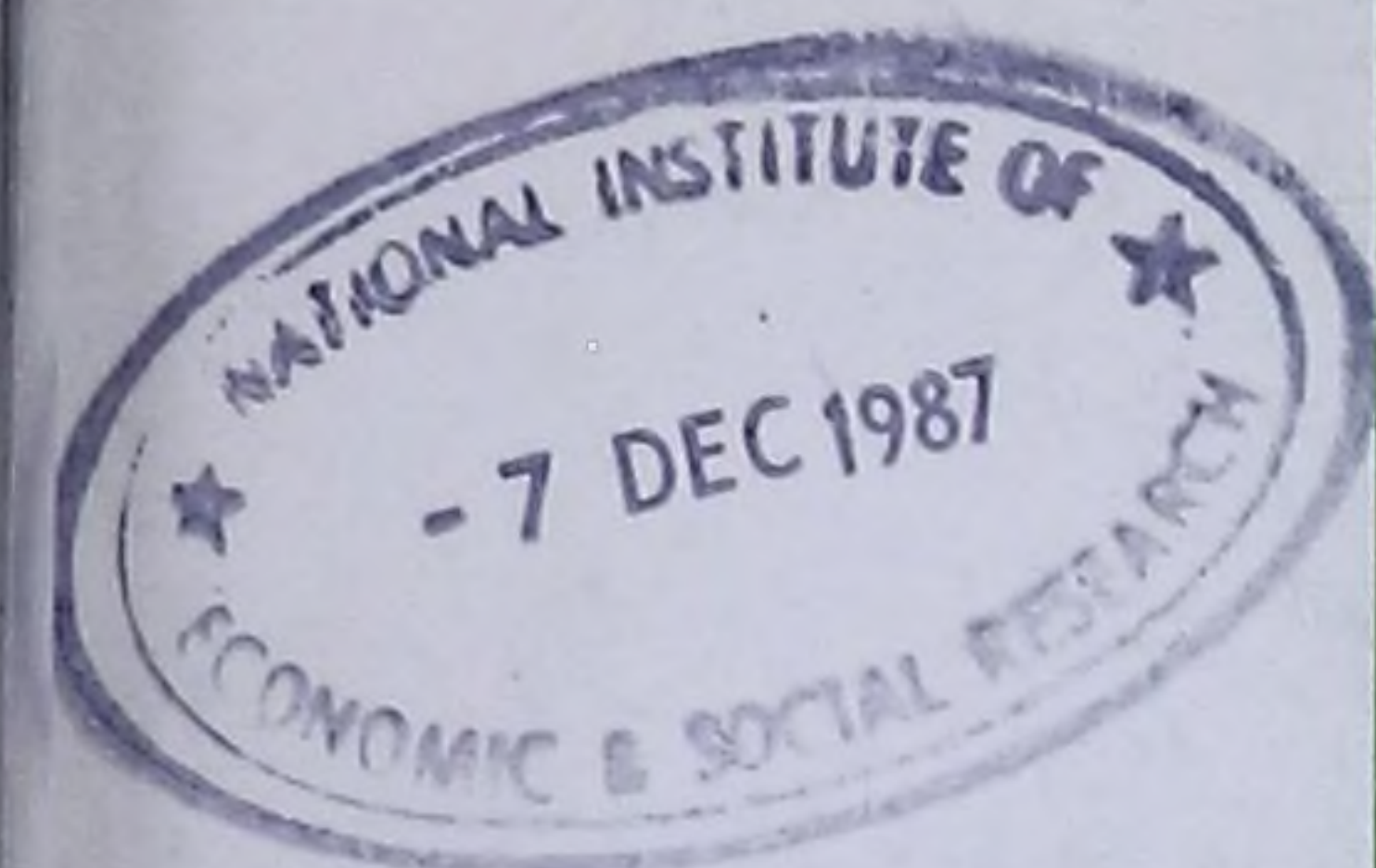


CENTRAL STATISTICAL OFFICE

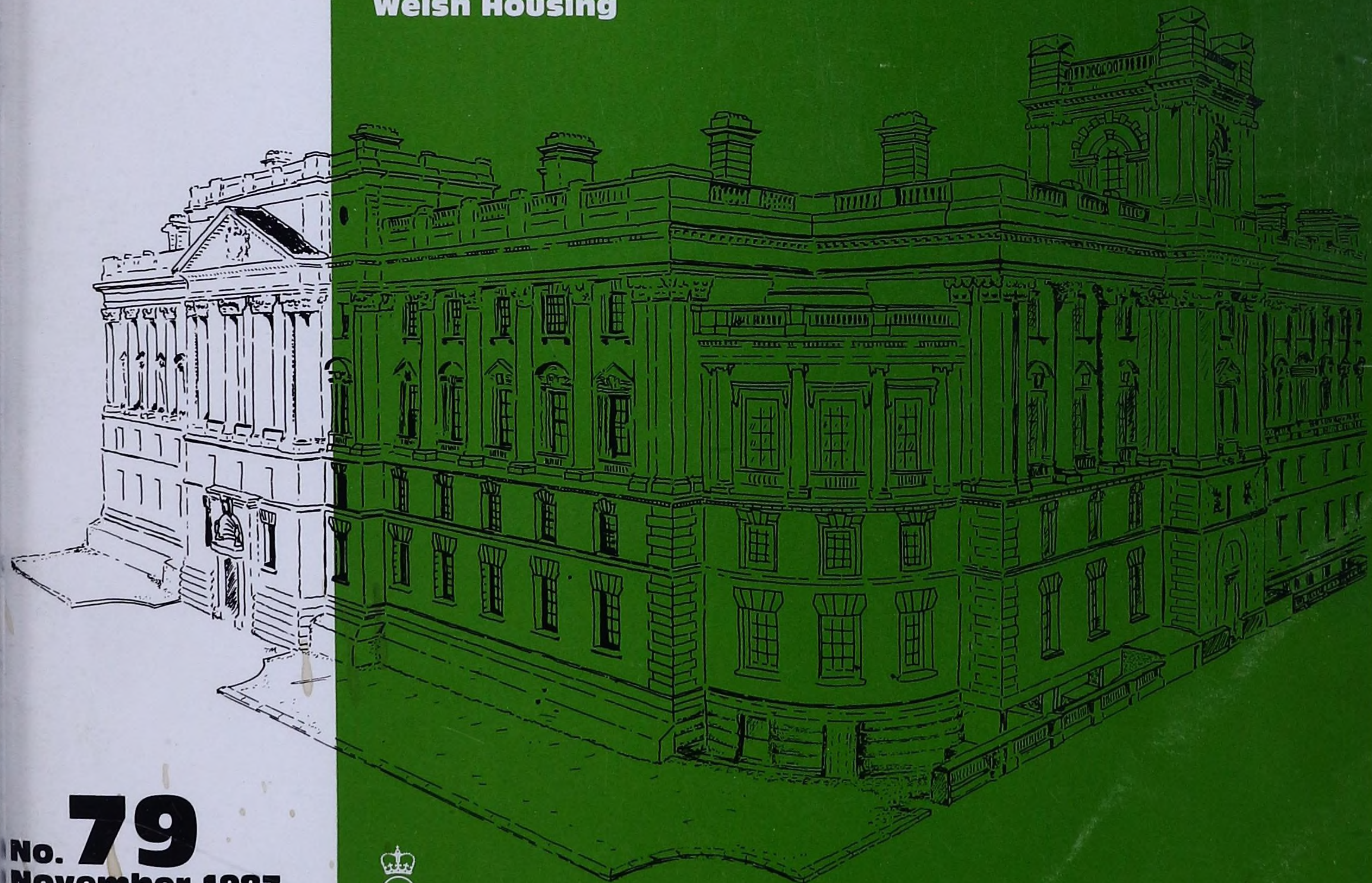


CSO

Statistical News

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Bridge Strength
Labour Force Survey
Welsh Housing



No. **79**
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Government Statistical Service

It is hoped that *Statistical News* will be of service and interest not only to professional statisticians but to everybody who uses statistics. The Editor would therefore be glad to receive comments from readers on the adequacy of its scope, coverage or treatment of topics and their suggestions for improvement.

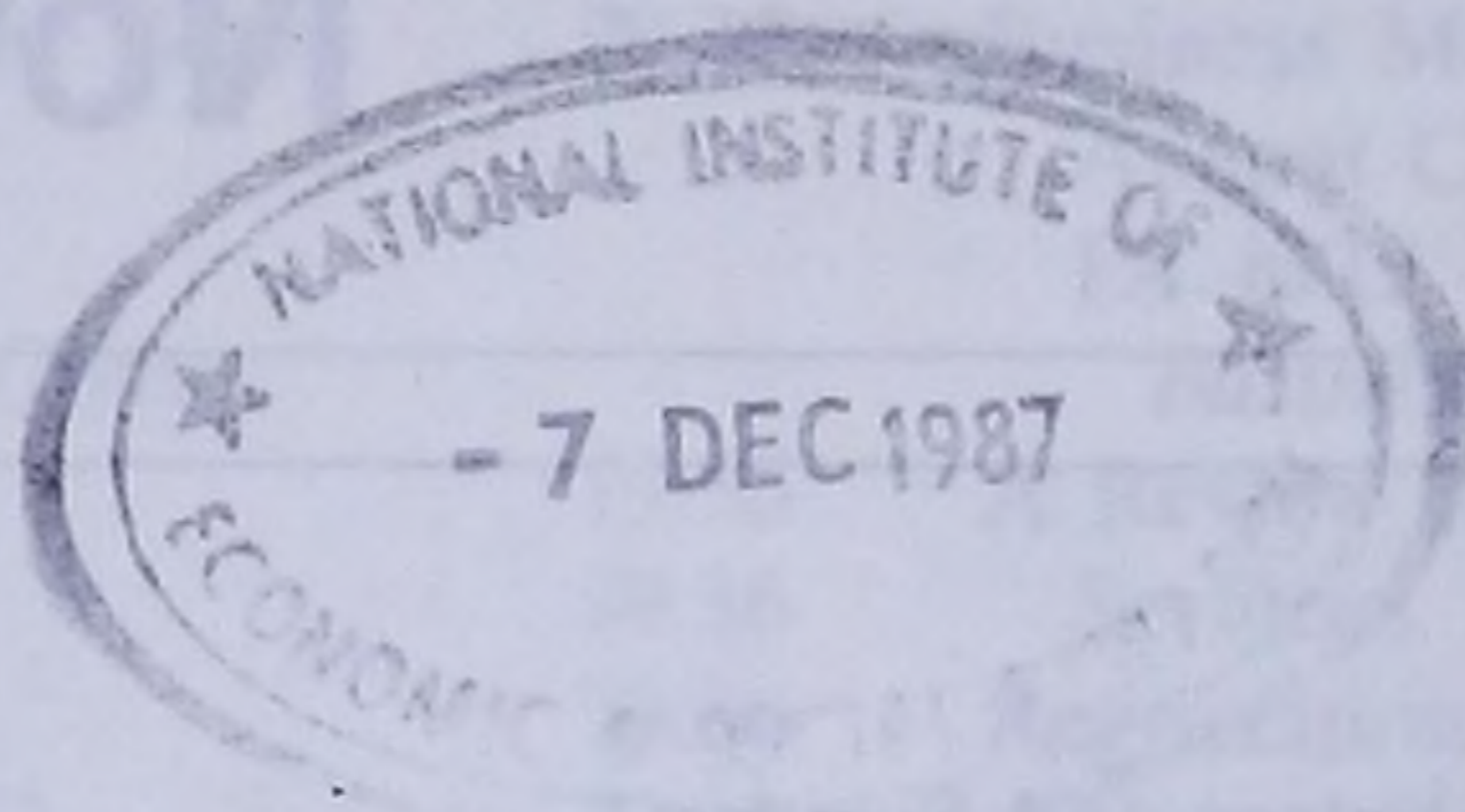
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FRONT COVER

The new cover design depicts a corner of the Government Offices in Great George Street which house the CSO.



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PLANNING THE 1991 CENSUS

Census Division, Office of Population Censuses and Surveys (OPCS)

A Government decision to proceed with plans for a census of population in Great Britain in 1991 was announced in Parliamentary answers in the House of Commons and House of Lords on 2 November 1987. A final decision will be taken by Parliament nearer the date. A census in 1991 would be the nineteenth in a series carried out every ten years since 1801, except in 1941. This article describes the plans being made by the Census Offices*, particularly for the topic content of the Census, for its geographical base and for the dissemination of results, and how users of census statistics are being consulted about their needs.

The need for information

Government, local and health authorities, businesses and the professions need reliable information on the number and characteristics of people and households to conduct many of their activities effectively. The principal government needs is for information to form policy, to plan services to meet the needs of specific populations and, in particular, to distribute resources effectively to local authorities and health authorities. Such information must be authoritative, accurate, comprehensive and comparable for all parts of the country. Other users of population information require similar standards. This need is currently met by holding a census every ten years and by updating it with population estimates made annually for local authority areas by using registrations of birth and deaths and estimates of migration.

Taking a census

A census in Great Britain is taken under the authority of the 1920 Census Act and a census may also be needed to meet directives of the European Community. The specific legal arrangements under which each census is taken are normally debated by Parliament some twelve months before Census day. But preparations for a census must take place over the preceding six or seven years if the census is to be effective and the results delivered speedily.

The directives of the European Community are made well in advance of the round of collection of population data at the beginning of each decade, and that calling on member countries to hold a population census in the second quarter of 1991, or for equivalent statistics to be prepared by other methods, was adopted in May of this year.

The Registrars General for England and Wales and for Scotland have responsibility under statute for taking censuses in Great Britain. The Registrars General report respectively to the Secretaries of State for Social Services and for Scotland. The planning of a census is assisted by advisory committees currently representing the statistical directorates of Government Departments, the local authority associations (the Census sub-groups of the Information Development and Liaison Group and the Scottish Statistical Liaison Committee) and the health service (the Health Service Advisory Group on the Census). Business and professional users of the census are also consulted formally and informally.

A separate statute governs census-taking in Northern Ireland, but the planning of the census of Northern Ireland tends to follow the rest of the UK, although content and output may differ somewhat from the rest of the UK to meet the special local circumstances of Northern Ireland.

Consultations

The Census Offices have begun formal consultations with government departments and with representatives of local government and health authorities. Good contact with other census users, including those in the commercial and academic spheres, has been maintained since the 1981 Census, and the Census Offices are consulting a wide range of organisations to invite their views on proposals for the 1991 Census.

The aim is to establish an acceptable general strategy for the Census and to determine needs for topics to be included and the strengths of the cases. The timetable is to conclude discussions on topic content so that firm proposals can be assembled during the first half of 1988. Proposals for the Census would then be published as a White Paper.

The first phase of consultation on the drawing of geographical boundaries for the enumeration and for the areas for which results are to be available has recently taken place. Detailed discussion on the statistical output from the Census would begin during 1988 with the aim of specifying output in time for all planning of processing to have been completed and thoroughly tested before the Census.

*The Office of Population Censuses and Surveys (OPCS) is responsible for conducting censuses in England and Wales; in Scotland and Northern Ireland the conduct of censuses is the responsibility of the respective General Register Offices. Preparations for a census are co-ordinated throughout the United Kingdom.

Preparations for the field operation and the planning of processing are also under way. The first major test of census field organisation and procedures took place in April in seven locations across Britain. Field tests of wording for some proposed new and revised census questions are being held this autumn.

The planned shape of a 1991 Census

The Census Act does not specify the length of the census form, or number of questions, but the one in 1981 was short and straightforward. The Census served government needs without placing an undue burden on the public. It is felt to be a good model for the 1991 Census.

It follows that the 1991 Census is seen as taking the same general lines as the 1981 Census. To take some major aspects of the census operation:

- field staff would call on all households to deliver and collect forms, but steps are being taken to improve control and coverage, particularly in the 'inner cities' where there was under-counting in 1981;

- the householder would have a similar number of questions to answer as in 1981, but some 1981 topics may be dropped and new topics put in their place;

- confidentiality and security would be maintained at the same high standards as for the 1981 Census;

- every effort would be made to convey to the public the purpose and value of the census, and the confidentiality with which personal information is treated, to help avoid or counter any opposition at the time of enumeration;

- the type of small area used for enumeration would not change significantly, but data might be coded to postcodes in England and Wales which would give over one million small area building bricks to assemble into 'customized' small areas for the release of statistics; in Scotland the facility already exists, as Scottish enumeration areas are built from postcodes;

- data from the forms would be captured by keying, and as many answers as possible would be pre-coded;

- answers to all questions would be obtained from all households and persons, although some questions about persons would be likely to be processed only for a sample;

- results would be disseminated by a mixture of printed reports and machine-readable media, with a comprehensive base of small area statistics, designed after extensive consultation with users.

Topic content

Underlying the success of the 1981 Census were three important principles governing the question content of the form, namely, simplicity, acceptability and need. Questions should be objective and easy to answer, with tick boxes for answering provided wherever possible; questions that could be regarded as an intrusion into privacy should be avoided; and each question should be fully justified as essential. It is the firm view of the Census Offices that the same criteria should be used for determining the content of a 1991 Census.

The following table lists the principal topics to have so far been put forward in discussions with government departments, local authorities and health authorities for possible inclusion in a census, or to have been put forward in submissions from other bodies.

Topics about individuals

Name (not processed)*
 Address on census night*
 Usual address*
 Sex*
 Date of birth (day, month, year)*
 Marital status*+
 Relationship in household*+
 Country of birth*
 Ethnic origin and language
 Welsh language (in Wales) and
 Gaelic language (in Scotland)*
 One previous address*
 Disability/long term illness
 Economic position (current)*+
 Occupation*
 Industry*
 Hours worked
 Means of travel to work*+
 Means of travel to school
 Receipt of benefits
 Higher qualifications*
 School and vocational qualifications

Topics about households and housing

Tenure*+
 Number of rooms*
 Number of cars and vans*
 Availability of bath/shower and WC*
 Structurally separate dwellings
 (question or field procedures)
 Type of accommodation, including
 floor of accommodation
 Age of building
 Central heating
 Possession of telephone

* Included in the 1981 Census

+ Proposed extension of question included in 1981 Census

It will not be possible to include all these topics in a census. Selection will be on the criteria of need, cost, practicality and acceptability, both of individual topics and the package as a whole.

Further tests on the practicability and public acceptability of questions on some topics are currently being carried out. Tests on wording of questions on ethnic origin and language were carried out earlier and the results published by OPCS in July (*Developing questions on ethnicity and related topics for the Census*, Occasional Paper 36, see page 79.35 for details). These showed that the great majority of people in all ethnic groups are content to respond to a question on ethnic origin, although such a question is still unlikely to be fully acceptable at present to a minority who object in principle to any question of this kind in a census. The Census Offices and the Commission for Racial Equality will be discussing the results of the tests and related issues with organisations representing ethnic minority groups.

In all discussions of census content, the Census Offices are asking for cases for topics to state: why the information is needed (that is, to what uses the information would be put); the implications, costed if possible, of not having the information; and the reasons why other sources, if any, are unsatisfactory. The Census Offices will be completing the cases on topics by adding conclusions on the acceptability, feasibility and cost of each topic as a census question.

Topics to be included in a census should also be needed for a full count of the population and cross-analysis with other topics in the census. Moreover, the need for a topic should be seen to continue in the decade after a census. Of course, much of the content of the statistical results from a census depends on categories used within questions, on information collected by enumerators, on the coding schemes and on the combination of variables during processing. These are areas for subsequent development.

Census Geography

One of the first tasks in preparing for a census is to draw the boundaries for enumeration. The primary aims are to ensure that reasonable workloads are planned for enumerators and that the areas are a useful base for census analysis. Census users are given the opportunity to influence the process, and the Census Offices have begun consultations on census geography. There are, however, differences in the way enumeration areas are planned in England and Wales and Scotland.

In England and Wales, OPCS needs to know, before the boundaries for enumeration are drawn, whether local authorities, health authorities and other interested organisations will require census statistics for small areas and whether there are local boundaries that users would wish to see recognised for these statistics. A questionnaire on these matters, and a paper outlining proposals for the geographic base, was sent to all County and District level authorities and to Regional and District Health authorities. Any other organisation with an interest in census geography was also invited to take part in the survey.

In essence, the proposal for England and Wales is to draw up enumeration districts (EDs) by methods on the lines of those used in the 1981 Census, and to produce statistics for enumeration districts and areas built from them. An earlier plan to map unit postcode areas and to use these to plan EDs is not to be implemented. ED boundaries would recognise those areas for which there are needs for exact population counts. Recognition of other boundaries would depend on the balance between the cases for exact population counts and the costs to OPCS combined with achievement of reasonable enumeration workloads. OPCS would expect to be able to recognise 'higher level' boundaries of local significance that follow clear features forming zones that would normally encompass several EDs. This would include a proportion of small area boundaries comparable with those of the 1981 Census.

As a further service, OPCS is considering the possibility of producing statistics for combinations of unit postcodes in England and Wales, if there is a clear need for such a service. It would be equally important to ensure that the confidentiality of the census was not damaged. The aim of introducing postcodes as very small area building bricks would be to allow responsiveness to boundary needs unable to be met in drawing ED boundaries and to provide precise census statistics for postcode-based areas to which other, non-census data are coded through postcodes. The provision of the service would be subject to the same criteria as for the inclusion of any other topic in the 1991 Census, that is, the users should demonstrate the need for the service and should pay for results that are not laid before Parliament.

In Scotland, separation of the planning of areas for enumeration and areas for statistical output is being considered, and GRO(S) recently issued two circulars on the proposals, each accompanied by a questionnaire. For enumeration, Scottish EDs would each comprise one or more whole postcodes (postcode unit boundaries were mapped in Scotland for the 1981 Census and have since been kept up-to-date). EDs would observe the boundaries of Scottish Local Government Regions, Islands Areas, Districts and postcode sectors. For statistical areas, GRO(S) are considering making use of postcodes to construct areas smaller than EDs for the output of statistics. The smaller areas could be aggregated to form the 'best fitting' equivalents of areas such as wards.

Census output and dissemination

At this stage of planning for the 1991 Census, the Census Offices have set themselves basic objectives which will be refined as the Census is discussed more widely. The principal objectives are that statistical output should be prompt, accurate, and flexible. It should also be designed in a way that does not disclose information about individuals or intrude into privacy.

It is envisaged that there would be a moderate range of innovations in output where most needed, harnessing developments in information technology to increase value for money. The aim would be to make the output system as responsive as possible to users requirements, although all parts of the system would be subject to a demonstration of need

by the users and a willingness to pay for output that is not laid before Parliament, and to the availability of resources in the Census Offices.

The basic means of presenting the results of a census - the cross-tabulation - has remained unchanged since the first Census in 1801. Two main ways of making the results available are set out in Section 4 of the 1920 Census Act and are: printed reports which are laid before Parliament and sold as publications, and statistical abstracts which may be obtained, for a charge, from the Census Offices.

There are two broad types of output from a census: that which is multi-topic in coverage, and that which centres on a particular topic. For the first type of output, a significant innovation in the 1981 Census was the production of a set of multi-topic output from the base tables prepared for the Small Area Statistics (SAS).

Multi-topic output: the Small Area Statistics

The SAS are now a major part of census output and it is envisaged that this should continue. In the 1981 Census a family of products was developed around the SAS. This simplified the job of producing statistics and gave the user benefits of widely comparable data and standardised methods for handling the data. The SAS are designed through detailed consultations with users and now comprise a standard set of cross-tabulations for 130,000 basic small areas throughout Great Britain (and larger areas built from them) covering every topic in the census. The range of the SAS is extended by special statistics for local areas on the population by area of workplace and on journeys to work, and by special statistics on migration at ward level. Almost all reasonable classifications and cross-tabulations are included, so that in relation to the number of questions asked and resources involved, Britain has a highly developed and widely used set of small area statistics.

It is envisaged that in a 1991 Census a set of local statistics would be prepared as an integrated base for reports and statistical abstracts, retaining and emphasising the standardisation achieved in 1981, and giving an economy of effort. A set of standard cross-tabulations or 'modules' would be designed from which reports and abstracts would be built. The more complex output would always contain the relevant simpler modules. In effect, the user would be offered several 'layers' of output, each containing results from the whole range of topics covered in the Census, but with the 'layers' having progressively more detail.

Topic reports

The design of reports was quite radically changed between the 1971 and 1981 Census. The number of volumes and pages were reduced, and the availability of 'unpublished' tables on particular topics was given more prominence. The reports fell into three general categories: those containing long-established basic output; those containing national and regional versions of output appearing in local, multi-topic sources; and those containing very detailed breakdowns at national and regional level. Little change is anticipated in the first type of report. For the second type of report, modules from an integrated base would be used where possible. For the third type of report, consideration would be given to the extent to which requirements for specialised output could be met by a service to produce tables to the user's specification on request.

Further developments

It is intended to examine the need for, and feasibility of, a number of options including: early national outline results; greater use of statistical reports containing guidance on the use of data in the tables, notes on further sources, explanatory notes and illustrated commentary on the lines of the texts of the 1981 *Key Statistics* reports; greater use of reference maps of the boundaries of areas covered in publications and also thematic maps; use of a multi-variate household classification, an area classification, and multi-variate indicators.

The Census Offices are reviewing the media used for the dissemination of 1981 Census results, but continuation of all seems likely at the moment. Changes would seem most likely in the area of micro-computers, or in the possibility under consideration of an on-line system to enable users to produce counts and cross-tabulations to their own specifications. It would be essential to make sure that confidentiality was not compromised by the operation of an on-line system. Also, the coding and classification of the basic census record would have to be carefully designed to permit maximum benefit from such a method of access.

The possibilities for output and dissemination, including the method for charging for statistical abstracts, will be developed and presented for discussion during consultations with all interested census users during the period 1988-90.

Information on plans for the 1991 Census

Information on plans for all aspects of the Census, together with details of arrangements for consultation, are published in the *Census Newsletter*, issued three or four times a year and available without charge from the following address:

Customer Services, OPCS
Segensworth Road, Titchfield
Fareham, Hampshire PO15 5RR
Telephone: 0329 42511

The Editorial Board regret that the article on the structure and functions of the Ministry of Agriculture, Fisheries and Food does not appear in this issue. We hope that it will be printed in the May 1988 issue. The fifteenth in the series will be produced by the Department of Education and Science and appear in the February 1988 edition.

Bridging a Gap

Martin Fessey, the Chairman of the Committee of Librarians and Statisticians

Introduction

This note is about the work since it started of the Committee of Librarians and Statisticians (CLS), sponsored jointly by the Library Association and the Royal Statistical Society. The Committee was set up following a conference in London in 1965 on librarian-statistician relations in the field of economic statistics¹ chaired by the late Sir Roy Allen, Professor of Statistics at the London School of Economics and Political Science. Its present membership includes librarians and statisticians and other professionals working in public libraries, universities, the Confederation of British Industry and several government departments, including the Central Statistical Office and the main statistics-collecting agencies. The first chairman of the Committee was the late K A Mallaber, Chief Librarian at the then Board of Trade. Martin Fessey has been chairman of the Committee since 1976; he was the first director of the Business Statistics Office from 1968 to 1977.

It used to be fashionable - still is perhaps - to talk about the gap between the two cultures. Disraeli's disdain for numeracy we all know - lies, damned lies, and statistics - and on the other side there is the scorn of an eminent statistician dismissing an article and its graphs interpreting a statistical series - text for those who can't figure, pictures for those who can't read. A quarter of a century ago the gulf between librarians and statisticians was wide and most of those on the one side knew nothing about those on the other. Those who knew a little were not very impressed. Lewis, now Director-General of Bibliographical Services of the British Library in a paper for the 1965 conference¹ acknowledged the quantity of painstaking labour involved in compiling Kendall and Doig's *Bibliography of Statistical Literature* but castigated the authors for being heedless of the most elementary requirements of some of the users of the materials they recorded; while Wilkinson, now Professor of Economics at the University of Sheffield and a member of the Committee, in a paper for the conference wrote of how the lack of training of the librarian in economics and statistics reveals itself in cataloguing errors ('cataloguing' being a participle here, not a gerund). As a result of the conference the Committee of Librarians and Statisticians (CLS) was set up and has tried to narrow the gulf; whether it has succeeded in reducing it to a gap is for customers of the two professions to decide.

Access to statistics and the computer

One of the main aims of the Committee has been to try to make it easier for the librarian to discover whether the figures his customer wants are to be had and if so where. Looking back at our efforts, regrettably we haven't always realised that the world won't stop turning or even slow down for us; our solution for today's problem, when it appears tomorrow, may not be a solution because the problem has changed. Take what CLS dubbed STIR (STIR stood for Statistical Tables Indexing

and Retrieval). In the early 1970s the Committee sponsored and the Office of Scientific and Technical Information (now the Research and Development Department of the British Library) funded a research team under Hamilton (now a member of CLS and working at the British Library) at the Loughborough University of Technology into the need for and feasibility of a centrally compiled, comprehensive, computer-based index which would identify which table in which statistical publication would throw what light on what subject².

A second stage of the investigation outlined a system capable of supporting the two services users of statistics were anxious to have: a printed index and a reference retrieval service³. By the time the study reports appeared, developments in the intervening years had overtaken the researchers' proposals: the Central Statistical Office had published the first post-war Guide to Official Statistics and this meets users needs for a printed guide; and with developments in information technology it was becoming possible to use computers not merely to identify where statistics on a topic can be found but to retrieve the figures themselves. In 1978 two members of the Committee provided a paper for the annual Statistics Users' Conference⁴ which concluded that STIR-type methods could be used for identifying and retrieving statistics, that there was need for a British Statistics Index (the United States has such an index) and that as official statistics become available in machine-readable form arrangements should be made for cataloguing them.

The Committee here was a little ahead of its time for in the early 1980s few statistics were available to the public in machine-readable form. In March 1982 CLS arranged a seminar in London⁵ of providers and users of statistics and computer service bureaux when the Central Statistical Office outlined plans which a year later resulted in the dissemination of tapes of up-to-date statistics through an agency, SIA (later CISI-Wharton), to other computer bureaux and to the public. On the same occasion the Office of Population Censuses and Surveys described how it would make available the results of the 1981 Census of Population in machine-readable form; the Business Statistics Office at the time had no firm plans in this direction for the immediate future. There was little enthusiasm at the seminar for the idea of a central statistics index but the seminar invited CLS to give publicity to the need for suppliers of statistics to move towards giving the public access to their figures by computer and to follow up its initiative by calling together a group to pursue this aim. The Committee on considering this invitation thought the Central Statistical Office best placed to make progress but the latter was unwilling to go further than providing an expert to give advice to such a group if one were set up.

Meanwhile, databanks of statistics began to proliferate and CLS turned its attention to the problems which are resulting from this. If a reader wants to know what printed books are available about a topic a catalogue will give him details of author, publisher, date of publication, cost and so on*, but there is no corresponding register of databanks and users of statistics are going to find it increasingly difficult to trace what databanks there are and what they contain. In September 1985 CLS organised a seminar on the bibliographic control of statistical data files; at the seminar, Dodd of the University of North Carolina⁶ described the progress being made in the United States while Burnhill of the University of Edinburgh's Data Library and Taylor of the Economic and Social Science Research Council's Data Archive at the University of Essex, both members of CLS, outlined the development of databanks in this country and stressed the need for catalogues of what is available.

So, to the latest development in the saga: the Committee is accepting an invitation from the Statistical Office of the European Commission to contribute a paper to a seminar to be held in Luxembourg in December 1987 which will be concerned with the development of expert statistical systems within the Commission's Framework Programme 1987-91. The paper will make proposals for examining the problems of compiling a register of statistical databanks which would give information in a standard form about each databank - the series available in it and, for each series, the period covered, details of breaks in the series, the weighting and comparison bases of index numbers, seasonal adjustments etc and how the public can obtain access to the data held in the bank.

Seminars and courses

Courses for librarians who frequently receive inquiries about statistics have been organised by CLS, mainly at the University of Warwick, whose successive librarians in charge of the library's collection of statistics have each in turn been members of the Committee. In the main, the courses have been concerned with four topics - the management of a statistical collection, sources of United Kingdom and international statistics, an introduction to some elementary statistical ideas and techniques, and practical exercises in finding and interpreting statistics. The sessions designed to introduce librarians to some statistical concepts - index numbers, the national accounts, seasonal adjustments, sampling and so on - have presented particular difficulty because of the disparate levels of knowledge of the students. Students are invited to complete appraisal forms and it is not uncommon for a lecturer to be given as few as 3 marks by one student and as many as 9 (out of 10) by another for his presentation. Often the part of the course earning the highest marks from students is the practical exercise when students

are asked to use the library's resources to answer fairly simple questions on economic and social topics and the most recent course at Warwick concentrated more than its predecessors on practical work. Practical sessions of this kind present a library with problems; while those who set the questions expect original sources to be used to answer them, students turn to the publications with which they are most familiar like the *Monthly Digest of Statistics* and a queue can form to consult the limited number of copies available!

In 1978 the Committee co-operated with the Central Statistical Office to produce a teaching pack *Using statistics in economics; a study of the motor vehicles industry*⁷. The pack was designed to help teachers of economics at A level and for HNC examinations and the Committee organised a seminar in Sheffield in 1979 to introduce the pack to teachers in the area. There was every indication that the pack would be a useful and popular training aid but with the pressure on its resources the Central Statistical Office has not been able to up-date the pack, still less to extend the scheme to other areas.

The Committee held a successful course in London for two days in 1981 when speakers from the Office of Population Censuses and Surveys described plans for publishing the results of the census of population, and users of the census figures - from the universities, local authorities and business - spoke of how the figures helped to throw light on their problems.

Since 1983 CLS has organised seminars in London, Manchester, Birmingham, Newcastle, Bristol and Edinburgh at which speakers from the Central Statistical Office and its agents have described to audiences of potential customers the macro-economic statistics in its databank and the arrangements for and cost of obtaining the information.

Other activities of the Committee

The Committee acts as a sounding board for organisations which need to hear from librarians and statisticians about matters of concern to the two professions. It is represented on the Statistics Users Council and at meetings of the Library and Information Services Committee of the Office of Arts and Libraries when the latter touches on statistical matters. Members of the Committee have joined Library Association teams in discussions with the Central Statistical Office, for example about the Association's submission on the White Paper on the Government Statistical Services⁸.

*Section 15 of the Copyright Act 1911 requires that a copy of every book published be lodged with the trustees of the British Museum, a requirement which makes possible the compilation of the British National Bibliography. Fleming, head of the Business Library of Liverpool Public Libraries and a member of CLS, has suggested that there should be a statutory requirement to register publicly available databanks and that the Intellectual Property Bill shortly to be introduced in the House of Lords could appropriately contain a clause to this effect.

Two of the Committee's activities have aimed directly at making it easier for the public to get statistical information. It has conducted surveys of what collections of statistics are available to the public in the main centres of population - towns with 200,000 or more inhabitants. The results of the first survey were published in 1970⁹,¹⁰ and of the second in 1982¹¹. Secondly an on-going task has been to publish lists of basic statistical sources which it recommends should be held by public libraries. The latest list¹² has two sections, the first recommending the seven statistical titles which the Committee believes should be widely held and easily available to everyone, the second an extended list of key titles in topics ranging from agriculture to transport. CLS has also compiled a recommended list of international sources of statistics¹³.

The future

After more than two decades the original and primary objective of the Committee of Librarians and Statisticians remains: to improve the common ground and the understanding between the two professions and hence to make statistics more easily available and more useful to the public. Developments in technology change some of the ways CLS sets about its tasks, just as they have changed some aspects of the work of librarians and statisticians. Data analysis has become the bread and butter of people in many walks of life - of business men, of teachers, of researchers, of public servants, of the press, of students - and librarians have to advise their customers not only about what information is available and where to find it but also about its appropriateness to the task in hand and its limitations. In all this CLS will have a part to play, whether in the courses and seminars it will continue to arrange - for example it is planning a one-day course in London in the autumn of 1988 on index numbers to coincide with the publication of the CSO's annual Blue Book on national income and expenditure which will have the index numbers in it on a new base year, 1985 - or in its collective attention, as well as by the individual efforts of several of its members, to the range of new concerns for users of statistics which technology is bringing to the dissemination of information.

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Statistics of Changes in Land Use: A New Series

Roger Sellwood, Chief Statistician, Department of the Environment (DOE)

Summary

This article describes a new set of land use change statistics for England, produced by the Department of the Environment (DOE) and building on the routine re-surveying work of the Ordnance Survey (OS). The background and policy interests are described. Survey methods, classifications, quality control procedures, analyses and the computing and publication arrangements are also discussed. A practical example is included to illustrate the output from this new series on land use change **as recorded** during a year by the OS.

Introduction

In England, there are no comprehensive, consistent and up-to-date statistical sources on the stock of land in terms of its different uses or the economic activities associated with it. There are however strong policy interests in the pressure on land as a scarce resource at national, regional and local levels and therefore in information about land use change. In a period of resource constraints, including those on any increase on the form-filling burden imposed on local authorities by Central Government, Statisticians are having to explore new methods of providing key statistics and develop appropriate definitions, classifications, analyses etc.

Over recent years, the author has worked closely with colleagues from many disciplines including administrators, planners, research officers, cartographers, system analysts etc in several Steering Groups on work leading up to the new statistics. Any errors in this article are those of the author alone of course, who wishes to acknowledge contributions from other colleagues in progressing this new series from the drawing board to final output stage.

Background and policy settings

Various attempts have been made to collect information on land changing use in England but none has proved totally satisfactory.

The longest official national series is based on information collected by the Ministry of Agriculture, Fisheries and Food (MAFF) in the June agricultural census¹, where an analysis of differences in the total areas of agricultural holdings between successive censuses is used to derive net transfer figures. Five-yearly moving averages are available on the net transfer of farming land to urban, industrial or recreational development, to forestry or private woods, and to government departments. The statistics are limited in their geographic coverage since they relate only to returns made by agricultural holdings.

An attempt was made by the DOE in the mid 1970s to collect comprehensive information² from local authorities but, largely owing to response difficulties and differences in definitions, methods of collection and collation etc, it was abandoned in the late 1970s. Many local authorities reported that the information was not available and would be costly to provide.

In 1980, Sir Derek Rayner's Review of the Government Statistical Services³, recommended that the Department review its needs for land use change statistics and consider alternative, more cost effective approaches to data collection.

In 1981, renewed efforts were made to investigate potential sources following increasing concern⁴ about the lack of reliable and detailed information about the national or regional pattern of land use change, both to inform planning policy and to contribute to the wider debate on national land use policy issues. A study of alternative sources and methods was undertaken. This drew on research work on satellite imagery commissioned in earlier years by the DOE from Harwell Atomic Energy Research Centre and, more recently, from the National Remote Sensing Centre, together with experience gained in using the Royal Air Force's aerial photography for the 1969 Developed Areas Study⁵. The study suggested that the most cost effective approach would be to build on the re-surveying work of the OS. From the statistical viewpoint, the OS approach provides a fully trained and experienced field force working to consistent and exacting standards of resurveying and recording throughout the country.

In September 1983, Roger Tym and Partners were commissioned to assess an OS-based method and to examine the results in a pilot study. Following this assessment⁶, and a seminar with a wide range of interested potential users and experts to discuss the approach, approval was given for a three year trial run of the method, and a DOE Press Notice⁷ was issued. The trial started on 1 January 1985.

Current policy interests include land changing use to residential and other uses in urban areas and their fringes, as well as the transfer of agricultural land for housing or other development. There is also a continuing interest in conservation policies for Green Belts and Areas of Outstanding Natural Beauty etc. Statistical monitoring information on the changing uses of land is required at national, regional and county levels with flexible analytic and visual methods of presentation of the results. A system was required which could also provide statistics for individual districts or any area whose geographic boundary is defined eg National Parks, *ad hoc* areas.

The new statistics are proving sufficiently encouraging, in their policy applications to date, for the 3 year experimental period to be extended by one year. A further research project has been commissioned to examine, amongst other points, definitions and the classification and their usefulness at local (or small area levels) as well as at county, regional and national levels.

The OS-based method and recording procedures

The OS's main task is to maintain the archive of national survey (mapped) information. Their re-survey programme is determined on the basis of information about **change on the ground**. This information comes from a variety of sources including local authorities, the Forestry Commission and surveyors first-hand knowledge of the areas for which they are responsible. Some kinds of change and some areas are surveyed more frequently than others, but over time the re-mapping of the whole country is accomplished.

The new series of land use change statistics builds on the day to day work of the surveyors as they carry out their map revision duties throughout Great Britain. The surveyors provide the Department with monthly reporting forms, giving a one line summary of coded information for each land use change site re-surveyed. The basic rule is that each category of land use change within the site re-surveyed and which has an area must be recorded (linear landscape features are excluded eg fences, hedgerows, stone walls). Some 4,500 line entries are made each month including the grid references of each entry. From the 131 local OS offices in England the forms are directed through a central receipt office in the OS Headquarters at Southampton and on to the DOE.

Statistical classification and index of features

The statistical classification used in the new land use change series is based on the 24 separate categories of land use shown in diagram 1. A full description of the classification is given in the annual DOE Statistical Bulletins^{8,9} which provide the key tabulations. A land use change recorded by the OS is classified to one category only. The new land use change statistics are the recorded ongoing changes taking place within the country's fixed stock of land. The gross annual recorded amount of land changing use (23-25,000 hectares) is roughly 0.2 per cent of the total land area. A comprehensive alphabetical index is available from the DOE for a wide range of land use features showing the category to which they are classified.

The National Land Use Classification¹⁰ and the draft Standard International Statistical Classification of Land Use¹¹ developed in 1980 by the Conference of European Statisticians and tested recently by the OECD and member countries were used as bases for the classification. There are however some variations from both classifications to take account of the OS's working practices and the particular requirements of the Department. The classification used in the new land use change statistics is also similar in several respects to that recommended more recently (in 1985) by consultants in a study commissioned by the DOE, into the

feasibility of using current sources and methods for a full land use stock survey¹² to complement and provide a base year stock figure for the new land use change statistics. The classification complements that used in the monitoring of landscape change research project¹³ which the Department commissioned jointly with the Countryside Commission, from Huntings Technical Services Ltd (although this dealt with 'land cover' rather than 'land use'). To facilitate the handling and interpretation of results, sets of the 24 categories of land use change are added together to form 10 separate groups which, in turn, are combined to show broad divisions of 'rural' and 'urban' land use changes. These are used as an aid for presentational purposes. The statistical definitions and classification used in the new statistics reflect, to some extent, the nature of the survey method and its practical constraints.

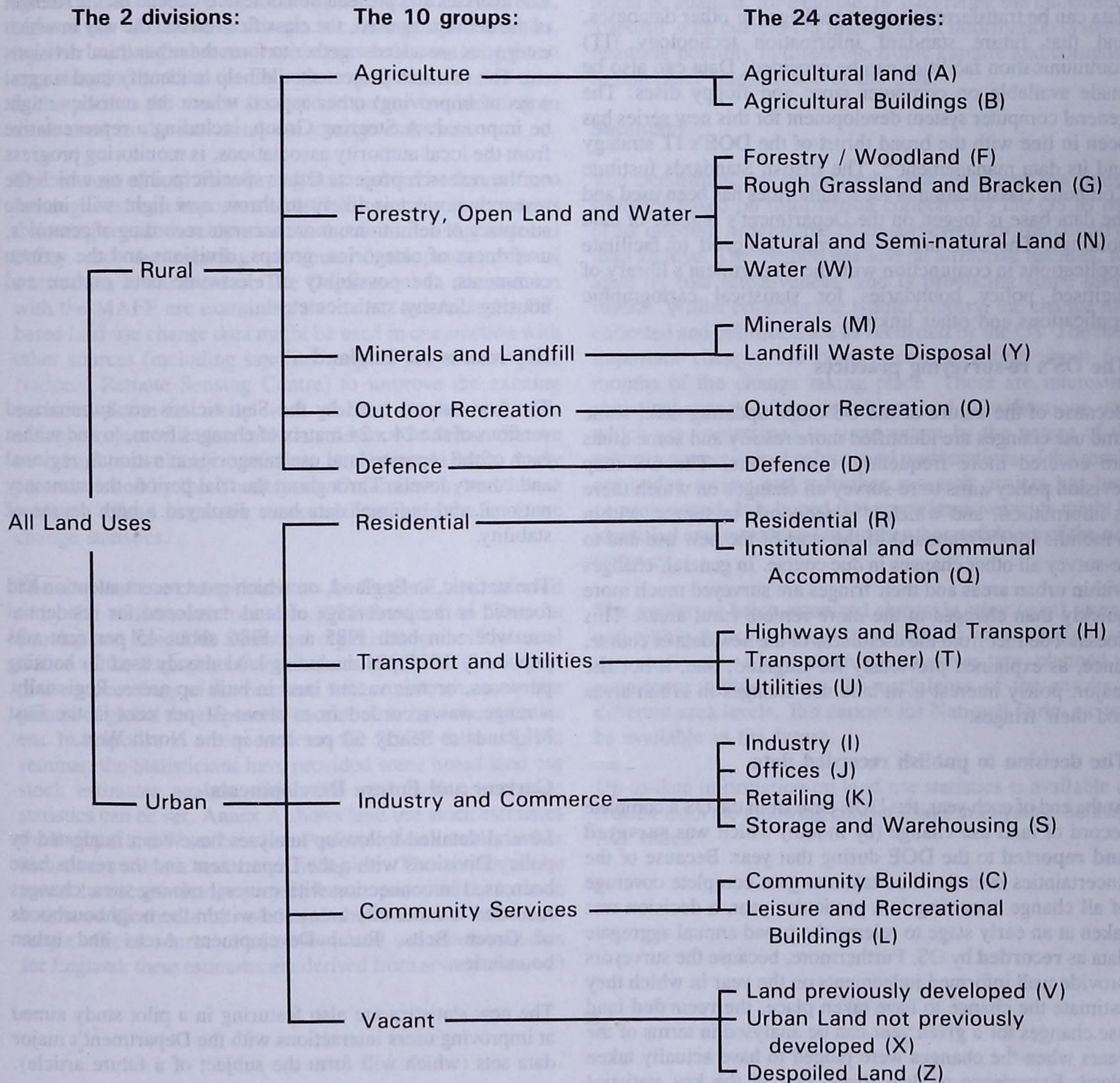
Given then that the land use features represent to some degree the symbols appearing on the OS maps, it is the changes in these physical features which the OS surveyors are reporting to the DOE. Some reported changes will represent change from one feature to another, both of which belong to the same land use category. For example, a field previously used for crops, changing use to a horticultural nursery, will be recorded as 'Agriculture' under both the previous and new use. Gross changes can be defined as representing all changes ie gains and losses between categories as well as within the same categories, while net change will exclude changes reported within the same categories. Users appear to be more interested in analyses based on gross rather than net changes, particularly in the recycling of urban land.

Statistical quality control procedures

The Department and the OS go to considerable lengths to ensure accurate and consistent statistical output. In addition to comprehensive briefing and formal instruction sessions, the work of each surveyor is subjected to desk monitoring and computer validation checks. All forms completed by the OS local offices are routed through a central receipt office in the OS Headquarters for accounting and 'spot check' purposes. Use is made of digital cartographic techniques for verification checks on grid references and local authority district codes etc. Comparisons with up-to-date OS changes with their own master maps, visits by DOE staff to OS local offices, 'ground-truth' checks and independent validations of surveyors' reporting accuracy are also undertaken, but on a more *ad hoc* basis. Further, several local authorities have compared the OS changes with their own 'land systems' and local information; several county councils have reported encouraging levels of consistency. Finally, the brief written descriptions provided by the OS Surveyors in some line entries are also used for validation purposes, to test specific classification questions and for other *ad hoc* queries. The detailed instructions associated with the provision of data to the DOE are now integrated fully within the standard Instructions Manual issued to all OS surveyors. The level of quality control checks in local offices is also standardised throughout the OS.

LAND USE CHANGE STATISTICS

The Structure of the Classification of Uses



NOTE: Any recorded land use is classified to one category only

A 'clean' validated data tape is produced each month (those for Scotland and Wales are sent to the Scottish and Welsh Offices respectively to be dealt with separately from the results for England).

The computer system and software

The computer system (for England) for analysing the validated data has been established on the Department's in-house DEC-VAX computer bureau using the Scientific Information Retrieval (SIR) DBMS package. The system is designed to provide a flexible service of statistical tabulations as well as cartographic and other visual output. Data can be transferred to the Geographic Information Mapping and Manipulation Software (GIMMS) package, where *ad hoc* areal analyses and maps can be produced. The SIR 'export' facility ensures that data can be transferred to other packages or other databases, and that future standard information technology (IT) communication facilities can be provided. Data can also be made available on computer tapes and floppy discs. The general computer system development for this new series has been in line with the broad thrust of the DOE's IT strategy and its data management¹⁴. The British Standards Institute Computer classification of local authorities has been used and the data base is logged on the Department's register of data holdings. The data are in a format designed to facilitate applications in conjunction with the Department's library of digitised policy boundaries for statistical cartographic applications and other linking.

The OS's re-surveying practices

Because of the nature of the OS maps updating task, some land use changes are identified more readily and some areas are covered more frequently, than others. The OS map revision policy aims to re-survey all changes on which there is information, and which it is economic to survey, within 6 months (or thereabouts) of the start of the new use and to re-survey all other changes in due course. In general, changes within urban areas and their fringes are surveyed much more quickly than changes in the more remote rural areas. This does not detract from the usefulness of the new data of course, since, as explained previously for England, one, if not the major, policy interest is in land use changes in urban areas and their fringes.

The decision to publish recorded data

At the end of each year, the DOE have from the OS a complete record of land use change (by month) which was **surveyed and reported** to the DOE during that year. Because of the uncertainties over the time taken to gain complete coverage of all change occurring in a particular year, a decision was taken at an early stage to release the broad annual aggregate data as **recorded** by OS. Furthermore, because the surveyors provide well informed judgements on the year in which they estimate the change to have taken place, the **recorded** land use changes for a given year can be analysed in terms of the years when the changes were judged to have actually taken place. Experience to date shows that of the key statistics recorded, most changes actually took place within the previous 2 years.

Current research project

Given the usefulness and very practical basis of the new statistics, the Department has commissioned a research project designed to consider further the analyses, interpretation and presentation of the results. The research will examine - in conjunction with the OS - scope for any improvements in the quality of the information provided, and its analyses. In particular it will probe the presentation and possible use of the results at more local area levels. Whilst the Department and the OS have attempted to develop an objective system of data collection, there are almost certainly some aspects of the operation which might be improved in the light of the practical experiences gained over the first 2 years or so. The quality of the statistics is dependent to a large extent on the consistency and high standard of reporting by the surveyors. The analyses and presentation of results depend on the strength of the definitions used, the classification and the way in which categories are added together to form the urban/rural divisions etc. The research project should help to identify (and suggest ways of improving) other aspects where the statistics might be improved. A Steering Group, including a representative from the local authority associations, is monitoring progress on the research project. Other specific points on which the research project is likely to throw new light will include adequacy of definitions, more accurate recording of centroids, usefulness of categories, groups, divisions and the written comments, the possibility of electronic data capture and housing density statistics etc.

Key results for England

The key outputs used by the Statisticians are summarised versions of the 24 x 24 matrix of changes from, to and within each of the separate land use categories at national, regional and county levels. Throughout the trial period, the summary national and regional data have displayed a high degree of stability.

The statistic, in England, on which most recent attention had focused is the percentage of land developed for residential use where in both 1985 and 1986 about 45 per cent was previously developed, including land already used for housing purposes, or was vacant land in built-up areas. Regionally, a range was recorded from about 31 per cent in the East Midlands to nearly 60 per cent in the North West.

Current and Future Developments

Several detailed follow-up analyses have been requested by policy Divisions within the Department and the results have been used in connection with mineral mining sites, changes recorded in inner city areas and within the neighbourhoods of Green Belts, Rural Development Areas and urban boundaries.

The new statistics are also featuring in a pilot study aimed at improving users interactions with the Department's major data sets (which will form the subject of a future article).

Because the individual site entries are grid referenced they are suitable for use in Geographic Information Systems (GIS's) and other digital statistical cartographic systems employing grid-referenced entries. Following publication of the Report by Lord Chorley's Committee on the Handling of Geographic Information¹⁵, the Department is testing the handling of spatially referenced data sets. The new land use change statistics will appear alongside others eg in a pilot test commissioned from Birkbeck College on the potential use of the GIS ARC/INFO.

Vacant land is the subject of considerable policy interest and the OS-based method is the subject of another pilot test. This aims at evaluating the potential for using the OS based method to obtain statistics of the stock of vacant land for different levels of area coverage eg local (inner urban areas) district, regional etc. The blend of site-specific and aggregate statistics, together with digital cartographic presentations, is again an appealing method and the definitions and classification used in the pilot to the vacant land stock survey are identical to those used in the new land use change statistics.

The amount of land transferring now and in the future from farming uses is an important statistic in several policy contexts following recent developments in the Common Agricultural Policy and the relaxing of some development control restrictions in rural areas. The Department in conjunction with the MAFF are examining the extent to which the OS-based land use change data might be used in conjunction with other sources (including satellite imagery projects with the National Remote Sensing Centre) to improve the existing statistics. Some follow up work planned for the landscape change project will also include reference to links with the new land use change statistics. A National Parks study commissioned by the Countryside Commission, and future work on a land use stock survey will include the land use change statistics.

The new land use change statistics for England were referred to by the author at the autumn 1986 Seminar on 'Remote Sensing and Land Use Statistics' organised by the Statistical Office of the European Communities (SOEC). The Report of the proceedings of the Seminar will provide an up-to-date picture of global developments in relation to land use statistics etc. In response to a request from the SOEC following the seminar, the Statisticians have provided some broad land use stock estimates against which the new land use change statistics can be set. Annex A shows land use stock estimates for England and Wales based on Professor Best's work, further historical research and trend fitting etc. The results of the recent landscape change project feature prominently in these estimates. (It should be noted again however, that there is no single official source of consistent land use stock statistics for England: these estimates are derived from several sources.)

Cost and Value for Money

The introduction of the new land use change statistics is estimated to have cost the Department about £75,000 (setting up computer systems etc). Computer costs are about £30,000 per annum at 1985/86 prices. The Department is charged about £60,000 per annum for the supply of information by OS, visits to OS offices etc. Given the usefulness of the new statistics in the important policy applications, it is considered that they represent good value for money. The current research project commissioned by the Department and its recommendations - together with the fourth year results from the trial running of the new statistics - are likely to determine, for several years ahead, ways of improving the statistics and their associated analyses and presentations. Further efficiency might be attained, for example, by integrating the information 'capture' with current OS management information systems, resulting possibly in direct electronic capture and computer to computer transference of the data.

Summary

The Department has introduced a new set of land use change statistics based on information collected by the OS as part of its ongoing programme of re-surveying for the country's map archive. The method has several attractive features, not least its cost effectiveness, and is producing some useful results. Whilst covering the whole country, the change data collected and published are **as recorded** by the OS. The most important changes are being recorded within about 6-18 months of the change taking place. There are interesting statistical aspects of the definitions and classifications used which are constrained to some extent by the nature of the recording practices. Analyses and presentations of the results are under review and a further research project has been commissioned. It is hoped that some improvements might be identified and introduced to further the usefulness of the new statistics.

The results are being examined alongside other (part) sources and within the context of other methods of measuring land use stock etc. More extensive analyses are planned as experience builds up on the usefulness of the results at different area levels. Tabulations for National Parks etc will be available in the future.

Up-to-date information on land use statistics is available on request from the following contact points in England, Scotland and Wales.

England

Mr Richard Job
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 P2/139
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Wales

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ANNEX A**ESTIMATES OF URBAN LAND AND LAND COVER : ENGLAND AND WALES**

	(1) Urban	(2) Woodland	(3) Farmed land	(4) Semi-natural vegetation	(5) Water, wet- lands rock etc.	(6) IMPLIED DUPLICATION
	(Best) ¹	(... Monitoring Landscape change project ² ...)				
1930	6.7					
1950	8.8	7.1	72.6	12.3	1.5	2.3
1970	10.8	7.9	72.1	10.0	1.3	2.1
1980	11.6	7.9	71.8	9.2	1.4	2.0

Best's definition includes all land under urban uses, and small features in rural areas will have been included too in Cols (2) - (5) because of the survey methods.

1 Robin Best was Professor of Land Use at Wye College, University of London until his death in 1984.

2 A research project, commissioned by the Department of the Environment and the Countryside Commission in 1984 carried out by Huntings Technical Services Ltd. Figures in the table are interpolated from estimates for 1947, 1969 and 1980 based on aerial photographs of a sample of sites throughout England and Wales.

Col 6 represents the extent of implied duplication between Col (1) and Cols (2) - (5). The land cover for England and Wales is 15.1 million hectares. The 5 land cover categories are roughly equivalent to those in the ECE draft standard statistical classification of land use.

Survey of Bridge Carrying Capacity

Peter Scott, Statistician, Department of Transport

Introduction

A new Assessment Code (Departmental Standard BD21/84 and Advice Note BA/16/84) for highway bridges was published by the Department of Transport (DTp) in March 1984. This reflected the increasing numbers of heavier vehicles within the 'heavy goods vehicle' category, and the more frequent occurrence of strings of heavy vehicles placing increasing demands on older bridges. The new code incorporated assessment loadings that adequately dealt with the effects of present-day traffic, with some contingency for the future.

At the time of publication it was expected that a large number of structures would be affected by the code, but there was no reliable estimate of the numbers involved, nor of how many would fail to meet the new standards in the Code. Hence the cost of applying the code to the national bridge stock and carrying out necessary strengthening work was unknown.

To overcome this lack of knowledge, a sample survey has recently been completed by public-road-bridge owners in Great Britain. Although the study has been co-ordinated by DTp, it does not include bridges owned by DTp, but covers road bridges owned by Local Authorities, British Rail, British Waterways, and London Transport.

Not all bridges have been included in the study. A broad definition of the coverage is: bridges over 1.5 metres in span, either (a) built before 1922, or (b) built since 1922 but not known to have been designed to be capable of carrying certain exceptional loadings. This could include bridges built up to the early 1960s.

The study took place in two phases. Firstly a census, to establish how many bridges were likely to be affected by the new code, and then a sample survey of about 560 bridges to assess their load-carrying capacity.

A full report¹ is available, describing the survey in more detail.

Census

All owners completed a census return giving the numbers of bridges they owned, analysed by main material type, date of construction, and class of road carried by the bridge. Table 1 shows the total numbers of bridges in Great Britain for each main material type.

A number of points emerge from this and other detailed tables:

- overall about two-thirds of the bridges are masonry, and only about 15 per cent are metal. However, British Rail and London Transport have much higher proportions of metal bridges than this (35 per cent and 60 per cent respectively);
- the majority of bridges owned by local authorities are under 10 metres in span, whereas the majority of those owned by British Rail, British Waterways and London Transport are over 10 metres long;
- over 95 per cent of masonry bridges were built before 1922, whereas 90 per cent of concrete ones were built since that date.

Sample Survey

The survey was designed with the intention of providing overall estimates of the numbers of sub-standard bridges and of the cost of strengthening them. In addition information was gathered about traffic flows and diversion distances, so that estimates could be made of the proportions of bridges for which some action other than strengthening, such as weight restriction, might be more economic, so giving an alternative and lower estimate of the total strengthening cost.

Table 1: Census totals by material and owner group

Owner group	Material				TOTAL
	Masonry	Concrete	Metal	Other	
Local authorities	25753	8591	4254	864	39462
British Rail	4938	991	3290	10	9229
British Waterways	687	89	101	0	877
London Transport	51	15	115	0	181
TOTAL	31429	9686	7760	874	49749

Because of the limited resources available to carry out the assessments, and the considerable effort required to assess a bridge, the target sample size was set at 680 bridges. The sample size actually achieved, about 560, fell some way short of the target, as some owners found the assessment task more onerous than anticipated.

As masonry bridges are much more numerous than other types, proportional sampling of the different material types would yield rather few concrete and metal bridges. Further, it was anticipated that these latter types would be more frequently sub-standard, and that their condition would vary more, than would masonry bridges. Therefore it was decided that the sampling proportion for concrete and metal bridges should be about twice as large as for masonry ones. The 'other' material category was excluded from the survey as being too sparse to be of great interest.

Thus main material type was used to define strata within the survey. Other variables thought most likely to be associated with bridge performance, and for which differentiated census figures were available, were whether a bridge was single- or multi-span, and whether or not it lay on a principal road. Stratification by these factors was also employed. In this way nine strata were defined: three material types, each split by whether the bridge was (a) single-span on a principal road, (b) single-span on a lesser road, (c) multi-span. British Rail, British Waterways and London Transport were to survey rather few bridges to support such a fine categorisation, so just two strata were defined for each of British Rail and British Waterways - masonry bridges and the rest - and just one for London Transport - all bridges. Because of limited resources, British Rail were to survey a rather smaller proportion of their bridges than were other owners; about 1 in 200 was their target.

For local authority owners, the sample required within each stratum had next to be divided between individual owners. This was done in such a way that the sample was split roughly in proportion to the census distribution, so that if, for example, a county contained five per cent of all the concrete multi-span bridges owned by local authorities, then it should be allocated approximately five per cent of the sample for that stratum.

Having divided the total sample between individual owners, the selection of the actual bridges to be examined could only be made by the owners themselves, since they alone had full records of the individual bridges. The method of selection varied a little between owners, but was the same for most owners apart from the metropolitan counties. This was to arrange the bridges in a numbered order, and then to generate (by computer) a list of random numbers in the range 1 to n (the number of bridges owned) which identified specific

bridges in that order. The list of random numbers was worked through strictly in order, a number being discarded if it 'pointed to' a bridge which wasn't subject to the code or was a member of a stratum for which the 'quota' had already been filled, until the required numbers of bridges had been identified.

For metropolitan counties a different method was necessary because lists of individual bridges were not available, and the selection had to be made from maps. The method used was to generate (again randomly) identifiers of 1-kilometre national grid squares. All bridges within a square were then included in the sample. If this caused the quota for some strata to be exceeded, then the most southerly bridges within the square were discarded until the excess had been eliminated. Few grid squares generated in this way contain more than one bridge. However, the fact that some do means that the method is slightly biased, in that not all samples have equal probability of selection. This bias is almost certainly very small and has been ignored.

Results

In a sample of this size relatively little detailed breakdown of the data is worthwhile. Sampling variations tend to mask distinctions between subgroups of the bridges unless the differences are large. Even overall figures are subject to substantial uncertainty. Hence only a limited number of contrasts have been investigated.

Table 2 shows the estimated proportions of bridges which are sub-standard.

Table 2: Proportions of bridges below standard, by material

Material	Best estimate	90% confidence limits	
Masonry	0.10	0.07	0.13
Concrete	0.35	0.29	0.41
Metal	0.66	0.59	0.73

Clearly the proportion below standard varies markedly between the three broad material types: about one-tenth of the masonry bridges surveyed were below standard, compared with one-third of concrete ones and two-thirds of metal ones.

Within these broad types, there is little evidence of variation between more detailed construction/material categories. No significant differences were revealed for different types of concrete bridge, nor for brick as distinct from stone masonry bridges. Among metal bridges, it appears that a higher proportion of cast iron bridges than of other types may be below standard.

Applying the proportions in Table 2 to the census returns gives the estimated numbers of sub-standard bridges in Great Britain shown in Table 3.

Table 3: Estimated numbers of sub-standard bridges

Material	Best estimate	90% confidence limits	
Masonry	2800	2280	3320
Concrete	3330	2960	3700
Metal	5120	4840	5410
TOTAL	11260	10560	11960

Using the strengthening costs given for the sampled bridges by the surveying authorities, it is estimated that the total cost of strengthening all these 11,000 or so bridges would be between £560 million and £830 million (90 per cent confidence interval). The detailed data on the sample returns indicate that some form of traffic restriction would be more economic than strengthening in about 15 per cent of cases. If such restrictions were applied, the total strengthening cost would be reduced by about £130 million, though there would be increased traffic costs of around £20 million. The net saving would be between £70 million and £150 million (90 per cent confidence interval).

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The Labour Force Survey: A Study of Differential Response According to Demographic and Socio-Economic Characteristics

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Introduction

It is known that response to the Labour Force Survey (LFS) differs from one part of the country to another¹. The purpose of this study is to examine how response to the LFS varies with demographic, social and economic characteristics of individuals and households in the sample.

This is achieved by observing the characteristics as recorded by the 1981 census of samples of respondents and non-respondents drawn from the 1981 LFS, which was carried out between March and May that year. It replicates the studies of differential response to the General Household Survey (GHS)² and to the Family Expenditure Survey (FES)³, which were carried out with both 1971 and 1981 census data.

Level of non-response

In 1981 there was no response from 15 per cent of addresses included in the LFS sample: 5.5 per cent of the sample could not be contacted and 9.5 per cent were contacted but did not respond. The latter group are termed 'refusals' and the former 'non-contacts' in this report.

Procedure

Two sub-samples of addresses were drawn from the 1981 LFS, one of responders and one of non-responders (ie refusals and non-contacts). These sub-samples were drawn on a systematic random basis from lists of responding and non-responding addresses ordered by geographical region. The sub-sample size was pre-determined (at approximately 1500 cases for each category) in order to be sufficient for detailed analysis. Census data were then obtained for each individual and household at each of the sampled addresses, provided that the address could be found in the census records.

Among responding addresses census records could be found for 96 per cent of the sample. Census records were found for 1255 of the non-responding addresses (88 per cent). A total of 222 addresses from the two sub-samples of responders and non-responders could not be matched with a census record, in 58 cases because the address could not be traced and in 164 because the address was found but either it was vacant or the occupying household was absent.

Significance testing

A number of census variables were cross-tabulated against response (which was simply divided into two categories - response and non-response). The statistical significance of the relationships between response and the census variables was measured by chi-square tests. Where the test was significant at least at the 5 per cent level a z-test was applied to each category in the table in order to identify those census characteristics exhibiting response rates which were significantly different from the average at the 5 per cent level. The results of the chi-square tests are summarised in Table

1, while the z-test findings are presented in the subsequent tables.

In order to carry out the z-tests it was necessary to weight the data so that the proportion of respondents in the sample matched the proportion of respondents in the 1981 Labour Force Survey.

Results

The census variables whose distributions have been tested can be divided into four groups - those relating to household size, age, employment and others. The results of the significance tests are reported here using these groups, since in many instances variables within any one group show similar relationships with response. Where people with particular characteristics are described here as being over-or under-represented amongst respondents, then the difference can be assumed to be significant at the 5 per cent level unless it is explicitly stated that this is not the case.

Household size

Table 1 shows that for all of the household size variables the distribution of responders amongst the categories used differed significantly from the distribution of non-responders. The basic variable showed that one-person households had a below average response rate while households of three or more people exhibited above average rates (Table 2). This positive correlation between response rate and the number of people in the household is confirmed by the results for related variables, such as the number of children under 16, the number of people in the household in employment, the number of families present and the number of people per room.

Other aspects of this tendency are illuminated by three further variables. Married couples with no children were significantly less likely than other households of two or more related people to respond to the survey while those married couples with dependent children were more likely to do so (Table 3). People under retirement age living alone were under-represented amongst responders. There was a degree of positive correlation between response rate and the number of rooms occupied by households, though the highest rate was for households with five rooms (rather than six or seven). The fact that households with the most rooms did not have the highest response rates may reflect the finding (Table 5) that those in higher socio-economic groups (who might be expected to be over-represented amongst those in larger dwellings) had lower response rates than those in some lower status groups.

Age

While all but one of the seven age variables recorded a significant relationship with response as measured by chi-square, the degree of significance was not so uniformly high as had been the case with the household size variables.

Table 1: Significance levels of chi-square tests of response against census variables

Variable type	Significant at:			
	.001	.01	.05	Not significant at .05
Household size	Household size			
	— number of children			
	— persons per room			
	— number of rooms			
	— adult/child composition of household			
	— family type			
	— presence of dependent children			
	— number of people in household in employment			
Age	Age (all people)	Age (males over 16)	Age (male heads)	Age (female heads)
	Age (people over 16)	Age (heads)		
	Age (females over 16)			
Employment	Occupation	Occupation (heads)	Employment status (heads)	Economic activity
	Socio-economic group	Employment status		Economic activity (heads)
		Socio-economic group (heads)		Industry
		Social Class (heads)		
		Industry (heads)		
Other	Marital status (heads)	Marital status	Whether accommodation shared	Tenure
	Country of birth	Sex (heads)	Migration (heads)	Access to bath
	Region		Country of birth (heads)	Access to inside WC
				Number of cars
				Migration
				Sex

NB: (heads) indicates that the analysis was carried out for household heads.

Table 2

Number of people in household	Weighted Response rate (%)	Unweighted Sample size +
One	79*	702
Two	84	850
Three	88*	453
Four	88*	446
Five	90*	173
Six or more	91*	73
All households	85	2697

* Response rates which are significantly different at 0.05 from the average rate.

+ Responding and non-responding households.

Table 4

Age of adults	Weighted Response rate (%)	Unweighted Sample size +
16-20	89*	561
21-25	88	445
26-30	88	407
31-35	89*	498
36-40	85	444
41-45	87	431
46-50	87	432
51-55	85	414
56-60	82*	469
61-65	85	396
66-70	82*	385
71 and over	84	668
All adults	86	5550

Table 3

Type of family of household head	Weighted Response rate (%)	Unweighted Sample size +
Married couple without children	84*	718
Married couple and dependent children	89*	731
Married couple and non-dependent children	87	218
Lone mother or father with dependent children	88	125
Lone mother or father with non-dependent children	91*	101
All family households	87	1893

Table 5

Socio-economic group of household head	Weighted Response rate (%)	Unweighted Sample size +
3,4 Professional	84	111
1,2,13 Employers/managers	82*	393
5 Intermediate non-manual	85	206
6 Junior non-manual	81*	285
8,9,12,14 Skilled manual	87*	685
7,10,15 Semi-skilled manual	86	394
11 Unskilled manual	86	117
16 Armed forces	89	19
17 Other	84	280
All households heads (excluding 'housewives' and 'students')	85	2490

Table 4 illustrates the general pattern of the relationship between age and response: adults under the age of 36 were over-represented amongst responders whereas people aged 56 and over were under-represented. A very similar pattern was recorded for women, but for men response rate varied less with age. Children under 10 were over-represented.

Employment

Six census variables in this category were tested - occupation, industry, socio-economic group, employment status (an employee/manager/self-employed classification), economic activity (an employed/unemployed/inactive classification) and social class. For all of these variables a distribution for heads of household was calculated, and for all but the last so was the distribution for all eligible adults. Response rates did not vary significantly amongst the economic activity categories either for heads of household or for all people. Since economic activity is a central concern of the Labour Force Survey these are reassuring findings.

A number of significant relationships were found between response and the other employment variables. Amongst household heads, the self-employed were under-represented amongst respondents compared with employees. Table 5 shows that amongst heads of household those in two socio-economic categories (managers and junior non-manual workers) were under-represented amongst responders and skilled manual workers were over-represented.

The detailed occupation classification included three categories with above average response rates (education, health and welfare professionals, construction and mining and transport) and one with below average rates (managers). The industrial classification of heads of household contains only one category for which response rate was significantly different from average: those in banking had a below-average rate.

Others

This category embraces census variables of diverse nature. However, the contrast in the frequency with which the chi-square tests found no significant relationship between response and variables in this category, as compared with the three other categories, is interesting. The number of significant z-test results in this category is also small.

Amongst household heads married people had above average response rates and single people below average rates (Table 6).

Table 6

Marital status of Household heads	Weighted Response rate (%)	Unweighted Sample size ⁺
Single	79*	367
Married	86*	1729
Widowed	85	472
Divorced	82	152
All Household heads	85	2720

People born outside the United Kingdom were under-represented amongst responders. The response rate was particularly low for people born in the New Commonwealth and Pakistan (Table 7).

Table 7

Country of birth	Weighted Response rate (%)	Unweighted Sample size ⁺
United Kingdom	87	6577
New Commonwealth/Pakistan	79*	196
Other	82*	212
All People	87	6985

Although response did not vary significantly with the sex of the individual, it did with the sex of household heads. Female heads had below average response rates. People who had moved house in the year before the census were more likely to respond than those who had not moved, but the difference was not significant, as it was in the Family Expenditure Survey ⁴. Households sharing accommodation were few in number, but markedly under-represented amongst responders. Response did not vary significantly with housing tenure.

Finally, response was measured for each geographical region. The Northern region had a significantly above average response rate, while significantly below average response was recorded for the GLC area. The latter finding reflects the under-representation of people living alone, who form a higher proportion of the population of London than of other areas.

Summary of results

The groups over- and under-represented in the 1981 responding sample can be summarised as follows:

Over-represented:

- Married household heads aged 16-59
- Families with children
- Those in households of four or more people
- Dependent children aged under 10
- Skilled manual workers
- Adults aged 16-35
- People living in the Northern region

Under-represented:

- People living alone
- Married couples of pensionable age
- Households without children
- Managers and junior non-manual workers
- The self-employed
- People aged over 55
- People living in Greater London
- People born in the New Commonwealth
- Female household heads
- People sharing accommodation

Discussion

Some of the variations observed in response are not intuitively surprising, and duplicate results from similar exercises involving the General Household Survey and the Family Expenditure Survey. The higher response rates from larger households, households containing dependent children, and age groups most frequently found in such households, are of this type. The below average response rates for older people and couples with no dependent children were also found for the GHS and the FES. The findings that recent movers had above average response and people born in the New Commonwealth were under-represented amongst respondents were recorded in the analysis of the FES.

On the other hand, it may be considered surprising that adults under 30 had above average response rates in this sample⁵. In fact, the higher response rates for young as opposed to older adults were recorded for those living in households of two or more people, but young adults living alone had lower response rates than older people living alone. However, because people living alone constituted a higher proportion of the elderly than of the young, and since they had lower response rates than people living in larger households in each age group, the overall response rate was lower for older people than younger people.

A closer analysis of non-response shows that amongst older people refusals exceeded non-contacts to a much greater extent than they did amongst young people. A number of plausible reasons include reluctance amongst the elderly to allow interviewers into the house, an unwillingness to defer to younger interviewers, and a perception that a survey of the labour force should not include retired people.

While response rates were found to vary significantly according to a number of the characteristics observed, the differences in the rates were rarely very large. Table 8 shows as an example that the differences in the response rate according to family composition were less marked for the LFS (even though significant at the 0.1 per cent level) than for the GHS and the FES. Compared to these surveys the LFS is quite short, which might overcome the predisposition of some people to refuse the interview. The fact that proxy information concerning people related to the respondent and living at the same address forms a higher proportion of responses on the LFS than on the other surveys might also explain its more limited variation in response rates.

Table 8: Response rate by family composition - LFS, GHS and FES

Family composition	Response rate (%)		
	LFS	GHS	FES
Married couple, no children	84	81	73
Married couple, dependent children	89	90	78
Lone parent, dependent children	88	93*	83
All family households	87	86	74

* Lone mother with dependent children only.

The findings of this study can therefore be seen as encouraging, but they nevertheless show that the responding sample for the 1981 Labour Force Survey was biased in certain respects. When the sample data are grossed to produce regional and national estimates, some biases are reduced. The grossing procedure is described fully elsewhere⁶: briefly, the data are grossed to sub-regional population estimates and then adjusted to the estimated age, sex and marital status composition of the national population. This procedure largely compensates, for example, for the under-representation of old people living in London. It does not and cannot guarantee that the regional and national estimates represent exactly all the characteristics of the population.

Even so, there is some evidence that the grossing procedure does correct for the under-representation of characteristics other than those explicitly involved in the procedure (ie age, sex, marital status and region). It is thought, for example, that the under-representation of people born in the New Commonwealth and Pakistan (recorded at ten per cent in this 1981 study) is largely compensated for⁷, especially since 1983 when county and metropolitan district population estimates were introduced to the procedure.

A number of measures have been adopted since 1981 aimed at maintaining or increasing response to the survey. Some, such as those intended to improve response rates in Inner London, have reduced non-response differentials identified here.

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The good, the bad and the ugly: multiple stratified sampling in the 1986 Welsh House Condition Survey

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The Welsh Housing Surveys

The principal purpose of the Welsh Housing Surveys conducted in 1986 was to obtain up-to-date estimates for each of the 37 Welsh districts of the proportion of the Welsh housing stock which was unfit and to estimate total repair costs for those in disrepair. This article shows how these estimates were obtained in a cost-effective way using a multiple stratified sampling procedure. The reasons for employing this technique are discussed, followed by a detailed description of the method used and its advantages in the case of Wales.

Unfit houses are relatively rare in Wales (probably less than 10 per cent of the current stock) so that random sampling would give very little in-depth information on the details of disrepair and the associated social conditions. To overcome this problem the previous House Condition Survey in 1981 had been designed so that more precise estimates of unfitness and disrepair could be obtained for each county and, in addition, social data could be collected. This was facilitated by the use of an initial social survey to collect rough estimates of factors on which the sample for the physical inspection of properties survey could be stratified. The physical inspection survey involved professional surveyors collecting information on repair and fitness for human habitation. Since it was known that unfitness was highly correlated with age of property and with a measure of superficial external appearance, more precise overall estimates had been obtained in 1981 by stratifying the housing stock into groups where fitness and degree of disrepair were more similar than in the overall stock and by sampling proportionately more of these worst affected groups. The results were then grossed according to the proportions sampled in each group to provide representative estimates for the counties of Wales.

It was decided to follow similar principles in 1986. The problem was marginally complicated, however, by the need in 1986 for more detailed estimates by area and tenure, as results were to be provided for each of the 37 housing (local) authorities instead of the eight counties and needed to be analysed by tenure, split between private and public sectors.

Thus, the stratification method had to be refined and tenure to be included as a stratification variable so that a sufficient sample of council houses would be taken to provide useable estimates.

It was decided as is demonstrated below that the most effective combination of surveys and samples to provide additional social data as well as the estimates of physical condition was an initial social survey, the Welsh Inter Censal Survey (WINCS) providing rough estimates of three stratifiers viz condition (appearance), age of property and tenure, followed by a physical survey, the Welsh House Condition Survey (WHCS), sub-sampled from the WINCS addresses. A matrix

was formed of cells, categorising the social survey addresses by these three stratifiers within each district. In 1981 older properties had been given greater weight within each condition category and houses in poorer condition were given greater weight within each age-group. In 1986 however, to overcome the problems of some small sample sizes condition and tenure became more important stratifiers than age.

A sample for the physical survey was thus designed which would, first, increase the accuracy of each district estimate by sampling a larger proportion of social addresses from some strata than others; secondly, would give adequate representation to sub-divisions of the housing stock, such as council houses, which were relatively small in numbers but of particular interest.

Finally, in order to make the House Condition Survey representative of Wales as a whole, the results were grossed up first on the basis of the variable sampling proportions within strata to the social survey sample, then to the district on the basis of the sampling fraction used in the social survey and, finally, to the Wales level.

A description of the method in detail follows.

Welsh House Condition Survey Sample

A total of 60,065 addresses were included in the Welsh Inter Censal Survey (WINCS). From these 18,500 were chosen to be included in the House Condition Survey, that is, equal sampling of 500 in each of the 37 Welsh Local Authority districts.

Date of construction was asked of all WINCS respondents but if it was unknown the interviewer had to estimate the date on the basis of instructions given at the briefing session and summarised in the Interviewer's Manual. The interviewers were also briefed and given written instructions on how to estimate the condition of 3 aspects of the house when viewed from the front viz:

- i. External walls
- ii. Doors and windows
- iii. Roof and roof structure.

A rough categorisation of the overall condition of the property was determined as follows:

- i. Additive values were assigned as:
No evidence of disrepair = 0,
Moderate disrepair = 1,
Major disrepair = 2,
Not visible = 8

eg. a house which had external walls in major disrepair, good doors and moderate roof disrepair would have a total score of $2+0+1=3$.

ii. From the total of the values for the 3 building elements, the following descriptors were assigned:

Total value	Descriptor
0	Good
1	Bad
≥ 2 and < 8	Ugly
8 or over	Not visible (NV)

ie. the above example would be categorised as 'ugly'.

Each address in the Social Survey thus had estimates of date of construction and overall condition which was recorded as 'good', 'bad', 'ugly' or 'not visible' depending purely on the external appearance of the property. In this context 'not visible' means 'not visible from the front of the house'.

In the 1981 Survey a variable proportion, x , of the old (pre-1919) and 'ugly' properties had been sampled with a progressively smaller proportion of the newer and better condition properties being selected. This methodology, followed successfully in 1981, was used as a basis for the 1986 sample. Several scenarios using different cell sampling fractions were examined using a Social Survey district of average size. The following breakdown was expected to concentrate addresses in the poorer quality and older properties while maintaining a larger proportion of post 1945 council houses than of non-council houses of this age.

TABLE 1

	Ugly	Bad	Good
Before 1919			
Council*)	x	x^2	x^4
Non-Council)			
1919-1944			
Non-Council	x	x^2	x^4
1945-1964			
Council)	x	x^2	x^4
Non-Council)			x^6
Post 1964			
Council)	x	x^2	x^4
Non-Council)			x^6

* Also includes 1919-1944 Council as pre-1945 Council houses are few in number.

Other categories of WINCS addresses were sampled in the following proportions:

Not visibles	100 per cent**
Presumed second homes	50 per cent
Vacant/being converted/modernised	20 per cent
Non-contact after 4 calls	10 per cent
Other non-contacts	0 per cent
Mixed addresses	0 per cent

** The total number of these addresses sampled was restricted to a maximum of 50 in any one district.

The proportions of 'ugly' and 'bad' properties were the same throughout the age-groups, x and x^2 respectively, in order to sample sufficient properties in the more recent age-groups which were estimated as being in poor repair. It is perhaps worth stating the obvious here: with x being less than 1, $x^2 < x$.

The addresses from the social survey were tabulated by age, tenure and condition as in Table 1 for each district. In order to determine the sample for each cell, it was necessary first to construct and solve an equation for each district which was derived by combining the social address distribution as Table 1 together with the sample proportions in Table 1, ie:

$$\begin{aligned}
 & \text{(Number of social survey addresses, Before 1919 and Ugly * } x) \\
 + & \text{(Number of social survey addresses, Before 1919 and Bad * } x^2) \\
 + & \dots\dots\dots \\
 + & \text{(Number of social survey addresses, Post 1964 and Good * } x^6) \\
 = & 500 - y
 \end{aligned}$$

Here, y was that sample which was predetermined, viz the not visibles presumed second homes etc. The resultant equation was then solved for x and the cell proportions in Table 1 used to determine the sample numbers within each cell.

In Alyn and Deeside, the resulting equation was:

$$95x + 130x^2 + 343x^4 + 441x^6 = (500-80)$$

where 80 is the sum of the physical addresses which were 'not visibles' and in categories outside the matrix.

The samples for each cell were then randomly selected from an ordered list of Social survey addresses in that particular cell. Thus, for Alyn and Deeside, x was found to be 0.8158 so that 81.6 per cent of the social survey addresses in the 'ugly' categories were randomly sampled, 66.6 per cent (ie. x^2) of those in the 'bad' categories and so on.

The advantages of the stratification procedure can be seen in Alyn and Deeside. In this district, 31 out of 38 pre-1919/non-council houses were sampled. If no stratification had been included in the methodology, one would expect to sample 38 per cent of the WINCS addresses in each cell in Alyn and Deeside. With stratification, 82 per cent of the old and ugly addresses were selected but only 31 per cent of newer properties.

Another advantage can be seen if we examine the errors that result from a simple random sampling method and from a stratified random sampling method. In Alyn and Deeside, for illustrative purposes, let us assume that the distribution of unfitness is:

- 50 per cent in pre 1919 and ugly cell
- 10 per cent in other ages and ugly cells
- 10 per cent in pre 1919 and 1919-1944 and bad cells
- 0 per cent in all other cells.

Using random sampling, it is expected that only 13 unfit properties would be surveyed. With the stratified method explained above, however, 28 unfit properties would be surveyed. In order to see the power of the stratification used, estimates of mean and standard deviation of the proportion unfit were calculated as:

Random Sampling	Stratified Sampling
$p = 0.0260$	$p = 0.0260$
$\sigma = 0.0056$	$\sigma = 0.0017$

Thus, the stratification method gives a greater probability of including unfit properties and thus more precise measurements of unfitness.

Other methods of picking the strata could have been used. Strata could have been chosen on the basis of estimates of standard deviation of unfitness obtained from a pilot survey. However, this was not possible here since obtaining estimates of unfitness was not the single objective of the survey.

The effects of the stratification procedure on the complete sample for Wales, all tenures, can be seen in Table 2:

TABLE 2: Summary of percentage sampling of survey addresses stratified by sampling categories

Wales

Age group	Ugly	Bad	Good	Total
Pre-1919	73.4	58.6	34.4	46.7
1919-1944	74.4	60.6	31.2	41.6
1945-1964	77.7	62.6	25.6	36.8
Post 1964	83.9	71.4	24.5	30.4
All age groups	75.0	62.0	28.8	39.4

Not visibles	63.0
Presumed second homes	52.7
Vacant/being conv/mod	19.0
Non contact after 4 calls	11.5
Other non contacts	0.0
Mixed addresses	0.0

Overall, 29 per cent of addresses with 'good' markings from WINCS and 75 per cent of addresses with 'ugly' markings were taken into the House Condition Survey sample, so concentrating resources in the sector most likely to be in disrepair. Similarly, 47 per cent of the pre-1919 housing was taken into the sample but only 30 per cent of the post 1964 housing.

For Wales, in order to obtain the same precision with a simple random sample, it is estimated that approximately twice as many unfit properties in the sample would be needed which implies a total sample of at least twice the size. If each district physical sample was 1000 instead of 500, 18,500 additional addresses would have had to have been surveyed overall: because of scarce surveyor resources, this would have rendered the survey impracticable. In addition surveyor costs alone this would have been at least £600,000. Costs would also have been incurred for punching and processing the extra forms. The benefits of using stratification can be seen as the cost of the social survey was, by comparison, around £500,000. Thus, using this methodology, social information was gained not only for the 18,500 surveys included in the physical survey but also for an additional 41,500 addresses for less cost than the alternative extended physical survey.

In conclusion, therefore, the stratification methodology introduced into the conduct of the 1986 Welsh House Condition Survey provided the following benefits:

- i. A larger base sample of social information for the districts of Wales.
- ii. Greater precision in the estimation of unfitness.
- iii. Lower overall costs.
- iv. A smaller sample for the physical survey which made the survey practicable.

New surveys notified to the Survey Control Unit

June to August 1987

For further information on the surveys listed, the appropriate departmental contact may be obtained from Miss C MacMillan (01-270 5963), Survey Control Unit, Central Statistical Office, Great George Street, London SW1P 3AQ.

New Surveys notified June to August 1987

Title	Department	Those approached	Approximate number approached	Location	Frequency
Business and Local Authority Surveys					
Survey of local authority expenditure and staffing devoted to public rights of way	CC	Highways authorities, national parks and district councils	450	EW	AH
Survey of pesticide usage in potato storage premises 1987	DAFS	Potato growers and dealers	1000	S	AH
Career development loans: survey of bank staff	DEM	Banks	50	GB	AH
Loan guarantee scheme evaluation (proprietors and lenders)	DEM	Participants	150	GB	AH
Jobshare-continuous monitoring survey	DEM	Participants	1000	GB	C
IMS commentary: employers attitudes toward job sharing	DEM	Employers	40	GB	AH
Performance measurement of 'Focus' journal	DEN/EEO	Readers	2500	GB	AH
Replan ad hoc survey (opportunities for unemployed people within further education)	DES	Further education colleges	80	E	AH
Local authority expenditure on general certificate of secondary education (GCSE)	DES	Local education authorities	105	EW	AH
Residential accommodation statistics	DHSS	Private and voluntary home owners	109	E	A
Sample survey of residential homes-SAM 5	DHSS	Private and voluntary home owners	1000	E	A
Area economic development studies: Wakefield area study	DOE	Local industry	120	YH	AH
Evaluation of regional selective assistance RSA: UK owned companies	DTI/IDS	Manufacturers receiving RSA under section 7 of Industry Acts	260	GB	AH
Evaluation of financial support for inward investment	DTI/IDS/WOID	Foreign owned manufacturing industry receiving financial assistance under the Industry Acts	200	GB	AH
Survey of potential members of heat transfer and fluid flow service (HTFS) especially the RACPHEE group	DTI	Potential members of HTFS	25	UK	AH
Inclusion of DTI aspects in Fellowship of Engineering questionnaire	DTI	Engineers	650	UK	AH
Evaluation of microelectronics applications programme (MAP) training scheme	DTI	Higher education institutes	40	GB	AH
Assessment of the industrial need for mid-level academic training in measurement and quality control (metrology course survey)	DTI	Mechatronics and food/chemical industries	260	E	AH
Joint optoelectronics research scheme (JOERS) evaluation plan	DTI	Participants	41	UK	AH
Feasibility of setting up an optoelectronics industry association in the UK	DTI	Electronic and optoelectronic companies	225	UK	AH
Evaluation of scheme for computer numerically controlled (CNC) machine tools in further education colleges (FECS)	DTI	Engineering departments of FECS	40	UK	AH
Evaluation of scheme for computer numerically controlled (CNC) machine tools in further education (firms)	DTI	Training managers	40	UK	AH
Post completion monitoring of project support under micro electronic industry support programme (MISP)	DTI	Supported firms	17	GB	AH
ERDF assistance for small firms located in steel, shipbuilding, textile and fisheries areas: consultancy advice, market studies, feasibility projects	DTI	Small firms	100	GB	AH
The effect of infrastructure on industrial costs and employment	DTI	Manufacturing and service industries eligible for RSA	400	E	AH
Awareness campaign on the need for a systems (software) engineering approach to IT: preparatory study	DTI	Users and producers of IT systems	30	UK	AH
Maintenance of company assets	DTI	Manufacturers	160	UK	AH
The locational influences on new or growing industries	DTI	Growing sectors of manufacturing and service industries	650	GB	AH
Determinants of research and development expenditure	DTI	Manufacturers	30	GB	AH
'Profiting from office automation' final report analysis	DTI	Recipients of report	544	UK	AH
Industrial opinion survey of Department of Trade and Industry	DTI	Manufacturing and service sectors	150	UK	AH
Investigation of research needs and product opportunities related to mechanical handling equipment	DTI	Manufacturers and users	34	UK	AH
The information sector and the revision of international standard industrial classification (ISIC)	DTI	Large companies in information sector	12	UK	AH
Quality management standards for software	DTI	Private sector suppliers of software and IT systems	30	UK	AH
Costs and benefits of software standards and certification	DTI	Suppliers and users of software	30	UK	AH
Effect of liberalisation of European public procurement on UK supply industry	DTI	Firms affected by EC legislation	20	UK	AH

Title	Department	Those approached	Approximate number approached	Location	Frequency
Disclosure of importers details	DTI/C&E/TSY	Industry and trade associations	300	GB	AH
Role of Department of Trade and Industry	DTI	Manufacturing and service sectors	800	E	AH
Local government election data	HOME	Returning officers	350	EW	A
SDA Survey 'The electronics industry in Scotland'	IDS/SDA	Electronics, manufacturing and supply companies	370	S	Y2
SDA Strategy for industry/academic collaboration	IDS/SDA	Manufacturing, engineering electronics and biotechnology firms	20	S	AH
Advanced manufacturing technology (AMT) penetration survey	IDS/SDA	Manufacturers	100	S	AH
Evaluation of 'better technical services' grant scheme	IDS/SO	Small manufacturing, construction and service firms	560	S	AH
English Channel crab stock investigations	MAFF/SFIA	Fishing industry	75	E	AH
Survey of poultry feed in large units	MAFF	Agricultural holdings	90	UK	Q
Engineering skills in organisations outside the scope of the EITB	MSC/EITB	Firms employing engineers	4000	GB	AH
Training/development of in-company trainers of young people	MSC	In-company trainers	35	GB	AH
The investigative trainer	MSC	Manufacturing and service industries training departments	220	GB	AH
Evaluation of the <i>sheltered placement scheme</i>	MSC	Employers	60	GB	AH
Training needs in concrete repair	MSC/CITB	Civil engineering contractors	40	GB	AH
Trainer skills for further education staff evaluation project	MSC	Regional advisory councils	30	EW	AH
<i>Enterprise allowance scheme</i> -survey of awareness of day attenders	MSC	Prospective participants	1200	GB	AH
Impact of demographic change on employers manpower planning up to 1993	MSC/NEDO	Financial services/health services	20	GB	AH
Research on private providers of vocational education and training (VET)	MSC	Private sector providers of VET	2000	GB	AH
Upper Nithsdale area initiative: consultants study	MSC	Local industry	50	S	AH
Evaluation of 'marketing your business' workshops	MSC	Participants in workshops	150	E	AH
Impact of YTS2 funding on premium providers 1987 review	MSC	Scheme managers and placement providers	180	GB	AH
Training implications of new materials (composites, plastics, adhesives)	MSC	Chemical, engineering, manufacturing and construction industry	60	GB	AH
The <i>new job training scheme</i> : survey of managing agents	MSC	District and local councils	300	GB	AH
Quality of telephone service, business users survey	OFTL	Business users	200	UK	AH
Local authority procedures under the Homeless Persons Act	SDD	District councils	61	S	AH
'What's your sport?' campaign monitoring	SSC	Local authority officers dealing with sports enquiries	58	S	AH
Analysis of STB's classification and grading system	STB	Accommodation establishments	1000	S	AH
'Best getaway in the UK'-survey of advertisers	STB	Advertisers in the publications	295	S	A
Details of licensed caravan sites	WO	District councils	37	W	A
Business improvements services evaluation	WO	Manufacturers	400	W	AH
Monitoring tourism trends in Wales 1987: self catering and attractions survey	WTB	Tour operators	400	W	AH

Household and Individual Surveys

Energy saving measures in the home	DEN/EEO	Owner occupiers	2200	GB	AH
AIDS/drugs doublehead animatics research - reaction to advertising roughs	DHSS/COI	Youth	75	E	AH
AIDS drugs advertising: animatic/doublehead communication check	DHSS/COI	Drug users	70	GB	AH
Attitudes to nurse training	DHSS/COI	Potential nurses	100	E	AH
Nursing recruitment-campaign evaluation	DHSS/COI	Potential nurses	100	E	AH
Second national savings corporate tracking study	DNS	Adults	26400	UK	AH
Investment account TV advertisement campaign	DNS	Adults	2400	UK	AH
'Right to buy' distribution check	DOE/COI	Tenants	2000	E	AH
Disposal of local authority housing: analysis of purchasers and decanted tenants	DOE	Owner occupiers/local authority tenants	1300	E	AH
1987 unleaded petrol research	DOE/COI	Drivers	956	GB	AH
Biotechnology, public attitudes	DTI/COI	Adults	1050	GB	AH
Merseyside pre/post advertising evaluation	DTP/COI	Drivers	600	NW	AH
Forth-Clyde canal multi-user survey	DTP/TRRL	Towpath users	250	S	AH
Pilot study: methods of learning to drive	DTP	Learner drivers	50	SE	AH
A52 Ashbourne relief road: roadside interview survey	DTP	Drivers	2000	EM	AH
Bus deregulation coupon response check	DTP/COI	Applicants	250	UK	AH
Evesham Alcester Studley traffic model validation survey	DTP	Drivers	12000	WM	AH
Child molestation publicity evaluation	HOME/COI	Children aged 5-11	32	GB	AH
Tourism survey-use of tourist attractions and accommodation	IDS	Tourists	4500	S	AH
RAF engineering officers campaign	MOD/COI	Potential engineering officers	80	E	AH
RAF officer advertising research	MOD/COI	Potential recruits	110	E	AH
Army: Territorial Army general press campaign 1987/88	MOD/COI	Potential recruits	55	E	AH
Army: terms of engagement	MOD/COI	Potential recruits	875	GB	AH
<i>Restart job club</i> qualitative study - Spring 1987	MSC/COI	Unemployed	80	E	AH
<i>Enterprise allowance scheme</i> press advertisements - communication testing	MSC/COI	Unemployed	70	E	AH
Youth training scheme (YTS) benefit suspension research	MSC/COI	Adults 16 years and over	2000	GB	AH

Title	Department	Those approached	Approximate number approached	Location	Frequency
Household and Individual Surveys (continued)					
Enterprise allowance scheme fifth six-month national survey	MSC	Adults	4000	GB	AH
Community programme postal follow-up: fifth survey	MSC	Adults	6000	GB	AH
Enterprise allowance scheme omnibus: seventh stage	MSC/COI	Unemployed	500	GB	AH
'What's your sport?' monitoring	SSC	Participants encouraged by campaign	600	S	AH
Edinburgh and London travel centres: survey of users	STB	Visitors to travel centres	800	GB	AH
Effectiveness of the 'learning to drive' leaflet distributed by the DVLC	TRRL	First time provisional licence applicants	400	E	AH
M1 ceefax service area survey	TRRL	Drivers	650	E	AH
Monitoring 1985 Act: West Wiltshire bus passenger second survey	TRRL	Passengers	500	SW	AH
Newtown development study	WO	Shoppers	315	W	AH
Survey of day and holiday visitors to Wales 1987	WTB	Tourists	4500	W	AH

LIST OF ABBREVIATIONS

Locations		General	
E	England	CITB	Construction Industry Training Board
EM	East Midlands	EITB	Engineering Industry Training Board
EW	England and Wales	ERDF	European Regional Development Fund
GB	Great Britain	IMS	Institute of Manpower Studies
NW	North West	NK	Not Known
S	Scotland	RACPHEE	Refrigeration, air conditioning and proprietary heat exchange equipment
SE	South East	RSA	Regional Selective Assistance.
SW	South West		
UK	United Kingdom		
W	Wales		
WM	West Midlands		
YH	Yorkshire and Humberside		
		Frequency	
		A	Annual
		AH	Ad Hoc
		C	Continuous
		Q	Quarterly
		Y2	2 yearly
		Departments	
		CC	Countryside Commission
		COI	Central Office of Information
		DEM	Department of Employment
		DEN	Department of Energy
		DES	Department of Education and Science
		DHSS	Department of Health and Social Security
		DNS	Department for National Savings
		DOE	Department of the Environment
		DTI	Department of Trade and Industry
		DTp	Department of Transport
		DVLC	Driver Vehicle Licensing Centre
		EEO	Energy Efficiency Office
		HOME	Home Office
		IDS	Industry Department for Scotland
		MAFF	Ministry of Agriculture, Fisheries and Food
		MOD	Ministry of Defence
		MSC	Manpower Services Commission
		NEDO	National Economic Development Office
		OFTL	Office of Telecommunications
		SDA	Scottish Development Agency
		SDD	Scottish Development Department
		SSC	Scottish Sports Council
		STB	Scottish Tourist Board
		TRRL	Transport and Road Research Laboratory
		TSY	HM Treasury
		WO	Welsh Office
		WOID	Welsh Office Industry Department
		WTB	Wales Tourist Board

Recently available statistical series and publications

The following publications containing social statistics have recently, or will soon become available during the October to December quarter of 1987. Unless otherwise specified, copies can be purchased from Her Majesty's Stationery Office. A list of release dates of economic series is published monthly in *Economic Trends*.

Department of Health and Social Security

The Department of Health and Social Security produce regular monthly and quarterly statistical series on such topics as unemployment benefit, child benefit and sickness and invalidity benefits. Extracts and summaries for these series are published in *Social Security Statistics*. Further information can be obtained from:

Mr K A Fitch
Department of Health and Social Security
Room A2215
Newcastle-upon-Tyne NE98 1YX
Telephone: Tyneside (091) 2797373 (GTN 2622)

The following Statistical Bulletins are available:

- No. 1/87 *NHS Acute In-Patient Statistics - England 1974-1984*
No. 2/87 *Mental illness and mental handicap hospitals and units in England: Legal Status Statistics 1982-1985*. (Price £1 net).
No. 3/87 *Vaccination and Immunisation of Children in England 1966-1985*. (Price £1 net).

Statistical Bulletins referred to above may be purchased from:

DHSS Information Division
PO Box 21
Canons Park
Government Buildings
Honey Pot Lane
Stanmore
Middlesex HA7 1AY
Telephone: 01-952 2311

Scottish Education Department

Scottish Education Department Statistical Bulletins on the following subjects:

- The assisted places scheme*
Students on courses of non-vocational Further Education

The Social Work Service Group of the Scottish Education Department have published the following bulletins:

- Referrals of children to Reporters and Children's Hearings 1986*
Staff of Social Work Departments 1986

Copies of the above bulletins may be purchased (Price 75p net) from:

The Library
Official Publication Sales
Scottish Office
Room 2/65
New St Andrew's House
Edinburgh EH1 3TG
Telephone: 031-244 4806 (GTN 2688)

Office of Population Censuses and Surveys

- People Count - a history of the General Register Office*, by Muriel Nissel (HMSO 1987)
Population Trends 50 Winter (HMSO 1987)(Price approx £5 net)

- OPCS Monitors -

- (available free from OPCS Information Branch, St Catherine's House, 10 Kingsway, London WC2B 6JP)
Adoptions in England and Wales 1985 and 1986, (FM3 87/1)
Trends in conceptions of women residents in England and Wales, 1975-85, (FM1 87/2)
Births by birthplace of mother 1986: local authority areas, (FM1 87/3)
Congenital malformations 1986, (MB3 87/1)
Marriages in England and Wales during 1986, (FM2 87/1)
Divorces in England and Wales during 1986, (FM2 87/2)
Deaths by cause, 1986, (DH2 87/3)
Deaths from accidents and violence, 1986, (DH4 87/4)

- Annual reference volumes -

- Hospital Inpatient Enquiry 1985* main tables, (MB4 No. 27)
International migration 1985, (MN No. 12)
Abortion Statistics 1986, (AB No.13)

- Social Survey Reports -

- Smoking among Secondary School children in 1986*, by Eileen Goddard and Clare Ikin (SS1265)
Labour Force Survey 1985, (LFS No. 5)
Improving Electoral Registration, by Jean Todd and Jack Eldridge, (SS1228)
Electoral Registration in Inner City Areas, by Jean Todd and Jack Eldridge, (SS1217)

- Occasional Paper -

- Developing questions on ethnicity and related topics for the Census*, by Ken Sillitoe (Occasional Paper 36)

Welsh Office

Welsh Housing Statistics No 7 1987
Road Accidents: Wales No 7 1987
Welsh Agricultural Statistics No 9 1987
Commercial and Industrial Floorspace Statistics No 8 1987
Welsh Hospital Waiting List Bulletin 1987: No. 2
Welsh Economic Trends No 11 1987

The above publications are available from:

Publications Unit
Economic and Statistical Services Division
Welsh Office
Cathays Park
Cardiff CF1 3NQ
Telephone: 0222-82 5054 (GTN 2408)

Department of the Environment

Housing and Construction Statistics, Great Britain, 1976/1986

Housing and Construction Statistics, Part 1
No. 30 June Quarter 1987 and Part 2 No. 29 March Quarter 1987

Local Housing Statistics, England and Wales, No. 82
July 1987 - figures for first quarter 1987

Digest of Environmental Protection and Water Statistics, No. 9 1986 (HMSO 1987)

The above publications are available from Her Majesty's Stationery Office.

Development Control Statistics: England 1983/84-84/85-85/86

Development Control Statistics: England 1979/80-80/81-81/82-82/83 (reprint)

Air Quality Statistical Bulletin (87)1

Water Quality Statistical Bulletin (87)2

Radioactivity Statistical Bulletin (87)3

Noise Statistical Bulletin (87)4

Solidwaste Statistical Bulletin (87)5

Supplementary Statistical Bulletin (87)6

The above annual bulletins provide additional detailed tables for most of the Chapter topics in the Department's *Digest of Environmental Protection and Water Statistics* published recently by HMSO.

Land Use Change in England, Statistical Bulletin (87)7 figures for 1986.

The above publications are available from:

Department of the Environment
Publication Sales Unit
Victoria Road
Ruislip
Middlesex HA4 0NZ
Telephone: 01-845 1200 Ext 200

The following information is issued in press notices on a regular basis:

Monthly: *Housebuilding, construction new orders, building new orders, building materials and components, brick production, and new orders by type of work.*

Quarterly: *Construction output and employment, planning applications and decisions, renovations and Homeless households.*

Annually: *Slum clearance.*

Further information is available from:

Department of the Environment
LGS Room P1/001
2 Marsham Street
London SW1P 3EB
Telephone: 01-212 5985

Scottish Home and Health Department

The following statistical bulletins are available:

No. 3/1986 *Homicide in Scotland 1980 - 1984*

No. 4/1986 *Criminal Proceedings in Scottish Courts 1984*

No. 5/1986 *Prison Statistics Scotland 1985*

No. 1/1987 *Crimes and Offences involving Firearms, Scotland 1985*

No. 2/1987 *Children and Crime, Scotland 1983-1985*

No. 3/1987 *Criminal Proceedings in Scottish Courts, 1985*

No. 4/1987 *Recorded Crime in Scotland 1986*

No. 5/1987 *Motor Vehicle Offences in Scotland 1985*

No. 6/1987 *Prison Statistics Scotland 1986*

Copies of the above bulletins may be purchased (price 75p post paid) from:

The Library
Official Publication Sales
Scottish Office
Room 2/65
New St Andrew's House
Edinburgh EH1 3TG
Telephone: 031-556 8400 Ext 4806 (GTN 2688)

Scottish Development Department

The following statistical bulletins are available:

HSIU No. 24 - Q1(86) - *Housing Trends in Scotland: Quarter Ended 31/3/86*

HSIU No. 25 - *Grants to the Private sector for improvement of dwellings: 1976 to 1985*

HSIU No. 26 - *Annual Estimates of Households*

HSIU No. 27 - Q2(86) - *Housing Trends in Scotland: Quarter ended 30/6/86*

HSIU No. 28 - Q3(86) - *Housing Trends in Scotland: Quarter ended 30/9/86*

HSIU No. 29 - *Public Sector Rents in Scotland: 1986 - 1987*

HSIU No. 30 - Q4(86) - *Housing Trends in Scotland: Quarter ended 31/12/86*

Copies of the above bulletins may be purchased (price 75p net) from:

The Library
Official Publication Sales
Scottish Office
Room 2/65
New St. Andrew's House
Edinburgh EH1 3TG
Telephone: 031-244 4806 (GTN 2688)

Department of Education and Science

The following Statistical Bulletins are available:

- 6/87 *Participation in education by young people aged 16 and 17 in each Local Education Authority and region: England 1981-82 to 1985-86*
7/87 *Students in England with special educational needs, November 1985*
8/87 *Pupil/teacher ratios for each Local Education Authority.*

The following will be published over the next two months:

- 9/87 *Pupils under five years in each Local Education Authority in England - January 1986*
10/87 *The 1984 Secondary School Staffing Survey: Data on the Curriculum in Maintained Secondary Schools in England*
11/87 *Statistics of schools in England - January 1986*

Copies of these publications may be obtained from:

The Department of Education and Science
Statistics Branch
Room 1/28
Elizabeth House
York Road
London SE1 7PH

Home Office

The following Command Paper will be published by HMSO: *Criminal statistics, England and Wales, 1986* (October), Cm 233, price £15.80 net.

The following Home Office publications are announced:

- Offences relating to motor vehicles, supplementary tables Criminal Statistics, England and Wales, Supplementary volumes 1 to 5*
Probation statistics, England and Wales, 1986

The following statistical bulletins are announced:

-- for October --

- Criminal careers of persons convicted of drug offences in 1980-81*
Statistics of offences relating to motor vehicles, England and Wales 1986
The operation of certain police powers under the Police and Criminal Evidence Act 1984, 2nd Quarter 1987
Offences of drunkenness, England and Wales, 1986
Betting licensing Statistics Great Britain 1986-87
Statistics on the operation of the prevention of terrorism legislation, 3rd quarter 1987

-- for November --

Further analysis of the criminal careers of those born in 1953, 1958 and 1963

-- for December --

- Control of immigration statistics, 3rd quarter 1987*
Statistics of the time taken to process criminal cases in the magistrates' courts, June 1987
Notifiable offences recorded by the police, England and Wales, 3rd quarter 1987
The operation of certain police powers under the Police and Criminal Evidence Act 1984, 3rd Quarter 1987

-- for January 1988 --

Statistics of mentally disordered offenders, 1985 and 1986

Statistical bulletins and Home Office publications are available from:

Home Office
Statistical Department
Lunar House
40 Wellesley Road
Croydon
Surrey CRO 9YD

Department of Transport

Recent Statistical Bulletins published by the Department of Transport:

- Transport statistics Great Britain 1976-1986* (Annual, HMSO, price £18.95)
National road maintenance condition survey: Deflection measurements 1986 (Report, price £1.00)
Port Statistics 1986 (Annual, price £25.00)

Available from:

British Ports Association
Commonwealth House
1-19 New Oxford Street
London WC1A 1DZ

Waterborne freight in the United Kingdom 1986 (Annual, price £15.00)

Available from:

Marine and Distribution systems
22 Oxford Street
Liverpool L7 7BL

How many of us will die in road accidents (Statistical bulletin (87)43, price £4.00)

Available from:

Department of Transport, STC4
B6/49 Romney House
43 Marsham Street
London SW1P 3PY
Telephone: 01-212 0014

Recent Statistical Bulletins published by the Department of Transport:

International road haulage by United Kingdom registered vehicles, Report on 1986 (Statistical bulletin (87)44, price £10.00)

Local road maintenance expenditure in England 1985/86 (Statistical bulletin (87)46, price on application)

Quarterly road casualties in Great Britain, final 1986 figures (Statistical bulletin (87)47, price £4.00)

The following statistical bulletins are issued on a regular basis:

Monthly: *New Motor Vehicle Registrations, Great Britain* (price £2.50 per copy, annual subscription £25.00)

Quarterly: *Road Goods Vehicles on Roll-on Roll-off Ferries to Mainland Europe* (price £8.00 per copy, annual subscription £27.00)

Road casualties in Great Britain (price £4.00 per copy)

Quarterly Transport Statistics (price £5.00 per copy, annual subscription £12.00)

Department of Transport statistical publications are available from:

Publications Sales Unit
Building 1
Victoria Road
South Ruislip
Middlesex HA4 0NZ
Telephone: 01-841 3425

The Department of Transport is often prepared to sell unpublished data. Further information can be obtained from:

Department of Transport
Romney House
43 Marsham Street
London SW1P 3PY
Telephone: 01-212 6843

Department of Employment

Employment Gazette, which is published on Thursday towards the beginning of each month, regularly contains recent data and time-series on employment, unemployment, earnings, prices, family expenditure, tourism and other indicators. In recent months there were special features on 'Travel and tourism - latest statistics', 'Education and labour market status of young people', 'A short guide to the Retail Prices Index', 'Industrial stoppages in 1986'. *Employment Gazette* is published monthly by Her Majesty's Stationery Office, price £3.25 per issue. Annual subscription inclusive of postage is £35.

EXPERIENCED STATISTICIANS

Interviews will be held in January for at least 10 Grade 7 (Statistician) appointments. Most posts will be in London (£16,495—£21,757) but there may be others elsewhere.

CLOSING DATE
16 DECEMBER 1987

For further details and application forms telephone Richard Alldritt 01-270 5915 or John Cammack 01-270 5909 at the CSO.

**GOVERNMENT STATISTICAL
SERVICE**

Notes on current developments

POPULATION AND VITAL STATISTICS

The latest edition of *Population Trends*, the quarterly journal of the Office of Population Censuses and Surveys (OPCS), was published in September 1987 and contains the following articles:

Questions on race ethnicity and related topics for the Census

This article by Ken Sillitoe of OPCS Social Survey Division summarises the results of three field tests on the wording of possible census questions on ethnicity and related topics. The full report was published in July 1987 in OPCS Occasional Paper 36. (See this page for an account of this report.) The tests were carried out by OPCS during 1985 and 1986 in response to recommendations of the Home Affairs Sub-Committee on Race Relations and Immigration.

The article includes the wording of the various forms of questions on ethnic origin and language which were tested, and also includes a recommended form of ethnic origin question which is considered likely to be more effective than those tested earlier.

The use of registration data for population statistics

This article by Frank Whitehead, Deputy Director (Statistics) OPCS, looks at three important uses made over the last 150 years of the information collected at birth, death and marriage registration to study the change in the population. For *population counts and estimates* it illustrates how, in the years between each Census, the data from births and deaths are an essential component at both national level and more especially for each local and health authority in preparing population estimates. The analysis of information collected at marriage helps provide estimates and proportions of the population by *marital status*. Finally the author reviews the events leading up to the Population (Statistics) Act of 1938, which enabled additional information to be collected at birth registration, which has proved invaluable for the understanding of *fertility* trends.

Trends in morbidity and mortality from asthma

In this article, Dr Alderson, Chief Medical Statistician OPCS, reviews some of the literature relevant to the consideration of the changes in the pattern of mortality and morbidity from asthma during the last twenty-five years. It also looks at trends for England and Wales showing evidence of appreciable increases in the frequency with which patients contact their general practitioner, and an increase in GP referrals to hospital (especially for emergency admission). There has also been an increase in the number of in-patient spells, that has occurred particularly since 1970 and especially in those males and females under the age of 15. Over the 35 year period 1951-85 there has been no major change in mortality in the age group examined. It is not clear to what extent the increase

in recorded morbidity is an increase in incidence, or prevalence - or increased frequency of consulting a GP and admission to hospital.

Conceptions outside marriage: regional differences

This article examines the extent and nature of regional differences in extra-marital conceptions for 1983. The author, Dr John Coward of the University of Ulster, shows that there are marked regional differences in the proportion and rate of extra-marital conceptions, but concludes that demographic factors such as age and marital structure of the population do not appear to play a major part in explaining them. The author suggests that the main influencing factors might be connected with varying service provision, differing socio-economic and cultural composition of the population as well as variations in regional attitudes and behaviour.

Trends in family intentions and the use of contraception among recent mothers, 1967-84

This article presents the findings of a series of national studies of women who had recently had a baby, carried out by the Institute of Social Studies in Medical Care in 1967-68, 1973, 1975 and, most recently, in 1984. The aims of each study were slightly different but in each of them information was collected about the women's attitudes to their most recent pregnancy, their use of contraception some three to seven months after the baby was born and their hopes for further children.

The studies have shown that compared to the earliest study the proportion of mothers in the latest one who had initially regretted their pregnancy had declined and this trend held for mothers in each family size group. Even so, a quarter of all births in 1984 resulted from a pregnancy that the mothers described as unintended; and when these are added to abortions, and expressed as a proportion of conceptions ending in birth or abortion, this rises to two fifths. The author, Ann Cartwright of the Institute of Social Studies in Medical Care, comments that the persistence of a substantial number of unintended and initially regretted pregnancies is less surprising when put alongside the comparative lack of change in contraceptive practices since 1973, that is among recent mothers.

Reference

Population Trends 49 Autumn 1987, (HMSO, 1987) (Price £5.00 net).

International migration

Detailed figures on international migration during 1985 for the United Kingdom and for England and Wales were published in September. The volume includes information for the period 1976 to 1985, detailed data for 1985, and Home Office statistics for the period 1982 to 1985.

Reference

International migration 1985, MN No. 12 (HMSO 1987) (Price £5.80 net).

Developing a Census question on ethnicity and related topics

The results of a series of field tests on the wording of possible census questions on ethnicity and related topics were recently published by OPCS. The tests were carried out in response to recommendations of the Home Affairs Sub-Committee on Race Relations and Immigration in 1983 and in consultation with the Commission for Racial Equality (CRE) and announced in Parliament on 29 November 1984. The aim was to develop reliable and publicly acceptable questions on these topics which could be included in the census if that was the wish of the Government of the day.

The Report describes in detail the results of three tests carried out between Autumn 1985 and Autumn 1986. It recommends particular designs of questions on ethnic origin and language and concludes that the recommended form of ethnic origin question is likely to be more effective than those tested earlier. The tests showed that the great majority of people in all ethnic groups are content to respond to a question on ethnic origin although such a question is still unlikely to be fully acceptable at present to a minority who object in principle to any question of this kind in a census.

As indicated in the article, 'Planning the 1991 Census', (see pages 79.4-7), OPCS and the CRE will be discussing the results of the tests and related issues with organisations representing ethnic minority groups and will be trying, in particular, to identify the reasons some people have for objecting to a question on ethnic origin.

Reference

Developing questions on ethnicity and related topics for the Census, by Ken Sillitoe. Occasional Paper No. 36 (OPCS, 1987) (Price £3.50 net).

Population Estimates (Scotland)

Estimates of the population of Scotland for mid-1986 by sex, age and standard areas have been published in *Population Estimates, Scotland, 1986* (HMSO, 1987, £1.50). Tabulations showing more detailed age breakdowns for standard areas are available from:

General Register Office (Scotland)
Population Statistics Branch
Room 42
New Register House
Edinburgh EH1 3YT
Telephone: 031-556 3952 ext 351

Vital Statistics (Scotland)

Vital statistics tables relating to the first quarter of 1987 appeared in the Registrar General's Vital Statistics Return, Weeks 25 to 28.

The Registrar General's Annual Report was published on 10 August, and contains details of Births, Deaths, Stillbirths, Marriages, Divorces and Adoptions in Scotland in 1986. This is available from HMSO at a cost of £14.00.

SOCIAL STATISTICS

Family Expenditure Survey (FES) 1986

Summary expenditure results from the 1986 FES were published in the 'Labour Market Data' section of *Employment Gazette* for October 1987. An Article is due to appear in the December edition which will illustrate some aspects of household finances as shown in the 1986 FES Annual Report which is scheduled for publication at about this time.

Reference

Employment Gazette, October 1987 (HMSO) (£3.25 per issue).

Criminal Statistics for England and Wales 1986

This annual publication presents statistics on recorded crime, police cautions, court proceedings, remands, committals to the Crown Court, and sentencing in the magistrates' courts and the Crown Court in 1986. Time series, generally for 1976 to 1986 are provided together with more detailed data for the latter year.

Five supplementary volumes are also produced, containing more detailed information, for 1986 only, on such aspects as age, detailed offence classification, police force area and petty sessional division.

The contents are similar to those for the reports for earlier years: however, some additional information is included, notably on those convicted of homicide offences and on sentencing by petty sessional division.

The 1986 figures in this annual volume are particularly interesting as they reflect the important changes which took place in the Criminal Justice System in England and Wales during 1985 and 1986: the introduction of advanced disclosure of the prosecution case from April 1985, the coming into force of the Police and Criminal Evidence Act from 1 January 1986: and the setting up of the Crown Prosecution Service on 1 April and 1 October 1986.

Some revisions to the 1985 figures on committals and remands have been made: following a survey of data quality some 1986 figures on remands have been omitted from this publication.

References

Criminal Statistics, England and Wales, 1986 (Cm 233) (HMSO October 1987) (Price £15.80). Supplementary Volumes 1-5, available separately from Statistical Department, 18th Floor, Lunar House, Wellesley Road, Croydon, Surrey, CRO 9YD.

Telephone enquiries about obtaining more detailed data or about data quality to 01-760 2325, for data on cautions and court proceedings, to 01-213 3758 if the request is about remand data and to 01-213 3289 if the request is about data on recorded crime.

Prison Statistics for England and Wales 1986

This publication presents statistics on the receptions, discharges and population of Prison Department establishments in 1986. It also contains information about offences against prison discipline and the punishments awarded and about the reconviction of inmates released in 1983. Time series, generally for 1976 to 1986, are provided together with more detailed data for the latter year.

The contents are similar to those of the reports for previous years but some additional information is included, notably on drug offenders, on prisoners serving life sentences and on the average times served in custody under sentence.

Reference

Prison Statistics, England and Wales, 1986 (Cm 210) (HMSO September 1987) (Price £14.60 net).

HOUSING

Housing and Construction Statistics, Great Britain, 1976-1986

This is the eighth edition of the annual publication designed to provide a broad perspective on developments in housing and construction over the past decade.

The publication contains data on construction orders and output; labour; structure; materials and investment. Also there is housing data on housebuilding; renovations; energy conservation; slum clearance; stock of dwellings; household projections; finance; rents and rent regulation.

To complement this publication, more up-to-date information is provided for the main series in the two-part quarterly publication also called *Housing and Construction Statistics*. It provides the latest monthly and quarterly statistics for the main series published in this volume. A further source of information is *Local Housing Statistics* which provides up-to-date information on housebuilding, house renovations and council house sales.

These publications are prepared by the Department of the Environment in collaboration with the Scottish Development Department, the Welsh Office and other Government Departments, and are published by HMSO.

Reference

Housing and Construction Statistics 1976-1986, Great Britain (HMSO) (Price £25 net).

Local housing, England and Wales

Local Housing Statistics is prepared by the Department of the Environment and the Welsh Office to provide figures for individual local authority areas in a quarterly publication. These figures are taken from returns made by the local authorities and do not include any allowance for missing returns. Tables are by region, county and local authority area, unless otherwise stated. Regular tables appearing in each issue show cumulative figures within either the calendar or financial year.

Subject areas covered are: housebuilding, renovations, sales of dwellings owned by local authorities and new towns,

housing land disposals, local authorities' action under the provisions of the 1985 Housing Act, special needs housing and energy conservation.

Reference

Local Housing Statistics, England and Wales, No. 82 (HMSO July 1987) (Price £8.60 net).

Scottish Housing Statistics 1986

The recently published fourth edition of this annual volume updates a wide range of information about housing in Scotland. Topics covered include housebuilding (houses started, under construction and completed), sales of public sector housing, and improvement and renovation of the stock, both public and private sector. The volume also presents complementary financial information on local authority expenditure on housing. Further sections cover the statistics on the operation of the Homeless Persons Act and rents.

Most tables are by housing authority, and provide detailed breakdowns for the year 1986, but some comparative tables giving Scottish totals for several years are also included.

Reference

Scottish Housing Statistics 1986 (HMSO, September 1987) (Price £10 net)

Public Sector Rents in Scotland 1986-87

More information on public sector rents in Scotland, including examination of the movement of rents relative to prices and earnings over recent years and a comparison of Scottish rents with those for local authority dwellings in England and Wales is presented in the statistical bulletin HSIU No. 29, *Public Sector Rents in Scotland 1986-87* (published July 1987). Copies of this bulletin (price 75p net) may be obtained from The Library, Scottish Office (see 'Recently Available Statistical Series and Publications' for full address).

Housing Trends in Scotland

This statistical bulletin published by the Scottish Development Department for quarter ended 31 December 1986 relates the following housing activity:

- a. New dwellings started increased by over ten per cent compared with the corresponding quarter of 1985. Within this total, private and public sectors rose by ten per cent.
- b. Dwellings completed by the private sector in the quarter show a four per cent increase while public sector completions were down by twelve per cent.
- c. The number of public sector improved dwellings has almost doubled compared with the same quarter in 1985.
- d. Applications from sitting tenants to buy their homes at 4413 show a slight decrease of almost one per cent when compared with the same period in 1985. However applications in the year 1986 increased by almost fifteen per cent over 1985.

This bulletin has been compiled by the Housing Statistics and Intelligence Unit (HSIU).

Enquiries regarding details in the bulletin should be addressed to:

Housing Statistics and Intelligence Unit
Scottish Development Department
Room 327
St Andrew's House
Edinburgh EH1 3DD
Telephone (direct line): 031-244 2684

Copies of the bulletin (price 75 pence) are available from:

Scottish Office Library
Publications Sales
Room 2/65
New St Andrew's House
Edinburgh EH1 3TG
Telephone (direct line): 031-244 4806

Recent issues of the statistical bulletin series on housing are listed below:

- HSIU No. 14 - *Public Sector Rents 1984-85*
- HSIU No. 15 - *Sales of Public Sector Houses 1984*
- HSIU No. 16 - *Q1(85) - Housing Trends in Scotland: Quarter ended 31/3/85*
- HSIU No. 17 - *Homelessness in Scotland: 1979-84*
- HSIU No. 18 - *Q2(85) - Housing Trends in Scotland: Quarter ended 30/6/85*
- HSIU No. 19 - *Q3(85) - Housing Trends in Scotland: Quarter ended 30/9/85*
- HSIU No. 20 - *Housing Land Supply in Scotland: 1984 with 1981-84 Trends*
- HSIU No. 21 - *Public Sector Rents 1985-86*
- HSIU No. 22 - *Q4(85) - Housing Trends in Scotland: Quarter ended 31/12/85*
- HSIU No. 23 - *Scottish Household Projections: 1983 based*
- HSIU No. 24 - *Q1(86) - Housing Trends in Scotland: Quarter ended 31/3/86*
- HSIU No. 25 - *Grants to the Private Sector for improvement of dwellings: 1976 to 1985*
- HSIU No. 26 - *Annual Estimates of Households*
- HSIU No. 27 - *Q2(86) - Housing Trends in Scotland: Quarter ended 30/6/86*
- HSIU No. 28 - *Q3(86) - Housing Trends in Scotland: Quarter ended 30/9/86*
- HSIU No. 29 - *Public Sector Rents in Scotland 1986-87*

A full list of bulletins in the series may be obtained from Housing Statistics and Intelligence Unit at the address shown above.

Northern Ireland Housing Statistics 1986

The figures contained in this publication are compiled by the Housing Division of the Department of the Environment, Northern Ireland or from the various returns made by the Northern Ireland Housing Executive (NIHE).

The contents include: general data; output and new orders; new house building; repairs and improvement; registered housing association activity; NIHE housing management; housing finance; private rented sector and household survey statistics.

Enquiries about the contents of this publication should be directed to:

Housing Division
Department of the Environment (NI)
Belfast
Telephone: Belfast 63210 ext 2008

Reference

Northern Ireland Housing Statistics, December 1986, (HMSO) (Price £5.80 net).

HEALTH

Hospital In-Patient Statistics for England, 1985

Hospital in-patient enquiry 1985 main tables amplifies and complements the *Summary Tables* published by OPCS earlier in the year. It contains statistics of in-patient spells, discharge rates, waiting times, duration of stay and use of beds analysed by diagnosis, hospital department and region of treatment, source of admission, surgical operations and type of accident, and by sex, age, marital status and area of residence of the patient.

The Hospital In-patient Enquiry is a continuous survey of a one in ten sample of patients in all NHS hospitals in England excluding psychiatric hospitals and departments. It is organised jointly by the DHSS and OPCS.

References

Hospital in-patient enquiry 1985 main tables, Series MB4 No. 27 (HMSO 1987) (Price £10.00 net).

Hospital in-patient enquiry: summary tables 1985, Series MB4 No. 26 (HMSO 1987) (Price £6.20).

Health and Personal Social Services Statistics for England 1987 edition

The fourteenth in an annual series of publications designed to present a range of statistics for health and related personal social services. The tables usually show figures for the latest year available and the previous ten and twenty year points (if available). For more recent comparisons, figures are given for each of the last six years and, occasionally, more detailed analyses for a recent year are included. In general, England only figures are now given.

There are 13 chapters: population and vital statistics, finance, manpower, NHS hospital administrative statistics, family practitioner committee services, community health services, personal social services, maternity and child health and social services, psychiatric services, preventative medicine, morbidity, abortions notified under the 1967 Abortion Act, and miscellaneous health statistics. There are also three appendices giving general notes, list of publications and regional health authority areas.

Reference

Health and Personal Social Services Statistics for England 1987 edition (HMSO) (Price £8.95 net).

EDUCATION

Young People's intentions to enter higher education

The report of a survey of young people's intentions to enter higher education was recently published. The survey was carried out by the Office of Population Censuses and Surveys (OPCS) on behalf of the Department of Education and Science (DES). It examined the higher education intentions and destinations of a sample of 17-20 year old school leavers with A-levels or BTEC qualifications in England and Wales in 1985, identifying the demand for full-time higher education by type of course and educational institution and the extent to which this demand was being met. Some of the factors influencing demand, in particular sex, social class and parental qualifications, were also examined.

Some of the findings from the survey are listed below:

- Nine out of ten entrants to higher education were studying either their first subject choice or a related one.
- Just over eight out of ten applicants to higher education who had obtained 2 or more A-level passes or a BTEC National pass were accepted. Of the 19 per cent not accepted, nearly all had applied for a degree course and about half had applied to a university only.
- BTEC students were less likely than A-level students to apply for higher education, and when they did, were more likely to apply to institutions other than universities and for HND or equivalent courses.
- Half of the men and one-third of the women who entered a polytechnic or college said they would have preferred to study a degree at a university.
- Social class was a major determinant of higher education entry: young people from high social class backgrounds had higher A-level results on average and were more likely to apply for higher education, particularly at a university.
- Young people whose parents had degrees were more likely to enter higher education, particularly university, than their peers from otherwise similar social backgrounds.
- Among young people from social class 1 or in families where one or both parents had a degree, the type of school attended made no difference to application rates and success in entering higher education. Among young people from other groups, entrance to HE was more likely to follow attendance at an independent school.
- Many of the sample gave lack of interest or anticipated difficulty as reasons for not studying maths and physics at A-level.

- Of all those who applied for higher education, 12 per cent of girls and 3 per cent of boys applied for teacher training degree courses. But almost double those proportions had considered applying for teacher training.

Reference

Young people's intentions to enter higher education, by Bob Redpath and Barbara Harvey (HMSO, July 1987). (Price £11.50).

Participation in Education by young people aged 16 and 17 in each Local Education Authority and Region: England 1981-82 to 1985-86

This statistical bulletin 6/87, presents information on participation in education by young people after reaching the minimum school leaving age. It gives figures for each local education authority (LEA) for the last five academic years and updates the information published in Statistical Bulletin 9/86. The tables show the percentages of the population aged 16 and 17 in each LEA in England who continued studies at maintained secondary schools or in colleges of further education on a full-time or part-time basis.

Students with Special Educational Needs in Further Education - November 1985

This new statistical bulletin 7/87, summarises the results of the first survey of Special Educational Needs in Further Education which took place in 1985-86. The Department commissioned the National Bureau for Handicapped Students (NBHS) to carry out this survey in order to provide a firm basis for discussions of provision in further education which has expanded considerably over the last ten to fifteen years. The Bureau recently published a comprehensive report. This bulletin is a more succinct summary of the main results. It contains the main statistical findings relating to student numbers and course provision, and provides a few details on staffing and accommodation.

Copies of the two bulletins can be obtained free of charge from the Department's Statistics Branch, Elizabeth House, York Road, London E1 7PH - Direct Telephone No: 01-934 9038.

Scottish Education Statistics

The assisted places scheme

This bulletin contains details on the number of children participating in the assisted places scheme during school sessions 1981/82 to 1986/87, the amounts of fee remission, other assistance obtained and the total costs of the scheme.

Students on courses of non-vocational further education

This bulletin gives information about students on courses of non-vocational further education in 1985-86 and some earlier sessions. It also identifies the main changes between 1966-67 and 1985-86.

See 'Recently available' section for availability of bulletins.

MANPOWER, EARNINGS AND PRICES

New Earnings Survey 1987

The results of the *New Earnings Survey 1987* are, as in previous years, being published in a series of six parts (A-F). Parts A and B were published in October and the remaining parts will be published at approximately fortnightly intervals and the whole report should be available by December 1987.

Information for the survey is again being obtained from employers about the earnings, hours etc, of a one per cent sample of employees for one pay period in April. The only substantive change to the questionnaire in 1987 was the addition of a question on holiday entitlements in place of the question on size of organisation.

The main contents of the six parts of the report and their publication dates are:

- Part A - Streamlined analyses of key results by collective agreement, industry, occupation, age and region; principal analyses by major collective agreement (early October 1987)
- Part B - Summary analyses; additional analyses by major collective agreement; description of the survey method, classifications, terminology etc (late October 1987)
- Part C - Earnings and hours in particular industries (early November 1987)
- Part D - Earnings and hours in particular occupations (mid-November 1987)
- Part E - Earnings and hours in regions and counties, and in age groups (early December 1987)
- Part F - Detailed analyses of hours of work; earnings and hours of part-time women workers and holiday entitlements (mid-December 1987)

Reference

New Earnings Survey 1987 (HMSO, in six parts, £9.50 each net or subscription for the whole set of six, including postage £55.00).

1984 Census of Employment

An article in the August edition of *Employment Gazette* describes the changes which took place in the 1984 Census of Employment and discusses sampling and other possible sources of error so that users can appreciate the important limitations that they place on the results. A technical note describes the history and development of the census.

A further article on the census appears in the September edition of *Employment Gazette* giving results for the United Kingdom. It incorporates figures from the 1984 Census of Employment for Northern Ireland provided by the Department of Economic Development.

More details about the censuses of employment are available as follows. The address of the information service for the census of employment for Great Britain is: Department of Employment, Statistics Division D4, Orphanage Road, Watford WD1 1PJ (Telephone: 0923-228500 ext 399). The address of the information service for Northern Ireland is: Department of Economic Development, Statistics Branch, Netherleigh House, Massey Avenue, Belfast BT4 2JP (Telephone: 0232-63244 ext 433).

Reference

Employment Gazette, August and September 1987, (HMSO) (Price £3.25 net).

Women in engineering: trends in employment and training

This profile is a companion publication to *Women in Engineering - Engineering Industry Training Board (EITB) initiatives*. They are updates to the occasional paper *Women in Engineering* published in 1984.

Women form 20 per cent of all engineering employees, with about 90 per cent in the occupations of operator or clerical staff.

In total, women's employment has declined by 40 per cent since 1978, but in all categories except operator it has increased as a proportion. In the four higher level categories of manager, professional engineer, scientist and technologist, technician and administrative staff their numbers have already risen while total employment in the industry has declined by one-third. For men, only the professional engineer, scientist and technologist category has increased.

However, women still form only a small proportion of employees in these categories. Men are much more likely to manage or to supervise than women, even in the office, where women outnumber men three to one.

The low proportion of women in highly skilled engineering employment reflects the subjects chosen by women during their formal education. At present girls are much less likely than boys to take engineering or its precursors, maths and physics, at all levels from GCE 'O' level to degree. However, the proportion of women entering university first degree courses in engineering subjects has now increased to 10 per cent compared to 2 per cent in the late 1960s.

The publication was compiled by Sharon McGuire and C J Laidlaw, price £10.

Women in engineering: EITB initiative

This publication, compiled by Sue Peacock and Catherine Eaton, gives details of a number of initiatives that have been launched to encourage the employment of women in engineering.

Copies of the above mentioned EITB publications and others can be obtained from:

EITB Publications
PO Box 75
Stockport
Cheshire SK4 1PH

Contract Training Unit

An article in *British Business* dated 18 September 1987, explains how industry and higher education are working closer together than ever before to meet the needs of new technology and ever-changing advances in business practice.

The Open University is at the forefront of these developments and through its recently launched contract training unit (CTU) is working with industry and commerce to produce tailor-made courses to meet specific needs.

The CTU arose from an industry based initiative - the scientific and technological updating programme (SATUP) - which provides a service to a large number of organisations.

Over the next few months the CTU will be offering a consultancy and direct training service in 'finance and accounting', 'personnel systems' and 'manpower development', the 'training of trainers', 'management training' and a specialised 'equal opportunity' service.

Further information is available from the Contract Training Unit, Open University, Walton Hall, Milton Keynes MK7 6AA.

Reference

British Business (Department of Trade and Industry) (Price £1.25 net).

Profit related pay

An article in the September 1987 edition of the *Employment Gazette* gives details of the challenges and opportunities of profit related pay.

It describes the working of the new profit related scheme which is operative following the enactment of the Finance (No. 2) Act 1987. Practical examples related to the different situations of companies are given.

Reference

Employment Gazette, September 1987 (HMSO) (Price £3.25 net).

Education and labour market status of young people

An article in *Employment Gazette*, September 1987, provides a comprehensive picture of the education and labour market status of 16, 17 and 18 year olds in Great Britain.

Based on information from a range of Department of Employment, Manpower Services Commission, Department of Education and Science (DES) and other sources, the article provides a series of estimates for the last fourteen years. From 1974, the first year when young people could not leave school until reaching the age of 16, to 1987, for which provisional estimates are available, the numbers of young people in full-

time education, on YTS, unemployed and elsewhere (mainly in employment) are given.

The estimates relate to January of the years concerned but the ages quoted are those at the end of the preceding academic year: this convention follows DES practice and has been adopted to enable comparable estimates to be included from different data sources.

Reference

Employment Gazette, September 1987, pages 459-464 (HMSO) (Price £3.25 net).

Industrial stoppages in 1986

The annual article on stoppages of work due to industrial disputes is published in the September issue of *Employment Gazette* and provides statistics for 1986. It also reviews recent trends in the figures and describes the coverage of the statistics. A new feature in this year's article is a chart which shows how peak years for working days lost over the past twenty-one years have been associated with the occurrence of very large disputes. As in previous years the tables show the numbers of stoppages, workers involved and working days lost analysed by industry and region; industry and principal cause; size, both in terms of working days lost and workers involved; and by duration. It also contains a list giving details of the prominent stoppages which occurred in 1986.

Reference

Employment Gazette, September 1987, (HMSO) (Price £3.25).

Retail prices index: historical series 1974 to 1986

The reference date of the retail prices index has recently been changed from *January 1974=100* to *January 1987=100* and its components have been rearranged for the convenience of users. This article in *Employment Gazette*, July 1987, provides some historical series from January 1974 to December 1986 for the new component groups on the new reference date. Though these are not precisely comparable to the indices now being published, they have approximately the same coverage.

Also included is a list giving the relationship between the present sub-group components and the equivalent components in the pre-1987 classification.

Reference

Employment Gazette, July 1987, (HMSO) (Price £3.25 net).

A short guide to the retail prices index

The retail prices index (RPI) which appears each month in *Employment Gazette* is the main measure of the rate of change in prices faced by consumers in the United Kingdom. An article in the August 1987 *Employment Gazette* describes the nature of the index, its coverage, the method of construction and some of the uses made of the results.

Reference

Employment Gazette, August 1987, (HMSO) (Price £3.25 net).

Armed Forces Pay (Service medical and dental officers)

A Supplement to the Sixteenth Report of the Review Body on Armed Forces Pay was published in July 1987 and recommends pay levels for Service medical and dental officers to apply from 1 April 1987. (A full list of the Review Body's reports is in Appendix 1.)

The recommended military salaries for the ranks of Captain to Colonel (and equivalent) are in Table 1; paragraphs 19-21 include details of recommended salaries for Brigadiers, pre-registration medical practitioners and cadets; and paragraphs 22-24 are concerned with medical additional pay. (Equivalent salary levels for 1 July 1986 are in Appendix 3.) A summary of key manning statistics for the defence medical services from 1984 to 1987 is given in Appendix 2.

Reference

Review Body on Armed Forces Pay, Service Medical and Dental Officers, Supplement to Sixteenth Report - Cm 176 (HMSO July 1987) (Price £2.90 net).

AGRICULTURE AND FOOD

Output and Utilisation of Farm Produce in the United Kingdom - 1980-1986

The latest in an annual series of booklets giving detailed statistics of agricultural output in the United Kingdom was published on 11 September 1987.

Output and Utilisation of Farm Produce in the UK 1980-86 includes the quantity and value of output for each of the agricultural commodities, provides data on the utilisation of farm produce and, where appropriate, includes details of yields, cropped areas and overseas trade.

The booklet updates and expands the estimates set out in the *Annual Review of Agriculture 1987* and the *Departmental Net Income Calculation - Annual Review 1977/1986* published in January 1987.

The booklet is available from MAFF (Publications Unit) Lion House, Willowburn Trading Estate, Alnwick, Northumberland NE66 2PF, price £7.75 including postage.

National Food Survey

Results of the second quarter of 1987 have now been published. These, together with more detailed monthly, quarterly and other unpublished data are available on a subscription basis, for details contact:

National Food Survey Branch
Ministry of Agriculture, Fisheries and Food
Room 419
Whitehall Place (West Block)
London SW1H 2HH
Telephone: 01-270 8562

Agricultural censuses and surveys

Grain Fed to Livestock 1986/87 - England and Wales

The results of the monthly sample surveys of straight grain fed to livestock were published as follows:

July 1986-April 1987	MAFF Statistics	148/87	on 11 June 1987
July 1986-May 1987	MAFF Statistics	184/87	on 20 July 1987
July 1986-June 1987	MAFF Statistics	208/87	on 19 August 1987
1-31 July 1987	MAFF Statistics	249/87	on 30 September 1987

Cereal Stocks on Farms 1986/87 - England and Wales

The results of the monthly sample surveys of on-farm stocks and disposals of home grown wheat and barley were published as follows:

April 1987	MAFF Statistics	149/87	on 12 June 1987
May 1987	MAFF Statistics	171/87	on 13 July 1987
June 1987	MAFF Statistics	197/87	on 13 August 1987
July 1987	MAFF Statistics	239/87	on 24 September 1987

December 1986 Glasshouse and Glasshouse Equipment England and Wales

The final results of the December census of glasshouse crop areas and glasshouse equipment which includes data on heated and unheated glass and plastic covered structures, their age, heating fuels used and methods of heat distribution, were given in MAFF Statistics 156/87 published on 22 June 1987.

Cereals Production - England and Wales - 1986 Harvest

The results of the April 1987 Cereals Production Survey which covered a sample of 4,000 cereals holdings in England and Wales were given in MAFF Statistics 159/87 published on 24 June 1987.

Orchard Fruit Census March 1987 - England Provisional Results

The provisional results for England of the Orchard Fruit Census held in March 1987 with the results from a similar enquiry in March 1982 showing changes in area of fruit types and varieties, were given in MAFF Statistics 198/87 published 13 August 1987.

June 1987 Agricultural Census Results for the United Kingdom and England

The provisional results from the June agricultural census for the United Kingdom and England were given in MAFF Statistics 235/87 published 20 August 1987.

Annual Estimates of Crop Production - 1986 Harvest

The final 1986 harvest estimates of area, yield and production for principal crops in the United Kingdom, in England and Wales and in England with comparable figures for 1985 together with the average yield per hectare in the five years 1981 to 1985 were published in MAFF Statistics 210/87 on 20 August 1987.

August 1987 Pig Survey Returns - England and Wales and United Kingdom

The results of a survey of pigs carried out on 3 August 1987 in accordance with the relevant legislation of the European Community were published in MAFF Statistics 256/87 on 6 October 1987.

MAFF Statistics Notices are available free from:

Ministry of Agriculture, Fisheries and Food
Publications Section, Room A615
Epsom Road, Guildford GU1 2LD

Provisional Results of the Scottish Agricultural Census, June 1987

The provisional results of the Scottish Agricultural Census, June 1987 were published as a Scottish Office Press Notice on 11 August 1987 (Press Notice No 1045/87).

COMPUTER ENVIRONMENT

News on Package X

Package X is a system for data handling and analysis specified for, and financed by, government. The package was originally developed in the 1970s when ICL mainframe equipment predominated in government departments. Over the years, the package has been implemented on ICL series 1900, 2900, 3900 and ME29 hardware under the native George III, DME, TME and VME operating systems.

Following recent hardware developments, a portable version of the package has been developed using the UNIX System V operating system. This portable version has been used to implement the package on Bleasdale and VAX minicomputers. In addition, the package will also run on an expanded IBM PC AT (or compatible) microcomputer using the XENIX System V operating system. We are currently considering the possibility of porting the package to three new machines at the specific request of government departments (NCR Tower, ICL System 25, and ICL Clan). We are very willing to consider further requests from departments for ports to machines which use the UNIX System V operating system.

The package is provided free of charge to government departments and other exchequer-funded bodies and has at one time or another been installed at nearly 70 United Kingdom government sites. By special arrangement, Package X has also been made available free of charge to universities and national statistical offices in ten developing countries.

Package X is also available to non-government organisations. Previously, ICL themselves sold the package to their commercial and academic customers. However, CCTA are currently negotiating a new marketing agreement with a company called Systems Designers Scientific.

The package has powerful facilities for manipulation of data and provides for a range of statistical analysis techniques including: linear, polynomial and multiple regression, descriptive statistics, parametric and non-parametric tests. In addition, Package X has a useful macro and programming language which means that many commands can be combined into one operation, allowing the easy development of very powerful applications.

Government users benefit from Package X chiefly because it is provided free. Departments are saving on expenditure which would be necessary for an alternative package. In addition, government as a whole benefits from royalties from commercial sales of the package.

For further details on the package government departments should contact:

Liz McKay
Room 65C/2
Central Statistical Office
Great George Street
London SW1P 3AQ
Telephone: 01-270 5955

Commercial/academic organisations should contact:

Mr A Warner
Systems Designers Scientific
Ferneberga House
Alexandra Road
Farnborough
Hampshire GU14 6DQ
Telephone: 0252-544444

CSO Databank Developments

In the February 1987 edition of *Statistical News*, the Central Statistical Office (CSO) announced that, from April 1987, it would be providing the CSO Databank service direct to users of macro-economic time series who wish to use the information in machine readable form.

Work has been continuing to extend the coverage of the Databank wherever possible. As a result of this work, some significant additions have been made to the contents of the Databank during the last few months. In particular, the Blue Book and the Pink Book are now available from CSO on magnetic tape for the first time this year.

The Blue Book and Pink Book datasets contain long run annual data consistent with the 1987 printed publications; some of these series have appeared previously in existing Databank datasets, but most of the series were not previously available. As an aid to the users of the data this year's Pink Book and Blue Book give the four character Databank codes for each series.

In addition it is hoped that the bulk of the series in *Economic Trends Annual Supplement* will be available via the Databank in early 1988; this will add a further significant number of long run annual and quarterly series to those currently available.

The total number of datasets now available via Databank is as follows:

1. Economic Trends
2. National Accounts Quarterly Article
3. Balance of Payments Quarterly Article
4. Index of production, cyclical indicators and GDP(O)
5. Employment and earnings
6. RPI/TPI and producer prices index
7. Financial Statistics and PSBR
8. Disaggregated Quarterly Consumers' Expenditure
Data (available on diskette only)
9. UK Balance of Payments 1987 ('Pink Book')
10. UK National Accounts 1987 ('Blue Book')
11. Economic Trends Annual Supplement (due out in early 1988)

These datasets are available from CSO on magnetic tape only (except for dataset 8). Government departments can arrange on-line access to the datasets at CSO, either via PSS or dial-up lines. Other users requiring on-line access to the data can obtain it through a host bureau.

Further details of these developments, or general queries on the Databank service itself, can be obtained from the Databank Manager, CSO (Branch 9), Room 52B/4, Government Buildings, Great George Street, London SW1P 3AQ, telephone 01-270 6386 or 6387.

INDUSTRIAL

Business Monitors - Annual Census of Production 1985
Readers of *Statistical News* are made aware of the results of the 1985 Census of Production as the Business Monitors become available.

The following table lists the monitors published since notification in the last number of *Statistical News*.

Business Monitor Number	Description	Standard Industrial Classification 1980 Group
419	Bread, Biscuits and Flour Confectionery	419

Copies of these Business Monitors are available on standing order from Her Majesty's Stationery Office, PO Box 276, London SW8 5DT (telephone 01-622 3316) or through any Government Bookshop. Further information on the PA series of 'Business Monitors and Censuses' generally can be obtained from:

Mr J Dowsell
Business Statistics Office
Government Buildings
Cardiff Road
Newport
Gwent NP9 1XG
Telephone: 0633-222455

Individual monitors or a free brochure describing the full range of monitors with prices and order form can be obtained from:

The Librarian
Business Statistics Office
Government Buildings
Cardiff Road
Newport
Gwent NP9 1XG
Telephone: 0633-222973

Business Monitor PA 1003 - Size Analyses of United Kingdom Businesses 1987

The latest Business Monitor in the PA 1003 series is due to be published in December 1987 (HMSO); (Price £11.00). Based on the Register maintained by the Business Statistics Office, the publication will provide counts of businesses as at mid-1987.

Two sets of tables will be included which cover legal units (the businesses registered for VAT) for the whole economy; and local units (factories or sites) within the manufacturing industries.

For industries other than manufacturing, legal unit analyses will be by turnover, VAT trade code and status (company, sole proprietor etc). Within manufacturing, similar analyses will be provided but classified by Activity Heading of the Standard Industrial Classification (Revised 1980).

The local unit tables will provide estimates of employment as well as counts of units. The Activity Heading will be used as the classification and analyses will be produced by employment and by region or county.

A summary legal unit table appeared in *British Business* on 18 September 1987, but due to a printing error the analysis year was incorrectly shown as 1986.

Further details can be obtained from:

Business Statistics Office
Government Buildings
Cardiff Road
Newport
Gwent NP9 1XG
Telephone: 0633-222991

A Review of the data available on Cleaning Services

The DTI has recently published this document, whose objective is to build up as comprehensive a picture as possible of the cleaning industries using both official statistics and other available information. The emphasis is on general cleaning (cleaning of industrial, commercial and government premises and window cleaning) though some data on laundries, dry-cleaning and refuse disposal is also presented. The paper also tries to estimate the relative sizes of contract cleaning and in-house activities.

The paper begins by defining the industries and considering some influences on the size of the cleaning activity in society. A long section then looks at total employment and the structure of employment (males/females, full-time/part-time, self-employed and employees). Separate sections then look at regional employment and earnings and hours.

The paper next looks at the data available on main companies in contract cleaning and on concentration in the industry, before going on to consider total turnover and the shares of the cleaning market divided between public and private sectors and contractors and in-house work.

Capital expenditure and expenditure on inputs are looked at. Some data from published Business Monitors on sales, imports and exports of particular products purchased by cleaners is brought together in an Annex. A brief section on overseas transactions completes the paper apart from a conclusions section. There is also a list of sources used.

The document is available free of charge from:

Miss M Denny
CTPS2
Department of Trade and Industry
Room 804a
Ashdown House
123 Victoria Street
London SW1E 6RB

Registrations and Deregistrations for VAT: United Kingdom 1980-86

An article in *British Business*, 31 July 1987, stated that during the seven years 1980 to 1986 the number of businesses registered for VAT in the United Kingdom increased by 13.9 per cent, from 1.29 to 1.47 million. This represents an average rate of net increase of around 500 per week. Regional estimates for 1980 to 1985 show the number of registered businesses increasing in all regions of the United Kingdom.

The analytical results published in the article were prepared by the Department of Employment. The original data is based on VAT information held by the Business Statistics Office who receive it from HM Customs and Excise.

Inquiries and requests for information can be obtained from:

Michael Daly
Department of Employment
Steel House
Tothill Street
London SW1H 9NF

Reference

British Business (Department of Trade and Industry) (Price £1.25 net).

Industrial R&D Expenditure: 1985

The Department of Trade and Industry last year carried out a survey of expenditure and employment on research and development (R&D) performed in industry in the United Kingdom during 1985. A summary of the main results appeared in *British Business*, 3 July, page 8. This article in *British Business*, 24 July 1987, presents the final results of the survey based on all the returns received, revising the provisional results reported in *British Business*, 27 February 1987. A Business Monitor, with greater detail, will be published in the early autumn.

Inquiries regarding the details of this article should be made to:

Department of Trade and Industry
20 Victoria Street
London SW1H 0NF
Telephone: 01-215 3350/3354

Industrial Tribunals

An article in *Employment Gazette*, October 1987, gives details of industrial tribunals statistics. It consists of an analysis of the unfair dismissal and other main jurisdictions disposed of during the period 1 April 1985 to 31 March 1987 by the industrial tribunals or through ACAS conciliation without the

need for a tribunal hearing. Statistical information is also given on cases dealt with by the Employment Appeal Tribunal for the same period.

Industrial tribunals are independent judicial bodies set up to provide an inexpensive, speedy and informal means of dealing with and deciding certain disputes in the employment field, chiefly complaints of unfair dismissal.

A tribunal consists of three persons: a legally qualified Chairman, who must be a barrister, advocate or solicitor of not less than seven years standing; and two lay members drawn from industry. Tribunal Chairmen are appointed by the Lord Chancellor (in Scotland, the Lord President); some Chairmen are part-time and sit as and when required. Lay members are appointed by the Secretary of State for Employment after consultation with organisations representative of employers and employees. As the lay members serve with a legally qualified Chairman, the main criterion for their selection is their practical experience of industrial relations at the workplace.

Reference

Employment Gazette, October 1987, (HMSO), (Price £3.25 net).

Aerospace and Electronics Industries

An article in *British Business*, 2 October 1987, shows a table giving monthly figures from July 1986 to July 1987 of cost indices (1975=100) for the aerospace and radio, radar and electronic capital goods industries. An explanation of the method of compilation was given in *British Business*, 2 December 1983.

The 1975=100 cost indices are being discontinued in 1988.

At the request of the aerospace and electronics industries, the 1980=100 series of cost indices which are published each month in Business Monitor MM19 will be continued for a further five years from mid-1988.

Business Monitor MM19 is available on subscription, price £17.50 per annum from HMSO books, PO Box 276, London SW8 5DT.

Inquiries regarding this article should be made to:

Business Statistics Office
Government Buildings
Cardiff Road
Newport
Gwent NP9 1XG
Telephone: 0633-222546/222584 (GTN 2411)

Reference

British Business (Department of Trade and Industry) (Price £1.25 net).

TRANSPORT

Transport Statistics Great Britain 1976-1986

The 1987 edition of *Transport Statistics Great Britain* was published on 30 September. Compiled by the Statistics Directorate of the Department of Transport in collaboration with the Welsh Office the Scottish Development Department and other government departments the publication brings together a comprehensive range of statistics in order to facilitate informed discussion on transport developments and policies. It will also be of importance to those working or studying in the field of transport.

Most of the tables cover eleven years, but some span longer or shorter periods. The format is similar to last year's publication, but the 1976-1986 edition has six articles on various topics and the addition of a new section on current developments within the Department of Transport. Some of the maps and charts are in three colours for the first time.

The price is £18.95, which, although an increase over last year, is a reduction on the price of those editions published between 1982 and 1985.

Reference

Transport Statistics Great Britain 1976-1986 (HMSO September 1987) ISBN 0 11 550817 1.

Transport data for London: a model audit

Following the abolition of the GLC, the Department of Transport took over responsibility for maintaining the London-wide GLC transport modelling system (the Greater London Transportation Studies model). Management of the contract is by Statistics Transport D Division, with Peter Capell as project officer. One of the first steps taken was to commission the consultants to undertake a critical review of, and to make proposals for enhancements to, the model. Findings are now available in the report *A Technical Audit of the GLTS Model*, which describes and evaluates each component of the model, identifies key problems and makes proposals to provide an Interim model which would overcome some of these.

The full report is now available from the DTp, price £45. Enquiries should be directed to:

Room B643
Romney House
43 Marsham Street
London SW1P 3PY
Telephone: 01-212 5156

Ports Statistics 1986

The latest edition of the annual publication *Ports Statistics*, compiled by the Department of Transport (DTp), was published on 22 September jointly by the DTp and the British Ports Association. This is the seventh such publication since the closure of the National Ports Council and the fourth on a 'mode of appearance' basis.

Ports Statistics 1986 provides details of total foreign and domestic traffic through the principal ports of Great Britain by mode of appearance, ie disaggregated into bulk (by

commodity), container, roll-on/roll-off, semi-bulk and conventional traffic. The statistics show yet another record year for port traffic with both exports and imports increasing, a further growth in the use of 'ro/ro' and containers and in the use of ferries by passengers and accompanied vehicles. The statistics, which are accompanied by a detailed commentary on the 120 pages of tables and 10 pages of charts and graphs, are mainly based on the annual port traffic return to the Department, plus other sources to cover port manpower, finance, passenger and shipping movement etc. *Ports Statistics 1986* is available from the British Ports Association, Commonwealth House, 1-19 New Oxford Street, London WC1A 1DZ, price £25 incl postage.

Waterborne Freight in the United Kingdom 1986

The latest in this series of reports has recently been published jointly by the Department of Transport (DTp) and Maritime and Distribution Systems (MDS) (previously by the Marine Transport Centre, University of Liverpool). This publication updates the 1985 benchmark survey statistics published a year ago.

The statistics describe the movement of freight on inland waterways, as one-port traffic and by coastwise shipping, giving tonnages and tonne-milage in 1986. Also included are time-series back to 1976. Traffic is analysed by mode of appearance, by main commodities and by type of movement. Port groups of origin and destination are given, as is waterway capacity in the case of inland waterways.

The waterborne freight information given continues the series begun with the first benchmark survey of 1980 (see *Statistical News* 59.41). The 1985 benchmark survey was published in December 1986 and mentioned in *Statistical News* 75.47. *Transport Statistics Great Britain 1976-1986* (recently published) includes some provisional results for 1986.

Waterborne Freight in the United Kingdom 1986, is available, price £15, from Maritime and Distribution Systems, 22 Oxford Street, Liverpool L7 7BL, tel: 051-709 4548. Enquiries may also be directed to P J Mullock, DTp, A201, Romney House, 43 Marsham Street, London SW1P 3PY.

The United Kingdom Shipping Industry 1986

An article in *British Business*, dated 18 September 1987, gives details about the United Kingdom private sector shipping industry which spent £46m in 1986, net of disposals, on new and second-hand ships compared with £196m in 1985. This represents a 77 per cent decrease compared with expenditure in 1985 and is the lowest figure in the series which has been prepared on the present basis since 1977. In addition £85m was spent on alterations to existing ships, £23m more than in 1985. The United Kingdom public sector spent £3m on new ships in 1986, the same figure as spent in 1985.

The data in the article is obtained from the Department of Trade and Industry's quarterly statistical inquiry into United Kingdom shipowners, capital expenditure and international trade credit.

Further inquiries about this article should be addressed to:

Department of Trade and Industry
Statistics Division 2
Room 2/3
20 Victoria Street
London SW1H 0NF
Telephone: 01-215 3345

Reference

British Business (Department of Trade and Industry) (Price £1.25 net).

Road accidents

Road Accidents Great Britain 1986 - The Casualty Report was published by HMSO during October 1987 for the Department of Transport, Scottish Development Department and the Welsh Office. The publication contained review articles on: road safety publicity, drinking and driving, coach speed survey, the cost of accidents, accident histories of age cohorts, how many of us will die in road accidents, fires in road accidents, insurance claims statistics, child seat belt wearing, seasonal variation in casualty numbers, the effects of motorcycle legislation, nature of injuries, motorway safety (international comparisons), and the time to die after a road accident. The main part of the book consists of time series tables and tables relating to 1986.

Statistical bulletins giving information on road accidents and casualties are published quarterly. Enquiries about these should be directed to:

The Department of Transport
Room B648
Romney House
43 Marsham Street
London SW1P 3PY
Telephone: 01-212 6763

NATIONAL ACCOUNTS

Transfer of Commodity Flow Accounts Work from Central Statistical Office to Department of Trade and Industry
Responsibility for the production of the Commodity Flow Accounts has been transferred from the CSO to the DTI. For further details contact:

Department of Trade and Industry
Statistics Division 1c3
Room 1921
Millbank Tower
Millbank
London SW1P 4QU
Telephone: 01-211 5504

HOME FINANCE

Business Monitor MA3 Company Finance

The Eighteenth Issue of this annual Monitor was published by HMSO in September containing results for large companies for standard accounting years 1982 to 1985. The results have been derived from the published annual accounts of large

companies included in a new sample of industrial and commercial company groups and independent companies registered in Great Britain. They take the form of standardised balance sheets, income and appropriate accounts and statements of sources and uses of funds. Two further tables contain selected accounting ratios, including rates of return on both book value and current cost accounting bases. Analyses are made by area of operation (ie mainly United Kingdom or mainly overseas), whether United Kingdom or overseas controlled and by broad sector and some two dozen industry groupings. There is also an analysis of how capital employed and turnover were distributed among the 2000 large companies in the new sample for 1982. An article about the trends in company finance revealed by the results was published in *British Business* for 11 September.

The tables published in the Monitor are intended to meet the main needs for information but the Company Accounts Analysis System can be used to generate many more combinations of data. Lists are also available which give basic information about the companies in the new sample. Requests for such information should be addressed to:

John Knight
Company Accounts Analysis Section
Department of Trade and Industry
Government Buildings
Room 1.381
Cardiff Road
Newport
Gwent NP9 1XG
Telephone: 0633-222929

A computer tape containing all the data for each company used in the results has been deposited with the Economic and Social Research Council Data Archive at the University of Essex, Wivenhoe Park, Colchester CO4 3SQ (Tel: 0206-860570).

Full 1982 to 1985 results for all large and small companies in the new sample will be published in the Nineteenth Issue of MA3 during the summer of 1988. Two articles describing the construction and main features of the new sample appeared in the February and May issues of *Statistical News*.

References

Business Monitor MA3 *Company Finance* Eighteenth Issue (HMSO) (Price £7.75 net).
British Business (Department of Trade and Industry) (Price £1.25 net).
'Top Companies in the DTI Company Accounts Analysis' by John Knight and Graham Jenkinson, *Statistical News* No 76, February 1987.
'Smaller Companies in the DTI Company Accounts Analysis' by John Knight and Graham Jenkinson, *Statistical News* No 77, May 1987.

Pension Funds: Results of 1986 Annual Inquiries

An article giving details of assets held by pension funds at the end of 1986 was published in *British Business* on 18 September 1987. This shows the total market value of assets held by self-administered pension funds to have been £190 billion at the end of 1986, compared to £156 billion at the end of 1985. Pie charts included in the article show that considerable changes in the composition of financial assets held by pension funds occurred between the end of 1981 and the end of 1986. Over this five year period, holdings of United Kingdom public sector securities and of United Kingdom land

and property fell as a proportion of total net assets, while holdings of both United Kingdom company securities and overseas company securities increased as a proportion of the total.

Full details of investment by pension funds and insurance companies are given each quarter in *Business Monitor MQ5*. The data on pension funds' holdings of assets appear in the issue for the second quarter of 1987. Also included are statistics on the income and expenditure of pension funds for years from 1982 to 1986.

Inquiries relating to the statistics should be addressed to:

Statistics Division 2C
Department of Trade and Industry
4th Floor
20 Victoria Street
London SW1H 0NF
Telephone: 01-215 3334/3009

References

British Business (Department of Trade and Industry) (Price £1.25 net).
Business Monitor MQ5 Insurance Companies' and Pension Funds' Investment, (HMSO) (Price annual subscription £10.50 net).

OVERSEAS FINANCE AND TRADE

Changes to the Overseas Trade Statistics

From 1 January 1988 there will be major changes to the two commodity nomenclatures used in the production of the United Kingdom Overseas Trade Statistics (OTS). The introduction of the Standard International Trade Classification Revision 3 (SITC (R3)) and the Combined Nomenclature (CN) - the European Community trade classification (NIMEXE) - represents the biggest change to the United Kingdom Overseas Trade Statistics since the United Kingdom's adoption of the NIMEXE classification on joining the Community.

The SITC (R3) replaces Revision 2 which was introduced in 1978. The number of basic headings (items) has increased from 1924 to 3118.

The CN is based on the Harmonised System which is an internationally agreed system of goods classification for Customs, freight and commercial use as well as for statistical purposes. The Harmonised System is broadly comparable with the Customs Cooperation Council Nomenclature which forms the basis of the NIMEXE, but it is more detailed and up-to-date both in structure and content. As well as the European Commission and its Member States, other major trading nations (including the United States and Canada) will be adopting the Harmonised System. Eventually it is intended to be used worldwide and will enable comparisons of international trade statistics to be made more easily.

The CN replaces the present NIMEXE classification used by the European Commission and its Member States to analyse trade statistics. It brings together both duty and statistical nomenclatures within which further subdivisions to distinguish commodities of importance to United Kingdom trade have been incorporated. The new Commodity Codes comprising 9 digits replace the old Tariff and Trade Code Numbers and increase the number of headings from around 9500 to 11000.

The OTS will continue to contain tables analysed by SITC and commodities.

The *Guide to the Classification for the Overseas Trade Statistics*, generally known as the Green Guide, is currently being prepared and will include correlation tables to help users correlate the two classifications across the change. It should become available during February 1988.

British Aid Statistics 1982 to 1986

The 22nd edition, published on 25 August, retains broadly the layout of the previous four editions. It gives a wide range of statistics on aid to developing countries over the last 5 years and, in the introduction, a run of figures for total expenditure over 10 years at both current and constant prices. One innovation is the separation of figures relating to women in some of the personnel and training tables.

The division of gross public expenditure on aid between bilateral and multilateral is shown, with bilateral aid split by purpose eg Project Aid, Technical Co-operation, Debt Relief, and by recipient countries grouped by income, Commonwealth membership and continent. Multilateral aid is analysed by recipient institution. Detailed tables give an analysis of expenditure on aid by type to each developing country and of personnel and training provided in terms of person years.

Comparisons are also given with aid flows from other countries and one table summarises United Kingdom net flows to developing countries including those from the private sector such as direct investment, private export credits and grants by voluntary agencies.

Reference

British Aid Statistics 1982 to 1986 (Price £6.50 including postage) can be obtained from the Library, Overseas Development Administration, Abercrombie House, Eaglesham Road, East Kilbride, G75 8EA.

Import penetration and export performance for the calendar year 1985

An article in *British Business*, 2 October 1987, states that in the twelve months to March 1987 imported manufactured products are estimated to have accounted for 34.6 per cent of United Kingdom demand, whilst United Kingdom

manufacturing sales for the same period to overseas markets are estimated at 29.9 per cent. There is a sectoral analysis (text and table) of:

SIC Division 2 products: ores, metals, chemicals and non-fuel minerals

SIC Division 3 products: metal goods, vehicles and engineering

SIC Division 4 products: other manufacturing industries.

The four ratios shown in the tables are also published at activity heading level in Business Monitor MQ12. This is a quarterly publication and is available on a subscription basis of £10.50 per year from HMSO.

Enquiries about, but not requests for the article, should be made to:

Department of Trade and Industry
Statistics 1c
Room 1922
Millbank Tower
London SW1P 4QU
Telephone: 01-211 3720

Reference

British Business (Department of Trade and Industry) (Price £1.25 net).

Overseas transactions by film and television companies

An article in *British Business*, 2 October 1987 shows that overseas net earnings of United Kingdom film and television companies from the production and distribution of cinematographic film and television material in 1986 were £114 million compared with £164 million in 1985.

The estimates in the article are obtained from the Department of Trade and Industry's annual inquiry into overseas transactions by 280 film and 17 television companies relating to the production and exhibition of cinematographic film and television material.

Further inquiries regarding the article may be obtained from:

Department of Trade and Industry
20 Victoria Street
London SW1H 0NF
Telephone: 01-215 3004

Reference

British Business (Department of Trade and Industry) (Price £1.25 net).

Overseas earnings from royalties

Net overseas earnings from royalties and similar transactions by United Kingdom companies other than oil companies were £271m in 1985, £187m higher than the figure for 1984. Total receipts from overseas, at £791m, rose by six per cent compared with 1984 while overseas expenditure decreased by 21 per cent to £519m.

This article, published in *British Business* dated 4 September 1987, presents figures of overseas royalty transactions in 1985 obtained for the invisibles account of the United Kingdom balance of payments from the Department of Trade and Industry's overseas transactions inquiry for that year. More detailed figures from the inquiry will be published later this year in Business Monitor MA4, *Overseas Transactions 1985*, obtainable from HMSO Bookshops. The results of the inquiry for 1984 appeared in *British Business*, 15 August 1986. Transactions covered include royalties, licences, patents, trade marks, designs, copyrights, manufacturing rights and the like. Overseas transactions relating to film and television rights are not included here, but figures for 1985 were published in *British Business*, 19 September 1986.

The inquiry does not cover all companies with royalty transactions.

Royalties are amounts payable to or receivable from related and unrelated concerns overseas on current or capital account, after deduction where appropriate of United Kingdom or overseas tax for artistic royalties - that is on printed matter, sound recordings or performing rights - and for technological and mineral royalties - these include patents, licences, trade marks, designs, copyrights, mining and quarrying mineral rights, manufacturing rights, use of technical 'know-how' and technical assistance.

Inquiries regarding this article should be made to:

Department of Trade and Industry
20 Victoria Street
London SW1H 0NF
Telephone: 01-215 3345

Reference

British Business (Department of Trade and Industry) (Price £1.25 net).

Travel and tourism - latest statistics

An article on this subject, one of a regular series, appeared in the August edition of *Employment Gazette*. It summarises the main statistics on overseas residents' visits to the United Kingdom and visits abroad by United Kingdom residents in 1986. It also includes information on employment in tourism related sectors. In 1986 an estimated 13.8 million visits by overseas residents were made to the United Kingdom, five per cent fewer than in 1985 which was a record year. The article presents the main results of the International Passenger Survey. The Survey is carried out for a number of Government Departments by the Office of Population Censuses and Surveys. Results are published quarterly and annually in Business Monitors MQ6 and MA6 entitled *Overseas Travel and Tourism*.

Reference

Employment Gazette, August 1987, (HMSO) (Price £3.25 net).

INTERNATIONAL

International Statistical Institute Competition for young statisticians from developing countries, 1989

The International Statistical Institute (ISI) announces the Fourth Competition among young statisticians from developing countries who are invited to submit a paper on any topic within the broad field of statistics, for possible presentation at the 47th Session of ISI to be held in Paris, France, in 1989.

Participation in the Competition is open to nationals of developing countries who are living in a developing country, who will not be older than 32 years of age in the year during which the Session is to be held.

Papers submitted must be unpublished, original works which may include university theses.

The papers submitted will be examined by an international Jury of distinguished statisticians who are to select the three best papers presented in the competition. Their decision will be final.

The authors of the winning papers will be invited to present personally their papers at the Session of ISI concerned with all expenses paid (i.e. round trip airline ticket from his/her place of residence to Paris plus a lump sum to cover living expenses).

Manuscripts for the Competition should be submitted in time to reach the ISI not later than November 1, 1988.

The rules governing the preparation of papers, application forms and full details are available on request from the ISI Permanent Office to which interested individuals should write for further information. The address is as follows:

The Director
Permanent Office
International Statistical Institute
428 Prinses Beatrixlaan
2270 AZ Voorburg
The Netherlands

International publications

The following have recently been published and are available from HMSO:

United Nations.

Bulletin of statistics on world trade in engineering products 1985, price £45 net.

National accounts statistics, analysis of main aggregates, 1983-1984, price £45 net.

United Nations. Department of International Economic and Social Affairs.

Population Bulletin of the United Nations, 1920, 1988, a special issue in commemoration of the 40th anniversary of the Population Commission, price £16.50 net.

United Nations. Department of International Economic and Social Affairs. Statistical Office.

Statistical papers: series D, Nos. 29-33, 1983, No. 2, international seaborne trade statistics yearbook (maritime transport), analysis by type of goods moved during 1980-1983 between regions of the world, price £38 net.

Statistical papers: series M, No. 82, methods used in compiling the United Nations price indexes for external trade, Vol. 1, price £13.50 net.

Studies in methods: series F, No. 37, national data sources and programmes for implementing the United Nations recommendations on statistics of international migration, price £19 net.

1985 international trade statistics yearbook, (2 vols., not sold separately). Vol. 1, Trade by country, Vol. 2., Trade by commodity, commodity matrix tables, price £80 net.

United Nations. Economic and Social Commission for Asia and the Pacific. Statistics Division.

Statistical yearbook for Asia and the Pacific 1985, price £60 net.

United Nations Economic, Social and Cultural Organisation (UNESCO) Customs Co-operation Council

Harmonised commodity description and coding system, price £70 net.

European Communities Commission

The Community in 1992: a brief for European taxpayers, price £3 net.

Programme of research and actions on the development of the labour market: job creation in small and medium-sized enterprises. Vol. 1, Summary report: issues for research and policy: United Kingdom and Italy, price £13.10 net;

Vol. 2, Federal Republic of Germany, France, Netherlands, Belgium and Luxembourg, price £16.40 net,

Vol. 3, Spain, Ireland, Denmark, Greece and Portugal, price £11.50 net.

All three volumes written by David J Storey and Stephen G Johnson. The three volumes are available as a set, price £32.40 net.

Programme of research and actions on the development of the labour market: costs of unemployment, main report, annex on social costs of unemployment, by P N Junankar, price £3.30 net.

European Communities Commission. Radiation protection.

No. 36 Occupational radiation dose statistics from light-water power reactors operating in Western Europe, by I R Brookes, price £12.30 net.

Eurostat

Carriage of goods 1985: inland waterways, price £9.30 net.

ECASEAN trade: a statistical analysis 1970-1984, price £6.60 net.

Employment and unemployment 1987, price £13.60 net.

Forestry statistics, tables 1980-1984, price £8.30 net.

General government accounts and statistics 1970-1984, price £11.20 net.

Labour Force Survey, results 1986, price £5 net.

Regions: statistical yearbook 1986. (This used to be called Yearbook of regional statistics), price £13.90 net.

Food and Agriculture Organization

Yearbook of fishery statistics 1985, catches and landings, Vol. 60 (FAO statistics series 74), price £27 net.

Yearbook of fishery statistics 1985, fishery commodities, Vol. 61 (FAO statistics series 75), price £20 net.

Yearbook of forest products 1974/1985 (FAO statistics series 73), price £22 net.

Food and Agriculture Organization. Commodities and Trade Division.

World statistical compendium for raw hides and skins, leather and leather footwear 1966/1985, price £14 net.

International Monetary Fund

Direction of trade statistics: yearbook 1987, price £10 net.

International Narcotics Control Board

Statistics on psychotropic substances for 1985: furnished by governments in accordance with the Convention of 1971 on Psychotropic Substances, resolution 1 of the United Nations Conference for the Adoption of a Protocol on Psychotropic Substances and resolution 1567(L) of the Economic and Social Council, price £21 net.

Organization for Economic Co-operation and Development (OECD)

Bank profitability: statistical supplement: financial statements of banks 1984/1985, price £6 net.

Environmental data: compendium for 1987, price £20 net.

Labour force statistics 1965-1985, price £23 net.

Maritime transport 1986, price £8.50 net.

National accounts, Vol. 2, 1973-1985, price £33 net.

Readers should note that publications of international organisations are subject to price changes.

PUBLICATIONS

Bank of England Quarterly Bulletin

In addition to regular articles providing commentary on recent developments in the United Kingdom and world economies and on domestic and international financial markets the August issue of the Bank's Quarterly Bulletin contains the following items:

The instruments of monetary policy

In the seventh Mais Lecture, the Governor discusses the effects and limitations of the various instruments available to the authorities in the operation of monetary policy. He argues that, given the practical limits to the extent to which reliance can be placed on government funding policy or foreign exchange market intervention, the authorities are in practice largely dependent on a single instrument - the short-term interest rate. But understanding of the precise ways in which interest rates influence economic behaviour is itself limited. The precise effects of these influences are uncertain and can vary with the circumstances prevailing at the time. The authorities are, therefore, circumscribed in their ability to achieve *selective* effects on particular aspects of the economy. From the point of view of monetary policy, however, it is the *aggregate* effects of the wider economy that are important, and there is no doubt about the direction of these effects, nor that they are powerful.

The terms of trade

This article reviews alternative measures of the terms of trade and some general influences upon them and surveys developments in the United Kingdom's terms of trade and their impact on the country's current balance and real national disposable income. Factors contributing to the recent stability of the terms of trade in manufacturing, particularly the role of rising profit margins - which gives some tentative indication of an improved supply-side response to the depreciation of sterling - and of structural developments in United Kingdom industry, are also examined.

Company profitability and finance

This article, one of an annual series, reviews the performance of companies during 1986 and reviews some of the issues they face in this, the sixth year of the recovery. The fall in oil prices in 1986 resulted in markedly disparate experiences for North Sea and non-North Sea companies. Profits of the former fell by more than 50 per cent but those of the latter increased for the fifth consecutive year, with the real rate of return on capital rising to its highest level since the early 1970s. Investment expenditure, however, remained subdued, despite steady output growth, and capacity utilisation rose further. On the financing side, the pattern of company financing switched heavily towards capital issues (mainly in the equity markets), reflecting both the buoyancy of the stock market and a more general trend of a shift away from bank borrowing towards more marketable forms of financial debt.

Recent developments in United Kingdom payment clearing systems

This short note describes the major reorganisation that has taken place over the past three years in the administration of the London-based payment clearing systems, in particular the change from a system run by a small number of large 'clearing' banks to one owned and controlled by a wider membership and open to any appropriately regulated financial institution that meets explicit and objective criteria for entry.

Sector financing: 1986

This note updates the Bank's flow of fund matrices, setting out some of the main financial transactions between the principal sectors of the economy in 1986.

Other items

The August *Bulletin* also reproduces speeches by the Governor on the changing role of building societies, by the Deputy Governor on the interrelationship between the Bank's traditional role as central bank and its newer role as banking supervisor within a statutory framework, and by Mr David Walker, an Executive Director of the Bank, on some issues of shareholder/company relations.

The Bank's *Quarterly Bulletin* (£7.50 per copy or £27 for an annual subscription) may be obtained from:

Bulletin Group
Economics Division
Bank of England
Threadneedle Street
London EC2R 8AH

Key Data 87

Key Data 87, compiled by the Central Statistical Office, was published on 29 September and is the second edition of the book of popular statistics which provides a whole range of basic key figures about the United Kingdom - about its people, its finances, its industry and much more. It's aimed particularly at students, but will provide anyone with an interest in the facts behind current debates on the economy, on education, on the health service and defence.

With tables and charts all in colour it presents a wide range of economic and social facts about the United Kingdom - about education and energy, divorce and defence, health and holidays, prices and population, trade and transport, law and leisure and much else besides including some key facts about how the United Kingdom figures in the European Community.

There is new material including new sections on agriculture and industry. All sources are named and further help is given through the inclusion of the latest text of the booklet *Government Statistics - a brief guide to sources* which lists all the most important government statistical publications by subject area as well as containing a comprehensive list of contact points for statistical enquiries in all government departments.

Key Data 87 meets a proven demand for a 'condensed' version of *Social Trends*, although it actually covers a much wider subject area. Designed for the person who wants all the facts in one book, it is handy enough to be on anyone's shelf.

Reference

Key Data 87 (HMSO), available from Government Bookshops and through good booksellers. Price £2.95. ISBN 0 11 620298 X.

National Institute Economic Review

The latest edition of the *National Institute Economic and Social Research (NIESR) Review* includes the following items:

The decline of primary producer power

The prices of primary products hit rock bottom during the mid-1980s, checking the import capacity of primary producing countries, thus depressing world trade and the export (and hence the production) by the industrial countries of manufactures, which in turn closed a vicious circle by restraining demand for primary products. This note by G F Ray attempts to disentangle the various factors that led to this decline and looks at the prospects for the future.

Modelling the behaviour of export volumes of manufactures

The objective of this note by R Anderton and A Dunnett is to compare the econometric performance of several different equations which attempt to model the behaviour of export volumes of manufactured goods. Such equations usually consist of an index of world economic activity and an index of competitiveness; this note concentrates on the latter and compares the competitiveness variables used by the National Institute, the London Business School and HM Treasury.

Plant closures and the productivity 'miracle' in manufacturing

There has been a considerable improvement in labour productivity in United Kingdom manufacturing in the 1980s

- output per person employed rose at an annual rate of 4.1 per cent between 1979-85 compared with only 0.7 per cent from 1973-9. However, the cause or causes of this improvement have not been generally agreed. This note by Nicholas Oulton assesses the argument that one cause might be the closures of low productivity plants that took place during the recession, which automatically raised the average productivity level of the survivors.

Small firms and jobs

How important are small firms as sources of new jobs? Research by Gallagher and Doyle suggests that they are disproportionately important: in terms of employment small firms in the United Kingdom were found to be growing more quickly than large firms. This note by P E Hart examines the evidence for Gallagher and Doyle's argument and finds that their case is not proven.

Public sector borrowing and the public sector balance sheet

In his Budget Statement this year the Chancellor restated his medium-term financial strategy (MTFS) and in particular his objectives for the public sector borrowing requirement. He said, 'Since its inception in 1980 the MTFS has indicated a steadily declining path for the PSBR expressed as a percentage of GDP. We have now reached what I judge to be its appropriate destination: a PSBR of 1 per cent of GDP. My aim will be to keep it there over the years ahead'. This note by Andrew Britton considers the implications of that scale of borrowing for the balance sheet position of the public sector.

Buffer stock models of the monetary sector

This note by James Davidson and Jonathan Ireland is a progress report on continuing work concerned with both the specification of models of the monetary sector and linkages with the economy as a whole. One eventual aim of the work is to estimate a model of the monetary sector which could be incorporated into the National Institute's United Kingdom model.

Reference

National Institute Economic Review No 121 August 1987, available from the National Institute of Economic and Social Research, 2 Dean Trench Street, Smith Square, London SW1P 3HE (Price: annual subscription £45 net or £12.50 net per single issue).

The Public Expenditure Process: Learning by Doing

The Public Finance Foundation organised a unique seminar in November 1986, which brought together leading experts on all the major government spending programmes and staged an experiment in collective decision-making. The object of the seminar was to simulate the decision-making processes leading to the production of the public expenditure programme. A report of the seminar, edited by Professor Richard Rose and David Heald, has now been published by the Foundation. Sponsorship for the seminar was provided by Price Waterhouse.

The report consists of an explanation of how the simulation was undertaken, a discussion of the arguments used to establish spending totals for individual programmes, and reflections on the problem of trade-offs and choices between programmes. The complete working papers of the seminar are included.

We have published the report with three aims in mind: it provides a novel insight into decision-making on public expenditure, following earlier work undertaken by the Foundation on this and related themes; it is a work of reference on the operation of the public expenditure process in this country; and it is a teaching aid for course tutors and students in public administration and government. It can be used as the basis for a practical exercise, since each reader can experience the stages in the public expenditure 'round' and reach his own decisions, in discussion with others, about the total programme.

Further information can be obtained from:

Mr F R Terry
Public Finance Foundation
3 Robert Street
London WC2N 6BH
Telephone: 01-930 3456

Public Domain: The Public Sector Yearbook 1987

The Public Finance Foundation recently published the second edition of its public sector Yearbook, *Public Domain*. The Yearbook is aimed at financial managers in public service organisations and industries, students of public administration, firms providing services to the public sector and elected representatives who serve on public bodies.

Public Domain is a review of the past year, with sections which discuss developments in the nationalised industries, local government, the health service, water authorities and the civil service; other chapters look across the public sector and deal with such issues as pay trends, competitive tendering and management accounting in the public services. The Yearbook is also designed as a work of reference, containing over fifty tables and charts summarising the key statistics about public service organisations.

The contributors are established experts in their own field and the editors, Professor Peter Jackson and Francis Terry are respectively Professor of Economics in the University of Leicester, and Secretary of the Public Finance Foundation. Publication of the Yearbook is made possible with financial assistance from Peat Marwick McLintock.

Further information can be obtained from:

Mr F R Terry
Public Finance Foundation
3 Robert Street
London WC2N 6BH
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GOVERNMENT STATISTICAL SERVICE

Review of Regular Surveys

Set out below is a list of recently completed category B reviews to businesses and local authorities. These surveys are subject to an internal departmental review and a report which is monitored by the Survey Control Unit. Any enquiries concerning a survey or its review should be made to the appropriate departmental contact point given below.

I Surveys to businesses

Quarterly inquiry into purchases and stocks of fuel) completed
Quarterly inquiry into oil and natural gas) earlier this year

Mr C R Slight
Business Statistics Office
Government Buildings
Cardiff Road
Newport
Gwent NP9 1XG

Job release scheme replacement survey (continuous monitoring)

Mr A E Webb
Department of Employment
Caxton House
Tothill Street
London SW1H 9NF

Quarterly inquiry into capital expenditure by shipowners

Mr W Hall
Department of Trade and Industry
Statistics Division 2C
20 Victoria Street
London SW1H 0NF

Agricultural rent enquiry
Irrigation survey
Mushroom survey
Farm business survey
Cereal survey (South Cambridgeshire)
Cutworm damage survey
Enterprise cost studies
SFIA English inshore costs and earnings annual survey
SFIA English deep sea costs and earnings annual survey

Mr A J Barnett
Ministry of Agriculture, Fisheries and Food
Whitehall Place
London SW1A 2HH

II Local authorities

Report of larger fires
Report of smaller fires and false alarms
Annual return of incidents

Mr P E Ramell
Home Office
Statistics Division 3
50 Queen Anne's Gate
London SW1H 9ATE

Parliamentary election expenses
European Assembly election expenses

Mr C F Woolf
Home Office
Statistics Division 3
50 Queen Anne's Gate
London SW1H 9AT

II Local authorities

Survey of district court workload

Mrs A Oglesby
Criminal Statistics Unit
Scottish Home and Health Department
St Andrews House
Edinburgh EH1 3DE

Appointments and changes

Mr G J O Phillpotts, Statistician in the Home Office was promoted to Chief Statistician on 4 August 1987 and transferred to the Department of Health and Social Security.

Mr F W Hutber, Chief Statistician in the Ministry of Defence retired on 1 September 1987.

Mr C C Finlinson, Controller, Statistical Office, Customs and Excise has been promoted to Grade 3 and is now Director of VAT Control, Customs and Excise.

Mr M E Pratt has moved from the Customs Directorate to the post of Controller, Statistical Office, Customs and Excise.

Mr J D Brant, Senior Statistician, Ministry of Defence temporarily promoted to Chief Statistician, Ministry of Defence on 2 September 1987.

Transport Statistics Users Group - Directory of Statistics

The Transport Statistics Users Group which has now been active for two years announce the production of a 'Directory of Sources and Contacts in Transport Statistics'. The Directory is intended primarily to enable members of the Group to exchange information on the data they hold, and the individual within their organisation responsible for each set of data. In this way it is hoped to reduce, if not eliminate altogether, the time-consuming process of tracking down data on a particular subject from within a large organisation.

The first edition has entries on 56 data sets, details of which are held in a computer database at the Transportation Group at UMIST in Manchester. Each entry is in the same format, and has the name and address of the organisation holding the data, details of the coverage, basis, reason for collection, and availability of the data, and the name and telephone number of the person to contact for further details.

There are two indexes, allowing the user to locate entries of interest either by the organisation holding the data, or by cross-referencing against a list of nearly 50 keywords. The Directory is to be updated regularly as additional or revised information becomes available.

Copies of the Directory are available from the Editor*. Organisations which are members of TSUG are entitled to one free copy: non-members may purchase the Directory at £15 per copy. Additional copies may be obtained by members at a reduced price of £5.

Annual General Meeting

The next annual general meeting of the Transport Statistics Users Group is to be held at 4pm on Monday 30 November 1987 at the Chartered Institute of Transport. It would be helpful if prospective attendees would notify the Secretary.**

* The Editor

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Transport Statistics Users Group
c/o Associated British Ports
150 Holborn
London EC1N 2LR

Telephone: 01-430 1177

For further information contact Martyn Wallwork 01-686 5041 Extension 2400.

Alphabetical Index

The index to *Statistical News* covers the last nine issues. Page numbers are prefixed by the issue number, e.g. 74.34 signifies number 74, page 34.

Generally speaking articles relating to the United Kingdom, Great Britain, England and Wales or covering several geographical groups are not indexed under these groups, but topics with a significant regional interest are indicated, e.g. regional accounts. Articles and notes dealing particularly with Scottish statistics are indexed under 'Scotland' as well as the topic, e.g. 'Scotland, household projections' and similarly for Wales and Northern Ireland.

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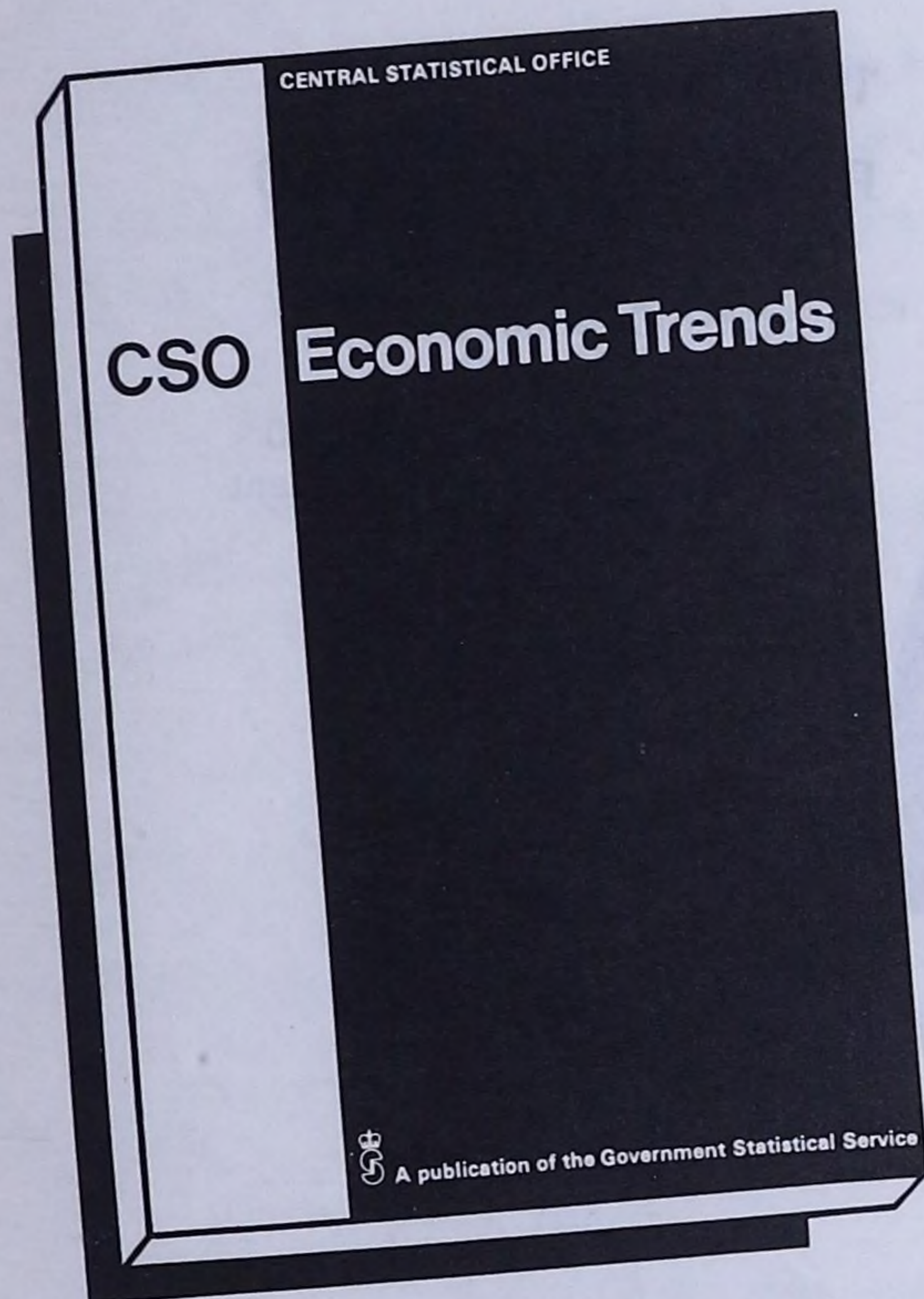
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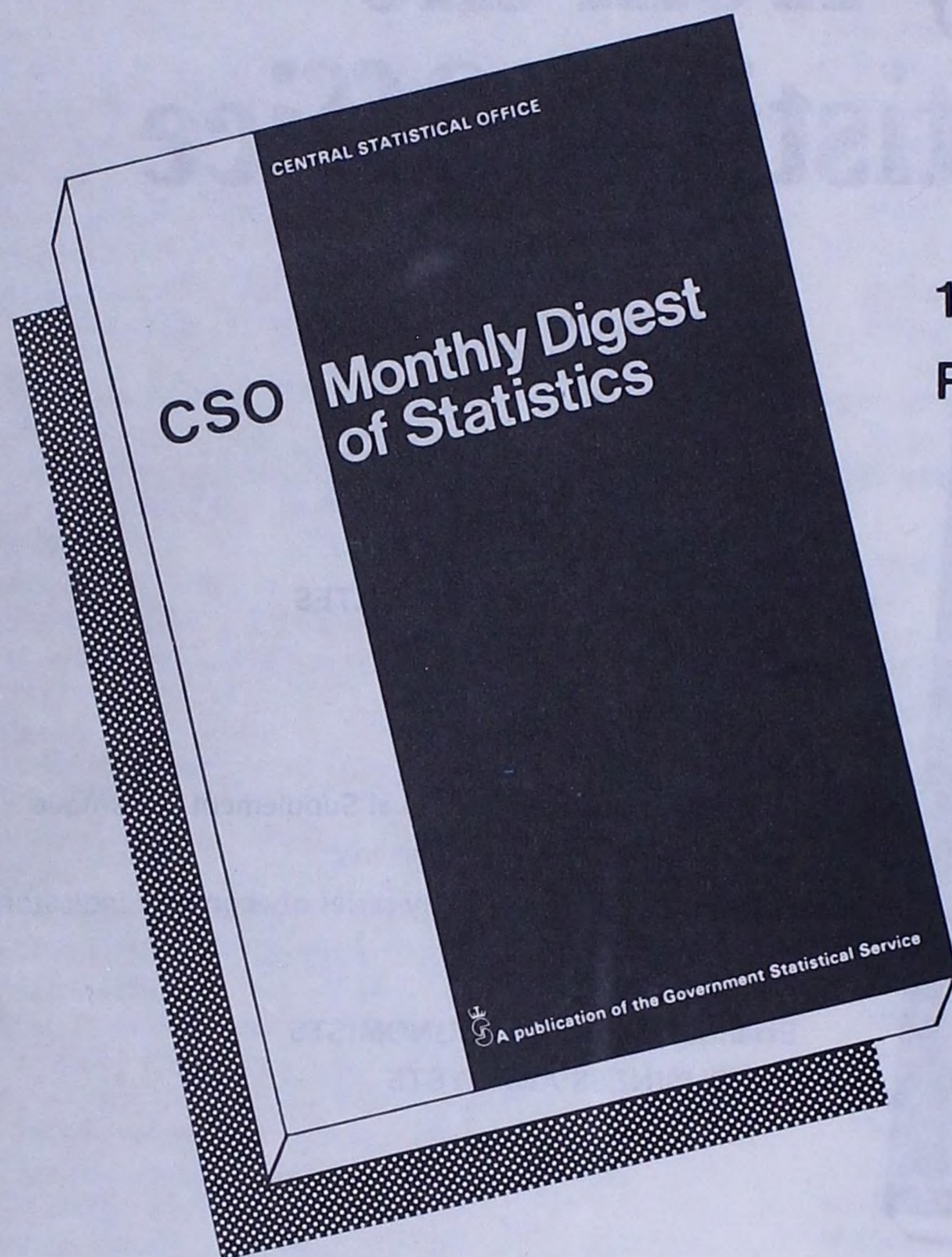
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