of completed questionnaires and annual accounts for the businesses in the survey samples, represent the nucleus of the statistics since they provide all the information necessary in the framework of the SBS Regulation. Information originating from administrative sources for turnover and employment allow determination of universes from which samples may be drawn and returns grossed up to values for the whole population of businesses.

Specific Sources

9. The statistical business register is compiled in accordance with the Council Regulation on Business Registers of 22 July 1993. The administrative sources used to up-date the business register include records for businesses taken from CIE's National Register; VAT registrations and employers' social security data. Minor sources come from the former Luxembourg Monetary Institute, the Insurance Commission and some professional associations like the Association of Architects and Consulting Engineers. The data items obtained from the administrative sources include national registration numbers; enterprise names and addresses; business event histories; annual total turnover and exports and imports declared for VAT; and paid employment by gender and whether full or part-time.
10. STATEC has identified a number of problems linked to the use of administrative sources as follows:
 - Incomplete coverage - certain units not liable for VAT are not covered, e.g. Agriculture, Personal Services and Extra-Territorial Activities, while others are only partly covered, e.g. Public Administration, Education, Health and Social Security
 - Difficulty of monitoring evolution of enterprises, especially re-starts, change of legal form etc, and of establishing links between different units
 - Recording errors in administrative data

- Use of different identifiers for the same enterprise
- Incomplete data, e.g. missing turnover
- Differences in administrative and statistical definitions of turnover
- Lack of timeliness - annual turnover data can be two or three years in arrears and a delay of about six months for employment data is also common.

Some of these difficulties can be resolved by comparing and reconciling information held in the business register and in the enterprise statistics system. Control exercises are carried out regularly with the object of identifying missing enterprises or checking the plausibility of turnover values. Missing or wrong turnover values are replaced either with information obtained from follow-up action with the enterprises concerned or by estimation.

Progress, Problems and Plans

11. The relatively high costs of conducting sample surveys in a small country provides STATEC with a motive for seeking economies in collection methods for business statistics and indeed for social statistics on household budgets as well as other types of statistics. STATEC does not, however, consider that measures taken to enable greater use of administrative sources would necessarily have very much impact on the overall statistics budget. For instance, it is STATEC's view that the use of a common business identifier in different databases only really helps if it corresponds to a common statistical unit. As it is, an enterprise comprised of three legal units can declare its turnover as a legal unit, its employment as a second kind of unit and its fiscal declaration as a third kind of unit. STATEC observes moreover that business identifiers undergo modifications from day to day which, taken together, affect three or four per cent of legal units other than holding companies. The inter-connection of statistical and administrative databases therefore poses technical problems.
12. STATEC is now actively involved with other services and specialist bodies in an initiative for developing use of an administrative source along different lines. The Ministry of Justice made a proposal in November 1997 to introduce a General Accounting Plan (PCG) in conformity with the Community Directives on form and content of company accounts. The proposed PCG would recommend just one format each for the balance sheet and the profit and loss statement. This structure of the accounts would be applied uniformly to all commercial enterprises although with some adaptation for the specific characteristics of smaller owner-managed businesses. Definitions of the headings within the statements would likewise be standardised and this would be of particular benefit for SMEs. The PCG is seen as the precondition for the introduction in the medium term of a Centrale de Bilans (Company Accounts Analysis Centre) which, among its various applications, would provide for STATEC the best administrative source for structural business statistics. Following practice in Belgium, it would be the Central Bank rather than STATEC that would take responsibility for any Centrale eventually established.
13. For meeting the requirements of the impending Community Regulation on Short Term Statistics (STS), STATEC intends to rely in large measure on information from VAT and social security sources. This will first of all entail an examination of the question of units because there are differences between the units specified in the STS Regulation and those available from administrative sources. It will then be necessary to investigate very carefully whether administrative data could be made available quickly enough. First indications are that some administrative data, e.g. on turnover and employment could be available within a feasible time - scale but other data on e.g. hours worked are more problematical. A full investigation and hence more definite conclusions will not be possible until the administrative services concerned have modified their information systems to produce all the data that is needed.

Special Features

14. Distinctive features of the Luxembourg statistical system of particular interest concerning the use of administrative sources include :
 - (1) The existence of a national registration system with common personal and business identifiers which are used throughout the public administration
 - (2) The compact and centralised government structure which shortens and simplifies the links between STATEC and its main sources of administrative information.

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N E D E R L A N D

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Administrative sources feature prominently in the programme of re-engineering (Operation Tempo) that the Central Bureau for Statistics (CBS) has been pursuing during the 1990s. Increasing use of these sources will be instrumental in achieving publicly stated targets for reductions in statistical reporting burdens on businesses while at the same time satisfying demands for new kinds of analyses. The Statistics Act of 1996 gives the CBS a new power to seek access to administrative sources for statistical purposes and Dutch data protection legislation is accommodating to this. Corresponding changes have been made in legislation governing specific administrative sources and the CBS has been able to negotiate contracts regulating transfer of the data concerned. The principal such sources now in use or under development are legal registrations of companies by Chambers of Commerce, VAT registrations, Corporation Tax data, annual enterprise financial statements and records of contributions to social security schemes. The CBS is working with the Chambers and the tax and social security authorities on development of an integrated public registration system based on a unique identifier for each business or other entity. Within the CBS, another project is under way to construct a system of input and output databases to maximise use of information available from the Central Business Register, statistical surveys and administrative sources. Pending realisation of these projects, the CBS will continue to rely on statistical surveys for structural and short-term information about the largest businesses. Statistics for other businesses, particularly SMEs, will be compiled increasingly with the use of administrative sources.

Institutional Position

1. The Central Bureau for Statistics (CBS), alternatively Statistics Netherlands, has the statutory responsibilities of carrying out statistical research for practical, policy and research purposes and of publishing the results. Some municipalities like Amsterdam have their own statistical departments but the CBS is the preeminent producer and publisher of official statistics for the Netherlands. The CBS is solely responsible for collecting, processing and disseminating business statistics at the national level as well as for providing such statistics as required at the EU level. The government statistical system is thus a centralised one. The CBS has no regional offices but the CBS staff who work on different parts of the statistical programme are divided about equally between Voorburg and Heerlen, some 250 km apart.
2. The CBS was established by a Royal Decree of 1899, some years after the creation of a Central Commission for Statistics (CCS). The CBS politically comes under the Minister of Economic Affairs but policy oversight is in practice vested in the CCS whose key role is to approve the annual and four-yearly statistical programmes on the basis of proposals submitted by the Director General of CBS. The Statistics Act of 1996, which replaced the Decree of 1899, gives the Director General freedom to decide on methods for carrying out the research in the programmes and on the manner in which results of this research shall be published. The CBS's operational independence is demonstrated by the facts that the Minister does not see CBS statistics before any other user and cannot prevent their publication.
3. The 1996 Act also reduced the size of the CCS from 45 members to 11. This change had the effect of removing representatives of government ministries from the CCS so that it is now composed of independent members chosen for their expertise and experience rather than for their affiliation. Further expertise is marshalled in the 19 sub-committees which advise the CCS in particular statistical fields. The effective division of responsibilities between the three

protagonists in the official statistics system is that the Minister decides the total statistical budget that can be spent, the CCS decides what the budget should be spent on and the CBS is accountable to the CCS for how the budget is actually spent. The Minister is entitled to ask for certain statistics to be compiled but the CCS will adjudicate the request and, assuming agreement, the CBS will determine how to meet it. (The formal procedure is that the CCS shall instruct the CBS at the request of the Minister.)

4. A major programme of organisational and cultural change has been in progress at the CBS during the last few years. This programme is called Operation TEMPO (**T**imeliness, **E**fficiency, **M**odern, **P**rofessional, **O**nafhankelijk=Independent). Operation TEMPO's overall aim is to satisfy the rapidly changing needs of users of statistics within the constraints of a static statistical budget and of the politically imposed demand for reductions in statistical reporting burdens, particularly those placed on businesses. This aim is to be achieved, particularly for business statistics, by introducing three broad types of change.
5. The first type of change is in the way the CBS organises collection, analysis and dissemination of data. It used to be the case that more than 200 surveys and other statistical activities were carried out by 15 CBS departments each responsible for all operations from drawing up questionnaires and organising inputs to capturing data and disseminating results. Under new proposals, these operations for all surveys etc will be divided between a much smaller number of divisions dedicated respectively to data collection and input, data analysis and data dissemination, together with two support divisions. The old survey-specific "pipeline" model of survey management is thus being replaced by a "functional" model which should enable a more synoptic view to be taken of each statistical operation, including of the statistical or administrative data sources which are "fit for purpose".
6. The other two types of change will between them tackle the issue of reductions in statistical reporting burdens. Firstly, the contents of statistical questionnaires will be more aligned with the accounting practices used by businesses and by the specialised book-keeping firms who often complete the questionnaires on their clients' behalf. Secondly, there will be greater and more systematic reliance for data from administrative

sources in place of statistical ones. One unit has been set up to develop methodology for data collection and another to promote the use of Electronic Data Interchange (EDI) techniques. The CBS has been running pilot projects to test the feasibility of EDISENT (Electronic Data Interchange of Statistics of Enterprises) messages to make direct transfers of information from the computerised information systems operated by businesses or the intermediaries such as accountants who report for them. It is likely, however, that this "primary EDI" will be less important in terms of data flows than the "secondary EDI" of direct electronic transfers of information from administrative sources.

Legal Framework

7. The Statistics Act of 1996 confirms the respective powers and responsibilities of the Minister, the CBS and the CCS. Provisions remain in force from an Act of 1936 that empowers the CBS to collect economic statistics, to levy fines for non-response or false reporting and to publish in such a form that information about an identifiable unit may be disclosed only with the permission of the units concerned. It is made explicit in the 1996 Act that the last-mentioned "confidentiality" provision refers to particular persons, enterprises, institutions or households. (Persons or households are not, however, obliged to respond to statistical surveys.) Moreover, the data received by the CBS in pursuance of its responsibilities is to be used solely for statistical purposes.
8. The 1996 Act also requires that data collection is to be carried out in a way that minimises the administrative burden on enterprises and institutions. Further, the CBS is authorised to use, for statistical purposes, "the records of State institutions and agencies" with the agreement of the Minister responsible. A specific provision entitles the CBS to include in personal data files the social security and fiscal ("SOFI") number assigned to each natural person in the Netherlands. Additionally, the CBS may use the SOFI number in contacts with persons and official bodies insofar as these are themselves authorised to use this number in a personal data file. It should be noted that neither the SOFI number nor the corresponding "FI" number for legal persons such as businesses is in the open public domain.

9. The present Dutch Data Protection Act (formally "Rules for the Protection of Privacy in connection with Personal Data Files") dates from 1988. This Act allows data from a register to be used for statistical or other research purposes as long as there is no undue infringement on individual privacy. The rights of those in the registers to be notified, to inspect or to correct data used for these purposes are correspondingly limited. On the other hand, a specific legal basis is required for disclosing SOFI numbers to third parties and the special provision in the 1996 Act is deemed to provide this in respect of the CBS. The 1988 Act is in the process of being modified to translate the EU Directive on Data Protection into Dutch national law.
10. The 1996 Act gives the CBS a right of access in principle to administrative sources. Moreover, this right is not abridged by the existing data protection legislation. The Act does not, however, automatically over-ride restrictions that may be written into other legislation governing the administrative sources the CBS seeks to use. The CBS therefore has to negotiate with those responsible the terms and arrangements (including legal modifications that may be required) under which access to a particular administrative source for statistical purposes will in practice be possible. Payment in money or in kind (e.g. provision of statistical expertise) is sometimes necessary and the agreements reached are documented as formal written contracts between the parties. These contracts are usually of finite length so as to permit re-negotiation in the light of changing circumstances. There is also an increasing tendency for quality standards to be included in the contractual terms. An example of this is provided by the contract between the CBS and the Inland Revenue Service for the electronic supply of a sample of income tax records with which to make reliable statistics of incomes. The CBS is currently negotiating for this sample to be larger and also to receive more tax data on wage payments. The continuing trends of privatisation and deregulation of public services are likely to make requests for payment to supply administrative information more common businesses at monthly, quarterly, annual and occasional frequencies. The top 100 "complex" businesses are always included in the structural and short term surveys as are many other large businesses but SMEs are sampled. The CBR simultaneously provides four main products, namely:
- A list of names and addresses for mailing questionnaires
 - A frame for selecting samples of businesses included in surveys
 - A survey management tool, via the Response Reduction System, to control reporting burdens by limiting the number of times businesses, particularly SMEs, can be included in selections for surveys
 - A population of statistical units, each described by appropriate headings in the Dutch Standard Industry Classification and sorted into size-class, that can yield information on the demography of businesses and provide universes for grossing up information from survey returns, especially for SMEs.
12. The CBR contains legal units and reporting units together with statistical units, as defined in the relevant Community legislation, for the enterprise group, the enterprise and the local unit. In terms of enterprises, the CBR's population is about 850,000, of which 400,000 are sole proprietorships. As in many other National Statistical Institutes, an important task for the CBS is to find ways of satisfactorily converting legal units into statistical units. This task is all the more necessary because the main source for maintaining and updating the CBR is at present the official (and legal) Dutch register of businesses, foundations and associations kept by the Chambers of Commerce (KvK). For this purpose, the law governing this register was amended in 1994. Under its contract with the KvK, the CBS pays for information on changes in the legal registers that are currently running at the rate of about 80,000 a month. Reliance on this source for updating the CBR leads on one hand to under-estimation because units in Agriculture and "independent" practitioners in the liberal professions have the choice of whether or not to register. On the other hand, over-estimation also occurs because KvK legal registrations include many units that are not genuinely active. One improvement to KvK data quality at unit level is likely to result from the
- Business Statistics System and Central Business Register**
11. The CBS has hitherto operated a statistical data collection system in which a central statistical business register (CBR) supports a superstructure of subject-specific surveys addressed to

advice the CBS is now giving KvK registers on activity classifications.

13. Between 1994 and 1997, the CBS achieved a 30 per cent reduction in the statistical reporting burden on businesses but further reductions are still necessary in coming years. Quite apart from political pressures, survey response rates are now at levels of between 60 and 70 per cent and are still falling. These factors oblige the CBS to look at administrative sources as means not only of improving coverage and quality of the CBR but also as alternatives wholly or in part for statistical surveys. The CBS therefore launched an initiative in 1995 with other authorities who are responsible for administrative registers, namely the KvK, the Inland Revenue Service and the Occupational Insurance Boards supervised by the National Institute for Social Security (LISV).

The aims of the initiative were:

- to improve the quality of all the registers in scope (including the CBR)
- to reduce the administrative burdens imposed both on the authorities and the registrants by the maintenance of the different registers
- to increase efficiency generally
- to stimulate the co-ordination of the statistics based on the different registers.

14. It was soon apparent that each of the registers contained only its own particular record identification system, none of which could readily be adapted to provide links with any of the others. Moreover, units, definitions and classifications varied from source to source while register management practices, for example about removing inactive units, also differed. One of the longer term consequences of the initiative is now likely to be the introduction of a nation-wide single business registration system which would make use of a unique business identifier enabling records in the different registers to be linked unambiguously. To this end, a comparative study of registration practices in five other countries has already been carried out for the Ministry of Economic Affairs. For the nearer future, a data model has already been constructed to schematise the actual contents of each the four types of register and to simulate the optimal data flows between them. This model has been useful as an indicator of what needs to be done both for integrating the differ-

ent registers as a system and for constructing a new basis of estimating business statistics variables, particularly with respect to SMEs.

15. One task for the next two or three years is for the co-workers on the initiative to harmonise all four register systems to include a common basic registration component for businesses that can be supplemented by other information varying in the different registers according to need. Ultimately, the CBS still wants to work with statistical units while the Inland Revenue Service, for instance, wants legal units that may take one form for VAT and another form for Corporation Tax (VIS). A common module in the CBR and in the tax registers will nonetheless enable the two organisations to work together and more efficiently. The short-term task for the CBS is to develop administrative sources in addition to the KvK for improving CBR coverage and quality as well as for generating structural and short term business statistics.

Taxation Sources

16. One source seemingly very suitable for the CBS's purposes is the VAT register. The annual turnover figures reported by VAT registrants are a good indicator of units that are likely to be economically active. However, VAT units are legal (tax) units that do not always readily correspond to the statistical units the CBS needs. Matching of VAT Register and CBR records is therefore necessary and in the absence of a common identifier, this has to be done by comparing names and addresses. Pilot comparison exercises have indicated that about 90 per cent of all VAT records are also present in the CBR. The CBS already receives monthly VAT register updates with an eight-week lag that cover about 600,000 businesses over the year. These have been found useful for checking and grossing survey returns but they have not so far been used for updating the CBR. Here, the action possible will be decided on the basis of a more thorough appraisal of the quality and suitability of the VAT source, which is being made following the pilot exercises.
17. The Inland Revenue Service also provides the CBS with information on annual Corporation Tax returns held in the VIS system. This is possible because the CBS was granted a dispensation from confidentiality provisions in the Fiscal Code. The VIS returns come as quarterly updates to the VIS register and in the form of the

kind of information presented in enterprise balance sheets and profit and loss accounts. The actual annual accounts which enterprises publish are also used as a check. Both the VIS and the published accounts sources are slow to appear, with only half of the enterprises covered being made available 12 months after the end of the accounting reference year and a full reckoning only possible after a further 12 months have elapsed. The sources are still very useful because information on each enterprise is very detailed and coverage of the population of enterprises is high.

Social Security Sources

18. The CBS's most recent information supply negotiations have been with the social security administration comprised of the different Occupational Insurance Boards. These negotiations were fairly lengthy because the statistical needs of the CBS have not been recognised in Social Security legislation until lately. The Boards together administer insurance, disablement and unemployment benefit schemes for 5.7 million employees and 0.8 million self-employed persons. The government sector is not presently covered but will be added soon. The information held by the Boards is on an annual basis and is spread across four different data sets. The information includes FI and SOFI numbers respectively for employers and employees; dates jobs started and ended; whether temporary or permanent; professional and vocational qualifications; total wages received; and total days worked.
19. The main advantage of the social security source is the extent of its coverage although only contribution-payers are included and (as with the KvK) there are categories of "independent" workers who are not obliged to register. There is also the drawback that some potentially useful information such as on weekly hours worked and the full time/part time split is not present. The source cannot therefore be used by itself to provide labour market statistics but it is seen as a very useful adjunct to surveys seeking information on labour costs, earnings structure and the employment variables for the Labour Force Survey. Some reductions in the size, content and frequency of such surveys are therefore anticipated. The inclusion of the FI number for the employer means that a link at micro-level can be established with the CBR. Data for 1994,

1995, 1996 and 1997 are all now available to the CBS. Research is still going on to establish the full statistical potential of the data.

Sources for Construction Statistics

20. The CBS statistics for Construction illustrate how a variety of statistical and administrative sources are currently used together in practice. The Dutch construction industry consists of about 65,000 enterprises, of which only about 400 employ more than 50 persons each. The great majority of enterprises are very small and about 34,000 are in size-class 0. The size and composition of the industry also fluctuate in line with the volatility of demand for construction output. Structural statistics are sought first by conducting an annual sample survey addressed to 9,000 enterprises. The response rate for this survey is about 70 per cent which means that real statistical data is only obtained for about 10 per cent of the industry's population. Information relating to the remaining 90 per cent must therefore be put together by using other sources and methods
21. The main source used is VAT and turnover reported for VAT is the key variable in the estimation process. Turnover is well-correlated with several other variables and a study based on 2,600 units revealed that the overall difference between turnover reported for VAT and turnover reported from the annual survey was only about 1 per cent. VAT turnover is of course in terms of VAT units but it can be used to check whether VAT units correspond exactly to specific statistical units or form parts of these. Turnover corresponding to a given statistical unit can then be calculated as, for example, the sum of turnovers for two VAT units. Social security data is also utilised for estimating employment and labour costs as well as for checking quality of survey data and for providing additional evidence that the units exist as genuinely active ones. Annual financial statements for enterprises are another valuable source because of their very detailed information, including 120 items in the standard profit and loss account format for numbers of employees, wages and salaries and other variables. All these administrative sources provide background information for analyses of non-response and they contribute as well to calculation of ratios of turnover per employee that are used for imputing values for the enterprises for which survey returns are not available (including all enterprises in size-class 0). Similar

methods are used to deal with non-response in the monthly sample survey for turnover and employment that feeds in to the Construction component of the Index of Production.

22. The short term statistics for Construction new orders are compiled directly from the administrative source of records of building permits. These permits are necessary for all construction work valued at more than Dfl 50,000. Because work is usually required to start shortly after issue of permits, they are good proxies for orders. Nonetheless, the permits figures need careful interpretation. The value of work for which the permit is issued often covers only main contract work. This figure can also be influenced by the tax regime applicable to certain classes of work. Provisional results for year (t), based on short-term statistics and VAT, are available at the beginning of year (t+1). Final results follow towards the end of year (t+1).

BASELINE, MICROLAB and STATLINE

23. The eclectic approach pioneered for Construction statistics as described above is in the process of being systematised and extended over all sectors of business statistics. The CBS has been working for the past three years on developing an integrated system for the management and production of business statistics. In this new system, information from administrative and statistical sources, including the CBR, will be fed into an input database called BASELINE that will hold mixtures of real and imputed data for business statistics variables with respect to individual statistical units. BASELINE will serve as a co-ordinated source of information for the statistical production processes in which data are analysed, edited and imputed. These data will then be put into a database called MICROLAB, the purpose of which is to hold statistical variables with respect to individual statistical units. For instance, the data for Construction in MICROLAB are currently held in a matrix defined as 64,393 units by 442 fields. After this process has taken place, results at higher levels of aggregation will be generated for storage in a relational database called STATLINE.
24. The basic idea of the new system will be to enable statisticians in the CBS to find out (and use) what information can currently be made available from a variety of sources on specified sub-populations of businesses. In this way,

survey activity in different areas of business statistics can be better co-ordinated and its total volume constrained to the limits deemed acceptable for business reporting burdens. The links the new system will identify between the different sources should also enable requirements for new types of statistics to be met as far as possible from information that already exists.

25. A prototype version of the input database was made ready on schedule during the summer of 1998. Development of all the databases is seen as an important part of the work to further the inter-service initiative to construct an integrated register system. In turn, the unique business identifier to be associated with that system will undoubtedly be vital for the efficient working of the databases. The development horizon for these projects spreads over the next five to ten years. The CBS will meanwhile seek full realisation of the potential offered by the administrative sources now available, applying EDI technology whenever possible. Statistical surveys are likely to remain primary sources so far as the largest enterprises are concerned. However, statistics for SMEs are in many cases likely to be based on estimation procedures making use of data from taxation and social security sources.

Special Features

26. Features of the Dutch statistical system with particular relevance to the use of administrative sources for business statistics purposes include the following:
- 1) A legal framework that has been recently revised to allow the CBS to negotiate effectively with other services for greater access to administrative sources.
 - 2) A system of inter-service contractual agreements to set the terms and conditions under which administrative data are transferred for statistical purposes.
 - 3) A programme of organisational and cultural change within the CBS that identifies administrative sources as important for realisation of programme objectives and that also creates conditions favourable to greater consideration of those sources.
 - 4) Specification of a data model to identify tasks for the CBS and its partners in the long term inter-service initiative to develop an

integrated system of statistical and administrative registers using a unique business identifier.

- 5) Pioneering of data comparison and estimation techniques in Construction statistics for subsequent application to other sectors of business statistics.
- 6) Development of the BASELINE and STATLINE databases as instruments for maximising the use of data generated from statistical and administrative sources.

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ÖSTERREICH

The Austrian Central Statistical Office (ÖSTAT) currently makes direct use of one administrative source for one statistical purpose. The membership records of chambers of commerce are used along with information from several statistical sources to maintain and update records of units held in the statistical business register. Translation of membership records into statistical units necessitates operating alongside the business register a database of codes for units listed in other administrative databases and applying sophisticated matching techniques. A new Federal Statistics Act has been drafted with a view to improving the ÖSTAT's possibilities for accessing and using administrative sources, including the legal register of businesses, more effectively. Additionally, information from social insurance institutions is being examined as a new source for the statistical business register.

Institutional Position

1. A central agency for official statistics was first established in 1829. Despite many twists and turns in Austrian history, the centralisation principle has continued so that today the organisation of the Austrian Central Statistical Office (ÖSTAT) does not include any levels for regional or subject-specific agencies. Reflecting the federal nature of Austria's national Constitution however, the Länder and municipalities maintain small statistical offices of their own. The ÖSTAT is a government agency that is subordinated to the Federal Chancellery in personnel and budgetary matters but which is independent in the field of statistical methodology. The ÖSTAT is directed by a President and he is also Chairman of the Central Statistical Commission (CSC). The Austrian Data Processing Register is attached to the ÖSTAT as a separate federal authority.
2. The task of the ÖSTAT is to produce federal statistics, meaning all statistics which go beyond the interest of an individual Land and which have significance at the federal and supra-national levels. The ÖSTAT therefore conducts statistical surveys and censuses, processes and publishes the results of these and carries out methodological research. The Länder and municipal statistical offices are users of federal statistics but also produce statistics of their own. Special agreements have been concluded between the ÖSTAT and these offices to improve communication and data exchange.

3. The CSC provides the ÖSTAT with expert advice for carrying out the more complex surveys, suggests priorities for the ÖSTAT's statistical programme and acts as a mediator between producers and consumers of statistics. The CSC is well-placed for these tasks because of its structure and wide-ranging membership which includes representatives of federal and Länder governments, autonomous authorities, chambers of commerce, labour organisations and experts from the fields of science, economy and culture. The CSC currently has 18 special advisory sub-committees that allow small groups to discuss specific statistical problems. There is also an advisory sub-committee for foreign trade statistics with more than 1,000 members from the public and private sectors.

Legal Framework

4. The Federal Statistics Act of 1965, which was last amended in 1994, entitles the ÖSTAT to collect, process and publish data of surveys. Notwithstanding this, all surveys requiring and obliging the co-operation of the population must be authorised by specific federal Acts. Federal ministries also conduct statistical surveys by decree (basing on the Federal Statistical Act); participation of the public in such cases is obligatory as well. Ministries or other public authorities (for example the Länder and communes) are allowed to collect and analyse statistical material in their fields of competence as long as

the information is used only for their own administrative purposes. Results of analyses made by Ministries are required to be transmitted to the ÖSTAT. Where such activity involves preparation of a census or a survey, the ÖSTAT may make the necessary orders or instructions on behalf of the Ministry concerned.

5. The Federal Statistics Act obliges all natural and legal persons, including in general all public authorities, to respond to the ÖSTAT's surveys. The ÖSTAT is correspondingly obliged to preserve the confidentiality of all personal data and may only publish data in aggregated and anonymised forms.
6. These statistical confidentiality provisions are strongly reinforced by procedures for the protection of individual privacy in the Data Protection Act of 1978 which applies to the work of the ÖSTAT and which is fully observed. Data may be collected and processed by the public sector only on the basis of an explicit authorisation. Data may only be transmitted if an explicit authorisation exists or permission is granted by the individual person concerned (this permission can be withdrawn) or again if the data are serving exclusively statistical purposes at the ÖSTAT. In this last case, data must be processed in such a way as to preserve confidentiality. Any person concerned may inspect the Austrian Data Processing Register that is attached to the ÖSTAT.

Business Statistics System

7. Since 1995, the ÖSTAT has been operating a central register of businesses for statistical purposes called the UBR. The units held in the UBR are enterprises (which in most cases coincide with legal units), establishments and local units (of employment). UBR records include fields for the ÖSTAT registration number, name, address, legal form, enterprise structure, principal and other activities, employment and turnover. All activities are in scope for the UBR with the notable exceptions of Agriculture and Forestry (NACE Rev.1, A, B and L) and of private non-profit organisations such as clubs. The ÖSTAT uses the UBR as a frame for statistical survey design and management; for determining universes for grossing-up survey results; and for compiling demographic statistics of businesses. All structural and short term business statistics for Austrian and Community needs are directly based on statistical surveys alone. Surveys are
 8. exhaustive for units with employment of 20 or more and samples are drawn for units with lesser employment. However, administrative sources do play some part in up-dating and verifying information on the units in the UBR.
 9. The UBR is routinely up-dated by results from the regular short term and structural business statistics surveys; from other statistics, e.g. freight transport; from trade associations' statistics and journals; and also by one administrative source, namely the computer file of the members of the Austrian Chamber of Industry and Commerce ("the members file"). The ÖSTAT attempts to "prove" the new UBR registrations that it obtains in these ways by issuing special questionnaires and following them up by telephone. Success here is limited because the inquiries are deemed to be voluntary and the addressees are not obliged to respond. Unproven registrations have to be omitted from the UBR and this is a serious weakness in the present system.
 10. Additionally, exercises are carried out to check the coverage of the UBR and in particular to eliminate duplicate registrations and identify inactive units. For these purposes, a separate database is maintained alongside the UBR to permit comparison of the units in the UBR with those held in administrative files and registers. Most of the fields in this latter database consist of the code numbers of units which are held in, for instance, the membership lists of provincial chambers of commerce; the legal register of companies; tax files; the banking system; and the business information database compiled by the commercial firm COMPASS-DISK. Other fields consist of information on enterprise registrations and de-registrations as well as on starting and closing dates for enterprises' operations.

used as the starting points for searching are allocated the item numbers used in the ÖSTAT's register of buildings and the address formats are standardised. With a view to longer-term development, the UBR has been set up as a relational database and this has the considerable advantage that new characteristics can be imported from other information sources as and when circumstances require.

Specific Sources

11. The Chamber of Commerce "members file" comprises information on commercial registrations which are effected by provincial chambers with authorities at the administrative district level. ÖSTAT receives each month the details of new, deleted or amended memberships. The main advantage of this source is that the Commercial Chamber Law permits the transmission of the information to the ÖSTAT and vice versa. On the other hand, the scope of the source is by its nature limited to the "industrial economy" and practitioners in the liberal professions are not covered. The ÖSTAT also has to add the data missing on employment and enterprise structure and is very frequently obliged to attempt corrections to inaccurate information from this source. The use of the 'members file' is often very troublesome, because of the fact that the identifiers (for example branch classification and definition of units in accordance with the existing Community Regulations) of the unit 'member' and the UBR-unit 'enterprise' often do not correspond.
12. The other sources accessed through the ÖSTAT's purpose-built database can only be used to a certain extent because of their lack of congruity regarding definitions of units, different business classifications, data quality and also timeliness. For instance, the file of "large-scale tax cases" to which ÖSTAT is legally allowed access is four years out of date. There is a special difficulty with the legal register of businesses that in other circumstances would be the ÖSTAT's preferred source for UBR maintenance. While this register is publicly accessible, the cost of transferring data for the whole file is very high. The ÖSTAT is therefore obliged most of the time to consult register records on an individual basis although a segment of the register has been accessed through a firm of management consultants in connection with "textual adjustment" searching.

Progress, Problems and Plans

13. The ÖSTAT's utilisation of administrative sources has to date been concentrated on the UBR. The business statistics system remains dependent on surveys and little if any impact has been made on the reporting burdens of survey participants. The ÖSTAT has identified various obstacles to the greater statistical use of administrative surveys as follows:
 - Difference in definitions and terminology
 - Absence in administrative registers of classifications compatible with ÖNACE, the Austrian version of NACE Rev.1
 - Differences in reference periods (for example in taxation statistics)
 - Differences in reporting and observation units
 - Lack of a common business reference numbering system in public administrations

However, the fundamental difficulty is considered to be the lack of a proper legal basis for cooperation between the ÖSTAT and the holders of the most useful administrative sources.

14. Some initiatives to enhance the statistical applications of administrative sources are already being taken. For instance, the architecture of the "members file" information system is being modified to permit more thorough analysis of the records and to construct event histories for each business. By the end of 1998, it should be possible to get addresses of local units of employment in addition to enterprise addresses and all changes in business names and addresses should be available instead of just some of them as at present. The new "event history" routines due to come on stream at the end of 1998 should additionally identify start-ups, close-downs and other changes in key characteristics without need of making direct approaches to the businesses concerned.
15. Another current project is to make adjustments to the so-called "employers file" of the Main Association of Austrian Social Insurance Institutions in order to up-date the UBR employment figures. At present, the ÖSTAT does not find the "employers file" to be very helpful either for increasing UBR coverage of enterprises or for accessing data on employment, personnel costs, social security costs etc. This is because there is presently no way of sub-dividing the

contents of the "employers file" into the parts relevant for UBR coverage. Therefore it is necessary that the Main Association of Austrian Social Insurance Institutions should provide the first essentials such as defining the reporting units and their economic activity in accordance with the existing Community Regulations. Furthermore, it is necessary to identify public authorities and non-profit institutions.

16. Concerning the fundamental problem of the inadequate legal base, the ÖSTAT looks for help from the new Federal Statistics Act that is currently in preparation for submission to Parliament. The minimum powers sought from the proposed Act concerning business statistics are to compel businesses to respond to the ÖSTAT's UBR proving questionnaires and to gain access to the whole contents of the legal register of businesses without having to pay. It would then be possible to reduce the amount of information needed from the many different sources presently used for UBR maintenance purposes while at the same time restricting the statistical reporting burdens placed on businesses. Over the longer term, the ÖSTAT would like to acquire legal authority to co-ordinate administrative and statistical sources at the national level, using harmonised definitions and concepts. At the moment, the ÖSTAT is not in a position to give further information about either

the future Federal Statistics Act or the requirements it will impose, especially for amending other legislation to ensure worthwhile access to data for statistical purposes. One very likely consequence, however, is modification of the Data Protection Act of 1978.

Special Features

17. Some features of the Austrian statistical system of interest regarding statistical use of administrative sources are as follows:
 - 1) authorities at the federal and local levels are able to work together in statistical matters by means of specially negotiated agreements
 - 2) the CSC operates a very extensive consultative network which provides users and producers of both statistical and administrative sources with opportunities for identifying issues and solving problems
 - 3) automated matching techniques can be used to link units in statistical and administrative registers with a fair degree of success even though a common business reference numbering system is lacking.

Select Bibliography

P O R T U G A L

The National Institute of Statistics (INE) has administrative and financial autonomy which, coupled with the professional independence of its staff, creates an environment favourable to the statistical use of administrative sources. Moreover, one task of the INE's governing body the Supreme Statistical Council (CSE) is to establish relationships between administrative sources and investigate links between different public databases. This task fits in with provisions for the INE's right of access to administrative data included in the basic statistical law of 1989 and clarified by a law of 1994. However, this right of access has in practice been abridged because of argument that disclosure of tax records for sole proprietors would contravene the Data Protection Law of 1991 and also the Constitution. Further legislation to allow access to, and permit checking of, data from different sources is now being devised under the CSE's auspices. Data from VAT and Corporation Tax records are already important sources for the INE's General Register of Statistical Units. The INE is able to ask businesses directly for tax declarations and the headings of these have been aligned with their counterparts in the Harmonised (statistical) Business Survey.

Institutional Position

1. Official statistics were first centrally compiled in 1841, a Directorate-General of Statistics appeared in 1910 and the National Statistical Institute (INE) was created in 1935. Following the revolution of 1974, various experiments in organisation were tried and these culminated with the major reforms introduced by the Statistical Law of 1989. The national statistical system (SEN) now consists of the INE and the Supreme Statistical Council (CSE). The basic organisational principle continues to be centralisation but the INE has seven regional offices that deal both with local aspects of national statistics and with statistics for their regions.
2. The President of the INE holds the office of public administrator and is ranked as a Director General. The basic statistical law of 1989 defines the INE as *"a public institution with legal status and administrative and financial autonomy and a property-owner in its own right, whose purpose is to collect, process, co-ordinate and publish statistics of interest to the country."* Further, *"it is governed by the Minister responsible for Planning."* The President chairs the INE's Board of Directors, which has autonomy in all aspects of management of statistical policy, especially regarding confidentiality, co-ordination and professional resources. The

members of the Board of Directors are appointed by the government. The INE's other staff are not government officials and they are employed on contracts regulated by civil law. The INE works to a series of four-year statistical programmes, the annual components of which are submitted first to the CSE for opinion and then to the Minister for approval. Responsibilities for collecting, processing and disseminating statistics in some fields are currently delegated from the INE to other public organisations. These fields include agriculture, forestry and fishing; science and technology; labour and employment; education and professional training.

Legal Framework

3. The preamble to the basic statistical law of 1989 refers to the INE's right to have access to administrative sources for exclusively statistical purposes and thus to draw on the unquestionable advantages of having this source of information. The further law of 1994 is explicit that the INE may *"have access, exclusively statistical purposes, to individualised information on co-operatives, public and private enterprises, credit institutions, traders and other economic agents, including sole proprietors, collected in the course of their work by central or local government agencies or by private-law institutions"*

whose functions include the rendering of a public service." Moreover, the CSE as the state body with ultimate responsibility for co-ordinating and directing the SEN has a duty under the law of 1989 to "encourage the use of administrative instruments for statistical purposes, making recommendations with a specific view to the use of statistical definitions, concepts and classifications in administrative documents."

4. The law of 1989 also deals with obligations to respond to requests for information for statistical purposes and with INE's duty of statistical confidentiality. These provisions apply to information sought from administrative bodies as well as from businesses and individuals. In Portugal, the protection of individual data is laid down in the Constitution of the Portuguese Republic; Article 35 of which identifies data protection as a fundamental right. This right also finds expression in the Law on the Protection of Computerised Personal Data of 1991. The law of 1991 sets out the basic principles of transparency and individual liberty but prohibits the automatic processing of personal data on various matters including property ownership and financial situation. An Ordinance of 1993 by the Ministry of Justice sets out the limitations and conditions governing the communication to third parties of personal data contained in such files and databases. The National Committee for the Protection of Computerised Personal Data (CNPDP) monitors these legal prescriptions.

Business Statistics System

5. This system is currently based on statistical surveys that use as their frame the INE's General Register of Statistical Units (FGUE). The FGUE is updated by information from a number of sources as follows:

Administrative

- Ministry of Justice: National Register of Legal Persons (FCPC)
- Directorate General for contributions and Taxes: IRC (Corporation Tax) and VAT
- Ministry of Labour and Solidarity: workforce numbers
- Bank of Portugal: balance-sheet records

Statistical

- Specific surveys by the INE Registers Department

- Other INE surveys: Harmonised Business Survey, Enterprise Panel Survey, Annual Survey of Industrial Production

A FGUE record consists of various fields for observation variables, including the Legal Person Identification Number (PCN) assigned by the Ministry of Justice as a unique identifier in the FCPC which is a register of all undertakings, including sole proprietorships, that are legally established. The FCPC is also the initial source for the FGUE of other basic characteristics including name, address, principal business activity and capital. The FCPC therefore provides a universe of legal units that is accessible by law to all public administration entities, including INE, subject to certain statutory conditions. Since 1996, the principal and ancillary activities held on the FGUE have been classified by the national statistical activity classification CAE Rev.2 which is compatible with NACE Rev.1.

6. Enterprises classified to Industry and Construction are surveyed annually in the Harmonised Survey of Enterprises that is designed to obtain structural information suitable for both national and European needs. The main reporting unit is the enterprise classified on a principal activity basis but data is also collected for establishments and for secondary activities. For reference years from 1996 onwards, all enterprises with employment of 100 or more are exhaustively surveyed and smaller enterprises are sampled. Enterprises with employment of less than 20 receive a simplified questionnaire. Inquiries for purposes of short-term statistics are also carried out.

Specific Sources

7. In connection with the Harmonised Survey of Enterprises, the INE directly requests businesses for their annual reports and accounts and a photocopy of the corresponding tax form in addition to the information on the questionnaire. The law of 1989 gives INE the power to do this under Article 19 which states that "any information, books or documents requested by officials or agents of the INE responsible for the direct collection of statistical information must be provided or shown."
8. The questionnaire for the Harmonised Business Survey is now in alignment with both the accounting documentation that businesses use and also with the declarations enterprises make

to the tax authorities. The work to do this involved adjustment to business reporting methods, accounting conventions and information requirements for tax purposes to enable the data to be transcribed line by line in accordance with instructions given in the notes to the questionnaires.

9. Many businesses compile their accounting data in conformity with the Official Accounting Plan. The earlier Plan of 1977 was revised in 1989 to incorporate changes in the form and content of accounts introduced by the Community Fourth Directive on Company Law. The entities in scope for the Plan include domestic and foreign companies covered by the Commercial Companies Code, sole proprietorships also covered by the Code, publicly owned undertakings and co-operatives. The Plan does not cover companies in finance, insurance and banking, or sole proprietorships in agricultural, commercial or industrial activities whose total sum invoiced is less than PTE 30 million. Public authorities have their own Accounting System but authorities that change their legal status can be linked to the Plan.
10. For short - term statistics of the Construction sector, one of the sources used is administrative in origin, namely Licences for the Construction of Buildings. Information is obtained from Municipal Councils on magnetic media or in hard copy, from which it is possible to identify the individual record, the licence holder's name and address, plus the locality, the type and intended use of the structure, and the investing party.

Progress, Problems and Plans

11. The use of administrative sources for statistical purposes is as yet very limited despite the considerable powers of access granted to INE by the basic statistical law of 1989. This disappointing situation is due in part to the shortcomings of some of these sources. For instance, INE studied the tax documents required from enterprises by the Ministry of Financial Affairs to determine how exactly to align the questionnaires, enterprise accounting records and tax documents. It was observed that the data on the tax forms were insufficient for Community needs and that, moreover, the Ministry of Finance did not record all the data submitted on the forms. In general, there are doubts about the usability of administrative sources arising from differences in concepts, definitions and terminology's; differences in reference periods; delays in making data available; and poor quality of methods for recording information.
12. It is also difficult for INE to make a complete inventory of all the administrative information that is potentially useful for statistical purposes. Some authorities have applied successfully for the right to make statistics outside the legal scope of the SEN, including those responsible for viticulture and external trade. Access to such statistics would require special protocols. Other authorities which operate within the scope of the SEN such as the Ministry of Training and Employment have not as yet fully exploited the potentialities of their holdings. Lack of money and sufficient human and computing resources provide part of the explanation for this situation.
13. INE has all the same been able to identify certain types of administrative source that are usable for statistical purposes. These are:
 - VAT
 - IRS (personal income tax)
 - IRC (corporation tax)
 - Social Security
 - Registers of enterprises and administrative records such as the FCPC
 - Bank of Portugal data from balance sheets

Agreements for using the first three of these exist between INE and the Ministry of Finance and the other sources are all exploited to some extent. However, realisation of the statistical potential of any of the sources is limited by uncertainties about the boundaries of responsibilities within the SEN and also questions about the primacy of the basic statistical law of 1989 in relation to other laws governing administrative sources.
14. INE's current difficulties about access are illustrated by the case of the FCPC register of legal units. For this to be fully usable for updating the FGUE register of statistical units, it is necessary to establish which of the new FCPC registrations are actually engaged in economic activity. The possibilities for INE are either to carry out its own follow-up "proving" surveys or to have access to another administrative source that provides evidence of such activity. As the first possibility entails costs for INE and the potential respondents, the second possibility has been investigated in the form of seeking access to tax records.

15. Completion of the investigation has been delayed by the fact that the 1989 law is capable of different interpretations. The Ministry of Justice has made available to the INE its databases containing information on sole proprietorships since it regards these as equivalent to companies for which data may be supplied. The Ministry of Finance, however, regards sole proprietorships as businesses for which a direct link exists between the Legal Person Identification Number (NPC) and the name of the proprietor. It is therefore held that the supply of such data to other institutions violates both the data protection law of 1991 and the Constitution. The INE does not; therefore have access, even by computer, to the Ministry of Finance databanks containing information on sole proprietors despite the provision for such access.
16. The issue is now being considered by the Supreme Council for Statistics (CSE) which has the remits of establishing links between the various administrative sources and of examining the interconnections between the data files of

the various Ministries. A law giving the INE access to tax data for sole proprietorships is likely to be drafted shortly.

Special Features

17. Some features of special relevance to the use of administrative sources for business statistics purposes included the following:
 - 1) a modern organisational structure in the INE and a governing body pro-active in the administrative sources field
 - 2) general powers to demand information of an administrative character from both businesses and other public authorities
 - 3) alignment of the contents of annual statistical business surveys, business accounting records and tax documentation.

Select Bibliography

S U O M I / F I N L A N D

Co-operation between statistical and administrative authorities in Finland has existed for a very long time. This is reflected in the comprehensive access provisions of the basic statistical law. National data protection legislation is also accommodating to the use of personal data files for statistical purposes. Statistics Finland (SF) still carries out statistical surveys for structural and short-term data needs but only to large and complex businesses and in cases where data are needed very quickly. Data for smaller businesses are compiled from administrative records supplied mainly by the National Board for Taxes, which is also an important source for maintenance of SF's Business Register. Inter-linking of this Register with the Trade (business incorporations) Register and the Tax registers will soon be possible, following introduction of a common business identification system. Implementation of a "one-stop shop" registration system for new businesses is also now in hand.

Institutional Position

1. Official statistics started in Finland in 1749 when the first Finnish population statistics were published. The Central Statistical Office was established as early as 1865 and at the same time the publication series "Official Statistics of Finland" began as the medium of dissemination for all producers of official statistics. According to the Act of 1992, Statistics Finland (SF) is an independent government agency under the Ministry of Finance. The Director General is appointed by the President of Finland. SF's main tasks are:
 - to compile statistics and surveys regarding conditions in society
 - to work together with other authorities on developing compilation of statistics by the State

SF regularly prepares a medium-term programming and budgeting plan that is submitted to the Ministry of Finance. The plan provides the basis for preparing the budget of Statistics Finland as a part of the State Annual Budget approved by Parliament at the proposal of the Council of State as well as for the annual work programme that is approved by the Director General. SF is independent in its professional activities and decides itself on the schedules and contents of statistical publications.

Legal Framework

2. The Act on Statistics Finland of 1992 defines SF's tasks and position. The Statistics Act of 1994 is applied to the whole National Statistical Service. In accordance with the 1994 Act, SF is the general authority within the National Statistical Service. About three quarters of all official statistics in Finland are compiled by SF and the rest by 18 other government agencies, primarily from the basic data the agencies need for their administrative activities. All of these statistics come within scope of the National Statistics Service. The 1994 Act states that "without prejudice to the provisions on secrecy, a state authority shall be obligated to provide Statistics Finland with such data in its possession that are necessary for the production of statistics as well as with data on its own activities, finances and duties, with the exception of such data that are kept confidential for reasons of the safety of the state or the interest of national defence." The Act also states that the "collection of data for statistical purposes shall primarily rely on data collected in other contexts. Provision of data shall be voluntary unless an obligation to provide data has been laid down in this or some other act." The 1994 Act has therefore provided a firm basis for the effort to increase the use of administrative sources that SF has led in recent years.
3. The 1994 Act further obligates all public entities

as well as private ones to provide the data requested by the due dates. Data supplied by private entities are subject to statistical confidentiality rules. The data on the activities of central and local authorities taken from public sources and the data in the national Business Register are, however, public. Confidential data may be released only for the purposes of scientific research or statistical surveys in anonymised form and at Statistics Finland's discretion.

4. The Personal Data Files Act of 1987 protects personal privacy, interests and rights. Under this Act, SF may establish personal data registers for statistical purposes without the need to obtain special permission from the data protection authorities.

Business Statistics System

5. SF maintains a Statistical Business Register (SBR) of legal units, local units and local kind of activity units. The SBR is the basis for the structural and short-term business statistics surveys made for national and European needs. The survey reporting units are most frequently the legal unit or local kind of activity unit. The reason for using the legal unit is because this usually equates to the enterprise. However, about 8000 complex enterprises are also asked for details of their constituent local kind of activity units. For the annual structural surveys, only units with employment of 20 or more are included. Data for units with lesser employment are compiled from a file on accounting information rendered for corporation tax purposes and supplied annually by the National Board of Taxes and held in SF's own databases. For short - term statistics on turnover and earnings, SF relies on a combination of data from administrative sources (VAT and tax declarations for employees) and results from direct surveys of about 2000 of the largest businesses. About 40 of these businesses have been sub-divided into kind of activity units. The direct surveys are necessary to meet deadlines set by the STS Regulation and to compile more homogeneous kind of activity statistics.

Specific Sources

6. The SBR is compiled from a variety of administrative and statistical sources. Original legal units come from the Trade Register that is compiled by the National Board of Patents and

Registration, a body combining the functions of a Patent Office and a Registry of Companies. These units will include some that are dormant or otherwise not trading whereas the units held in the registers of the National Board of Taxes will be businesses that are operating and thus liable to some kind of taxation. Legal units are therefore checked and updated in the short-term from VAT notifications and annually from data on personal income taxation and corporation tax assessments. The corporation tax source is also used to compile structural business statistics for small enterprises. SF additionally conducts an annual SBR proving inquiry of its own each spring. Records held by Customs and Excise authorities are used to indicate which units are likely to fall within the scope of foreign trade statistics and records from the Bank of Finland to identify the units that are foreign-owned. Information on mergers is also supplied annually by the National Board of Patents and Registrations.

7. The VAT data source is the VAT Payments Register. This contains monthly data on VAT paid and on the data needed in the calculation of VAT due. Businesses registered for VAT are asked to provide these data to tax offices within 45 days of the end of the reference month. SF in turn receives the data from the National Board of Taxes about 65 days after the end of the reference month. It is then possible to calculate the turnover figures needed both for records in the SBR and for the turnover fields in short - term business statistics.
8. Another important source for short-term business statistics is the Employees' Advance Tax Declarations Register. This is a prescribed payments system that employers use to register the amounts withheld in advance for income tax due on the earnings of their employees. The amounts withheld go to the National Board of Taxes (together with data on the basis of the calculations made) and employers are asked to send them within 15 days of the end of the reference pay-month. SF gets the figures for wages and salaries about 35 days after the end of the pay-month and these are again fed into the SBR and short-term business statistics databases.
9. Records provided by the trade associations for pulp and paper, electricity producers, dairy producers and steel producers are used for the construction of short-term indices of production.
10. Short-term statistics on building permits, starts

and completions are compiled on the basis of the Buildings and Dwellings Register maintained by the Population Register Centre.

Progress, Problems and Plans

11. Over the past 10 years, the basis of the structural business statistics system has been shifting from surveys based to a considerable extent on enterprise balance sheets and income statements to the direct use of data reported by enterprises, especially smaller ones, to the Tax Administration. The means for doing this has been a system of regular data flows from taxation databases to statistical ones. The existence of standard accounting formats promulgated by the Accounting Act has been helpful for this process. Neither the quality nor the timeliness of tax records is always as good as it might be but SF is working with the National Board of Taxes to reduce the problems to manageable proportions.
12. The extension of the linking system to other databases such as those for the Trade Register and for social security records has not yet been accomplished. In the case of the Trade Register, the main obstacle has been the use of a different enterprise numbering system but this will be removed in the near future as a harmonised system for all registration numbers is being introduced. The practicalities of automated data transfer have also been more difficult to handle than was anticipated. Concerning social security records, there is a problem with the timeliness of the data. More radically, a project is now under way to rationalise the inquiry activities of the governmental apparatus including the National Statistical Service so that the same questionnaire can be used for the purpose of data

collection on financial statements in electronic form for several different organisations. This is part of a general government initiative on simplification in form filling that will also enable new businesses to render all of their legal and tax registration obligations in one procedure, using a common registration form. The National Board for Taxes and the National Patents and Registration Board are included together with SF in the first stage of this project.

Special Features

13. Features of particular relevance for use of administrative sources for business statistics purposes include:
 - 1) long-established co-operation between statistical and administrative authorities
 - 2) a legislative framework giving encouragement to use of administrative sources
 - 3) progressive replacement of statistical sources by administrative ones (especially taxation) for smaller businesses

Select Bibliography

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S V E R I G E

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The Central Bureau of Statistics (SCB), or Statistics Sweden, until recently met its own and international needs for structural business statistics from a combination of direct statistical surveys to large businesses and analyses of samples of accounts filed publicly by SMEs. Since 1996, the SCB has increasingly utilised the important new administrative source of standardised accounting returns (SRUs) attached to annual personal and business income tax declarations which businesses make to the Taxation Authority. From accounting year 1996 onwards, SRUs are the only source of structural data for SMEs. Surveys of large businesses continues with coverage restricted to businesses with 50 or more employees. Due to the use of SRUs, business statistics cover the whole population of businesses and sole proprietors in Sweden. VAT declarations are an increasingly important source for short-term statistics of turnover and related variables. The VAT source may before long replace surveys of short-term statistics of services. Legal business registrations at the Patent and Registration Office are the administrative source for legal units in the central statistical business register. Legal units that are economically active are identified from registrations with the Taxation Authority. Efficient linking of records for businesses in statistical and administrative information systems is greatly assisted by the general administrative practice in Sweden of assigning identification numbers to persons, organisations, workplaces, buildings and other entities. The Taxation Authority plays a pivotal role in this process. The SCB has had support from the Ministry of Finance in securing the Tax Authority's agreement to supply VAT data and SRUs for statistical purposes free of charge and to make the VAT data available more frequently. The new sourcing strategy depends crucially on retaining this good will and also on the SCB's ability to ensure that the form and content of accounting information in SRUs remains statistically usable. Administrative sources in general play a key role in the SCB's efforts both to minimise statistical reporting burdens on businesses and to remain the most cost-effective provider of official statistics in government.

Institutional Position

1. Swedish official statistics were for a long time produced by individual government bodies for their own administrative needs. A Central Bureau of Statistics was established at national level in 1858 but with population statistics as its main concern. Production of other statistics meanwhile continued with other bodies until the 1960s when much of it was transferred to the Central Bureau (SCB). Structural reform of the Swedish central government in the 1990s led to a renewed decentralisation of official statistical work, which today is shared roughly equally between the SCB (also known as Statistics Sweden) and 24 sectoral government agencies. The half of all work remaining with the SCB is carried out by about 500 staff in Stockholm and 600 staff in Örebro, approximately 150 km apart.
2. In principle, each of the agencies is responsible for the statistics in its own sector while the SCB is responsible for inter-sectoral statistics (including those for national accounts, foreign trade and manufacturing) and has overall responsibilities for statistical co-ordination and methodology. In practice, the SCB also produces most of the sector statistics for the agencies under paid contracts because this is presently the most cost-effective arrangement. Furthermore, the SCB maintains numerous registers and databases whence information is made available to official and external users. Contractual receipts from the agencies and from paying customers for the register-based products and other statistical services account for about half of the SCB's annual gross income.
3. The other half of gross income is provided by the Ministry of Finance to enable the SCB to co-

ordinate the statistical system and to produce the inter-sectoral statistics. The Minister answers politically for the SCB but the SCB is not part of the Ministry. The official head of the SCB is the Director General who, together with a Deputy, is appointed by the government for a limited period. The Director General chairs the Board, which directs the SCB, the other members being representatives of public authorities, universities, organisations of employees and private industry. The Scientific Council is a consultative body and there are various other committees comprised of users of statistics and other interested parties, which cover specific parts of the statistical programme. There is a special committee, including members drawn from business, which considers proposals for new statistical surveys and changes to existing ones. In deciding whether or not to approve such proposals, the committee takes into account the estimated compliance costs for respondents and also the availability of administrative sources as feasible alternatives.

4. There is no legislation that obliges agencies and others to meet their needs from the SCB if this is not cost-effective. The SCB is therefore seeking to hold its costs at competitive levels by making substantial changes in priorities, organisation, working methods and product range. A new client-server based information systems environment is being introduced throughout the SCB with a view to realising efficiency gains in data capture, processing and dissemination. Further operational savings and also reductions in the statistical reporting burden on businesses are being sought in two main ways. The first of these is by developing and exploiting to the fullest extent a system of "statistical register modules", enabling data from different sources to be readily combined. The second is by using as far as possible administrative data in place of information from direct statistical surveys.

Legal Framework

5. The Official Statistics Act of 1992 provides a general framework within which are made regulations for carrying out specific statistical surveys. This Act does not, however, empower the SCB to gain access to administrative sources. Provisions concerning such access are instead, in some cases, given in a government regulation. The confidentiality of the returns made to the SCB by individuals, households and businesses is enforced by the Secrecy Act of 1980
- and The Personal Data Protection Act of 1998. External users of the registers held by the SCB can only access micro-data within the limits of the confidentiality regime applied. The SCB, however, is authorised to make any linkage of micro-data between the registers it holds. It can also disseminate anonymised micro-data, subject to its own judgement that this can be done without damaging confidentiality. It is of interest to note that any attempt to re-identify anonymised or aggregated statistical data is a criminal offence in Swedish law.

The Register-based approach

6. A well-known feature of the statistical system in Sweden - and in its Scandinavian neighbours - is the linking of registers to produce various types of statistics, particularly in the social and socio-economic fields. Many of these registers take input data from administrative sources. The Swedish government has now authorised the introduction of a new public database service which makes available to users the micro-data from 17 registers as follows:
 - Population
 - Population changes
 - Population censuses
 - Real Estate and Buildings
 - Education
 - Labour Force Surveys
 - Incomes
 - Central (statistical) Business Register
 - Foreign trade
 - Motor vehicles
 - Agriculture
 - Income and Wealth
 - Employment
 - Education analyses
 - Criminality
 - Living conditions
 - Value Added Tax
7. Four registers are fundamental to the SCB's operations, namely the central population register, the register of incomes, the Central Business Register (CFAR) and the central register of real estate and buildings. These can be reliably

linked with each other by a system of inter-related unique identity numbers assigned to persons, organisations, workplaces, addresses and units of real estate. It is then possible to add statistical value to the contents of the different registers by bringing them together. For instance, personal identity numbers (PINs) can be linked to organisation and workplace numbers to generate information on numbers of employees and the incomes paid to them by a specific business in a particular location. The need for special surveys is thus reduced, or even avoided, by making the most use of data that already exists. It may also be possible to combine different types of data and create entirely new types of statistics.

8. However, the administrative sources, which underlie many of the registers, can seldom be used directly for statistical purposes. To make the registers statistically usable, the SCB needs first to process their contents centrally and then (ideally) standardise the concepts, definitions and classifications on which they are based. Statistical register modules are now being created in this way. Progress is also being made on using these modules to form parts of a fully integrated statistical database in conjunction with survey data but this is a longer-term project. It is possible, however, that the register-based system will be developed over time to generate many of the variables specified by the Structural Business Statistics (SBS) Regulation.

The Central Business Register (CFAR)

9. The CFAR is now available to the public as a source of information on businesses but the SCB has maintained it for many years also as the central statistical business register. In this latter capacity, it is the basis of the "system of co-ordination of samples" (SAMU) which provides the sampling frame for all business surveys serving official purposes. The SAMU has the particular objectives of ensuring that all relevant units are included in the samples for the different surveys and of controlling the frequency and composition of surveys so that the statistical reporting burdens on businesses are minimised. The SAMU is run twice a year to take account of intervening information made available from the latest surveys but the main run is in November in order to determine the sampling frame and survey plan for use during the following year.
10. The CFAR originally consisted only of legal units

and local units but in conformity with the Council Regulations on Statistical Units and on Registers, its contents are expanding also to include enterprises, kind of activity units (KAU) and local KAU. This new version of the CFAR should be ready for use by late 1999. The SCB is able to include every legal unit in the CFAR because of the information it receives from the Patent and Registration Office (PRV) with whom all legal units must be registered. New PRV registrations and amendments are notified to the SCB each week. The PRV assigns an organisation number to each new legal unit and this is available for use by all official bodies. A change in the legal form of a unit can result in a change of organisation number. It is also possible to register businesses using PINs and sometimes one individual will register many different businesses in this way with consequent problems for the system.

11. The SCB itself creates the specifically statistical units in the CFAR, assigning to each of these an identity number differentiated by type of unit and used for statistical purposes only. The starting point for this process is the identification of the legal units that are economically active. Registration by a legal unit with the Taxation Authority for VAT, corporation tax or as an employer is regarded as evidence of economic activity and the Tax Authority notifies the SCB accordingly. The SCB works on the conventions that any legal unit is associated with at least one local unit (i.e. as the registered office address) and that an enterprise consists of at least one legal unit. Where a new legal unit is thought to have more than 10 employees, the SCB will contact the unit directly for confirmation. Legal units with two local units are the subject of a special "proving" survey once a year and legal units with more than two local units are surveyed twice a year. Regarding legal units with only one local unit, the SCB only takes action by survey or otherwise if there is reason to doubt the quality of the information. Administrative sources are therefore the prime sources for register maintenance while the SCB's own resources are mainly limited to proving for businesses consisting of more than one local unit.
12. Legal units with two or more local units assign to each of those units a so-called "AST-number" for administration of employment and payroll. The AST-number in effect denotes a "workplace" or a "pay point" and is recorded on declarations of wages and salaries made to the Tax Authority.

The "local units" for this purpose are not necessarily the same as statistical local units, which are defined and given separate identification numbers by the SCB. A statistical local unit may cover more than one of the local units perceived by the legal unit and its identity number may be associated with two or more AST numbers. It is, however, possible to link AST numbers with numbers for statistical local units. The existence of these links makes possible the production of statistics for the labour force and employment costs.

The VAT source and Short-Term Statistics

13. Since 1990, local offices of the Tax Authority have been responsible for population registration and the information they hold for each person contains name, address and PIN. Sole proprietors of unincorporated businesses will be picked up by these local offices when they register for VAT and their PINs will be linked to their VAT registration numbers. Limited liability companies and partnerships that register with the PRV will receive as part of this registration process application forms for VAT registration for return to local tax offices. Certain activities are exempted from VAT, notably medical care, education, banking and insurance. However, businesses engaged in other activities are in the system whatever the values of their turnovers so coverage is very comprehensive. Businesses with turnovers of SEK 1 million or more make monthly VAT declarations to tax offices. Businesses with lower turnovers (accounting all together for less than 2 per cent of GDP) make declarations annually and have the option of doing so as part of their annual accounting returns to the tax offices of personal and business income.
14. The SCB is now using VAT declarations, together with the annual accounting returns, to change the way in which it compiles structural and short-term business statistics, particularly for businesses with fewer than 50 employees. Investigation of the statistical potential of the VAT system began in 1972 and its value for identifying active units in the CFAR was soon recognised. Utilisation of the VAT system as a source of statistical data about the performance characteristics of the units has proceeded more gradually.
15. The VAT declaration is detailed enough to identify turnover for purposes of private consumption inside Sweden and this is very relevant for the compilation of quarterly national accounts. It could not, however, be used in practice for this purpose because, until very recently, data from the VAT system was only made available to the SCB at two-monthly intervals. Any statistical applications of VAT data could therefore only be made on an annual basis. (Even so, the data was still good as "background" for multi-annual surveys.) This situation changed at the beginning of 1998 when the Tax Authority began to send VAT data to the SCB each month in respect of the last but two months, e.g. data for November 1997 was available to the SCB at the beginning of February 1998 and data for the fourth quarter of 1997 was available in the first part of March 1998. The SCB was at the same time released from its previous technical obligation of paying for the data, which is now supplied free of charge.
16. For the time being, the SCB continues to compile short-term statistics from results of direct statistical surveys but VAT has nonetheless been useful as an auxiliary source for improving the efficiency and effectiveness of the surveys. Some of the statistical applications found for VAT data are as follows:
 - as a sample stratification variable: since 1992, VAT turnover has replaced employment as the variable for sub-dividing sample selections by stratum because it produces lower sampling variations
 - as a means of balancing samples: sub-samples for sectors can be made representative within the overall samples with the aid of the detailed activity classifications of units generating VAT turnover
 - as inputs to survey processing procedures: test ratios based on turnover etc are built into survey data validation and take-on procedures and into imputation procedures to compensate for non-response
 - for calculating regional breakdowns of national results: regional breakdowns of output and other variables were at one time obtained from special supplementary surveys but national results are now spread using regional breakdowns of VAT turnover.

The aggregate effect of these practices has been to reduce the form-filling burden on businesses, especially SMEs, to reduce the SCB's own costs of collecting and processing business data and, to some degree, actually to improve the quality of results.

17. There is circumstantial evidence that VAT data is likely to be more reliable than survey results. Business-people are thought to take more care in completing VAT returns than in responding to statistical surveys because the former can have direct financial consequences whereas the latter do not. On the other hand, observation has also revealed that VAT returns are not altogether ideal for statistical purposes. Some of their main drawbacks have been identified as follows:

- One unit may register for itself and also a number of other units as a "group registration", a difficulty which is compounded if the group registrant is also a holding company
- VAT turnover reported may include transactions with agents for goods and services who do not actually own them
- The period in which transactions are reported may be different from the period in which they actually take place.

It is also the case that in general the Tax Authority offices - and the bodies responsible for other administrative sources - have neither the time nor the motivation to ensure that data quality meets statistical rather than administrative standards. This particularly affects how units are classified and sometimes even the definitions of the units themselves for reporting purposes. The degree of influence that the SCB can exert by itself to improve this situation is limited.

18. The speedier availability of VAT data means that there is a basis for comparison with short-term survey results at the time that these appear. The Department of Economic Surveys, which is responsible within the SCB for business statistics, is accordingly now working with the national accountants and the statistical methodologists on systematic compilation of VAT declarations in parallel with the short-term statistics surveys which are being carried out in 1998. Assuming that the two sets of results do not reveal any serious divergences and that data quality is otherwise satisfactory, VAT data will be used as the basis for short-term statistics from 1999 onwards.

Sources for Structural Business Statistics

19. Structural statistics for non-financial businesses (i.e. in manufacturing, construction and services) were for many years collected from two separate but complementary statistical surveys. The first of these, the Financial Accounts Survey,

collected balance sheets, income statements, investments etc all on an enterprise basis. The second, the Industrial Structure Survey, collected operating income by source (industrial production, trade, other services etc); operating expenses by type (wages and salaries, raw materials, energy etc), investments, numbers of employees and payroll, all on a local unit or (preferably) KAU basis. In respect of 1995, the Financial Accounts Survey consisted of a complete enumeration of about 2,000 large companies in manufacturing and another 2,000 in services, supplemented by a sample of annual published accounts filed at the PR for 5,000 SMEs in manufacturing and 7,000 SMEs in services. Results from these inquiries, particularly concerning the sampled published accounts elements, were becoming increasingly unsatisfactory because of non-response, late availability of data and quality problems. A new data compilation system is therefore now being introduced in stages. At each stage, there will be progressively greater reliance on the standard accounting returns ("SRUs") that enterprises send to offices of the Tax Authority as attachments to the annual tax declarations.

20. The SRUs were introduced in their present form in 1993. Each SRU consists of a balance sheet and a profit and loss account together with supporting information. The form and content of these statements are determined by the national board for accounting standards, paying due regard to the Fourth and Seventh Council Directives for Company Accounts. With the support of the Ministry of Finance, the SCB reached an agreement with the Tax Authority in the summer of 1996 on the regular supply without charge of all SRUs for all businesses, including limited liability companies, limited partnerships, sole proprietorships and non-profit institutions. The Ministry of Finance is particularly interested to receive via the SCB anonymised data from the SRUs with value added by the SCB of SNI (national NACE Rev.1) economic activity codes and associated employment data. The Ministry wants this information for the purpose of making macro-economic models of taxation. The SCB has its own plans for the information, namely as the central element in a new system for generating structural business statistics for the bulk of Swedish firms.

21. The SCB began to explore the statistical potential of SRUs soon after their introduction in 1993. Following preliminary work with samples, a full test enumeration was made for accounting year 1994 and this confirmed the suitability of

SRUs for further work. The Financial Accounts Survey for 1996 consisted of direct surveys of 4,000 large companies as before but the sample of 12,000 published accounts was now replaced by enumeration of 263,000 businesses with fewer than 50 employees, excepting sole proprietorships. Similarly, the Industrial structure Survey for 1996 consisted of a direct statistical survey of 6,000 businesses with more than 10 employees and a sample of the SRUs for about 32,500 smaller businesses. Starting with reference year 1997 (the first year for which information as required by the SBS Regulation is specified), the Financial Accounts and Industrial Structure Surveys will be merged into one new annual structural business survey. This consists of a direct statistical survey of all businesses with 50 or more employees and an enumeration of nearly half a million SRUs, of which about 200,000 are sole proprietorships. As with VAT data, it is not possible for the SCB to deal directly with originators of SRUs about any problems with them and the Tax Administration does not have the resources for such work. Other ways will therefore have to be found of adapting information in the SRUs for its intended statistical purposes. Some of the difficulties encountered in using SRUs are as follows:

- Businesses have some discretion in choosing the accounting periods they use for their SRUs - the mixtures of reporting periods actually observed are therefore converted to standard accounting years
 - Balance sheets are reported at "book value" but profit and loss accounts are calculated on current costs
 - Numbers of employees are reported as full-time equivalents without supporting information on the full-time and part-time breakdowns
 - Information needed for national accounts such as on purchases of goods resold is often missing
 - Quality of information reported is not necessarily reliable - the SCB had to reject about 1 in 7 of all SRUs during the exercise for 1996.
22. Some help for at least some of these problems may come from using information from registers held elsewhere in the SCB. A commercial register is also being purchased from a private firm that analyses the accounts filed at the PRV.

Non-response induced by poor quality of SRUs can probably also be dealt with by using standard statistical techniques such as imputations based on matched pairs. A more serious threat to the integrity of the SRU source is posed by its vulnerability to any changes in taxation or accounting regimes. In the latter case, proposals made by the International Accounting Standards Committee (IASC) are currently a matter for some concern. The IASC would like to introduce the option for businesses of presenting their profit and loss accounts in the so-called "functional" breakdown rather than the currently more generally used "expenses" breakdown, which is, statistically speaking, more preferable. The SCB has a seat on the Swedish accounting standards board and has been making representations about the problems the proposed change would cause.

Special Features

23. Some of the special features of the Swedish statistical system that are relevant to the use of administrative sources for business statistics purposes are as follows:
- 1) a potentially competitive institutional environment in which pressure to contain costs provides a stimulus for deriving the most benefit from using administrative sources
 - 2) a well-established register-based approach to producing statistics that can accommodate greater use of administrative sources as a logical further development
 - 3) a network of inter-linked identification number systems for persons, organisations, buildings etc that is legally usable for inter-service transfers of administrative data
 - 4) the central position of the Taxation Authority as an original source of information on economically active legal units, VAT data and annual accounting returns.

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UNITED KINGDOM

Collection, analysis and dissemination of official statistics, including business statistics, in the UK have traditionally been the responsibilities of government departments, with a modicum of co-ordination and guidance on standards provided from a central point. The legal framework governing these statistics and also the sources for them is correspondingly built around activities at departmental level, rather than in terms of a law for statistics at the national level. Although departments make a variety of statistical uses for their own administrative sources, the scope for transfer of administrative data between departments has been limited. The recent co-location in ONS of the bulk of economic and socio-economic statistics previously divided among different departments has broken down barriers and opened up possibilities for improving the quality and effectiveness of the administrative sources used for the Inter-Departmental Business Register. Full realisation of these possibilities is presently hindered by the lack of a common business identification number system but the introduction of such a system is now actively under discussion.

Note: The United Kingdom (UK) consists of England, Wales, Scotland and Northern Ireland. England, Wales and Scotland together form Great Britain.

Introduction

1. From the 1830s onwards, various government departments began regular production of statistics in support of their functions. In 1941, a Central Statistical Office was established inside the Cabinet Office (CSO) to collate statistics from these departments and, in particular, to assemble figures for the national accounts. In 1967, the Director of the CSO became Head of a new Government Statistical Service (GSS) as a means of improving co-ordination of official statistics without imposing complete centralisation.
2. In 1989, the CSO became a separate government department and acquired responsibilities from the Department of Trade and Industry (DTI) for collecting, analysing and publishing most business statistics. In 1995, the CSO additionally took over from the Employment Department the same roles for most labour and earnings statistics. The CSO was itself absorbed in 1996 into the Office for National Statistics (ONS), along with the Office for Population Censuses and Surveys (OPCS). Responsibilities for compiling national accounts, many business and economic statistics, most labour and earnings

statistics and demographic and social statistics are now for the first time located in one and the same department.

Institutional Position

3. The ONS is part of the Treasury (Ministry of Finance) Group of Departments, which also includes Customs and Excise and the Inland Revenue, and it is an Executive Agency. According to the Agency's Framework Document, the Chancellor of the Exchequer (Minister of Finance) is answerable to Parliament for the activities, resources and programme of the ONS but the Director of the ONS as Agency Chief Executive and permanent head of department is generally autonomous in day to day management. It is the Director who prepares the ONS programme annually for the Chancellor's approval as a three-year rolling business plan. The Director as Registrar General has separate legal responsibilities concerning the Population Census and other demographic statistics. The Director as Head of the GSS has a third line of accountability directly to the Prime Minister and the Head of the Civil Service which in practice makes him the

government's chief adviser on statistics. An Advisory Board comprised of data users, data suppliers and others with appropriate knowledge assists the Director in his roles as ONS Chief Executive and Head of the GSS.

4. The ONS is now the largest component of the GSS, accounting for about half of the 5000 statistical staff spread over about 30 departments and agencies for Great Britain and the separate offices for Scotland and Wales. Close relations are also maintained with certain organisations that are formally outside the GSS. The Northern Ireland Statistics and Research Agency provides some information needed to compile statistics at the UK level by, for instance, carrying out business statistics inquiries under local legislation. Similarly, the Bank of England is an important source of banking and financial statistics required for the national accounts.
5. Functional decentralisation remains an important feature of the GSS as a whole. Each department, including ONS, is responsible for its own statistical programmes and is accountable to Parliament through its own Ministers. This arrangement is designed to ensure that GSS members work closely with departmental policy makers and that statistical analysis is used to its fullest extent in shaping and monitoring government policy. For instance, statistics for the Energy sector continue to be the responsibility of the DTI (although many are actually collected by the ONS) and short-period statistics for Construction remain with the Department for Environment, Transport and the Regions (DETR).
6. One positive aspect of functional decentralisation is that statisticians within departments frequently work with their own departments' administrative sources. Such access is usually for statistical analysis purposes as, for example when Inland Revenue statisticians make analyses of personal and company incomes from tax data. Sometimes, statisticians are also involved in the design of administrative information systems such as the new National Insurance Recording System at the Department of Social Security. Possibilities of inter-departmental transfer of data from such sources are, however, much more limited and are always strictly regulated by legislation.
7. The ONS has inherited from the CSO various instruments of co-ordination across the GSS. These include the making of statistical classifi-

cations, the recommendation of statistical good practices and quality standards and the work of the Survey Control Unit (SCU). The SCU originated from a recommendation in 1971 of the Bolton Committee on Small Firms for a permanent mechanism to control the statistical form-filling burden on small and medium-sized enterprises (SMEs). Accordingly, departments are required to clear all proposals for new statistical surveys with the SCU and also to review the needs and contents of existing surveys at regular intervals. The SCU makes a report on this work each year to the Prime Minister. The checklist that the SCU circulates to departments provides for consideration of the possibilities for using administrative sources either wholly or partly in place of statistical surveys. The Official Statistics Code of Practice published by the GSS in 1995 highlights the SCU's role. Additionally, the Code enjoins statistical users of administrative sources to ensure that the data are fit for the statistical purpose intended; and to provide appropriate guidance to those who operate the administrative systems.

Legal framework

8. There is no single law in the UK of general application to the field of official statistics. The GSS does not have a legal personality distinct from the departmental bodies that comprise it and the GSS Official Statistics Code of Practice is not mandatory. Neither does the Framework Document that regulates the ONS as an Executive Agency have a formal statutory basis. Legislative instruments do however exist for some specific activities such as the Census Act of 1920 and the Agricultural Statistics Act of 1979. Other Acts relate to statistical aspects of Employment, Finance, Local Government and Planning, some of which provide for access to administrative sources for statistical purposes.
9. The main instrument governing business and other economic statistics is the Statistics of Trade Act, originally introduced in 1947. This Act empowers the government to obtain "returns or estimates" from persons or statistical units and wilful failure to respond is punishable. Confidentiality of returns is safeguarded at all times, information about identifiable persons and statistical units is not used other than for statistical purposes and no confidential data is disclosed to third parties unless written permission is obtained beforehand from the respondent concerned. In the specific instance

of transferring information about identifiable units to other government departments, outside organisations or researchers, this is not permitted unless sanctioned by law. The Deregulation and Contracting-Out Act of 1994 does allow transfer of confidential data to outside contractors working with government departments although only for the specific purposes of their contracts.

10. The ONS Framework Document authorises the Director as Agency Chief Executive to make Service Level Agreements (SLAs) with other departments about transfer of administrative data. These SLAs address financial, confidentiality and quality issues while also taking account of any Acts that regulate transfer of the data concerned. The main Acts here are the Value Added Tax Act of 1994 administered by Customs and Excise and the Finance Act of 1969 administered by the Inland Revenue. It is not always the case that SLAs are set up and sometimes data can be transferred simply by directions from Ministers. Whatever is the formal procedure followed, the usual mechanism for transfer is a written authorisation either by the Minister in charge of the department or a person to whom the authority has been specifically delegated, such as an Agency Chief Executive. Such authorisations are by no means automatic and requests for them have sometimes been refused.
11. Information on some businesses is also covered by registration under the Data Protection Act of 1984. This Act relates to the protection of data, not individual privacy, and it allows administrative data to be transferred for statistical purposes. The GSS Code of Practice for Handling Confidential Data takes account of the Act's provisions.

Business Statistics System and the IDBR

12. The basic system has consisted for about 30 years of monthly, quarterly, annual and less frequent statistical surveys supported by statistical registers. Administrative sources have only ever been used extensively for register updating. Many earnings and employment surveys previously carried out by the Employment Department have been based on registers constructed from records of "pay points" that the Inland Revenue compiled about deductions made by employers for tax purposes from employees' gross earnings under "Pay As You Earn" (PAYE) schemes. Turnover -based inquiries carried out by the DTI and later the CSO have made use of registers of businesses up-dated from a variety of sources, including registrations for Value Added Tax (VAT) beginning soon after VAT was introduced in the UK in 1973. In 1995, the different registers were replaced by an Inter-Departmental Business Register (IDBR) that the CSO and the Employment Department had together devised for common use in their respective survey systems. Several other departments also use the IDBR, including DETR for Construction surveys. The IDBR is managed on behalf of all users by the Business Register Unit (BRU) of the ONS Business Statistics Group
13. The main data inputs for the IDBR are currently as follows:
 - Continuous feedback from ONS surveys
 - VAT business registrations weekly from Customs and Excise, generating between 10,000 and 20,000 amendments each month
 - PAYE scheme notifications quarterly from Inland Revenue
 - Registrations of incorporated businesses made by Companies House under the public access provisions of the Companies Acts - annually for the full Classified Index and ad hoc for checking individual businesses
 - "World Base", the new Dun & Bradstreet database compiled annually with quarterly updates and containing the world linkages for 220,000 UK-registered companies, their overseas subsidiaries and foreign companies operating in the UK
 - Information from occasional sources including the Register of Pension Funds and Schemes and lists of foreign-owned units compiled by regional development agencies for inward investment promotion.
14. Administrative sources are the main sources for the IDBR and are used either directly or in conjunction with survey sources to update IDBR fields. For instance, IDBR turnover is generally updated annually from the VAT and inquiry sources source and IDBR employment can be obtained from the Annual Employment Survey (AES) and PAYE sources. Other administrative

sources exist which would be beneficial for the quality and coverage of the IDBR but access to these cannot be obtained for legal reasons. The sources concerned are "Schedule D" records of income tax paid by the self-employed and records of Corporation Tax paid on incomes of incorporated businesses, both of which are held by the Inland Revenue.

15. The IDBR is essentially a list of names and addresses of businesses operating in the UK, sorted into legal units, enterprise groups, enterprises and local units. VAT registered traders are usually legal units and PAYE units may be parts of legal units but neither are often suitable for statistical purposes. The IDBR therefore maps them on to the other three types of units that have been defined as statistical units. The enterprise unit is, for instance, compiled as a grouping of VAT and PAYE units. Enterprises are quite often based only on VAT ("VAT-only") or only on PAYE ("PAYE-only") units. The enterprise is most frequently the reporting unit for statistical inquiries but some complex enterprises have to be split for reporting purposes into several parts relating to different industries or regions and defined by lists of local units. Each IDBR unit is assigned a SIC (92) activity classification (compatible with NACE Rev.1), a Companies House registration number (CRN) where applicable and a size indicator based on employment and turnover. It is the intention that the IDBR should be the direct source of demographic information on businesses required by the Community Structural Business Statistics (SBS) Regulation.
16. The sources of most other information required by the SBS Regulation - as with the Community Directives it replaces - will be statistical surveys, for which the IDBR will be used both as a sampling frame and as a set of universes for grossing survey returns. Information on SBS employment and financial variables will mostly come from a new Annual Business Inquiry (ABI) system that will start in January 1999 to collect for reference year 1998. Unlike the outgoing Annual Censuses of Production which only covered businesses with employment of 10 or more, the ABI will cover all sizes of business using a sampling scheme stratified by IDBR employment. All "large" (250 or more) and most "medium" (50 to 249) businesses included will be asked to return full information but "small" (10 to 49) and "micro" businesses will only be asked for information under a few headings. Estimation will therefore play a critical role in filling information gaps.

Progress, Problems and Plans

17. The co-location in ONS of business statistics with earnings and labour statistics has led to the merger of the previously separate statistical survey systems for collecting employment and turnover. Concurrently, implementation of the IDBR has opened up new information resources and analytical possibilities for survey design. These two developments are in turn pointing to considerable improvements in the quality and effectiveness of the VAT and PAYE sources as well as to more intensive use of the Companies House source. Projects that will lead to these outcomes have recently been carried out on consistency of population estimates in the IDBR and on the use of quarterly PAYE and turnover data for sample stratification and estimation variables.
18. The perceived problem about IDBR population estimates starts from the fact that there is no system of common numerical identifiers in the UK either for persons or for businesses. The three main administrative sources used for the IDBR each have different numbering systems, the structures of which cannot be directly related to each other. Other possibilities for linking different types of number are at present limited. The new VAT information system now under development will include CRNs but legal difficulties about introducing VAT numbers into PAYE returns prevent the information circle needed for linking from being closed.
19. In its work of screening administrative data for use in the IDBR, the BRU is therefore ultimately reliant on name- matching. An American software package SSA, supplemented by name and postcode checks, is used for this purpose and a scoring system identifies definite or possible matches. Possible matches are further checked by hand against the Companies House register information system (STEM), the Dun & Bradstreet database (particularly for enterprise groups) and information on local units from the AES. If businesses fail to be matched by the end of this process, those believed to employ 20 or more are sent "proving forms" monthly for VAT-onlys and quarterly for PAYE-onlys. For the two mid-year quarters, PAYE-onlys are included in the sample selection then made for the AES - this improves possibilities for matching because the AES asks for VAT numbers. No such possibility exists for VAT-onlys and although businesses sent monthly proving forms are asked for

PAYE numbers, quality of response is not very satisfactory. When PAYE numbers are returned on the forms, the numbers often turn out to be incorrect. After the automatic matching, there are around 175,000 PAYE-onlys (accounting for total employment of around 2 or 3 per cent of the UK labour force) and about 900,000 VAT-onlys.

20. Some non-matches arise unavoidably from the exemption regimes in the VAT and PAYE systems. Businesses in most trades are currently exempt from VAT if their annual turnovers are below £50,000 and in some trades like betting and gaming, insurance and funeral direction, they are wholly exempt. Some of these businesses nonetheless do register voluntarily in order to claim back VAT charged by their non-exempt suppliers. Again, the Inland Revenue does not require employers to set up PAYE schemes for employees whose annual earnings are less than about £4,000. Similarly, payments for National Insurance (which the Inland Revenue also collects from employers) do not have to be deducted at source for employees whose annual earnings are less than about £3,400.
21. It is estimated that nearly 2 million UK businesses are not registered either for VAT or PAYE. This estimate is based on the difference between the population of the IDBR (1.8 million businesses) and the calculation made by the DTI Small Firms Division (3.7 million businesses). The DTI figure was based on various sources, including the ONS Labour Force Survey and the Inland Revenue Survey of Personal Incomes, (which is based on a sample of income tax records). None of the "missing" businesses was thought to have employees and together they probably accounted for only about 1 per cent of total UK business turnover.
22. Despite the likelihood that known deficiencies in sources for the IDBR were of manageable proportions, there was concern within ONS that the standard population for statistical inquiries and the population used for the Annual Employment Surveys (AES) were generating inconsistent estimates. Both populations included VAT units, excepting those which were VAT-only with employment of 20 or more. But whereas AES sample selections were drawn from the whole population of PAYE units, the other selections customarily excluded unmatched PAYE-only unproven units. An internal ONS task force investigated the possibilities that the population for the AES generated over-estimates and the other selections generated under-estimates. Research concentrated in particular on finding evidence of duplication of units in the IDBR and of mis-reporting of employment in the AES returns. Evidence to this effect was found through the project.
23. AES estimates have consequently been revised and, in particular, the increase in estimated employment between 1995 and 1996 has been halved. Various procedures in the IDBR system will also be reviewed. Priority will be given to eliminating units with 20 or more employment based only on one source. Emphasis has been given to dealing more quickly with smaller units that have so far remained unmatched. Information about Companies House registrations will be obtained quarterly instead of annually for matching the units that are incorporated businesses. For units that are unincorporated businesses, there is a recommendation that register proving should be extended down to those with employment of at least 5. Looking further ahead, a new Annual Register Inquiry (ARI) incorporating the current AES and the present Business Register (proving) Inquiry will commence in 1999.
24. Another internal ONS study group has been considering the scope for changing sample stratification and estimation methods following the merger of the short-term turnover and employment survey systems in 1997. At present, IDBR employment is the variable usually used for both purposes. A particularly interesting finding of the study group concerns the basis for estimation of employment from survey returns. Estimation is presently done by using the IDBR employment figure for a particular date. This figure is sometimes based on earlier information from surveys, sometimes on PAYE data and sometimes on an estimate of employment using a "turnover per head" ratio applied to units for which only turnover is available. The finding is that the variance of employment is halved if the latest available "PAYE jobs" figure is always used, a gain equivalent to doubling the size of the sample. Another finding is that IDBR turnover, especially when based on the latest quarterly updates of VAT annual turnover is also much better than IDBR employment for estimating turnover from survey returns. Both findings are still being assessed. Following discussions between ONS and Customs and Excise, ONS is now receiving files of annual VAT turnovers on a

rolling quarterly basis in addition to the information on amendments already provided.

25. ONS Business Statistics Group is doubtful that the scope for using administrative sources could be significantly extended beyond their applications to the IDBR. The ABI system will be the preferred source for many SBS regulation variables because administrative sources either do not exist or are considered unreliable, untimely and lacking in any recognised quality measure. Most significantly, the UK does not operate the kind of Accounting Plan system found in various other countries which would enable business accounts filed with the tax or company registration authorities to be used wholly or partially in place of structural surveys. Incorporation at Companies House usually confers the privilege of limited liability and this obliges incorporated businesses (whether companies or partnerships) to file annual audited accounts. The Companies House register currently includes about 1.2 million such businesses but only about half of these are live and trading, thus likely to be filing accounts. Furthermore, such accounts may not be available to the public until about 18 months after the accounting year. It is also the case that the accounting conventions allowed in published accounts differ in important respects from those acceptable to the Inland Revenue for assessing tax due on business income.
26. For about 35 years, the DTI and later the CSO made systematic analyses of published UK company accounts and from time to time attempted to adjust the results for use in the national accounts. These attempts failed mainly because of the difficulty of reliably separating in the accounts domestic activities from foreign ones. The DTI/CSO Company Accounts Analysis was a notable example of using an administrative source as a possible substitute for a statistical source without posing any problems about disclosure or reporting burdens. However, the Analysis was discontinued in 1992.
27. Like its counterparts elsewhere, the ONS is faced on one hand with demands from customers for information ever growing in scale and complexity. On another, it is faced with demands from information suppliers, especially businesses, for reducing the statistical reporting burden. ONS is responding by developing an essentially three-fold approach. First, information requested in survey forms sent to businesses is being specified and defined as far as possible in terms that businesses themselves use in their own accounting systems. Second, the possibilities are being examined of using recent developments in information technology to extract data from the accounting systems of businesses for direct electronic transmission to the statisticians. Third, three-year rolling Compliance Plans have been introduced to identify, monitor and progressively reduce the costs that surveys impose on businesses and other respondents. Information about selection histories held on the IDBR is being used to operate a system of three-year "survey holidays" for small businesses that have already been included in surveys. Responsibility for preparing and monitoring the Compliance Plans has recently been given to the Survey Control Unit (SCU).
28. Two new developments in 1998 may well have a bearing on the extent to which ONS and the rest of the GSS use administrative sources in future. The first development is that several government departments and agencies are considering the possibilities of a Single Business Registration Scheme. These bodies include Customs and Excise, Inland Revenue (now combining the Contributions Agency which administers National Insurance payments), ONS, Companies House, DTI and the Ministry of Agriculture, Fisheries and Food. Discussions are still at an early stage but the ideas most frequently mentioned are a single business registration procedure as "a one-stop shop" and a single business registration number.
29. The second development is the publication in February 1998 of a public consultation paper on options for the precise form of an independent national statistical service as previously promised in the new governing party's election manifesto. The paper recalls that one of the reasons for creating the ONS was that "the size and range of skills in such an office would make it feasible and easier to bring together the massive amount of data that exists in government, to relate them in a meaningful way, and to make them available across government and to the community in general". Prominence is given to the concept of "National Statistics", the definition of which is suggested as "work supporting the production of statistics for public use".
30. The consultation paper says that some of these National Statistics "might be derived from administrative and research sources in government, and the statisticians would require access to these sources for statistical purposes. Similarly,

National Statistics activity would need to include participation in the development of relevant administrative systems and research programmes." The paper also draws attention to issues of the integrity, co-ordination and availability of sources for official statistics at the UK level that could arise following devolution of central government powers to Scotland, Wales and Northern Ireland. The consultation period on the issues raised in the paper ended in May. The government's response to representations received about the paper is expected in 1999.

Special features

31. Some features of the UK official statistical system of interest concerning use of administrative sources for business statistics purposes include the following:
 - 1) the principle of functional decentralisation - this has the advantage of putting statisticians within departments into close touch with departmental administrative sources and the disadvantage of complicating transfer of administrative data across departmental boundaries
 - 2) a data protection act which allows transfer of data in general for statistical purposes and a much stricter body of law regulating transfer of particular kinds of administrative data
 - 3) lack of a common business identification numbering system - although this may change
 - 4) absence of an Accounting Plan to harmonise business and official accounting concepts
 - 5) application of data confrontation techniques for survey results to add value to administrative sources used for the IDBR.

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I C E L A N D

In Iceland, administrative sources are used extensively for statistical purposes. Statistics of production are based on data collected directly from the enterprises but other business statistics are based on administrative sources or registers. This is made possible by the fact that both Statistics Iceland (SI) and the National Economic Institute (NEI) have unlimited access to all tax data. The Icelandic statistical system is heavily register-based, the main registers of importance for business statistics being the Register of Enterprises maintained by SI, the Register of Wage Payers and the VAT Register. Further improvements to business statistics at the enterprise level and below are likely to flow from three current developments, namely provision of PAYE data on individual workers, standardised annual accounts included with enterprises' tax returns and detailed breakdowns of VAT transactions by economic activity.

Institutional Position

1. The two main official bodies operating in the field of business statistics are Statistics Iceland (SI) and the National economics Institute (NEI).
2. Statistics Iceland has among its general responsibilities the collection, analysis and dissemination of statistics in almost all economic and social fields. These fields include demographic and employment statistics, population and housing censuses, foreign trade statistics and production statistics. SI's particular responsibilities for registers are very important. These include administration of the National Register and the general registration of persons, the Register of Enterprises and the student register.
3. SI is formally a government department and has its own Minister but in all respects other than financial ones, it operates virtually autonomously. The Director of Statistics who is the head of SI is appointed by the President of the Republic. The Director and the staff of SI have the mission of tendering information and opinions that are impartial.
4. The National Economic Institute is primarily an economic research institute. It was founded in 1974 and has the main role of providing economic analysis and advice for the Government and the Althing, the Icelandic parliament. One of the NEI's special tasks is to prepare the national budget and it is additionally responsible for compilation of the national accounts. The NEI is independent in its work but its managing director is appointed by the Prime Minister.
5. The division of labour between SI and the NEI on business statistics is currently undergoing some changes. SI collects annually by surveys the statistics of production for manufacturing, i.e. quantity and value of manufactured goods offered for sale. SI is, as mentioned, responsible for the Register of Enterprises and also for some basic series such as those for imports and exports of goods. Other business statistics are mainly compiled by the NEI that has at its disposal much information from administrative sources. Included here are the annual operating and financial accounts that enterprises render with their tax returns as well as records of VAT declarations. Until 1997, the NEI was also responsible for the processing of register-based employment data by branches of industry. From 1998, SI has assumed responsibility for employment statistics and will start by publishing these for 1996, 1997 and 1998 when available. Publication for future years will follow in due course.

Legal Framework

6. Statistics Iceland operates with powers and obligations originally specified by an Act of 1913. This Act conferred responsibilities for collecting,

processing and disseminating statistics on the "state of the nation" as further defined in the Act. The Act granted the right of requesting and collecting from both public and private entities all information deemed necessary for carrying out these responsibilities. Concomitantly, the Act imposed an obligation to protect and keep confidential all identifiable information acquired from individual businesses, institutions and members of households. In consequence of the Act on the Central Government Administration of 1969 Statistics Iceland operates as a government department.

7. Data protection legislation was first enacted in 1981 and subsequently modified in 1985. The Act provides for a supervisory body, the Data Protection Committee. This Committee supervises the implementation of the Act and is called upon to resolve any disputes arising therefrom.
8. The tradition for using administrative records for statistical purposes is generally accepted by the Icelandic public and has largely been free from problems. It has as a rule been relatively easy for statisticians and economists to co-operate with the authorities responsible for the administrative records. In part, this situation can be seen as resulting from the general legal positions occupied respectively by Statistics Iceland and the National Economic Institute. Another specific legal provision whereby tax authorities are obliged to submit to both organisations data in a prescribed form needed for statistical compilation is undoubtedly also very helpful. Finally, there is also a tradition of close co-operation and consultation among the statistical institutions, the tax authorities and other keepers of administrative registers.

Business Statistics System

9. Statistics of production are compiled from results of direct statistical inquiries to businesses but this is the exception. Other business statistics are based entirely on administrative sources or registers. The reasons for such a heavy reliance on administrative sources are very simple and clear to the official statisticians and economists; the use of administrative registers or records is a very cheap, quick and efficient method of collecting data for statistical purposes. The Icelandic population is very small (272.000 persons on 1 December 1997) and the economy is of correspondingly modest size. The use of traditional sample surveys is therefore inappro-

priate in most circumstances. Basically, the cost would be prohibitive owing to the disproportionate sample size as compared with the population to be sampled.

10. There are also other important considerations arising from specific local conditions. The Icelandic economy is characterised by a relatively small number of large firms and a very large number of small firms. The Icelandic statistical authorities take the view that to conduct a probability-based statistical survey of businesses in such a setting would be extremely difficult. In particular it would be very time consuming and costly to secure a high enough response rate. Secondly, given the small size of the economy and the disproportionately large sample selections entailed, the probability that a particular business would be sampled repeatedly could be high. Such high sampling rates could in turn negatively affect response rates and the quality of response in the medium term.

Thirdly, smaller businesses would experience an unduly heavy reporting burden not only because of their relatively high sample selection probabilities but also because they would be less well-equipped to cope with detailed questionnaires than larger businesses.

Specific Sources for Business Statistics

11. The main administrative sources that are used either directly or indirectly in the business statistics system are as follows:

1. Register of Enterprises

The Register of Enterprises is maintained by Statistics Iceland. It contains information on the name and the location of businesses and institutions, their identification numbers, data on the legal forms of the businesses, their activities, activity codes according to ÍSAT 95 (equivalent to NACE Rev. 1) as well as some statistical data. The main use of the Register for statistical purposes lies in the utilisation of the identification numbers which function as keys to other administrative sources, tax records in particular. It is also used to generate statistics on the demography of businesses. The Register of Enterprises is updated continuously on the basis of information received from the businesses and institutions and information obtained from tax registers and other sources. The type of statistical data that the Register of Enterprises contains

is mainly secondary and based on tax data. There is a continuous interaction between this Register and tax registers for the purposes of updating and control. The main tax registers involved in this interaction are the Register of Wage Payers and the Value Added Tax Register.

II. Corporate Taxation data

This is the main source of the structural business statistics that the National Economic Institute compiles annually. The material is annual accounts and tax returns collected by the tax system from all businesses that are operated in some corporate form. This source is used exclusively in order to generate aggregated income statements balance sheets for the various branches of industry and production accounts for national accounting purposes. Other sources as outlined below provide supporting information.

III. Personal Income Taxation Data

This source involves accounting data on sole proprietorships and unincorporated enterprises similar to that in the Corporate Taxation register on incorporated enterprises. It is used in a similar manner to obtain information on enterprises of those legal forms.

IV. Payroll Register

This register is based on the Register of Enterprises with payroll data derived from the annual declaration of each and every wage payer on the payment of wages to each individual wage earner. This is submitted to tax authorities separately from the tax return of the firm and sent to each wage earner for information purposes. The corporate taxation data refers to the accounts of the enterprise as a whole and hence as classified by its principal activity. In the payroll register, however, each enterprise engaging in more than one activity is broken down into kind-of-activity units. The payroll register has accordingly been utilised to obtain information on the breakdown of activities of firms that are engaged in more than one economic activity. This register has also been used to determine sample sizes and to derive totals for whole branches of industry from the sample results. It has also been the main source of information on employment data, presented in man-years by activity. However, in recent years, this source has deteriorated considerably and it will be replaced by individual PAYE-records as described below.

V. Value Added Tax register

Data from VAT returns is available both bi-monthly and annually. This data is mainly utilized for two purposes: a) to obtain information on the level of activity in the different sectors of the economy within the year, b) to obtain annual turnover data by branches, both for separate publication and in order to augment other tax data in connection with the sampling procedures and the determination of sample size for each branch of industry. The usefulness of this register has been limited, as it has been based on enterprises rather than kind-of-activity units. This is being changed as of 1998, again as described below.

VI. Other Sources

Data on the *demography of businesses* is derived from the Register of Enterprises and from tax records. Data on *turnover* and the *value of production* is derived from both the income tax records and the VAT records. Data on *purchases of goods and services, wages and salaries and social security costs* is obtained from the corporate and individual tax data described above. There are no administrative sources for data on *new orders*. Data on *building permits* exist but are not utilized, as these are not considered a good indicator of new building activities in Iceland. Data on *gross capital investment* cannot be derived from administrative records so far but improvements are foreseeable as described below. Employment data in many years in terms of full-time equivalents has in the past been derived from the payroll register described above. In the future, this source will be replaced by new records from the PAYE system.

No administrative sources have so far become available for *number of hours worked* but the PAYE system will provide information on the ratio of full time equivalence, which can be used to approximate these.

Finally, there are no administrative records available on *R&D expenditure and employment, environment expenditure or payments and income to sub-contractors*.

Progress, Problems and Plans

12. At present, there are three projects being carried out concerning the utilisation of administrative

records for economic and business statistics. These are the following:

- *Individual PAYE records.* From the beginning of 1998, all wage payers are being requested to supply special information on each wage earner in connection with the firms' monthly account and withholding/ payment of income tax for each of its employees. Up to 1998, these accounts contain the identification number, the total wage and the tax payment for each employee. From 1998 onwards, the accounts are also to contain the ÍSAT 95 activity code of the kind-of-activity-unit in which the employee is situated. Other information now being added is for occupational code according to ÍSTARF 95 (equivalent to ISCO 88) and the volume of work measured by reference to full-time equivalents.
- *Standardised annual accounts.* The tax authorities have recently launched a new form, standardised annual accounts, for corporate income tax returns. This form was introduced in 1997. In 1998, corporate enterprises, with few exceptions, were obliged to utilise this form and it will be obligatory for most incorporated and unincorporated enterprises as of 1999. Statistics Iceland and the National Economic Institute were consulted during the planning stage and they have seen this development as a very promising step towards better economic and business accounts. The standardised annual accounts contain all the usual accounting variables. In some cases, additional variables can be obtained, like gross fixed capital formation by enterprises, but there are also examples of less detailed data, especially in some specific branches. However, these accounts are standardised in the sense that the accounts of all enterprises are aggregated in the same manner and can directly be grouped together meaningfully and electronically. The greatest change so far as business statistics are concerned is that from the time the standardised accounts are compulsory, the statistics can be based on total coverage instead of on samples.
- *Changes in the VAT records.* Until now, enterprises have reported all their activity under their principal activity code As of 1998, all enterprises are obliged to break down their turnover in their VAT records by branches of economic activity. A major new source for breaking down the activity of enterprises

by branches of industry will therefore become available. This, together with the new standardised accounts and the individual PAYE-records, will greatly improve the quality of all business statistics at the enterprise level and below.

Concluding Remarks

13. The Icelandic experience of using administrative records for business statistics has both positive and negative aspects. The positive aspects are the ease of access, the low cost and the general public acceptance of using administrative records. There is also a high degree of standardisation in the material. The negative aspects are basically twofold. First, the choice of taxation registers as a basis for business statistics obliges the use of purely monetary data. Well-classified production data containing both values and physical measures of production and inputs are not available from this source. Secondly, the register records only contain the administrative data requested by tax authorities. The statistical institutions have sometimes succeeded in persuading the tax authorities to include requests for data that is needed more for statistical than taxation purposes. However, the experience is that such data treated with less respect and given lower priority by the tax authorities than the tax data that the authorities need themselves.
14. There is no special history of administrative records being rejected for business statistic purposes because of some specific reason. However, there are cases where statistical compilations have been discontinued owing to the abolition of administrative records, to changes in the content of administrative data, or to replacement of old types of administrative records by new ones. So far, Statistics Iceland and the National Economic Institute have never been prevented from using administrative registers by other public authorities. When the two institutions have considered the possibilities of using some available administrative sources and finally decided not to do so, the reason has not been because of limited access. More often, the data has either not been available in suitable form for statistical purposes or the new project has turned out to be financially unacceptable.
15. The Icelandic statistical system is already heavily register-based. It is the opinion of the Icelandic statistical authorities that while there

might be a need to adjust or develop some of the Regulations or other procedures existing at the European level, no fundamental changes or new protocols seem called for. The Council Regulation on Community Statistics is seen as being very useful in general but it is not thought likely that this Regulation will in particular enhance the use of administrative records in the Icelandic setting. Finally, Statistics Iceland does not expect that the transposition into national legislation of the Council Directive on Data Protection would improve the prospects for utilising administrative registers in Iceland - the opposite might turn out to be the case.

Special Features

16. Some special features of the use of administrative sources for business statistics purposes in the Icelandic system are as follows:
 - 1) The heavy reliance on administrative sources for making business statistics other than those for production
 - 2) A legal framework that facilitates access to the administrative sources required by the statistical authorities
 - 3) The general public support for using administrative data for statistical purposes
 - 4) The long standing tradition of co-operation between statistical and administrative authorities
 - 5) The continuing development and interaction of the main administrative and statistical registers to generate statistics, particularly at levels below the enterprise.

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N O R W A Y

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The methods used by Statistics Norway (SN) for compiling short-term and structural business statistics have traditionally relied on statistical surveys. Administrative sources have nevertheless played important supplementary roles in business statistics production for more than 30 years. The key sources are VAT data, employment data from National Insurance registers and the annual accounting data that businesses report to the Directorate of Taxes. SN maintains a statistical Business Register (BOF). The various registers compiled by Norwegian public authorities for natural and legal persons, including the BOF, have from the 1980s increasingly functioned together as a network. A milestone in this process was the inauguration of the Central Co-ordinating Register of Legal Entities (ER) in 1995. The ER serves as a "one-stop shop" for administrative obligations of businesses. The ER is in close inter-action with its associated registers for employers and employees, business enterprises, VAT, income tax and corporation tax as well as with the BOF. A common identification numbering system links the records of businesses in the ER with those in the associated registers. The Statistics Act of 1989 empowers SN to make use of administrative data-processing systems for official statistics and to influence the design of such systems to aid statistical projects. These powers are effective ones but SN also works to secure the willing and continuing co-operation of those responsible for administrative registers by sharing its expertise in register management and analysis. The formal instruments of co-operation are written agreements made between SN and the administrations concerned. These are reinforced by SN's active involvement in major inter-service projects such as the development of the Register of Employers and Employees. Norway's inclusion in the European Economic Area (EEA) has stimulated SN to adapt the BOF to the requirements of the Council Regulations for Registers and Statistical Units. Projects are also in hand to compile information specified by the SBS and STS Regulations without imposing too much survey activity on businesses. One project is to generate business statistics as far as possible from a fully articulated system of registers for businesses, employment and taxation. A second project is designed to meet national and EEA needs for key short-term statistics of turnover, hours worked, employment and earnings from a combination of administrative sources on employment, wage costs and VAT together with statistical sources such as the Labour Force Survey. A third project is to capture standardised accounting data directly from businesses by electronic means. Completion of this last project is planned for 2008 but, as a pre-condition, a new Accounts Act will come on to the statute book in 1999.

Institutional Position

1. Official statistics in Norway were originally all compiled by government departments for their own uses but this situation began to change after a central bureau of statistics was established in 1876. The central bureau, now Statistics Norway (SN), took powers to collect data from individuals and companies by an Act of 1907 and eventually assumed responsibility for the social, economic and other statistics of most importance at the national level. Some departmental statistical activities are still carried out in connection with administration of special legal acts and by government enterprises for their own operations but these are not part of the official statistical system. SN has offices in Oslo and Kongsvinger, about 100 km apart, but there are no regional offices. The official statistics system is thus a fully centralised one.
2. SN receives budgetary support from the Ministry of Finance but is a professionally autonomous government agency. Between 20 and 25 per cent of SN's revenue comes from work done for other government departments and external

customers. Governance of SN is divided between an Executive Committee and a Director General. The Executive Committee decides on the long-term programme, the draft agency budget, the annual work programme and the annual report prepared by the Director General, all of which it presents to the Minister of Finance. The Director General is responsible for management and all other activities of SN. There is no statistical commission to advise the Director General in these matters.

Legal Framework

3. The Statistics Act of 1989 repealed the 1907 Act and confirmed SN as the central body responsible for collection, production and dissemination of statistics for official purposes. SN's statistical research activities, in which it has a long-established reputation, are also given special mention. SN is empowered to seek information for purposes of making official statistics from "any person" within specified deadlines. The Act lays a corresponding obligation upon SN to observe confidentiality of the information. Such information may only be used for production of official statistics or for such other use as is approved by the Data Inspectorate (DI), a body established by the Personal Data Registers Act of 1978. If information is transmitted to third parties, they are obliged to respect the original confidentiality. The DI may nevertheless make exceptions to this rule in certain circumstances and for certain types of information.
4. The 1989 Act additionally and most importantly contains a number of provisions concerning the statistical aspects of administrative sources as follows:
 - It is a duty of SN to co-ordinate comprehensive statistics which are produced by administrative agencies
 - SN has the right to use administrative data-processing systems in the state administration and in nation-wide municipal organisations as the basis for official statistics
 - Proposals for the establishment or modification of administrative data-processing systems must be notified to SN, which can seek further information and can also forward its own proposals for ensuring that design of such systems takes account of statistical considerations
5. Administrative bodies intending to carry out statistical investigations must notify SN, which can seek further information and make proposals concerning how the information shall be sought and statistics shall be produced in order to safeguard official statistics and co-ordination.

During its first two years of operation, the 1989 Act required administrative bodies to provide SN concerning their current statistics. Similarly, state bodies and nation-wide municipal organisations were obliged to provide information about their major administrative data-processing systems. SN also took advantage of the power in the Act to make detailed regulations for expanding and otherwise clarifying the Act's provisions. The regulations laid down by the Ministry of Finance in 1990 included additional points about design of administrative data-processing systems and statistical co-ordination as follows:

 - If SN judges that information from administrative data-processing systems may afford a suitable data base for the compilation of official statistics, an obligation to provide information will be imposed in accordance with the Act
 - SN can issue directions to administrative agencies, state bodies and municipal organisations about the forms that their reports of proposals for data-processing systems and statistical investigations should take
 - SN may make proposals concerning how an administrative data-processing system should be designed to be usable for statistical purposes, including points as follows:
 - what information it should contain
 - definitions of units, variables, classifications, etc
 - system structure
 - data control
 - what information should be transmitted to SN and the transmission deadline
 - SN may make proposals concerning how information should be collected and how statistics should be compiled in the interests of statistical co-ordination, including points as follows:
 - the definition of statistical units, variables, classifications, etc

- collection of data, e.g. the form and content of the questionnaire
- processing of the data
- presentation of the result

The regulations emphasise consideration of costs for all the parties concerned of proposals made by administrative bodies for design of data-processing systems, collecting information and compiling statistics. On the other hand, neither the Act nor the regulations are specific about payment for administrative data.

6. SN has followed up compliance with the 1989 Act and the 1990 regulations by signing contracts or co-operation agreements with between 50 and 60 government agencies, covering most of the registration authorities in the public sector. For instance, the Agreement with the Directorate of Labour made in 1992 nominates contact points in both organisations, defines the activities covered, specifies the reporting regime and provides for arbitration procedures in the event that allowance for statistical needs in administrative systems entails extra costs. In another case, the Mapping Authority did not want to send SN information needed for the Real Estate Register (GAB) without payment in return. The Ministry of Finance ruled on appeal from SN that the information should be provided free of charge. SN also keeps a register of administrative data-processing systems, which currently contains more than 250 entries. The key point always for SN is that administrative registration authorities should notify their work on new systems or changes in existing systems as early as possible in the development process.

- The Register of Employers and the linked Register of Employees, both operated by the National Insurance Administration (the "EE Registers")
- The Wage/Salary and Withdrawal Register of the Directorate of Taxes (the "LTO Register")
- The Register of Business Enterprises ("FR")
- The Register of Company Accounts
- The Directorate of Tax database of tax accounts

8. Briefly, the VAT, EE and FR Registers have been used to update the BOF, the VAT register has also been an importance source for short-term business statistics and the EE Registers have also been an important source for employment and other labour market statistics. The LTO Register contains annual payroll data from employers in respect of each employee and is the source of detailed statistics of wage and salary costs by size of enterprise and industry; it also serves to check whether employees are continuing in paid employment with an enterprise. Additionally, all of the sources above-mentioned have contributed to compilation of structural business statistics. It is worth noting at this point that while identification numbers for natural persons have existed in Norway since the 1960s, the possibility of introducing numbers to perform the same functions for businesses has not existed until very recently. Administrative sources have accordingly been used singly or sometimes in combination for business statistics purposes but not as yet by systematically linking their contents together. This has become much easier after the inauguration of the ER in 1995.

Business Statistics System

7. SN produces a range of short-term and structural business statistics by means of direct statistical surveys to businesses on the basis of a statistical Register of Establishments and Enterprises (BOF). Administrative sources have for a long time played important roles both in maintaining and updating the coverage of units in the BOF and in supplementing or otherwise enhancing information obtained from the surveys. The main administrative sources which were developed by 1995 for these purposes are as follows:

- The VAT Register of the Directorate of Taxes

9. Redevelopment of the BOF and, to some extent, of the survey elements of the business statistics system has been in progress since the mid-1990s. Weaknesses in the system had been apparent for many years but fresh impetus for redevelopment has come from the need to satisfy the statistical requirements of membership of the European Economic Area (EEA). Another stimulus for change originated at the national level when the Central Co-ordinating Register of Legal Entities (ER) was introduced in 1995 for use throughout Norwegian public administration. All units included in the ER receive an identifying organisation number with the same characteristics as a personal identity number; namely that it is a single, invariant

number assigned irrespective of function which must be used (so far as the law provides) in every administrative register. The organisation number has therefore opened the possibilities of managing registers as a network and of linking their contents to compile business statistics.

The Register Centre and the ER

10. Pressure from politicians, trade associations and others built up during the 1980s for public agencies to rationalise their arrangements for collecting, recording and making available information from the business community. An inter-service working group began meeting in 1983 to study the matter and later recommended the creation of a new institution that could at the same time simplify registration formalities for businesses and co-ordinate official holdings of information. In consequence, a Register Centre was established in 1988 under the auspices of the Ministry of Finance. The Centre began by gathering together in one place seven registers, including the FR and the Register of Company Accounts. Each register continued for a time to function entirely in its own way but rationalisation was eventually achieved with the implementation of the ER in March 1995.
11. The target population of the ER is all the incorporated bodies and other entities that are recognised as having obligations and/or rights enforceable by Norwegian law. The entities required by law to register with the ER are units registered in the so-called "Register Network", which consists of the BOF, the VAT Register, the EE Registers, the FR, the County Governors' Register of Foundations and, from 1998, the Corporate Taxation Data Register of the Directorate of Taxes. Other entities may register on a voluntary basis and registration is, in any case, free of charge. The essence of the registration process is assignment of a nine-digit organisation number, the form of which has been taken - solely for the reason of its convenient numerical properties - from the FR.
12. The primary public aim of the ER is to act as "a one-stop shop" which enables owners or agents for new businesses to apply to the Register Centre, the National Insurance Administration or County Tax Offices to register in all the major registers at the same time. The ER itself consists of records for legal units and establishments but these contain only a small part of the information required by the different registration authorities, whether in respect of new or existing businesses and other entities. Each of the registers associated with the ER still has to store all the information needed for its own particular tasks, e.g. records for enterprise statistical units in the BOF. The ER is probably best thought-of as a master register containing the basic information common to all the associated registers. Some of this basic information such as name, address, identity of proprietor, type of legal entity and industrial and institutional sector classifications are available to the public. Other information such as amount of capital and number of employees is accessible only to the authorities.
13. The organisation number that identifies each ER record enables the basic information to be reported only once and in one place. The use of the organisation number in all the associated registers enables the contents of those registers to be exchanged between the different authorities. The agency that receives information on each event is responsible for notifying it to the Register Centre. After processing, the information will be distributed either on-line directly from the Centre, as is the case for SN, by being filtered through registers operated by the various authorities, or as paid services performed by the ER's various data distributors. Information flow is based on a standard register reporting form which all the partners in the register network have worked together to prepare. The form contains the basic information needed for the ER as well as other information required for the registers in which the unit is to be entered. All the registers work with copies of the ER and record the ER organisation number. In some registers such as for VAT, the organisation number still co-exists with the authorities' own numbering system but in others such as the EE registers and the income tax register, it has already taken over entirely.

SN and the ER

14. SN participated actively in the planning and implementation of the ER and continues to be a major player now that the ER is operational. The five original associated registers together contained more than 900,000 units and many of these appeared in more than one register. For instance, employers reporting employees for social security purposes were (and are) often the same as business owners making VAT declarations. SN took responsibility for a

"compatibility project", the aim of which was to locate identical units in the different associated registers in order to give them unique organisation numbers for the ER. It was particularly important to scrutinise units that appeared to be identical but actually were not so. Failure to establish the one to one correspondences required for the organisation numbers to be indeed unique would lead to multiple entries in the ER and hence to a variety of unfortunate consequences. As an example, an employer reporting employees under the new organisation number might find them attributed to a different employer.

15. SN did the matching of units in the different registers by hand, using names and addresses, and succeeded by this means in accounting for all except about 8,000 units. The result was that the opening version of the ER in March 1995 contained 410,000 units, of which
 - about 200,000 were legal units and about 210,000 were sub-units or "establishments"
 - about 250,000 units were already existing in the FR and about 160,000 units were taken from other registers, mainly the VAT and EE Registers
 - about 200,00 units were given organisation numbers by the Centre, the rest being determined by SN
 - about 6,000 units turned out later to be wrongly matched, an error rate of less than 2 per cent.
16. Following the start-up phase, SN has assumed continuing responsibility for managing segments of the ER considered to be important for statistics, namely
 - 1) Identification of sub-units, or "establishments"
 - 2) Allocation of economic activity codes, according to the Norwegian version of NACE Rev.1
 - 3) Allocation of the institutional sector code corresponding to the legal entity (and relevant for national accounts purposes)
 - 4) Completion of the record field for "number of employees"
 - 5) Clarification and adaptation of organisational structures in the public sector for use as

registration units. The division of labour between SN, the Centre and other partners in the register network is designed to represent the statistical interest to best effect, taking account of the resources SN has available. However, the current situation does not as yet amount to a complete solution for the statisticians' problems.

17. The Register Centre's responsibility for determining legal units has relieved SN of most of its previous work in this area but on the other hand SN now has much more to do on determining establishments. Work to put into the ER all the establishments in the BOF that SN judges suitable is in fact still continuing. The Centre's rules also allow an individual to register several different corporate entities at the same time, providing that these carry out activities in different industries or places. SN would normally regard these entities as parts of one enterprise and so needs to link them with an enterprise statistical unit in the BOF. Again, SN's responsibility for allocating institutional sector codes can be diluted by the Centre's prior decisions on the legal forms of entities. The Centre may, for example, classify people farming together as an unlimited company whereas SN's national accountants would regard them as a household. It remains possible in practice for the same legal unit to operate with different organisation numbers in different registers as an employer or for VAT or other tax purposes. SN has thus far concentrated its efforts on ensuring good coverage in the ER but pressure is mounting for more to be done about quality improvement. While progress is being made in correcting the ER's present deficiencies, permanent improvement depends on SN's ability to stimulate a process of behavioural change at the Centre and elsewhere in the register network over the longer term.

The BOF and Administrative Sources

18. Before implementation of the ER in 1995, the BOF contained about 220,000 units. Coverage of some parts of the economy was poor. In terms of NACE Rev.1, no units were present for Divisions A and B, there were some problems regarding classification of professional practitioners and other self-employed categories within Divisions K, M, N and O and the public authorities units in Division L were badly out of date. The BOF now contains many more units because of the ER and SN believes that these

include all the legal units in existence. Some coverage deficiencies nevertheless persist. Probably the most serious of these deficiencies is the low coverage of self-employed persons who are thought in total to account for about 12 per cent of the labour force. Doubt has also surrounded the definitions of some of the units.

19. The "enterprise" unit traditionally included in the BOF was defined as an institutional unit inclusive of all activities under the same owner, e.g. a limited liability company. The "establishment" was defined as a locally delimited functional unit mainly engaged in business activities within one particular industrial classification group, e.g. a retail outlet or shop. The Council Regulations on Registers and Statistical Units provide that statistical registers shall consist of enterprises which contribute to production of GDP, the legal units responsible for those enterprises and the local units dependent on those enterprises. The "establishments" in the BOF have generally corresponded either to local units or to local kind of activity units as understood by the Regulations. The "enterprises", however, have corresponded to legal units and SN is redetermining them to correspond with statistical enterprise units. This involves identifying the units that are genuinely engaged in economic activity.
20. The main administrative source for maintaining and updating the BOF has traditionally been the VAT Register and before 1995, SN was receiving copies of registration reports from the County Tax Offices at a rate of about 25,000 a year. Activities in the field of services are in general not covered by the VAT Act and another drawback is that there is no breakdown of turnover into local or functional units in the VAT Register. These deficiencies can to some extent be offset by information from the other significant register-maintenance source; namely reports about new employers originated by the social security offices in the EE Registers network. These reports cover all activities and are broken down into lower-level units but they also come with the disadvantage that an "employer" as a unit is not well defined. SN has therefore also relied heavily on its own Activities Survey, a register-proving exercise covering about 130,000 units a year, as well as reports from its other regular surveys which generate about 13,000 changes a year. With a view to relying more on the EE Registers in the longer term, SN is working with the National Insurance Administration to develop the Registers so that

the reporting units in them correspond unambiguously with the units in the BOF.

21. The general problem with these updating procedures is that they have led to over-estimation of the population of units that are actually economically active. There is efficient identification of births but inadequate notification of deaths or dormant units. Examination of the different administrative sources is not conclusive for this purpose. Failure to pay VAT may not indicate that the unit has ceased trading but only that it has moved to VAT-exempt activities. Even if a business owner reports that there are no longer any employees for social security purposes, he can perhaps continue running the business himself. Similarly, an incorporated business that is no longer trading may remain on the FR (and the ER) until all financial claims have been settled.
22. The present BOF system dates from 1965 and is overdue for technical upgrading. SN is therefore retiring the present register with all its data problems in readiness for introducing a new one with effect from January 2000. This gives the opportunity for taking full advantage of the new ER register network and in particular for strengthening the "Surveillance System" that SN has introduced for checking whether new legal entities registered by the ER actually generate real economic activity. The main components in the Surveillance System are the VAT, EE, Employee Income Tax and Company Accounts Registers. Whether coverage of the self-employed can be improved in the new BOF remains to be seen. Many self-employed people work in VAT-exempt services activities, they do not have employees and their registration in the ER itself is not compulsory. SN would like to see the VAT tax base widened to include more of the self-employed. An exercise is meanwhile in progress to locate more of them in the existing ER network.

Short Term Statistics and Administrative Sources

23. SN produces bi-monthly statistics on turnover for manufacturing, construction and distributive trades. These statistics are based on the bi-monthly reports from businesses to the VAT authorities. The reports include information on VAT due from the individual enterprise, turnover subject to VAT, turnover not subject to VAT, investment tax due and consumption of investment goods subject to investment tax instead of

VAT. There is no breakdown for the reported turnovers below enterprise level and for enterprises active in more than one industry, turnover is broken down to the establishments of the enterprise using factors calculated from annual structural business survey results. The quality of the VAT source is considered to be very good and it covers about 98 per cent of the activity in scope for the short-term inquiries. On the other hand, the bi-monthly availability of the reports rules them out as a source for strictly monthly statistics. Moreover, individual reports when available may relate to reference periods up to three months previously.

24. Given the limitations of the VAT source, SN is currently working on generating key short-term statistics of high quality and timeliness from administrative sources in an alternative register-based approach. One of the objectives of this "TSLO" project is to meet the requirements of the STS Regulation. The approach is essentially to construct estimates for Hours Worked (T), Employment (S), Wages and Salaries (L) and Turnover (O) from a combination of administrative and statistical sources. The administrative sources are the EE Registers for employment and weekly working hours, employers' bi-monthly Tax Accounts reports for information on total remuneration of employees and the VAT Register for turnover. For professional practitioners and other self-employed persons in activities not liable for VAT, Taxation data is used. The main statistical source is the Labour Force Survey. The LFS is considered to yield better quality employment figures for the national accounts than the EE Registers but because the EE Registers have more detail, the two sources are being used together. Economic activity classifications for the disaggregated data are being taken from the BOF. Estimates for S are already being published, those for O are already in place, and those for L and T are currently under discussion with the national accountants.

sampling technique but the sample always covers the ten largest enterprises within each NACE Rev.1 class. To reduce business reporting burdens and standardise the format of the information to be obtained, the nucleus of all Structural Business Statistics is a standard financial report rendered annually by enterprises to the Directorate of Taxes. This report consists of a detailed profit and loss account and balance sheets as well as tax valuations for several items, and was developed in co-operation between the Directorate of Taxes and SN. Enterprises send the originals of the reports to the Directorate of Taxes and copies to SN who automatically aggregate the basic accountancy information by means of standard accountancy software. SN only sends questionnaires to enterprises in respect of information not included in the financial reports, e.g. on man-hours worked, investment and energy consumption.

26. Estimates for the whole population of enterprises and establishments are made by applying statistical methods to key data obtained from administrative sources. Most of the enterprises not present in the initial results are incorporated companies. The required data in financial statements are filed with the Register of Company Accounts although some times with a delay of up to 18 months following the accounting year. For enterprises that are unincorporated businesses like sole traders, the sources for estimation are the VAT Register for turnover-related variables and the EE Registers for employment-related variables. Further improvements in estimates may be expected as a result of the joint SN and National Insurance Agency project to determine unique local units for employment purposes.
27. SN is involved in other projects that bear on the further utilisation of administrative sources for structural business statistics. The Register of Company Accounts is establishing its own database, probably starting with a pilot study for accounts for 1999. In accordance with the 1989 Statistics Act, SN took a leading role in the working group to establish the form and purposes for this database and will have unrestricted access to it. In parallel, the Directorate of Taxes started a project in 1996 for the "System for Taxation of Business Activity." The plan is that accounts and taxation information will be sent to one administrative database, from which administrative bodies with due entitlement will be able to extract the information needed for their own purposes. The database of choice is again the

Structural Business Statistics and Administrative Sources

25. SN's Manufacturing Structural Business Statistics and Construction Structural Business Statistics both capture the main bulk of data through surveying a sample of the enterprises in these industries. The Manufacturing Statistics cover all establishments within mining, quarrying and manufacturing with employment of 10 or more. The Construction Statistics use a random

Register of Company Accounts and more than 40 different types of report are going to be integrated with it. SN's interest is to ensure that this new system will include information required for the production of business statistics. Preliminary indications are that such a system might be in place around the year 2000. Assuming success with this project, the ability to extract annual accounts and activities forms from administrative registers would mean that the SBD integrated database will then be complete.

28. Finally, the Ministries of Finance and Industry are jointly sponsoring passage through the Storting (Parliament) of a new Law of Accounts, which comes into effect in 1999. SN has been consulted frequently about the statistical aspects of the draft Law, particularly as there has also been political pressure - as with the Fourth Directive - to reduce the reporting requirements for SMEs. A representative of SN has also attended meetings of the Accounting Standards Board that has drawn up a new non-mandatory Standard Plan of Accounts. SN's advice in both contexts has been that a uniform definition of variables should be laid down as a minimum requirement. Additionally, main definitions used for accounting information systems within enterprises should comply with those required for the production of business statistics. In this way, information presently collected from statistical surveys could instead be aggregated directly from the enterprises' own accounts, so minimising the response burden and ensuring uniformly defined variables for the business statistics and other analysis.

Special Features

29. Some of the special features of the Norwegian statistical system of particular relevance in using administrative sources for business statistics purposes are as follows:
- 1) A legal framework giving SN a pro-active role

in the planning, implementation and development of administrative sources so that due account is taken of statistical needs

- 2) Participation in the register network organised around the Central Co-ordinating Register of Legal Units (ER)
- 3) The growing use of unique organisation numbers in the various official registers in parallel with the established system of personal identity numbers
- 4) The current development of an integrated database approach to generating short term business statistics with the aid of administrative data of employment, hours worked, wages and salaries and VAT
- 5) The use of the annual financial statements associated with tax declarations of enterprises as the nucleus of the structural business statistics system.

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