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Developments in British Official Statistics

No. 60
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A new method for estimating the trend in the fertility rate

Barry Werner, Statistician, Office of Population Censuses and Surveys

The considerable similarities between the timing of changes of direction in the trends in the fertility rates for England and Wales, France and West Germany during the late 1970s, were described in a recent article by Calot and Thompson¹. The period measure of fertility rates adopted in that article, to illustrate the trends, was the total period fertility rate (TPFR); this is defined as the average number of live births per woman which would result if women experienced the age-specific fertility rates of the period in question throughout their childbearing life span.

Until recently the use of TPFs was necessarily restricted to the summary of final annual fertility statistics. The reason for this was that the calculation of a TPF requires a knowledge of the distribution of births during the period in question by single year of age of mother and of the female population by single year of age. In order to describe monthly trends in fertility during a year before age-specific births data were available, an alternative measure, the general fertility rate (births per 1,000 women aged 15-44), had to be used. Since the TPF is a convenient and widely used summary statistic, both for discussion of historical trends in fertility and for the projection of future trends, the lack of information about short term movements in its level was inconvenient. This article describes the method² devised by Gérard Calot, Director of the Institut National D'Etudes Démographiques (INED) in Paris, for estimating monthly TPFs when only provisional monthly figures for numbers of births are available. The application of the Calot method, together with the US Bureau of the Census X-11 seasonal adjustment package, for computing the trend in the England and Wales fertility rate is also described.

Estimation of annual TPFs

Given the female population P_i^n of age i at 30 June in year n , and the number of live births N_i^n to women of age i in year n , the age-specific fertility rate in year n at age i is defined to be:

$$F_i^n = \frac{N_i^n}{P_i^n}$$

The TPF I^n for year n is defined to be the sum of the age-specific fertility rates over each year of the effective reproductive life-span (i.e. from 14 to 49 years of age):

$$I^n = \sum_{i=14}^{49} F_i^n$$

In the development of the method for estimating TPFs, Calot defines the ratio G^n in year n between the total number of live births N^n and the TPF to be:

$$G^n = \frac{N^n}{I^n} = \frac{\sum_i N_i^n}{\sum_i F_i^n} = \frac{\sum_i F_i^n P_i^n}{\sum_i F_i^n}$$

Calot interprets G^n as the weighted arithmetic mean of the female single year of age populations P_i^n , the weights being the fertility rates F_i^n . He terms G^n the 'mean fertile generation size' for year n , and draws a parallel between the ratio of the number of births to the population in a particular age group which defines the fertility rate for women of age i , $F_i^n = \frac{N_i^n}{P_i^n}$, and the ratio between the total number of births and the mean fertile generation size G^n which defines the TPF, $I^n = \frac{N^n}{G^n}$, and gives

an overall rate for the whole childbearing life span.

The essence of the Calot method is the technique he describes for estimating the value of G^n before data for the female populations or numbers of births in year n by single year of age are available. For estimating G^n he suggests:

- (1) that the rates F_i^n should be estimated by using the rates F_i^k for a year k in which they are known;
- (2) that the populations P_i^n should be estimated by the populations aged $(n-k)$ years younger in the year k , i.e. the effects of mortality and migration are ignored and P_i^n is estimated by $P_{i-(n-k)}^k$.

Thus the estimated value of G^n in year n is

$$\hat{G}^n = \frac{\sum_i F_i^k P_{i-(n-k)}^k}{\sum_i F_i^k} \text{ and the estimated TPF is}$$

simply N^n / \hat{G}^n .

Calot terms the ratio between the estimate G_n and the true value G^n the relative bias B^n , and decomposes this into two components B_1^n , which represents the bias due to error in the estimated age-specific populations and B_2^n , which represents the bias due to error in the estimated age-specific fertility rates.

Thus

$$\frac{\hat{G}^n}{G^n} = B_n = B_1^n \times B_2^n$$

$$\text{where } B_1^n = \frac{\sum_i F_i^n P_{i-(n-k)}^k}{\sum_i F_i^n P_i^n}$$

$$\text{and } B_2^n = \frac{\sum_i F_i^k P_{i-(n-k)}^k}{\sum_i F_i^k} \times \frac{\sum_i F_i^n}{\sum_i F_i^n P_{i-(n-k)}^k}$$

It is readily seen that if $P_i^n = P_{i-(n-k)}^k$ for all values of i , then $B_1^n = 1$; and if $F_i^n = F_i^k$ for all values of i , then $B_2^n = 1$.

In practice these formulae are used to make an early estimate of the TPF_R in a given year n by using known age-specific fertility rates and populations for an earlier year k . They are also valid, however, for calculations for years before the base year k , and Calot uses this feature to determine the trend in the bias factors B_1 and B_2 over time. Such information is used to make estimates of the unknown bias factors in year n , \hat{B}_1^n and \hat{B}_2^n . A better estimate of the mean generation size in year n is then calculated as

$$\hat{G}^n = \frac{\hat{G}^n}{\hat{B}^n} = \frac{\hat{G}^n}{\hat{B}_1^n \times \hat{B}_2^n} \text{ and the TPF}_R \text{ is re-estimated as } N^n / \hat{G}^n.$$

Figure 1 (on page 60.5) shows the bias factors B_1 , B_2 and B for England and Wales for a series of years from 1972 onwards, calculated by taking 1980 as the base year and using the actual age-specific data for that year. The major deviation in the bias factors from a value of 1 occurs in the population bias B_1 , especially before 1975. This error is due to the large net population outflow from England and Wales between mid-1973 and mid-1975³. In consequence the estimated values for the populations P_i^n in years 1974 and earlier were too low and the biases B_1 dropped well below 1. Table 1 summarises the statistics used for estimating annual TPF_Rs: the overall bias factors B , the actual and estimated mean fertile generation sizes G^n , the annual numbers of births and the actual and estimated TPF_Rs are all shown.

Estimation of monthly and quarterly TPF_Rs

Having estimated the annual values of the mean fertile generation size G^n , it is necessary to calculate monthly values in order to convert monthly birth counts into estimated monthly TPF_Rs. For France, where the mean fertile generation size G^n changed quite rapidly during the 1970s, Calot fitted polynomials to the annual actual and estimated values of G^n for the years 1971 to 1983 and then interpolated the monthly values of G^n by using the fitted polynomials. For countries such as England and Wales, where the changes in G^n were less rapid, a more straightforward linear interpolation is sufficiently accurate for calculating the monthly values.

Table 1
Annual values of mean fertile generation size and estimation of annual TPF_Rs, England and Wales

Year	Live births (000s)		Mean fertile generation size			Mean fertile generation size	
	N^n	TPF _R I^n	Actual (000s) $G^n = N^n / I^n$	Estimated (000s) \hat{G}^n	Bias $B^n = \hat{G}^n / G^n$	Extrapolated bias \hat{B}^n	Adjusted estimate (000s) $\hat{G}^n = \hat{G}^n / \hat{B}^n$
1977	569.3	1.68	339.8	339.0	0.9983		
1978	596.4	1.75	341.3	340.8	0.9986		
1979	638.0	1.86	342.7	342.8	1.0001		
1980	656.2	1.90	345.0	345.0	1.0000		
1981	634.5	1.82 ²		348.1		0.9961	349.4
1982	626	1.77 ²		351.6		0.9960	353.0
1983	628 ¹	1.77 ²		355.4		0.9958	356.9

1. Mid-1981 based projection
2. TPF_R estimated as $\hat{I}^n = N^n / \hat{G}^n$

Seasonal adjustment using the X-11 package

Since the final objective in calculating monthly TPFs is to estimate the trend in fertility, it is essential as a preliminary stage to adjust the monthly births figures for seasonal variation. In his paper², Calot describes a method which he devised himself to seasonally adjust monthly data, but for England and Wales OPCS uses the United States Bureau of the Census X-11 seasonal adjustment package. A multiplicative model is fitted which separates variations between the numbers of monthly births in the time series into four components: trend, seasonality, length and composition of months in terms of days of the week and residual irregularity. The method of operation of the X-11 package is described in detail in a United States Bureau of the Census Technical Paper⁴, and only the main features of the method are described here.

The monthly births input to X-11 are initially adjusted to allow for the length of each month and its composition in terms of Mondays, Tuesdays, etc. This latter adjustment is achieved by calculating the numbers of each day of the week in each month for which data are supplied, then by finding least squares estimates for the appropriate daily weighting factors which best compensate for non-seasonal variations in monthly numbers of events due to the make up of each month in terms of days of the week. This feature is important in seasonally adjusting births data (and incidentally even more important in seasonally adjusting marriages data) because of the uneven pattern of birth occurrences throughout the week. The daily weights estimated by the package for the period 1972-81, which are shown in the footnote to Table 2, are in fairly close agreement with the actual values calculated⁵ for the period 1970 to 1976. The mean numbers of births on Saturdays, Sundays and Mondays are below average whereas during the rest of the week the mean daily numbers are above average. The X-11 results suggest, in line with observation, that births on Sundays are easily the fewest, accounting for only around 80 per cent of the daily average.

After these preliminary adjustments have been made, X-11 proceeds to separate the irregular from the seasonal component of the series by an iterative process in which the ratios between the data for individual months and unweighted 12-term moving averages of these are calculated; extreme values are examined and, if necessary, modified. Seasonal factors for each month are found by taking weighted 7-term moving averages of the initial estimates of seasonal factors for each separate month of the year. The final seasonally adjusted series is then obtained by dividing the seasonal factors into the original series (pre-adjusted, as described above, according to the composition of each month).

Table 2 (on page 60.4) shows the monthly seasonal factors for 1981, illustrating the greater frequency of

births during the spring and summer than in the autumn and winter.

An important part of the X-11 routine is the estimation of the trend curve. This is achieved by smoothing the seasonally adjusted series using a Henderson weighted moving average. The weights for such averages are chosen in order to remove residual irregularity from the series and to produce the smoothest possible trend line⁶. The number of terms chosen for the moving average may be 9, 13 or 23 depending on the irregularity of the seasonally adjusted series. Irregularity is measured by the I/C ratio (the ratio of the average month to month change in the irregular part of the series – variation from trend not accounted for by seasonal factors – to that in the preliminary estimate of the trend part), and longer averages are selected for more irregular series. For monthly births data the I/C ratio is around 1.6 and a 13-term Henderson moving average is used for the estimation of trend. The final six monthly values in the trend series cannot be obtained from a centred moving average and, to allow for this, X-11 provides weights for non-centred moving averages which maintain the smoothness of the fitted trend line. The reliability of such values inevitably decreases towards the end of the curve and empirical investigation has shown that, for births, the final two months' values should be disregarded since they are subject to significant revision when later information becomes available. Table 2 includes monthly actual, seasonally adjusted and trend values for numbers of live births in England and Wales during 1981.

Estimation of seasonally adjusted monthly TPFs and the fertility trend curve

The monthly seasonally adjusted and trend values for numbers of births produced by the X-11 package may be used, in place of actual values, to produce monthly seasonally adjusted and trend values for the TPF by application of the Calot method. This is achieved by dividing the monthly numbers of births by the estimates of the mean fertile generation sizes G^n for the appropriate months. Figure 2 (on page 60.5) shows the trend in the England and Wales TPF from 1973 to date based on smoothed monthly estimates; such a figure is now published quarterly by OPCS in FM1 Monitors. A similar figure including actual monthly TPFs is also published quarterly by OPCS in *Population Trends* (its first appearance was in issue No 30). The actual values in this are adjusted to allow both for the length of each month and its composition in terms of days of the week; such months' values therefore illustrate seasonal variation plus residual irregular variation.

Acknowledgment

I am grateful to Monsieur Gérard Calot both for his original exposition of the method dealt with here and for his many helpful comments on an earlier version of this article.

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4. Shiskin, J. et al. *The X-11 variant of the Census method II seasonal adjustment program*, Technical paper 15 (US Bureau of the Census, Washington D.C., 1967)
5. Macfarlane, A. and Thew, P. 'Births: the weekly cycle' *Population Trends* 13, (HMSO 1979) (Price £2.25 net)
6. Macaulay, F. R. *The smoothing of time series* (National Bureau of Economic Research, New York, 1931)

Table 2
Seasonally adjusted monthly live births during 1981 using the X-11 package, England and Wales

1981 Month	X-11 Adjustment factors		Live births (000s)		
	Length and composition of month ¹	Seasonality	Actual	Seasonally adjusted	Trend ³
	(C18) ²	(D10) ²	(A1) ²	(D11) ² = $\frac{A1}{C18 \times D10}$	(D12) ²
January	1.022	0.967	52.7	53.4	53.4
February	0.920	0.996	48.5	52.9	53.0
March	1.012	1.032	55.0	52.7	52.7
April	0.992	1.019	52.8	52.2	52.6
May	1.012	1.030	54.7	52.5	52.6
June	0.986	1.025	53.4	52.8	52.7
July	1.025	1.033	56.5	53.3	52.9
August	1.011	0.994	54.2	54.0	53.0
September	0.990	1.031	53.6	52.5	53.0
October	1.022	0.988	53.2	52.7	52.9
November	0.978	0.956	49.9	53.3	52.8
December	1.025	0.931	50.0	52.4	52.7

1. Weights for days produced by X-11 (C15)² using least squares:

Monday	0.993
Tuesday	1.024
Wednesday	1.101
Thursday	1.088
Friday	1.017
Saturday	0.988
Sunday	0.789
2. X-11 table reference number
3. 13-term Henderson weighted moving average of seasonally adjusted monthly births

FIGURE 1

Bias factors B1, B2 and B, 1972-80
England & Wales

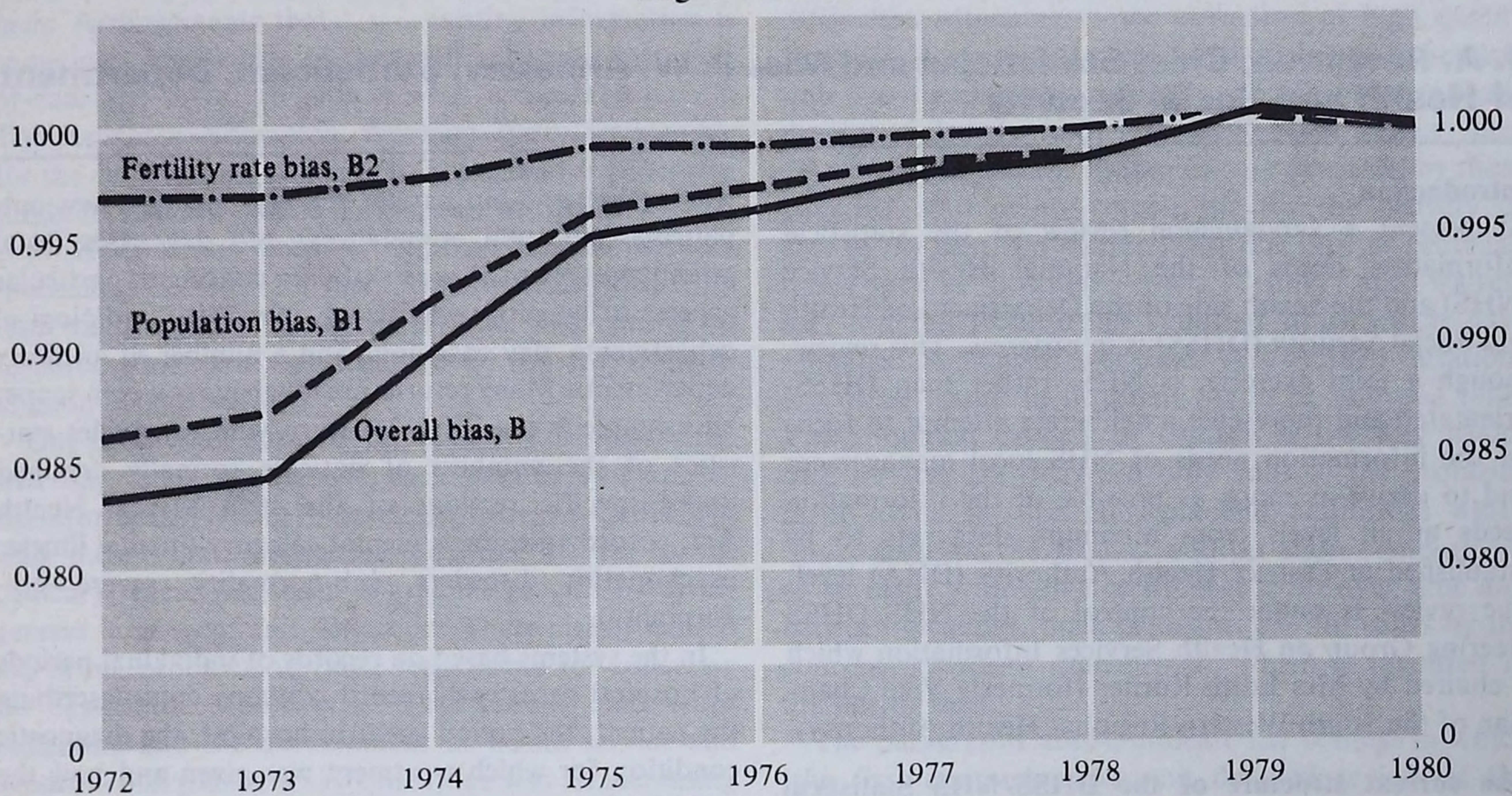
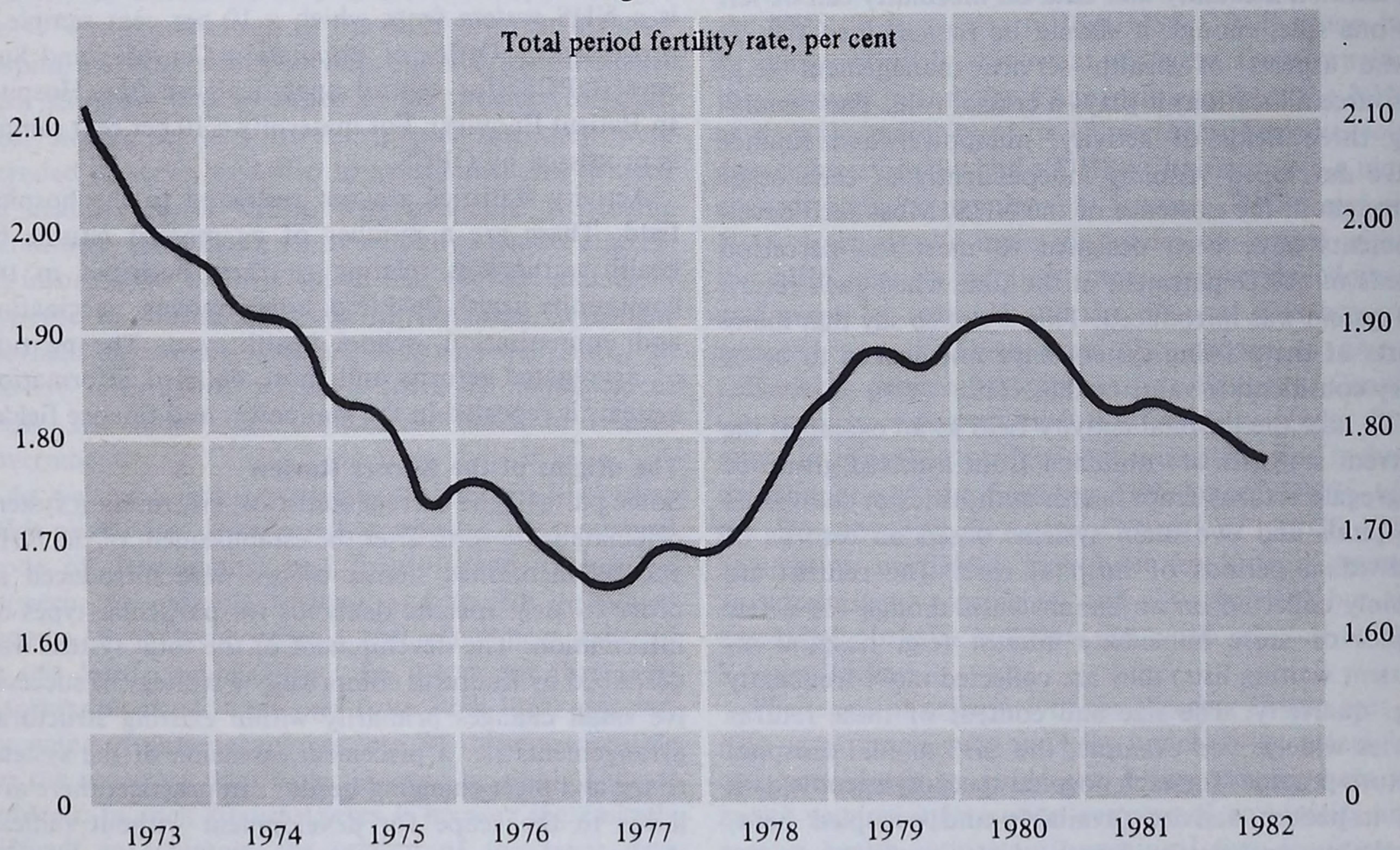


FIGURE 2

Trend in total period fertility rate, January 1973 to July 1982
England & Wales



The Körner review of health services information – a progress report

J. A. Rowntree, Chief Statistician and Miss P. W. Annesley, Statistician, Department of Health and Social Security

Introduction

At present a fundamental review of the statistical information needs of the National Health Service (NHS) and the health side of the Department of Health and Social Security (DHSS) is in progress. This review, though a joint exercise, is NHS- rather than DHSS-orientated and represents a deliberate attempt to focus on the information needs of NHS local management and to derive as much as possible of the information needs at all levels from minimum data sets to be established at District Health Authority (DHA) level. The review is under the control of the NHS/DHSS Steering Group on Health Services Information which is chaired by Mrs Edith Körner (formerly Vice Chairman of the South Western Regional Health Authority).

The current structure of the DHSS/NHS Statistical Information System

The coverage of the present national statistical information system relating to the NHS and the DHSS embraces the major fields of NHS activity, NHS manpower, finance, mortality and morbidity data. For the purposes of the present article, the considerable amount of data on mortality and data on morbidity can be left to one side, though it should be remembered that in some aspects of health service management (e.g. resource allocation) it plays a crucial role. The remaining three fields of activity, manpower and finance have developed virtually independently of each other throughout the existence of the NHS. Most such developments have been designed to meet the perceived needs of the Department at the time when each return or system was introduced. This is not to say that many parts of the existing system have not proved to be of very considerable value to the NHS.

To take the hospital activity field as an example, the current statistics are obtained from a mixed group of aggregate returns from health authorities or individual hospitals and two main systems based on records of individual periods of hospital care. The returns are mainly collected on an annual basis though for a few topics of more immediate interest (e.g. hospital in-patient waiting lists) they are collected more frequently e.g. quarterly. The size and content of these returns varies widely. For example, the SH3 annual Hospital Return provides for each hospital specialty-specific data on in-patient activity (available and occupied beds, discharges and deaths, length of stay, numbers on the

waiting list) and out-patient activity (sessions, new out-patients and total attendances) and day cases (total attendances) as well as sets of data relating to particular aspects of hospital activity e.g. maternity, radiological departments, day case units and a number of ancillary departments. Many returns are much narrower in scope: an example is the SBH13 Return which provides statistics of the numbers of patients formally detained under specific sections of the 1959 Mental Health Act, according to their mental category (mental illness, psychopathic disorders, sub-normality, severe sub-normality).

In the systems based on records of individual periods of hospital care, each record contains data describing the patient, the period spent in hospital, the diagnostic condition for which treatment was given and how the period of care ended. At present there are separate systems for psychiatric in-patients (the Mental Health Enquiry which has separate admission and discharge records), non-psychiatric non-maternity patients (Hospital Activity Analysis) and maternity patients for which a variety of systems exist. The Mental Health Enquiry is processed by the DHSS. Hospital Activity Analysis is a NHS system from which a 10 per cent sample is processed by Office of Population Censuses and Surveys (OPCS) for central analytical use (the Hospital In-Patient Enquiry). For maternity a 10 per cent sample is processed by OPCS.

Activity statistics are not restricted to the hospital field. There are a number of aggregated returns by health authorities relating to their activities in the community health field (e.g. home nursing, vaccination and immunisation, school health, etc). The mixture of aggregated returns and more detailed information systems is repeated in the manpower and finance fields.

The origins of the Körner Review

Some parts of the current statistical information system originate from soon after the establishment of the NHS and as mentioned above others were introduced in order to meet specific demands for particular types of information. The development of the total system was described by Rudoe as comprising 'a strategy of successive small changes primarily within existing structural arrangements i.e. a piecemeal extension of the system to try and meet changing needs'¹. In practice, there are limits to the scope for development without radical change; in recent years the system has been coming

under increasing strain and provoking a growing volume of criticism. Some more recent examples of such criticism included that made in the Report on Management Arrangements that '... existing information is sometimes unreliable, of doubtful relevance and out-of-date and there are gaps in what is available...'². The Resource Allocation Working Party responsible for the development of the present system for allocating funds to regional health authorities identified '... a clear and pressing need for improvement in the data routinely collected'³. Further, the statistical information that was available for the monitoring and control of resource allocation was criticised by the Royal Commission on the NHS.⁴

One underlying cause of the increasing dissatisfaction was that, as indicated above, each main field of statistical information had been developed in relative isolation. This meant that, despite considerable efforts to the contrary, there had been a gradual growth of divergencies in concept and definition. These clearly caused increasing problems to those responsible for collecting the basic data. Moreover with the growth of forward budgeting and the development of health service and departmental planning systems, there was an increasing need to associate statistical information from the manpower, activity and finance fields in such a way that input of resources (mainly expressed in terms of manpower and money) could be associated with outputs or at least intermediate outputs such as patients visited, discharges from in-patient care, etc. and also with the intensity of utilisation of available facilities. Further, the 1974 re-organisation of the NHS brought together hospital and community services under a single management structure and so added to the pressure to relate local health services to the population they were intended to serve, and also to such indicators of need for health care services as were available. It became increasingly clear that a set of virtually separate statistical information systems which had evolved mainly in response to central needs for information no longer provided an overall structure that was well suited to provide information required for local management needs—nor indeed for the current needs of central government.

As well as a lack of integration between the major fields of activity, finance and manpower, the piecemeal mode of development had led to some duplication between the national systems and locally developed systems. Such local systems had often been tailored to suit local circumstances. To the extent that local information needs were met from such local systems, the value of national returns, etc. to those responsible for the necessary data collection and assembly became reduced. In such circumstances it became increasingly difficult to maintain the quality of the basic data

particularly in conditions where the resources available for data collection and handling are severely restricted.

Some mention needs to be made of the inherent difficulties attaching to the collection of high quality statistics in the health field. Although health services now have a common structure, they have historically developed locally and even now often reflect local circumstances and the modes of care favoured by those clinicians and others responsible for the delivery of care in the past. To mention just one type of problem, terms such as 'hospital', 'ward', 'clinic', and 'waiting list' are far from being standard units which have remained unchanged over time. Very marked variations are to be found in different places at any one time. The continual process of change in the way health care services are delivered only adds to the problems involved in devising concepts and definitions which 'make sense on the ground' and yet allow comparisons to be made with some confidence both over time and between localities. Such problems are not eased by the consensus style of management which is favoured in the health field.

The paragraphs above indicate the context in which 'the first comprehensive and detailed review of the statistics available for health service management since the inception of the NHS' (Para 1.10)⁵ was begun.

The Steering Group on Health Services Information (the 'Steering Group') was appointed by the Secretary of State for Health and Social Services in February 1980 with the task, in broad terms, to oversee the development of management information systems in the NHS. It is a joint NHS/DHSS/OPCS group but its composition is somewhat different from previous joint groups in that the Chairman was from the NHS, as were the majority of its 17 members. Previous joint groups have usually had a DHSS Chairman and a more even division of membership between DHSS and the NHS. Each of the main disciplines concerned within the NHS namely administrators, treasurers, doctors and nurses at regional and sub-regional tiers are represented and members were also chosen to give a reasonable geographic spread over England. Central Government representation is at Deputy/Under Secretary level or their professional equivalents and include the Director of the Statistics Division of DHSS and the Director and Registrar General of OPCS. The Secretariat are DHSS personnel (to date a doctor, an administrative principal and a statistician) but are employed virtually full-time on work relating to the Körner Review.

The terms of reference of the Steering Group are:
i. to agree, implement and keep under review principles and procedures to guide the future development of health services information systems; *ii.* to identify and resolve health services information issues requiring a

co-ordinated approach; *iii.* to review existing health services information systems; *iv.* to consider proposals for changes to, or development in, health services information systems arising elsewhere and, if acceptable, to assess priorities for their development and implementation.

The general approach of the Steering Group and method of working

The Steering Group laid down a number of principles for its work. These are:

i. to develop standard minimum data sets; these are the minimum that a District Health Authority and its officers require in order to be adequately informed when fulfilling their responsibilities. This minimum must be collected in common form with common definitions. The basic premise is that if information is not required at district level it is unlikely to be required by Regions or Central Government; *ii.* to ensure that as far as possible the minimum data set is a by-product of operational procedures and is therefore required for more than one purpose; the assumption being that this will produce more accurate and timely information; *iii.* in view of the impossibility of designing a single integrated and comprehensive information system to develop a number of individual sub-systems whose compatibility it would ensure at a later stage; *iv.* to work as openly as possible and involve a wide range of people, primarily but not wholly from the NHS, in its work; *v.* to create an environment in which to encourage the efficient collection, collation, processing and transmission of data.

In order to meet principles *i.* and *ii.* above detailed examination was required to identify information needs of local NHS managers. This task could not possibly be carried out by the Steering Group as a whole so the work was divided into parts and each delegated to a Working Group. This method was also in keeping with principle *iii.*

To-date such Working Groups have been established to cover the information requirements of operational managers of specific NHS health service functions as follows:

A. Hospital facilities used by consultant medical staff; B. Laboratory and scientific services; C. Paramedical services; D. Community health services; E. Health service manpower; F. Health service management accounting for the budgeting, planning and cost control of health care provision; G. Patient transport services. So far the scope of the Steering Group has related to the directly-managed parts of the NHS. It is not yet clear how far it will extend to cover other aspects e.g. the primary care services.

Membership of these groups mirrors the representation of the disciplines and the balance between the

NHS and Central Government on the Steering Group. In general each Working Group includes at least one member from the Steering Group. DHSS Statistics Division is represented, in some capacity, in all Working Groups except the Patient Transport Services. The total number of people who have been involved in the Working Groups runs well into three figures.

The Steering Group considered two approaches for the Working Groups to follow. One entailed initial priority being given to the stimulation of the more effective use of currently available statistics and through better use, improving the quality of the data. The second approach involved a fundamental review of the current statistics, followed by a major drive to promote better use of the resulting information. After extensive discussions with the NHS it was decided that the existing systems were not close enough to current requirements to justify the first approach alone.

The Working Groups, in general, work to the same pattern. This starts with the identification of the information requirements of District Health Authorities and their management teams. Any additional needs of Regional Health Authorities and central government departments (primarily DHSS and OPCS) are then identified. Data items with their appropriate definitions and classifications are then specified to satisfy identified requirements. Field testing of the recommendations in at least four District Health Authorities then follows and finally a process of extensive consultation about the recommendations is undertaken.

The Working Groups submit regular progress reports on their work to the Steering Group and once they have identified information requirements and data items, they prepare a detailed report with recommendations to the Steering Group for comments and agreement prior to testing and consultation. The consultation process has involved distribution of a draft report for comment throughout the NHS and in the DHSS; there have been seminars in each of the Health Regions and discussions at the regular central meetings of senior regional NHS officers. Following consultation and field testing a revised version of the report is prepared for agreement by the Steering Group. This report is then sent to the Secretary of State.

As the work has progressed it has also been necessary for the Steering Group to set up two additional Working Groups to handle more general aspects of the reviewing process. One of these is the Feasibility Steering Group – whose function is the overall direction of the pilot trials. This has a core membership which is augmented so that the group includes the appropriate expertise for the different sets of recommendations being piloted at any time. Statistics Division is represented in the core membership. The other is the Confidentiality Working Group which has been established to recommend good

practices for maintaining the confidentiality of NHS staff and patient records. The standards of confidentiality themselves are not determined by the group which rather seeks to identify whatever standards are currently in operation and draw attention to problems it encounters in interpreting or identifying such standards. There is no Statistics Division representative on this Working Group. These groups necessarily have a different pattern of working from that set out above.

The setting up of Working Groups has not been the only approach used. For example, workshops have been held to investigate particular issues, those attending being individual experts in the subject area. Such workshops have tended to deal with topics related to improving the data environment in the NHS e.g.

a. to identify the management arrangements and skills required to provide a district with an effective information system; *b.* to develop standards against which to check the validity of the data; *c.* to promote the use of information technology.

Papers resulting from such workshops are prepared and published either by the Steering Group or by other bodies concerned with NHS information systems.⁶

Clearly it takes time for a Working Group to carry out their investigations and prepare a report with their recommendations to the Steering Group. The stage reached by the groups varies but the First Report of the Steering Group containing their recommendations based on the proposals of Working Groups A and B was completed in the summer of 1982 and the report published in October (see below).

In the period whilst the Working Groups have been carrying out their tasks the Steering Group itself has been concerned with principles to be applied to central information requirements which do not fall within the remit of the Working Groups so far established. This has resulted in a number of initiatives, which have had a direct effect on the Statistics Division. One of these was a review of the current statistical returns submitted to DHSS to ensure that the data collected met existing justifiable information needs. This review was integrated with the DHSS part of the Rayner Review of Government Statistics and led to a reduction in the number of returns collected. Another was the establishment of an agreed procedure to be followed in the event of any proposal by central departments to develop or change the data they collect from the NHS. This procedure includes the need to justify the proposal in the fullest terms, to identify the resource implications of the proposal and to demonstrate that it meets the general criteria applied to the new information systems. It also included the more formal establishment of the minimum period of notice, namely six months before the period to which the data relates, to health authorities of any new or changed requirement of them. A

final example is the establishment of a minimum period of time for which a statistical return should remain in being before the data content is reviewed.

First report of the Steering Group

The first report to the Secretary of State by the Steering Group⁵ covers information about hospital clinical facilities and departments and the patients using them. It deals with information about the activity of services provided on hospital premises (apart from radiotherapy), including services about patients admitted to hospital, those treated at out-patient clinics, and accident and emergency departments and in day care facilities, and services related to a registrable birth. Its scope comprises data about the characteristics of individual patients using a facility or receiving a service and about the characteristics of, and demand for, such a facility or service. The First Report sets out the principles on which the Steering Group has been working and presents a set of detailed recommendations concerning this field of health statistics with some discussion of the reasoning behind the recommendations.

The recommendations themselves are of two main types. The first covers local minimum data sets on the facilities provided and for a computerised integrated patient information system. The second type of recommendation relates to the data to be submitted centrally in the form of either a set of facility returns (which would replace existing returns) or an abridged version of the integrated patient information system (which would replace the information now derived from the existing Hospital In-Patient Enquiry and the Mental Health Enquiry). In addition, the report identifies a number of issues which require research or further developmental work.

The next steps

As indicated above the Steering Group undertook extensive consultation during its deliberations before the first report was produced. In particular there were extensive discussions with NHS authorities and many of the recommendations were included in a piloting exercise carried out in four Districts which showed that it was possible to capture and collate the data recommended. The main issues to be resolved are the likely cost of implementation of the recommendations and the establishment of a practicable timetable for such implementation. The next step therefore is for NHS authorities to assess the resource implications of the recommendations in the first report and to advise on an acceptable timetable for implementation. Clearly the costs and timetables are closely associated and authorities are being asked to indicate how quickly the recommendations could be implemented within existing resources and the extent to which quicker progress

could be made if more resources were available. At the same time as this consultation is being undertaken with NHS authorities the relevant medical and nursing professional groups are being asked for their formal comments about the recommendations contained in the first report. They are being asked to give particular attention to the desirability, feasibility and affordability of the recommendations and their confirmation that the data now proposed will realistically reflect the work being done and that they are relevant to modern clinical practice.

Involvement of the GSS and lessons learnt

One of the characteristic features of the operation of the Steering Group and its Working Groups is their multi-disciplinary nature. For those members of the Government Statistical Service who have been involved, working with such groups has provided an unusual experience. It has focussed attention on the specific contribution which the statistician makes to the process of moving from the statement of an information need to the identification and definition of the appropriate data items through to the analysis and manipulation of the collected data in order to meet the information need which had been stated. The discipline of first considering and defining the information need rather than, as often happens in practice, moving straight to the data items to be included in a return or other data system, has sometimes not been easy to master and it has often fallen to the statisticians involved to provide a lead in this process.

Their experience has been broadened by the need to relate the technical merits (or otherwise) of particular ways of collecting and transmitting data to considerations of confidentiality, management practicability in health authorities whose current capacity for handling statistical data and information vary widely and, by no means least, of cost. The experience of working in a multi-disciplinary team has been very valuable for the statisticians concerned. While the multi-disciplinary and concensus style of working has, on balance, produced better results and been an essential ingredient in producing widely acceptable recommendations it has on occasion proved frustrating to statisticians who have been more used to tackling problems which were perceived as essentially technical in a technical manner. Particularly valuable has been the way in which all of those involved in this work have had to focus on the fact that statistical management information has value only to the extent that it makes an effective contribution to the management, monitoring and development of our health care services.

In the course of participating in the reviewing process, the government statisticians concerned have of necessity become much more fully aware of the environment of basic data collection and the impact this has

on the quality of the resulting statistics. In the normal course of events the government statisticians inevitably become somewhat isolated from the basic data-gathering process which is undertaken within the NHS. It has been a very considerable benefit to be reminded of the problems and conditions which obtain. If it is possible to maintain this contact it may well prove easier than in the past to hold together the data gathering process and the analytical and interpretative statistical work which depends upon it. This in itself should lengthen the period before another comprehensive review becomes necessary. Another lesson which has been learnt or re-learnt has been the difficulty of putting a value not only on the benefit of statistical information but also on the cost of obtaining it. Where statistics are produced as an integral part or direct by-product of administrative processes, as is usually the situation in the health field, the identification of the cost of producing the statistics becomes a task of considerable difficulty and not susceptible to the somewhat simplistic approach with which some of us approached this problem initially.

The Körner Review is still at a fairly early stage. As indicated above, only one of the major reports expected has so far been produced and it will be several years before the end-product of the work will be in use and we will be in a position to assess its quality. It is already clear that in some parts of the field the Review will yield an information system whose basic structure resembles the current one but with marked changes within that structure. In others, the new system will differ radically from the existing *ad hoc* collection of separate returns. There are still considerable problems to be tackled and solved. One of these is the need to harness the computing facilities of the NHS to the effective operation of the new systems. The need to tackle one field at a time means that achieving compatibility between fields will be more difficult. With all these qualifications though, those who have been involved in this Review have felt stimulated and privileged to be involved in a project which seems likely to settle the information basis for health service management and planning for a generation.

References

1. 'The Use of Statistics in Health Planning' by W. Rudoe, *Statistical News* 26.1 (HMSO August 1974)
2. *Management Arrangements for the Reorganised National Health Service* (HMSO 1972)
3. *Sharing resources for health in England* (HMSO 1976)
4. *Report of the Royal Commission on the National Health Service* Cmnd. 7615 (HMSO 1979) (Price £8.00 net)
5. *Steering Group on Health Services Information. A report on the collection and use of information about hospital clinical activity in the National Health Service* (HMSO November 1982) (Price £5.95 net)
6. *Converting Data into Information*. Proposals formulated by members of two workshops held in March 1982 about the management arrangements required for collecting valid clinical data and providing a district information service. Published by the King Edward's Hospital Fund and available from The King's Fund Centre, 126 Albert Street, London NW1 (Price £1.00 net)

The Department of the Environment's Census Unit

Roger Sellwood, Chief Statistician, and Anne Wheatcroft, Statistician, Departments of the Environment and Transport

Introduction

The Government Statistical Service (GSS) is not only a major provider of statistical information in the United Kingdom, it is also a main user. Very often these two aspects are combined, or the customers too varied, for their particular requirements to warrant special attention. However, the Departments of Environment and Transport (DOE/DTP) uses of Census of Population data are sufficiently large and diverse for the departments to establish a unit within DOE to advise, co-ordinate and provide special analyses.

Most, if not all, questions in the Census have some relevance to DOE/DTP – for housing, planning, inner cities and transport policies. Also, population and census related indicators are used in allocation procedures e.g. Rate Support Grant. Data are required nationally, regionally and for local authority districts, as well as for small *ad hoc* areas such as Inner City Partnership Areas, Housing Action Areas and Areas of Outstanding Natural Beauty. Therefore ready access to, and analysis of, the full data-base made available by the Office of Population Censuses and Surveys (OPCS) is required. An important part of this data-base is the Small Area Statistics (SAS), a set of over 50 tables for each of the 120,000 enumeration districts (eds), covering about 4,000 separate pieces of data for each ed. Of course, no data on individual households are available.

Establishing the unit

Prior to 1981, work was done piecemeal on the various aspects of the Census that concerned DOE/DTP. Different directorates, in different buildings, provided separate services. For instance, statisticians were responsible for unpublished tabulations, and planners were the main source of data, and in particular maps, from the SAS. This led to some duplication of effort, and there was a serious duplication of expertise on census topics. In planning for the 1981 Census, a decision was taken to establish a single multi-disciplinary team of statisticians, planners, computer specialists, research staff and a cartographer. The team was called the Census Unit and was based in one central location. It was headed by a Statistician and steered by a Census Policy Management Group (CPMG) with the remit 'to meet the departmental needs for census analysis in a cost effective manner'. The CPMG was chaired by a Chief Statistician and brought together computing and

planning experts as well as key DOE users of census results. Mr G. Thomas (former Head of Social Survey Division OPCS) was appointed as the consultant/adviser to CPMG. It met on nine occasions, in just over a year.

The unit's work

The most pressing task for the Unit was the design and implementation of a computer system to access the SAS and to analyse and map SAS data. It was for this task in particular that the computing specialists were attached to the Unit, alongside the other professionals. The job was too large and complex for the statisticians and planners to undertake efficiently themselves, and, as initially both the hardware and software were relatively unknown quantities, it was impossible to define the usual user-specification of computing requirements. Instead, the computing specialists in the team were involved from the outset in the evolution of the project, and the close collaboration between computing and other professionals allowed a much greater flexibility when responding quickly to changing requirements and unforeseen difficulties.

Cost constraints were paramount in determining the computer hardware. A full investment appraisal of various options was carried out, which recommended the expenditure of some £100,000 to enhance a Prime mini-computer already installed in the Department, and used by the Operational Research Division. (Other options considered included a separate mini-computer, main frames and bureaux.) The choice of the mini-computer restricted the amount of the data-base that could be accessed at any one time, and entailed a fairly sophisticated job control system, installed by the computing experts.

Other software was purchased, in the form of packages. The SAS is a large data-base and few general packages have the capacity to handle it, unmodified. However, a special package, Small Area Statistics Package (SASPAC) was being commissioned by the Local Authority Management Services and Computer Committee (LAMSAC) for a consortium of some 150 local authorities and the DOE. Although unproved, this package appeared the best option. The Geographic Information Manipulation and Mapping System (GIMMS) was selected as the mapping package because of its interface to SASPAC, and its general use in census work. A new version, GIMMS 4 was being

written, which was suitable for the mini-computer installation.

It was essential to take decisions quickly after the Unit was established, in September 1981, because the first data were due from OPCS at the end of that year. Risks to be assessed included possible total reliance on unknown hardware and the use of untried software, therefore some contingency arrangements were established. These were necessary because data were required by April 1982 for incorporation into the Grant Related Expenditure (GRE) calculations for the Rate Support Grant. A simple robust service for summary data was set up using a standard tabulation package, Filetab and one of DOE's main frame computers located at Hastings.

Several key people involved in the development of SASPAC and GIMMS were engaged as consultants to the Department to advise on technical developments, these included Professor Rhind of Birkbeck College, and Mr T. Waugh of GIMMS and Edinburgh University.

SASPAC was delayed from January until July 1982 and Filetab used extensively, not only for GREs but also for meeting the Housing and Inner City Directorates' needs: a Senior Assistant Statistician played a major part in the success of these analyses. The GIMMS consultancy proved particularly effective, as the package was less 'user-friendly' than SASPAC: the interface with graphics terminals and plotters presented challenging problems, also the input of digitised boundaries for wards and districts – which enabled maps of those areas to be drawn by the computer. The full SASPAC service was available by August 1982, with mapping following in January 1983.

Costs

In total, establishing the Unit and the provision of an effective census analysis and mapping service cost the Department about £350,000 – some £10,000 more than the original estimate. Customers within the Department are provided with cost estimates for their jobs and will be able to compare forecasts with actual costs. No computing staff are now involved and many of the analyses are prepared by Clerical Officers under the supervision of an Executive Officer. Further work planned for the Unit includes more sophisticated statistical analyses of census data, and linking the census data to other data-bases e.g. land use statistics.

Links with the Registrar General's Office

The establishment of the Census Unit also helped in forging good working relationships with OPCS through channelling all queries through one source. Not only were data supplied and queries answered quickly, but DOE were informed of problems, and other develop-

ments which helped the Department to adjust rapidly to changing circumstances.

The two Departments also collaborated in two major exercises. The first was to construct a set of computer files of census data for 1971 and 1981 for the smallest comparable areas or 'census tracts', made up of either single enumeration districts or, where the enumeration district boundaries had changed between censuses, groups of enumeration districts with common outer boundaries. The development work for this project was pioneered by DOE, who also funded the processing and preparation of the tracts undertaken by OPCS. OPCS subsequently marketed the files to non-Government users. The availability of a standard set of 1971/81 comparisons is an important new development in the census data-base.

The second exercise involved definitions of urban and rural areas, and the identification of enumeration districts in the two categories. Ordnance Survey were commissioned by DOE to define the boundary of the built up area on each 1:10,000 map sheet, OPCS are identifying the enumeration districts in these areas and DOE processing the statistics from the SAS. Summary data for each identified urban area will be published by OPCS.

Other revenues are expected from the marketing by a private organisation of digitised boundaries prepared for the Census Unit for which DOE are charging a fee.

Possibilities for the future

Collaboration between OPCS and DOE, and other government departments with less extensive needs for SAS data, could be taken even further with the establishment of a central bureau for SAS tabulations and maps to serve all government departments. This could be run either by the main user DOE, or OPCS itself. Similar bureau-type services are offered by several of the country's largest county councils for the districts in their areas. This approach could also be extended to other large data-bases e.g. LFS, GHS, etc given sufficient demand.

Conclusion

The main conclusion from operating the Census Unit during the last year or so, is that multi-disciplinary teams can work. The interaction of different professional disciplines widened the outlook of the members, who were a part of a team charged with Departmental objectives. Decisions could be taken quickly as the need arose. The ready access to computing facilities was also important and encouraged this attitude of flexibility. DOE's Census Unit is proving an effective means of providing an analytical and mapping service: members of the GSS have played an active role in its development.

Recently available statistical series and publications

The following publications containing social statistics have recently, or will soon become available during the January–March quarter of 1983. Unless otherwise specified, copies may be purchased from Her Majesty's Stationery Office. A list of release dates of economic series is published monthly in *Economic Trends*.

Department of Employment

Employment Gazette, published towards the end of each month, regularly contains indicators on employment, unemployment, earnings, and prices. The December issue carried the first detailed figures of unemployment on the new (claimant) basis; including extended back series. The first results from the 1981 Census of Employment were also published in December, and most of the employment series are being revised accordingly, beginning with the December *Gazette*.

Departments of the Environment and Transport

Housing and Construction Statistics, third quarter 1982
Part 1 No 11

Housing and Construction Statistics, third quarter 1982
Part 2 No 11

Local Housing Statistics Issue 63, figures for the second quarter

Local Housing Statistics Issue 64 figures for the third quarter

English House Condition Survey 1981, Part 1: Report of the Physical Condition Survey

Commercial and Industrial Floorspace England 1979-1982

Digest of Environmental Pollution and Water Statistics
No 5 1982

Statistical Bulletins:

Traffic in Great Britain second quarter 1982 (STCG2 (82) 2)

Traffic in Great Britain third quarter 1982 (STCG2 (82) 3)

Road Accidents and Casualties in Great Britain third quarter 1982 (STCG4 (82) 5)

Departmental Statistical Bulletins are available from:

STCG3

DOE/DTP

Room A140

Romney House

43 Marsham Street

London SW1 3PY

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, invalidity and injury benefits. Extracts and summaries from these series are eventually published in *Social Security Statistics*.

Further information can be obtained from:

Mr R. V. Easey,

Department of Health and Social Security,
Room A2111,

Newcastle Central Office

Newcastle-upon-Tyne NE98 1YX

Telephone: Newcastle (0632) 797373

Scottish Education Department

Basic Educational Statistics (Scotland) Fact Card Statistical Bulletins on the following subjects:

Excess and Deficit of Teachers by Subject

School Leaver Projections

Student Awards and Bursaries

University Students

Pupils and Teachers in Education Authority

Primary and Secondary Schools

Destinations of Young People Leaving School

New Surveys assessed by the Survey Control Unit September to November 1982

For further information on the surveys listed, the appropriate departmental contact may be obtained from Miss Claire Gallagher (01-233 8583), Survey Control Unit, Central Statistical Office, Great George Street, London SW1P 3AQ.

An introductory note was given in Statistical News 36.41

New Surveys assessed September to November 1982

Title	Sponsor	Those approached	Approximate number approached	Location	Frequency
Business surveys					
BOTB: 1982/3 Evaluation Research	COI	Exporters	400	GB	AH
Design for Profit Research	COI	Manufacturing firms	600	GB	AH
ECGD Product Research	COI	Exporters	455	GB	AH
Home Office Crime Prevention Campaign Retail Audit	COI	Retail firms	110	GB	AH
Youth Training Scheme Survey	DEm	Employers	2000	EW	AH
Japanese Direct Investment in UK Industry	DIT	Manufacturing firms	75	UK	AH
Economic Assessment of the Non-Ferrous Foundry Scheme	DIT	Non-ferrous foundries	50	UK	AH
Economic Assessment of the Ferrous Foundry Industry Scheme	DIT	Ferrous foundries	51	GB	AH
Average Grower Prices for Home Grown Herbage Seeds	MAFF	Seed merchants	14	UK	A
Egg Production Survey	MAFF	Egg producers	500	EW	M
Survey of Exporters of Frozen Mackerel	MAFF	Exporters	19	UK	M
Economics of Fish Farming	MAFF	Fish farmers	475	E	AH
Performance of Forage Harvesting Systems	MAFF	Farmers	300	EW	AH
Office Training Centre – Audio Project	MSC	Participants	20	GB	AH
Evaluation of Merseyside Advisory and Training Unit	MSC	Employers, trainees, instructors, and control-group	450	NW	AH
Open Learning System for Engineering in Wales	MSC	Engineering firms	400	W	AH
Survey of Technicians Training in the Theatre Industry	MSC	Theatres	150	GB	AH
Scottish Ports Traffic Study	SDA	Shipping Companies	80	S	AH
Civil Engineering Consultancy Industry in Scotland	SDA	Engineering consultants	50	GB	AH
Survey of Road Haulage Industry in Scotland	SEPD	Freight firms	250	S	AH
Local authority surveys					
Electrically Heated Public Sector Dwellings – Scotland	BRE	Housing departments	70	S	AH
Study into Defects in Public Sector Housing	BRE	Housing departments	NK	EW	HY
FESR Supplementary Return	DES	Education departments	520	E	AH
Schemes of Approved Adoption Allowances – Children Act 1975	SED	Social services departments	19	S	A
Other Surveys					
Survey of Performance of Syphonic WCs	BRE	Owner-occupiers	1000	SE	AH
Examination of Water Gas and Electricity Services in Houses in NW England	BRE	Households	300	NW	AH
1982 Birch Hill Experimental Plumbing Survey	BRE	Households	13	SE	AH
Soldier Recruitment Publicity Research	COI	Youths	376	E	AH
1982/3 Drink and Drive Campaign	COI	Drivers	1200	E	AH
Study of Enterprise Allowance Schemes	DEm	Unemployed	2000	E	AH
Counselling Studies – Abortion, Sterilisation and Vasectomy	DHSS	Adults	700	E	AH
Unemployment and Family Living Standards	DHSS	Unemployed	55	E	AH
Site Requirements of Large to Medium Industrial Projects	DoE	Private and public business	40	GB	AH
M1/A1 Link Road – 1982 Haven Ports Survey	DTp	Drivers	1000	SE	AH
Greater Manchester/Cheshire Border – Roadside Interview Survey	DTp	Drivers	5000	NW	AH
Short Holiday Breaks in Brighton	ETB	Tourists	300	SE	AH
Conference and Exhibition Visitors to Brighton	ETB	Visitors	250	SE	AH
Survey of Conference and Exhibition Organisers	ETB	Organisers	30	GB	AH
Duplicate Diet Survey	MAFF	Children and adults	100	E	AH
Transferability of Word Processing Skills	MSC	Trainees	25	SE	AH
Youth Opportunities Programme – Travel Survey	MSC	Youths	3000	GB	AH

New Surveys assessed September to November 1982 (continued)

<i>Title</i>	<i>Sponsor</i>	<i>Those approached</i>	<i>Approximate number approached</i>	<i>Location</i>	<i>Frequency</i>
Other Surveys (continued)					
Evaluation of Gateshead Vacancies Library Link Project	MSC	Unemployed	200	N	AH
Households' Property and Contents Insurance	OFT	Households	2000	GB	AH
Women and Drinking	OPCS	Women	NK	EW	AH
Follow-up of Potential Movers	OPCS	Intending movers	140	GB	AH
Disabled and Unemployment	OPCS	Unemployed	1200	GB	AH
New Household Definition	OPCS	Households	3726	E	AH
Attitudes to the Weather Forecasting Service	OPCS	Adults	1000	GB	AH
Council House Sales Study	SDD	Tenants	1800	S	AH
Financial Consequences of Divorce	SO	Adults	100	S	AH
Subways Conversion Attitude Studies - Chelmsford	TRRL	Cyclists	1200	SE	AH
West Midlands PTE Travelcard Study	TRRL	Passengers	3800	WM	AH
Drivers Appreciation of Accident Risk	TRRL	Drivers	225	EM	AH
Adaption to Traffic Nuisance	TRRL	Adults	50	UK	AH
Passengers on 'Rapide' Coach Services	TRRL	Passengers	2000	E	AH
Access to Cars for Disabled and Elderly People	TRRL	Elderly	2050	GB	AH
OAP Grants Survey	WO	Households	350	W	AH
Area Improvement and Renewal Policy	WO	Households	750	W	AH
Heating Installations in Rehabilitated Properties	WO	Households	400	W	AH
Construction Problems in Public Sector Housing in Wales	WO	Households	1000	W	AH

LIST OF ABBREVIATIONS

General

BOTB British Overseas Trade Board
ECGD Export Credits Guarantee Department
FESR Further Education Student Return

Sponsors

BRE Building Research Establishment
COI Central Office of Information
DEm Department of Employment
DES Department of Education and Science
DHSS Department of Health and Social Security
DIT Departments of Industry and Trade
DOE Department of Environment
DTp Department of Transport
ETB English Tourist Board
MAFF Ministry of Agriculture Fisheries and Food
MSC Manpower Services Commission
OFT Office of Fair Trading
OPCS Office of Population Censuses and Surveys
SDA Scottish Development Agency
SDD Scottish Development Department
SED Scottish Education Department
SEPD Scottish Economic Planning Department
SO Scottish Office
TRRL Transport and Road Research Laboratory
WO Welsh Office

Location

E England
EM East Midlands
EW England and Wales
GB Great Britain
N Northern England
NW North West England
S Scotland
SE South East England
UK United Kingdom
W Wales
WM West Midlands

Frequencies

A Annual
AH Ad hoc (or single time)
M Monthly

Notes on current developments

POPULATION AND VITAL STATISTICS

Population Trends

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

A review of 1981

The editorial of this last edition to be produced under the editorship of Philip Redfern (who retired from OPCS in December) noted that the 18th decennial census of the population was conducted during the year. The enumerated population in Great Britain was just under 54.3 million, which represented an increase of just 0.6 per cent since 1971 – the smallest inter-censal change ever recorded and compared with an increase of just over 5 per cent between 1961 and 1971.

The number of births in England and Wales declined in 1981, after increasing in the preceding three years, to a figure of 634,000, some 3 per cent fewer than in 1980; the number of illegitimate births, however, rose by some 4.7 per cent to reach a total of 81,000. The number of abortions carried out to women resident in England and Wales fell slightly to 128.6 thousand. This was the first year in which numbers decreased since 1976.

Provisional figures for marriages show that there were 352,000 during the year in England and Wales. This was 5 per cent fewer than in 1980; just under three quarters of all brides and all grooms were marrying for the first time. The number of divorce decrees made absolute, at 146,000, also fell; the number was 2 per cent fewer than in the previous year.

There were just three thousand fewer deaths in 1981 than in 1980; the fall was greatest in the June quarter, which was partly balanced by an increase in the last quarter, reflecting the early onset of winter conditions in December that year. The absence of an influenza epidemic contributed to the continued fall in mortality which has been experienced throughout the 1970s. The decline in infant mortality also continued and the rate fell to 11.1 per thousand births. This represents a decline of 50 per cent over the last two decades.

The pattern of migration from countries outside the British Isles continued with a fall of 21,000 in the number of immigrants (12 per cent). This was marginally greater than the decrease between 1979 and 1980. By contrast, the 2 per cent increase in the number of emigrants to 233,000 was much smaller than the increase of over 20 per cent in the previous year.

Recent trends in illegitimate births and extra-marital conceptions

Since the 1960s the proportions of the annual number of births in England and Wales which are illegitimate have been growing; this article by Barry Werner of OPCS Population Statistics Division reviews trends during the 1970s.

Widowhood, widowerhood and remarriage

Trends in the numbers of widowed persons in England and Wales this century are discussed in this article by John Haskey, of OPCS Population Statistics Division, and a description is given of the factors affecting the size of the widowed population. The paper concludes with the results of a birth cohort analysis in which the incidence of being widowed is estimated for selected cohorts from 1890.

Profile of our cities

Earlier this year OPCS published seven supplements in the 1981 Census County Monitor series giving statistics on population and housing in the Special Areas designated under the 1978 Inner Urban Areas Act. All seven areas suffer varying degrees of adverse social conditions as measured by the Census. This article by Philip Redfern, Deputy Director of OPCS, takes the analysis further and sets the cities with high numbers of people suffering poor conditions alongside those that enjoy a more favourable environment.

References

- Population Trends* 30 Winter 1982 (HMSO 1982) (Price £4.50 net)
Census 1981 County Monitor Supplements on: Hackney-Islington CEN 81 CM 17/S1
Lambeth CEN 81 CM 17/S2
Docklands CEN 81 CM 17/S3
Manchester-Salford CEN 81 CM 18/S
Liverpool CEN 81 CM 26/S
Newcastle-Gateshead CEN 81 CM 41/S
Birmingham CEN 81 CM 43/S

All available from OPCS, Information Branch; (Dept M), St Catherines House, 10 Kingsway, London, WC2B 6JP. (Price 30p each net)

Population estimates

A report published in December gives the best factual comparison that can be made at present between the results of the 1981 Census for England and Wales and the Registrar General's annual series of population estimates which had been carried forward from the 1971 Census. This has been done to provide an agreed set of facts about the accuracy of the annual estimates which central and local government can use.

The report: explains how the population to be compared were derived (Section 2); sets out the comparison, for each local authority, of an all ages aggregate population; and also of comparisons by seven broad age-groups (Appendix 1); summarises the results of the comparisons (Section 3), noting some possible causes of the observed differences; lists what improvements in the sources and methods might be possible (Section 4).

The report was prepared initially for use by central and local government. When the detailed census data are available the calculations will be repeated and published, together with a set of 1971-1980 population estimates retrospectively revised to take account of the 1981 Census.

Reference

A comparison of the Registrar General's annual population estimates for England and Wales with the results of the 1981 Census by Population Statistics Division, OPCS (Occasional Paper 29) (OPCS) (Price £3.00 net)

Occasional Papers are available from Information Branch (Dept OP), OPCS, St Catherines House, 10 Kingsway, London WC2B 6JP.

Fertility report from the 1971 Census

The Census of 1971 contained the most detailed questions relating to fertility of ever-married women included in any regular decennial census. All married, widowed and divorced women who had not passed their 60th birthday were asked to state the number of children born alive to them in marriage, the date of birth of each of these children, the date of their first marriage and, where appropriate, the date of the end of that marriage. An OPCS report, published in February, gives detailed commentary on, and analysis of, the results which have been published previously in three volumes. The report also draws on additional unpublished material and results from earlier censuses and the Family Census of 1946.

References

Fertility report from the 1971 Census Series DS No. 5 (HMSO 1983) (Price £9.80 net)

Census 1971 Fertility Tables, Volumes I, II and III (HMSO 1979) (Prices: Vol I £9.25 net; Vol II £6.25 net; Vol III £11 net)

Summary and review: local authorities

An *OPCS Monitor* which highlights the diversity between local authority areas in Great Britain was published in December. Key results of the 1981 Census for local authorities have previously been published in *OPCS County Monitors* for each of the 54 counties of England and Wales and in *GRO(S) Regional Bulletins* for the nine regions and the Islands Areas of Scotland; the corresponding national and regional aggregates have also been published.

The present Monitor, by giving national average values and extreme values enables the previously pub-

lished local values to be set in the national context. Geographical patterns are shown by maps of selected variables.

The review covers about one half of the variables in the County Monitor and Regional Bulletin tables. The pruning was made partly for reasons of space and partly because the patterns for some of the omitted variables follow closely the patterns of variables included.

References

Great Britain - Summary and review: local authorities CEN 81 CM 58 (OPCS) (Price 50p net)

OPCS County Monitors are available from OPCS at address given above

GRO(S) Regional Bulletins are available from Customer Services, General Register Office, Ladywell House, Ladywell Road, Edinburgh EH12 7TF

Census 1981: Historical Tables 1801-1981

Published in December was a volume of comparative statistics from the 1981 Census and previous censuses. The tables, which refer to the population present on census night, contain the following information:

the population and intercensal variations by sex for successive censuses 1801 to 1981 for Great Britain, England and Wales, England, Wales and Scotland;

the population, its proportional distribution and percentage increase or decrease between selected censuses from 1861 to 1981 for England and Wales, England, regions of England, metropolitan counties, regional remainders, Wales, and non-metropolitan counties;

the population by age, sex and marital status at successive censuses from 1861 to 1981 for England and Wales: and, for England, Wales and England and Wales, the proportion within each sex-age group by marital status.

Reference

Census 1981: Historical Tables 1801-1981 England and Wales CEN 81 HT (HMSO 1982) (Price £3.50 net)

1981 Census - Scotland

Regional Reports (replacing the County Reports of previous Censuses) are being published in 4 Volumes. Volumes 1, 3 and 4 for all regions are now available and Volume 2 will become available during February 1983. The 100 per cent and 10 per cent Small Area Statistics are now available for enumeration districts and their aggregation to postcode sectors, local government districts, Islands Areas and Regions. Small Area Statistics are also available for non-standard areas (civil parishes, wards, etc.) and for 1971 data reformatted to 1981 layout. A number of Scottish topic volumes will be published this year, including Gaelic Tables, Country of Birth Tables and the Housing Report.

Further details of all these publications may be obtained from:

Census Customer Services
GRO(S)
Ladywell House
Ladywell Road
EDINBURGH
EH12 7TF

Vital statistics (Scotland)

Vital statistics tables relating to the third quarter of 1982 appeared in the Registrar General's Weekly Return from WR 47/82.

Northern Ireland Census 1981

A detailed report for the Belfast local government district was published on 13 January 1983 by HMSO on behalf of the Department of Health and Social Service (NI): price £7.90 net.

Electoral registration in the United Kingdom

Two reports were published in December giving the results of surveys of electoral registration carried out by the Social Survey Division of the Office of Population Censuses and Surveys.

Electoral registration in 1981 is in two parts. Part 1, a study of people living in private households in England, Wales and Scotland, looks at the level of under-registration, including comparisons with 1966; the level of non-registration for different groups, including details by region, age nationality; and the electoral register as a sampling frame. Part II of the report looks at electoral registration in Inner London.

The electoral registration process in the United Kingdom is the report of a survey which included all the electoral registration officers in the United Kingdom. The report includes chapters on collecting electoral registration information, processing the information and resources used in the electoral registration process. The final chapter looks at difficulties with registration and the work of electoral registration officers.

References

Electoral registration in 1981 by Jean Todd and Bob Butcher (SS 1168) (OPCS) (Price £3.00 net)

The electoral registration process in the United Kingdom by J E Todd and P A Dodd (SS 1171) (OPCS) (Price £3.00 net)

SOCIAL STATISTICS

Regional Trends 18: 1983 Edition

The 1983 edition of *Regional Trends* will be published shortly. The volume contains over 110 tables and 50 maps or charts and brings together detailed information

on Scotland, Wales, Northern Ireland and the eight regions of England. Summary information is also given for the counties of England and Wales and the local authority regions of Scotland.

The statistics and commentary cover a wide range of topics – social, demographic and economic – highlighting regional variations and similarities. Variations within each region are also drawn out where possible, as is each region's position relative to the United Kingdom as a whole.

Regional Trends is an important reference document for anyone with regional interests e.g. multi-site companies and enterprises, as well as regional planners, marketing managers and academics.

The new edition contains more results from the 1981 Census and tables on the institutional population and on ethnic origin. Results from the 1981 Family Expenditure Survey are given, together with those from the 1982 New Earnings Survey.

Further details can be obtained from:

Mr I. S. McCulloch
Branch 3
Central Statistical Office
Great George Street
London
SW1P 3AQ
Telephone: 01-233 7525

Reference

Regional Trends 18: 1983 Edition (HMSO 1983) (Price to be announced)

Family Expenditure Survey (FES) 1981

The *FES report for 1981* was published in December 1982. It contained 32 tables and 4 charts detailing average weekly expenditure on 94 commodities and services by households, classified by income level and household composition, together with complementary information on income and characteristics.

Following publication of summary results for the 1981 FES in the September 1982 issue of *Employment Gazette*, the December 1982 issue examined certain more specific areas of household finances. These included the variation of expenditure and income with household composition and broad income level, and with the employment position of heads of household and married women with or without children; and also the availability of certain durable goods by household composition and by region. The effects of reweighting key results from the 1980 FES to reflect the higher survey response achieved in 1981 (72 per cent compared with 67 per cent) were also explored. Further topics from the 1981 FES will be examined later in *Employment Gazette*.

A paper giving a comprehensive description of the FES and a selection of typical results, originally pub-

lished in *Employment Gazette* in 1978, has now been brought up to date. Copies of the revised booklet (Family Expenditure: A plain man's guide to the Family Expenditure Survey) are available on application to the Department of Employment (Tel: 01-213 3806).

References

Family Expenditure Survey Report for 1981 (HMSO 1982) (Price £13.00 net)
Employment Gazette September and December 1982 (HMSO) (Price £2.25 net)

The effects of taxes and benefits on household income 1981

The latest analysis of the redistributive effects of government taxation and expenditure was published in the December 1982 issue of *Economic Trends*.

The analysis shows that, for all households together and for each household composition type, the spread of household incomes is reduced by taxes and benefits.

This year's article also analyses trends in redistribution between 1977 and 1981; and it shows movements of households between original and final income groups.

Further information can be obtained from:

Mr D. Westcott
Branch 8
Central Statistical Office
Great George Street
London SW1P 3AQ
Telephone: 01-233 8300

Reference

Economic Trends, No 350, December 1982 (HMSO) (Price £9.75 net)

Judicial statistics 1981

The 1981 report on Judicial statistics was published in December 1982.

The report combines in one volume statistical information on the criminal and civil business of those courts in England, Wales and Northern Ireland for whose administration the Lord Chancellor is responsible, some associated offices, the Judicial Committee of the Privy Council and certain tribunals.

The layout is similar to that used in 1980. Each section has its own introduction, is self-contained and includes, where appropriate, a brief description of the function, constitution and jurisdiction of the court or tribunal concerned. The information relates to the calendar year 1981.

Reference

Judicial Statistics Annual Report 1981 Cmnd. 8770 (HMSO December 1982) (Price £9.25 net)

The computer production of criminal statistics, England and Wales

For nearly 180 years *Criminal statistics, England and Wales* has been the main source of national statistics relating to crime and criminal proceedings. In 1973 this Command Paper published by HMSO consisted of 241 pages and sold at a price of £1.85 net; by 1979, the publication had doubled in size – mainly by the addition of interpretative commentary – and sold at £16.80 net. The effect of the increased size and price was thought by some to prevent the publication from reaching as wide an audience as it might.

It was therefore proposed that the publication be split into (a) the commentary, including historical tables and graphs of interest to the general reader and (b) supplementary tables covering the very detailed information for the latest year of interest mainly to academic researchers, etc. Whilst it was recognised that the total price of purchasing all the information hitherto under one cover would be increased, this was justified by the cheaper volume covering the main topics and trends.

To economise on printing and other production costs, it was also decided to produce the supplementary tables direct from the computer; this saved clerical effort. Previously 100,000 figures had to be identified and extracted from printouts and turned into printers copy; the task of proof-reading was considerable. The Home Office Statistical Department in conjunction with Home Office ADP Unit developed a purpose built computer system to provide more directly usable printout at a much lower cost in terms of processing time. This suite of programs formed the framework for the production of volumes of *Criminal statistics* in 1980 replacing the single volume of earlier years.

The 1981 edition consisted of a Command Paper of 220 pages (selling at £10.65 net) and four supplementary volumes consisting of around 1,000 pages of mainly photo-reduced computer printout (selling at £30 for the four volumes and available from Home Office Statistical Department). Individual tables from the supplementary volumes may be purchased separately also from the Home Office Statistical Department.

Now that the form of the supplementary tables has been established, the possibility is being examined of their presentation on microfiche for specialist users, such as researchers, criminal justice agencies and large libraries.

For details of the contents and availability of *Criminal statistics, England and Wales* see *Statistical News* 59.33.

Reference

Criminal Statistics, England and Wales 1981 Cmnd. 8668 (HMSO 1982) (Price £10.65 net).

HEALTH AND SOCIAL SERVICES

Health and Personal Social Services Statistics for England 1982

The latest edition of *Health and Personal Social Services Statistics* was published in November 1982, the eleventh in a series designed to present statistical information on developments in the health and related personal social services. The volume contains 123 tables, most of which show trends over several years but some present more detailed analyses for a recent year. In general, figures for England have been given although in some cases figures for England and Wales for earlier years have been retained. Several tables contain data for each Regional Health Authority area in England. The new edition covers, in the main, data for 1980 and earlier years although it has been possible to include later figures in some tables.

The information is compiled from returns submitted by Health Authorities to the Statistics and Research Division of the Department of Health and Social Security, and from statistics relating to health collected by other Departments. As in previous volumes, the tables are grouped under thirteen section headings. The largest covers all types of staff in hospitals, general practitioners and community health staff. Other principal sections contain information on the services provided by the Family Practitioner Committee, Community Health, and the Psychiatric and Personal Social Services. Also presented are tables dealing with the finance of the services, administration of National Health Service hospitals, population and vital statistics, and morbidity. Small sections include figures on maternity and child health, preventive medicine and abortions.

Reference

Health and Personal Social Services Statistics for England 1982 (HMSO) (Price £7.50 net).

Social Security Statistics 1982 Edition

This is the tenth issue of the annual *Social Security Statistics* compiled by the Department of Health and Social Security. It provides tables covering each of the social security benefits, National Insurance contributions, finance and relative movements on contributions, benefits and prices and earnings. Tables showing trends over several years are included and detailed analyses are provided for the most recent year available.

The tables are grouped in sections according to benefit or subject and relate to Great Britain unless otherwise stated. A brief descriptive note of the main features of the relevant benefit, as they currently apply, appears as a prologue to each section. These notes do not purport to cover all the conditions for entitlement to benefit or payment of contributions, nor do they give a history of the various changes which have

occurred over the years. If more information is required on a particular subject, a copy of the appropriate explanatory leaflet should be consulted, and a list of these is given in Appendix 1. Other appendixes give the sources of the statistics, description of social security regions and description of standard regions.

As a result of past industrial action, it has not been found possible to include current statistics on Sickness, Invalidity and Injury Benefits in this volume, and the statistics on Unemployment Benefit are deficient for the same reason. However it is expected that the shortfall of statistical data on the incapacity benefits will become available early in 1983, and interested users will be provided with updated material on application to the address given below.

Any enquiries, or requests for further information, regarding statistics about social security should be sent to:

Department of Health and Social Security,
Statistics and Research Division,
HQ Division SR8,
Room A2111, Newcastle Central Office,
NEWCASTLE UPON TYNE NE98 1YX,
Telephone: Newcastle (0632) 79 7373.

Reference

Social Security Statistics 1982 (HMSO 1982) (Price £12.25 net).

Health and Safety Statistics 1980

The tables in this issue of *Health and Safety Statistics* are grouped into ten sections as in previous years. The tables refer to Great Britain, to employees only and to calendar years, unless otherwise specified. Series of figures extending back to the early 1970s are included where possible, as this enables underlying trends to be more clearly distinguished even where there are considerable year to year fluctuations. While any increase in recorded accidents represents real human suffering and any reduction is therefore to be welcomed, too much significance as to safety policy should never be attached to minor changes from one year to another, particularly where the numbers recorded are small.

There was a sharp decrease in the number of reported accidents in 1980 compared with previous years. While this may reflect the previously observed long-term downward trend, one other factor must also be the reduced activity in the economy. In most industries, the trend of accident rates per employee at risk, and particularly of fatal accidents rates, continued downwards in 1980. The incidence of occupational disease, in so far as it is reflected in industrial injury benefit awards, also fell.

The commentary looks first at the reported figures for accidents at work, in total and by main industry

groups, then at the record of reported industrial disease, and finally at the statistics of enforcement action taken by (Health and Safety Executive) and local authority inspectors.

This is the last volume in the current series of statistical reports which began with the 1975 Report; similar volumes were published for 1976, 1977 and 1978-79.

On 1 January 1981, new reporting regulations came into effect and, as a result, there will be a break in the statistical series as figures for 1981 onwards will not be comparable with those for earlier years. Statistics under this reporting scheme will be published in a combined report for 1981 and 1982, in order to put figures into perspective. The information will be drawn from a wider population of those at work and will distinguish the following categories: fatalities, major injuries, dangerous occurrences and accidents involving over three days' absence from work reported to the Department of Health and Social Security (DHSS) whose total has always been higher than that of the over three day accidents directly reported in the past.

The position will change substantially in April 1983, because of the implementation of the Social Security and Housing Bill. The effects of this will be essentially to reduce from April 1983 the available information coming from DHSS, probably by a factor of about five. Consideration is currently being given to what future arrangements will meet HSE's needs, including the need for timely and adequate information for enforcement as well as statistical purposes. But such needs cannot be assessed, draft regulations prepared, proper consultation with interested parties made, and regulations brought into effect, until well after April 1983. Thus the statistics for 1983 are bound to be fragmentary, and a further new series of statistics will begin at a later date.

As there will be at least two breaks in the statistical series this volume includes, as far as possible, long time series as in the last report.

Reference

Health and Safety Statistics 1980 (HMSO 1983) (Price £5.50 net)

Cancer mortality in England and Wales, 1976-1980

An OPCS Monitor published in December 1982 brings up to date the serial data that have been published on cancer mortality in England and Wales; the first publication was *Studies on Medical and Population Subjects No 29* (HMSO, 1975) which covered 1911-1970. OPCS Monitor DH1 80/3 (OPCS, 1980) provided data for 1971-78. The present Monitor provides data on cancer mortality by site for the complete five-year period 1976-1980. As before, the data are provided

for all neoplasms, all malignant neoplasms and an additional 34 sites including Hodgkins Disease and Leukaemia. Appendix I sets out the ICD codes that have been used for the 8th and 9th Revisions to provide the data for the original 36 tables. Appendix II provides the person years at risk, as in previous publications.

Reference

Cancer mortality in England and Wales, 1976-1980. OPCS Monitor DH1 82/2 (OPCS) Available free of charge from OPCS, Information Branch, St. Catherines House, 10 Kingsway, London, WC2B 6JP.

EDUCATION

Education Statistics for the United Kingdom 1982 Edition

Statistics for the education systems in England and Wales, Scotland and Northern Ireland are collected and processed separately in accordance with the particular needs of the responsible Departments. Each Education Department – the Department of Education and Science, the Welsh Office Education Department, the Scottish Education Department and the Department of Education Northern Ireland – publishes a selection of statistics concerning education within the separate countries. More detailed statistics on universities can be found in the University Grants Committee's own publications.

To illustrate the size and nature of the educational task throughout the four countries and to facilitate international comparisons, basic statistics for the whole of the United Kingdom are assembled. These statistics for the academic year 1979-80 are now published for the Department by Her Majesty's Stationery Office in *Education Statistics for the United Kingdom 1982 Edition*.

The 1982 volume displays a major change in content and a minor change in title from the last edition, *Education Statistics for the United Kingdom 1979*. The aims of the new edition are to display more fully the scope of educational statistics in a shorter volume and to publish at an earlier date than previously. These objectives have been achieved by condensing the more detailed tables and increasing the use of tables which combine data across institution types. This has resulted in 35 tables (compared with 56 tables in the last edition) and seven of these cover topics which are new to this publication. The section dealing with education beyond the compulsory school leaving age has more than doubled in its number of tables. The sections dealing with data about school leavers and teachers have also increased. Information on university and further education students is to be found in the enhanced post compulsory and higher education sections.

Further details and a selection of statistics are published in DES Statistical Bulletin 1/83, available free of charge from:

Department of Education and Science
Statistics Branch
Room 1/29
Elizabeth House
York Road
LONDON SE1 7PH
Telephone: 01-928 9222 Ext 2776

Reference

Education Statistics for the United Kingdom 1982 Edition (HMSO January 1983)
(Price £7.50 net)

Educational and economic activity of young people aged 16 to 19 years in England and Wales from 1973-74 to 1981-82.

This DES bulletin provides estimates of the educational and economic activity of young people aged 16, 17 and 18 in England and Wales from 1973-74 to 1981-82. Throughout this bulletin 16-19s are defined as those between their 16th and 19th birthdays. The estimates have been produced within the Department of Education and Science (DES) based upon its own data as well as those from other departments. They represent the best estimates that can be produced at the present time from available data of young people's activity patterns.

The ages quoted are those at the start of each academic year. Thus those aged 16 are those who would have completed their five year period of compulsory secondary education during the previous academic year. Some 70 per cent of young people leave school at that time the majority at the end of the academic year. Many proceed to further education and training. The nature and extent of such participation is illustrated in this bulletin.

Summary of main results

- About 80 per cent of 16 year olds were likely to have experienced some form of education or training at some time during 1981-82.
- 31 per cent of 16-19 year olds were in full-time and sandwich education in 1981-82: 2 percentage points higher than the previous year.
- More girls than boys have continued in full-time education at age 16
- Prior to 1981-82 the squeeze in employment opportunities and reduction in part-time day release for boys did not appear to result in increased participation in full-time education.
- Girls seldom obtain employment with part-time day release study.

Background

The estimates are based upon counts at January or during the autumn term in each academic year and thus aim to record the situation as at one time during the year. They therefore exclude from the counts of those in education those who enrolled on education courses at the beginning of the academic year but left shortly afterwards and the figures are not augmented by counts of all those attending short courses at other times of the year. For example, the Youth Opportunities Programme (YOP) estimates are based on those actually on YOP at the January count and not all involved in this scheme over a complete year.

Information is not currently available from which estimates can be prepared of those undergoing training solely on employers' premises or attending private establishments such as secretarial colleges. To that extent the estimates understate participation in education or training since such students are included in this bulletin in the category 'employment without day study'.

Information on those unemployed was built up from three different sources. The Department of Health and Social Security's annual depth study of a sample of social security claimants was used to divide the Department of Employment's January count of registered unemployed young people into single year age groups. (Each source being adjusted to provide an age basis at 31 August.) These estimates were then augmented for unregistered unemployed 16 to 19 year olds using information from the 1977 and 1981 Labour Force Surveys. The age breakdown of those on YOP was estimated using the information on ages of YOP entrants provided by the Manpower Services Commission.

Reference

Educational and Economic Activity of Young People Aged 16 to 19 years in England and Wales from 1973-74 to 1981-82, DES Statistical Bulletin 2/83, available free of charge from the Department of Education and Science, Elizabeth House, York Road, London SE1.

University students: Scotland

A statistical bulletin, published with the agreement of the Department of Education and Science and the University Grants Committee, which gives the numbers of full-time students at United Kingdom universities in December 1980 and in Scottish universities in December 1975, 1979 and 1980. For the first time details of part-time students at Scottish universities and students registered in the Open University in Scotland are included.

Pupils and teachers in education authority primary and secondary schools: Scotland

Published annually, this bulletin gives the number of pupils and teachers in education authority primary and secondary schools, and the number of schools at September 1981 and September 1982 (provisional).

Information is given for Scotland as a whole, and for regions and islands authorities; separate figures are provided for Roman Catholic schools where appropriate.

Destinations of young people leaving school: Scotland

This bulletin presents a statistical analysis of information derived from the 1981 National School Leavers Survey.

Information in the form of estimates based on sample data is given on the post-school activities of the young people who left school in Scotland during the 1979/80 school session: what they were doing in October 1980, just after their first summer 'out of school'; and in April/May 1981, when most had been out of school for approximately one year.

Copies of the above statistical bulletins can be obtained from:

Scottish Education Department
Division VII
Room 206
43 Jeffrey Street
Edinburgh EH1 1DN
Telephone: 031-556-9233 Ext 286

MANPOWER AND EARNINGS

1981 Census of employment

First results from the September 1981 census of employment were published in the December 1982 issue of the *Employment Gazette*. The Census article included tables giving a detailed breakdown of employment in Great Britain by industry headings and for each region the totals employed in manufacturing industries, service industries and all industries. The tables also compared the 1981 Census figures for regions with those from the previous Census (1978) and with provisional estimates on the quarterly series. Detailed tables giving a full industrial analysis of the total numbers employed in each region were published in a further article in the February 1983 Gazette.

The results show that there were 21.1 million employees in employment in Great Britain in September 1981 rather than the 20.6 million as previously estimated. Most of this difference between census and provisional figures is in service industries. For example the census showed a fall of 5,000 employees in the Distributive trades between June 1978 and September

1981, where previously a fall of 148,000 was indicated; and an increase in part-time females in service industries of 177,000 compared with the earlier estimate of a decrease of 54,000.

Monthly and quarterly estimates of employees were revised in summary tables of the December *Gazette* from mid-1978 to take account of the 1981 Census. Detailed revisions were published in the February edition.

These first census results have been produced in a much shorter time than hitherto. This arises partly from the use of sampling, and partly from organisational changes. Census forms were sent to all employers and in order to produce the first results quickly, only the returns from all large employers (employing over 10 people) and from a sample of small employers were initially processed. Figures from the sample have been scaled up to give estimates of all employees. Data from non-sample returns are being processed to provide detailed local statistics.

Reference

Employment Gazette (HMSO) (Price December 1982 £2.25 net February 1983 £2.35 net).

Labour Force Survey 1981

A report published in December 1982 gives some of the main findings of a large scale household survey carried out every two years in each of the member states of the European Community. This report covers the results of the survey taken in the United Kingdom in 1981. Preliminary results were published in an OPCS Monitor and in the *Employment Gazette* May and November 1982.

The survey collected information on whether people were working or seeking work and, for those working, on the kind of job they did, the industries in which they worked and the hours worked. The survey also provides some information on the components of the labour force, such as the self-employed and the unregistered unemployed, for which regular information is not available from Department of Employment monthly and quarterly statistics. The survey estimates that there were 450,000 unregistered unemployed in the second quarter of 1981, including some 50,000 people who were prevented from seeking work by temporary sickness. Comparison with the 1979 survey suggests a substantial increase in the number of self-employed; however, the true increase may not be as large as the basic survey results suggests and further consideration needs to be given to these figures as detailed 1981 Census data become available.

The survey also collected information on nationality, country of birth, ethnic origin, housing tenure and length of residence. The chapter on country of birth, ethnic origin and nationality is to a large extent con-

cerned with how the 1981 Labour Force Survey (LFS) can be used to supplement results from the 1981 Census which included a question on country of birth only. The additional material available from the 1981 LFS about the ethnic origin of the population is analysed by a number of demographic and socio-economic variables. The chapter also discusses the indicator based on head of household's birthplace, which is being extensively used in presenting results from the 1981 Census, and assesses its usefulness in giving approximate measures relating to the population of ethnic minorities compared to the direct question on ethnic origin in the LFS.

The Labour Force Survey (covering a sample of about 85,000 responding households in the United Kingdom) is sponsored by the Department of Employment and the Statistical Office of the European Communities (SOEC). It is carried out by the Office of Population Censuses and Surveys in England and Wales, by the General Register Office in Scotland and by the Department of Finance in Northern Ireland.

A list of the topics included in the survey between 1975 and 1981 is given in Appendix 3 of the published volume.

Estimates of the labour force, of unregistered unemployment in 1981, and of economic activity among ethnic minorities are expected to be published in the *Employment Gazette* in the first quarter of 1983.

References

- Statistical News* 29.25, 30.31, 47.47, 51.33, 56.17 (HMSO)
Labour Force Survey 1973, 1975 and 1977 Series LFS No 1 (HMSO 1980) (Price £5.60 net).
Labour Force Survey 1979 Series LFS No 2 (HMSO 1982) (Price £7.40 net).
Labour Force Survey 1981 Series No 3 (HMSO 1982) (Price £6.20 net).
Labour Force Survey 1981 OPCS monitor reference LFS 82/1. Issued 11 May 1982 can be obtained from Information Branch (Dept M), OPCS, St Catherine's House, 10 Kingsway, London WC2B 6JP.
'Labour Force Survey: Preliminary Results', pages 221 to 224 *Employment Gazette* May 1982 (HMSO) (Price £2.25 net).
'Trends in Working Hours', pages 477 to 485 *Employment Gazette* November 1982 (HMSO) (Price £2.25 net).

The labour force: Great Britain

Analyses based on the Labour Force Surveys for 1979 and 1981 indicate that the labour force in Great Britain increased by about 250,000 between those two years, that is, roughly in line with the increase in the population of working age. This is a different picture from that suggested by the previously published figures for the working population which had shown a fall of some 370,000, this being the amount by which the fall in employment (employees plus self-employed) had exceeded the rise in unemployment. However the series for employment are being substantially revised in the light of the results of the 1981 census of employment, for employees, and new, and higher, figures for the self-employed.

The new figures for employees, which were published in the *Employment Gazette*, December 1982, indicate a fall of 1,350,000 between June 1979 and June 1981, some 330,000 less than the fall of 1,680,000 shown in the previously published figures.

Information from the Labour Force Surveys and the 1981 Census of Population suggests a substantial increase between 1979 and 1981 in the number of self-employed. The *Employment Gazette*, February 1983, included fully revised estimates of the employed labour force, incorporating revised estimates for the number of self-employed and also an article giving detailed estimates of trends in the labour force and reconciling the figures derived from various sources.

References

- Employment Gazette* December 1982 and February 1983 (HMSO) (Price December 1982 £2.25 net; February 1983 Price £2.35 net)

Unemployment

The unemployment figures from October 1982 are from records of claimants to benefit held at Unemployment Benefit Offices. It was necessary to transfer the unemployment count to Benefit Offices, in place of the clerical count of people registering for work at Jobcentres and Careers Offices, because the latter records were no longer a valid basis for the statistics, following the introduction of voluntary registration at Jobcentres, on October 18 1982.

The full description of the new system of compiling the figures appeared in the September *Employment Gazette*. A further article has now been published in the December *Employment Gazette* describing the data now available, indicating the effect of changing from the old to the new basis, and presenting estimated figures from 1971 for the United Kingdom and Great Britain, together with a brief explanation of how these estimates were derived.

Reference

- Employment Gazette*, September 1982 and December 1982 (HMSO) (Price £2.25 net each issue)

Unemployed men

The first of a series of DHSS working papers from a detailed study of the incomes of unemployed men was recently published. The report presents results from a study of 2,300 men who came on to the unemployment register in 1978.

Reference

- DHSS Cohort Study of Unemployed Men, Working Paper No 1. *Men Registering as Unemployed in 1978 - A Longitudinal Study*, by Douglas Wood (Social and Community Planning Research), DHSS, 1982. Copies are available (price £11.70, inclusive of postage payable in advance) from: DHSS Information Division, Block 4, Canons Park, Government Building, Honeypot Lane, Stanmore, Middlesex HA7 1AR.

Department of Employment statistics reclassified to Standard Industrial Classification Revised 1980

The revised Standard Industrial Classification (SIC 80) will be introduced into the Department's statistics during 1983.

One of the objectives of this revision was to make the United Kingdom's SIC more comparable with the classification used by the Statistical Office of the European Community (SOEC), and hence to facilitate international comparisons. As a result, the structure of the Revised SIC differs significantly from that of the 1968 SIC. The changing structure of British industry has also been taken into account.

An article is planned for inclusion in the *Employment Gazette* early in 1983 which will outline the main features of the 1980 SIC and how it will affect statistical series on employment, earnings, vacancies, redundancies and industrial disputes, as well as the timetable for its introduction.

References

Employment Gazette, (HMSO monthly) (Price £2.35 net)

Standard Industrial Classification Revised 1980 (HMSO 1979) (Price £2.50 net)

Employment Gazette

The *Employment Gazette* for December 1982 contained the latest in an occasional series of articles on the earnings and hours of agricultural workers. The last article appeared in the November 1980 issue of *Employment Gazette* and dealt with earnings and hours for the year ended March 31, 1980. Data are now to be presented on a calendar year basis and this article covers the years ended December 31, 1980 and 1981.

A note and tables giving the statistics of unfair dismissal cases in 1981 was also included.

Reference

Employment Gazette, December 1982 (HMSO) (Price £2.25 net)

Homework in Wages Council industries: a study of pay and earnings

A note about homework in Wages Council industries appeared in the November issue of *Statistical News* (59.37). The price of the research paper by C. Hakim and R. Dennis was given as £6.00 net. It is in fact available free of charge from the Department of Employment, Caxton House, Tothill Street, London, SW1H 9NF.

AGRICULTURE

Results of the Scottish Sample Pig Census

The results of the August 1982 Scottish Sample Pig Census were published as a Scottish Office Press Notice on 10 October 1982 (Press Notice Number 1044/82).

INDUSTRIAL STATISTICS

Restructuring of the quarterly inquiries in line with the Standard Industrial Classification Revised 1980

With effect from the first quarter of 1983, the industry breakdown of the quarterly inquiry into manufacturers' sales which is conducted by the Business Statistics Office will change, to bring the product groupings more in line with the NACE classification used by the European Community. The Annual Census of Production changed to the new system in time for the 1980 Census: the industry reports have already been published and the summary tables should be out in early 1983. For information about the effects on the Census, see *British business* 20 March 1981 and 5 August 1982.

The 10 divisions of the new classification system – the Standard Industrial Classification Revised 1980 (SIC 80) – are divided into 100 classes and replace the 27 'orders' or broad areas of industrial activity identified in the 1968 SIC: these classes are sub-divided into Activity Headings (AHs) which do not usually correspond exactly to any particular 1968 SIC minimum list headings (MLHs).

It has been decided that the collection of the quarterly sales information should be made at the 4-digit AH level, but that the results of some smaller inquiries should be published under the same cover as those for a closely related industry. The 164 MLH-based Business Monitors will be replaced by 176 on the AH basis, although this will make little or no difference to the firms contributing to the inquiries – the forms they have received since 1979 have listed only the products they make, irrespective of the industrial classification of those products. However, users of the monitors will see that the pattern of aggregation of commodities within the newly defined industries is completely different in most cases. Even if the broad structure of an AH industry is similar to its MLH form, some individual firms may have been reclassified to different industries thus altering the total industry sales if not the product detail. In order to provide some continuity between data published before Q1 1983 and after, information for 1981 and 1982 has been reaggregated by AH.

Some of the supplementary information collected from other sources for publication in the monitors (notably employment, indices of production and wholesale price indices) is not being converted to the new basis until later in 1983, but will be incorporated as it becomes available. The overseas trade statistics have however been reworked by AH, and the Q1 83 monitors will show data for 1982 as well as any Q1 83 information available in time to be included. Advantage is being taken of the change to SIC(80) to make a start on

standardizing the content of all the supplementary tables, although some problems will not be resolved in time for the first monitors published on the new basis.

Monitor subscribers have been told of the new arrangements in good time and there have been few complaints. Although in some cases product information available in one old monitor has scattered to several (in one case ten) new monitors, the new groupings will probably be more convenient for some subscribers. Information on product classifications is available in the CSO publications *Standard Industrial Classification Revised 1980* and the more detailed *Indexes to the Standard Industrial Classification Revised 1980*. Further details of the mechanics of the changed arrangements are available from Mr G. Walker at the Business Statistics Office

Cardiff Road
Newport
Gwent
NPT 1XG
Telephone: (0633) 56111: Ext. 2319.

References

- British business* (HMSO weekly) (Price £1.10 net)
Standard Industrial Classification Revised 1980 (HMSO 1979) (Price £2.50 net)
Indexes to the Standard Industrial Classification Revised 1980 (HMSO 1981) (Price £12.95 net)

Business Monitor PA 1003 – Analysis of UK manufacturing (local) units by employment size

A further Business Monitor in the PA 1003 series was published recently and is available at HMSO Bookshops, price £6.10 net. It presents analyses for 1979 of information recorded in the register of United Kingdom manufacturing units maintained by the Business Statistics Office. Previous monitors in the PA 1003 series were published for each of the years 1971 to 1978 except 1974 and included tables showing the number of manufacturing units in various employment size groups by industrial classification and by area and the total number of persons employed in each category. More limited analyses of manufacturing units under foreign ownership and of manufacturing units grouped into enterprises appeared for the first time in the 1977 monitor and are shown again in the latest edition.

It is planned that the analyses in the 1980 edition of this monitor will use the 1980 revision of the Standard Industrial Classification.

Stock of consumer durables in the United Kingdom

An article in the March 1978 issue of *Economic Trends* (subsequently reprinted in *Studies in Official Statistics* No 35) by J. R. Calder entitled 'The stock of consumer durables in the United Kingdom' provided a selection of figures over the run of years end-1966 to end-1976 for the total and major components of consumer

durables. Six variants were considered, two methods of calculating depreciation (straight-line and reducing balance) for each of three life-length assumptions (short, medium and long). Estimates were provided at current (end-year) prices and at constant (1970) prices.

The results for the reducing balance, medium life-length variant were used in the compilation of the balance sheets for the personal sector which formed part of the CSO's evidence to the Royal Commission on the Distribution of Income and Wealth.

The exercise has been extended annually to include the end of more recent years. The base-year of the constant price figures has been updated from 1970 to 1975.

The latest extension of the exercise, to end-1981, has now been completed. A short paper summarising the results is available, updating some of the tables given in the *Economic Trends* article, of which off-prints are also available. A small charge of £3 each, including postage, is made for these items.

Enquiries to:

Mr T. C. Jones
Central Statistical Office
Great George Street
London, SW1P 3AQ
Telephone: 01-233 7431.

References

- Economic Trends* No. 293 March 1978 (HMSO)
Personal sector balance sheets and current developments in Inland Revenue estimates of personal wealth *Studies in Official Statistics* No. 35. (HMSO 1978) (Price £2.25 net)

Iron castings

A number of changes to the monthly inquiry into iron castings were introduced for the beginning of 1983. These changes have been discussed with representatives of the industry and are designed to improve the coverage and accuracy of the inquiry. They also reduce the overall amount of data requested from the industry.

In place of the present detailed monthly inquiry, information on individual types of casting is being collected quarterly as from the first quarter of 1983. However, total production of iron castings is continuing to be collected monthly for index of production purposes. A recruitment drive has been mounted to improve coverage of the inquiry, which remains voluntary. The changes have the backing of the Council of Ironfoundry Associations, and mean an improved statistical service for Government and industry alike.

Further details are available from:

Mr J. Flint,
Business Statistics Office,
Cardiff Road,
Newport, Gwent NPT 1XG
Telephone: (0633) 56111 Ext. 2026.

Small firms survey: the international scene

An article in *British business*, 18 November 1982, surveyed the role of the small firms sector in the United Kingdom in relation to that of other countries. Table 1 of the article summarised the main findings and compared them with figures given in the Bolton Report on small firms (Cmnd. 4811, HMSO 1971) and with equivalent statistics produced by Graham Bannock (some as recent as 1975) for OECD member countries and quoted in his book *The economics of small firms* (Basil Blackwell 1981). Of the other tables, six show either 'an analysis by size' or 'share of total employment' in various categories, of small firms in the manufacturing sector. Four of these tables compare the United Kingdom with other countries and two relate to the United Kingdom alone. The last table gives the rank order of agricultural employment and of self-employment outside agriculture in the United Kingdom and selected countries. An appendix discusses *a.* the compatibility of international statistics of manufacturing and *b.* the compatibility of statistics of self-employment in 11 countries 1960-79.

There are relatively few small firms in the United Kingdom and they make a more modest contribution to manufacturing employment than in other major countries. The United Kingdom also has the lowest level of self-employment in the economy compared with other major countries and this might go some way towards explaining the relative lack of small firms. The analysis has been written by Pom Ganguly, statistician in the Department of Industry's small firms division. The review of the literature and the research into the published international manufacturing statistics described in the article was carried out by David Povey, assistant statistician. The survey of the international scene is not comprehensive but it is hoped that the article will help to improve understanding of the role of small firms in Europe and elsewhere.

Reference

British business, 18 November 1982 (HMSO) (Price £1.10 net)

DISTRIBUTION AND OTHER SERVICES

Structure and employment prospects of the service industries

This recently published report is an examination of the economic structure of service sector industries, and their possible future levels of employment on various scenarios of overall growth in the economy. The industries covered are transport and communication, distributive trades, financial services, professional and scientific services, miscellaneous services and public administration, order groups XXII-XXVII of the 1968 Standard Industrial Classification.

Chapter 1 of the study looks at some economic issues connected with the service sector industries, including their role, especially of the public services, in promoting economic growth, and the 'de-industrialisation' question. Chapter 2 deals with the basic economic structure of the service industries, and Chapter 3 examines employment trends in the long run from 1841 onwards, and in the more recent past, looking particularly at male/female, full-time/part-time patterns of employment from 1971 onwards. Chapter 4 provides an analysis of the service sector industries' contribution to the balance of payments 'invisible' accounts.

Chapters 5, 6 and 7 are an empirical study of the service industries. Using input/output tables and associated techniques of analysis, patterns of interconnection within the service sector and between service industries and manufacturing and other non-service sectors are examined in detail. The study then goes on to look at the relationships between employment, service sector output and GDP in an econometric analysis spanning the period 1948-1978. The resulting model is used to generate employment projections for the sector, using a range of assumptions about trend GDP growth up to the year 2000.

The report concludes with an international comparison of the size and growth of the service industry sectors in various OECD countries.

Reference

Structure and employment prospects of the service industries by J. A. S. Robertson, J. M. Briggs and A. Goodchild, Department of Employment Research Paper No. 30. Copies of the report are available, free of charge, from Research Administration, Department of Employment, Steel House, Tothill Street, London SW1 9NF (Telephone: 01-213 4662).

TRANSPORT

Port Choice and the Routing of UK Trade

A recent publication with the above title reports research commissioned by the Department of Transport into the factors affecting choice of UK port of shipment for non-fuel freight. The study is based largely on the Survey of the Inland Origins and Destinations of UK International Trade, which was conducted in 1978 by the Department and the National Ports Council, with the help of HM Customs and Excise.

The survey enables exports to be followed from inland origin, via any intermediate depot, to the United Kingdom port, on to the first foreign port where it was unloaded and to the country of destination; and similarly, in the reverse direction, for imports.

Copies of *Port Choice and the Routing of UK Trade* may be ordered from Economic Consultants Ltd, 36-38 West Street, London WC2H 9NA; price £10. The report discusses the regional distributions of UK trade;

the nature of port hinterlands and overseas markets; choice of shipping route and the use of transshipment at foreign ports; modes of inland transport; consignment sizes; intermediate depots; and the usefulness of a modelling approach to describe port choice.

The survey on which the above study is based is described in detail, with 84 tables of results, in *Inland Origins and Destinations of UK International Trade 1978*, available from Department of Transport, STCG Division, Room A140, Romney House, 43 Marsham Street, London SW1P 3PY; Price £35. A list of further tabulations for sale is also available and new tables may also be requested.

HOME FINANCE

Regional accounts 1981

The November issue of *Economic Trends* includes the latest annual article on regional accounts, which examines trends over the period between 1976 (a turning point in relative levels of GDP per head in many regions) and 1981, the most recent year for which figures are available. In this article, there is also an analysis of differences between regional growth rates in terms of whether the specific industrial mix in the region has been a help or a disadvantage.

The estimates given include regional GDP at current factor cost, analysed by both industry and factor income for the years 1976 to 1981, and personal income and personal disposable income for the years 1978 to 1981. Figures of consumers' expenditure, taxes on expenditure, subsidies and gross investment by selected industry groups and by purpose of government are also given for the years 1977 to 1980. Estimates of GDP per head for the English and Welsh counties and local authority regions of Scotland are provided for the years 1977 and 1979.

Further information can be obtained from Mrs. M. Anstis, Central Statistical Office (Telephone: 01-233 7747).

Reference

Economic Trends No 349, November 1982 (HMSO) (Price £9.75 net)

Extension of the company liquidity survey

The Department of Industry have conducted a quarterly survey into the liquidity of large companies since the end of 1969. The survey covers assets and liabilities that can be realised or are due to be paid within twelve months from the date of the return; the figures are

used to calculate net current assets and the liquidity ratio (assets as percentage of liabilities), and trends in these measures are used as an indicator of companies' financial health. Results are published in *British business*, with some separation between manufacturing and non-manufacturing companies.

The results of this survey have been of great interest to Government and outside users but the small size of the panel (just over 200 companies) and its unrepresentative nature have limited their value. It has therefore been decided to extend the panel to cover a representative sample of all but the smallest companies. This will enable estimates to be made for the company sector as a whole as well as comparisons by size of company and by industry. Another purpose is to use the detail on particular types of asset and liability in the national accounting figures for the company sector.

The sample is being drawn from the sampling frame produced for the extension of the company accounts analyses (details of which were given in an article 'Constructing a sampling frame for industrial and commercial companies' in *Statistical News* 44.6). New contributors are being asked to supply figures starting with the fourth quarter of 1982. Because of the greater use to which the extended survey could be put, some changes have been made to the form and existing contributors were notified about these changes when the fourth quarter 1982 form was issued.

Enquiries should be addressed to:

Department of Industry,
Statistics Division 1D,
Room 2001,
Millbank Tower,
Millbank,
London, SW1P 4QU
Telephone: 01-211 4390/3874.

References

British business (HMSO weekly) (Price £1.10 net)
Statistical News No. 44 February 1979 (HMSO)

Private sector pension funds

The rebasing of the Department of Trade statistics of investments by self-administered private sector pension funds was reported in *Statistical News* 56.22. Data for the earlier period 1966 to 1977 have now been compiled on a consistent basis and are available on request from:

Statistics Division 2c,
Department of Trade,
Room 345,
Sanctuary Buildings,
20 Great Smith Street,
London SW1P 3DB.
Telephone: 01-215 5224

Bank of England Quarterly Bulletin

The December 1982 issue of the Bank's *Quarterly Bulletin* contained the following items of interest to readers:

Composition of monetary and liquidity aggregates, and associated statistics

This article describes the characteristics of some two dozen classes of assets – some included in the monetary aggregates and some not – which need to be borne in mind when interpreting monetary conditions. The relationships among the monetary and liquidity aggregates are explained.

Recent changes in the use of cash

This article analyses the reasons for the surprisingly slow growth of notes and coin in circulation over recent years. It describes the growing use being made of banking services and the trend towards paying wages and salaries into bank accounts rather than in cash. The United Kingdom experience is compared with that in other countries.

Distribution of the national debt at end-March 1982

The article which continues the annual series, analyses the national debt by instrument and by holder. But on this occasion it also describes longer-term trends in the maturity and distribution of the debt, and shows the increasingly important role played by non-bank financial institutions.

Venture capital

An article describes the flourishing industry in the United States concerned with developing fast growing, innovative companies often in fields of high technologies. A venture capital industry is beginning to emerge in this country too and this article offers a preliminary assessment of it.

Bills of exchange: current issues in a historical perspective

A reprint of a paper presented by Mr A. L. Coleby to the Institute of Bankers' conference in London, to mark the centenary of the Bills of Exchange Act 1882. He describes the Bank's longstanding use of bill purchases in its money market operations. Historically the Bank bought bank bills because they were among the best available assets. Their importance as a vehicle for money-market operations was reaffirmed when new arrangements for monetary control were introduced last year. Pursuit of monetary policy objectives has led the Bank to increase very substantially its portfolio of bills over the last two years, and steps have been taken to reverse this trend.

The role of the banking supervisor

A report of a speech given by Mr W. P. Cooke, the Head of Banking Supervision, at a conference on banking organised by the Institute of Chartered Accountants in London. He describes the conduct of banking supervision as it has developed in the United Kingdom, particularly since the Banking Act 1979. He describes the relationship between the supervisor and bank auditor, goes on to discuss the supervisory implications of the spread of international banking, and concludes with some remarks about the need for a common and realistic approach to provisions for bad and doubtful debts.

Banks and industry

Reprint of a lecture given by the Deputy Governor to the Institute of Bankers in Bristol. He notes that, as a result of past inflation and recession and the consequent demise of alternative forms of financing, companies are heavily indebted to the banks, and indeed possibly over borrowed. Yet companies will have to continue to attract outside funds; and as the economy recovers, their financing requirement may be substantial. To resolve this dilemma, the Deputy Governor suggests various ways in which companies may diversify their sources of finance: with inflation down substantially, greater long-term fixed-interest borrowing may be possible; where debt is already high, greater equity funding by rights issues may be more suitable; where development expenditure is significant, new forms of off-balance-sheet financing might be appropriate. In addition, the beginning of a venture capital industry is a potentially important development.

The Bank's *Quarterly Bulletin* (at £5.00 per copy) may be obtained from:

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

OVERSEAS TRADE AND FINANCE

OECD trade databank

During the past few years the National Economic Development Office (NEDO) has been developing a databank of overseas trade statistics to provide analyses of international trading patterns for use within the Office. The databank, and some of the uses to which it is put, were described in an article in *Statistical News* 43.4, but it has since been extended and improved.

The databank, which now covers all trade reported by OECD member countries with about 200 trading partners, provides data from 1970 for imports and exports in both value and quantity terms at the 5-digit level of the standard industrial trade classification (SITC). From 1978 the data is classified according to Revision 2 of the SITC which includes over 2,000 commodity codes. Since the data can now be obtained from the OECD only on microfiche, the databank is a valuable source of data, but its main advantages lie in the analysis facilities it offers.

The databank's main analytical features are described below:

- a. Calculation of market shares and identification of largest non-specified market
- b. Ranking of data by size of market of supplier, or any derived statistic such as market share
- c. Calculation of trends
- d. Calculation of ratios of two countries
- e. Calculation of unit values
- f. Deflation to constant prices
- g. Currency conversion
- h. Aggregation of commodities
- i. Availability of geographical, political and economic country groups
- j. Calculation of market totals over either countries or years
- k. Links to other statistical analysis packages

Since 1 January 1983, the databank is available to users outside NEDO through the computer bureau Comshare Ltd who are now maintaining and marketing the databank. The bank is expected to be of benefit to a wide range of customers in both the private and public sectors who need comprehensive information on international trading patterns.

Further information on the databank can be obtained from

Mrs A. Hickling,
National Economic Development Office,
Millbank Tower,
Millbank
London SW1P 4QX,
Telephone: 01-211 3994

Reference:

'NEDO's databank of OECD trade data and the Industrial Strategy' by D. C. Connell, *Statistical News* No 43, November 1978 (HMSO)

World economic stagnation and recovery

The Bank of England's December 1982 *Quarterly Bulletin* reprints the Mansion House speech given by the Governor, in which he gives a wider review of the international scene.

The Bank's Quarterly Bulletin (at £5.00 per copy) may be obtained from the address on page 60.29

INTERNATIONAL

Taxes and social security contributions: international comparisons

An article published in the December 1982 issue of *Economic Trends* gives comparisons of taxation in eighteen countries within the Organisation of Economic Co-operation and Development (OECD) for the years 1970 to 1980. The tables are based mainly on national accounts returns supplied to OECD by member countries and show, for each country, total taxes and social security contributions as a percentage of gross national product; main categories of tax as percentages of gross national product and total taxation; and taxes on income and social security contributions paid by households as a percentage of total personal income. Also included are provisional figures for 1981 derived from *Revenue Statistics of OECD Member Countries 1965-1981*.

References

Economic Trends, No 350, December 1982 (HMSO) (Price £9.75 net).

Revenue Statistics of OECD Member Countries 1965-1981 (1982) (OECD, Paris) (£8.60 net, available from HMSO).

United Nations Statistical Computing Project

Table generation joint group meeting: Bucharest - 26-29 October 1982

Full agreement on the Intertab system description was achieved and the joint group had thus reached the phase when implementation could start.

During 1983, 9-10 man years will be devoted to the Intertab project by the participating countries: 6-7 man years of this will be in the design/programming area.

An expert group was established to make recommendations on the organisation of the implementation, the contents of Intertab (Version 1), the structure of modules and interfaces and the implementation language (PL/1, Cobol and Pascal are being considered). It was anticipated that coding would start when this group had reported (in mid-March 1983).

Agreement was reached on Intertab documentation, which will be written in English. Two manuals will be produced: one of general information and system description and the other being an installation and operators manual. Intertab will also have on-line documentation.

The meeting was informed of the expected implementation dates for future releases of TAU

Phase 2: computing new variables/aggregation (January 1983)

Phase 3: Postcompute (mid-1983)

A model for the evaluation of large scale tabulation systems was adopted and it was agreed that cross-checking of the system descriptions should be under-

taken. The systems to be evaluated include TAU, Cents 4, TAB68, and TPL.

Further progress was made on the glossary of terms: a draft was distributed for comment.

The work programme for 1983 was agreed.

Further information on the work of this group can be obtained from John Dixie, Computer Division, Office of Population Censuses and Surveys, Titchfield, Fareham, Hants, PO15 5RS.

Data Editing joint group meeting: Athens – 18-19 November 1982

Sweden presented a paper on Data quality problems which reviewed the state of knowledge in the field and drew attention to the need to distinguish between random and systematic errors within data. It was argued that the two sorts of error should be treated differently in the editing and correction process. There was a lengthy discussion on what is meant by data quality and how quality can be assured and it was clear that there are many aspects of the problem. It was accepted that a further paper should be produced incorporating contributions from participating countries and it was hoped that this activity would stimulate Statistical Offices into carrying out work in this area.

a. News of DIA

A progress report was circulated by Spain on the development of the DIA editing system. The system has been modified to deal with systematic and random errors separately. Systematic errors are resolved by deterministic imputation, implemented in a fairly wide sense, and subsequently integrated with the remaining edit rules so as to preserve the underlying Fellegi and Holt approach.

b. Interactive editing subsystem of AERO

Further progress was reported by Yugoslavia on the development of a subsystem of AERO to interactively check and correct data. Further reports will be made as progress develops.

The United Kingdom presented a paper describing the content and functions to be performed by a Generalised Survey Processing System (GSPS). The paper was accepted as the basis for further work and there was considerable discussion over the next steps to take in this new subject area. Two approaches were considered which may be described as a 'top down' approach and a 'bottom up' approach. The first would involve, as a first step, the definition of a user interface and the second the drafting of a checklist and consideration of existing software packages. It was thought important to keep in mind the provision of practical tools and advice to developing countries.

Hungary introduced a paper setting down a catalog of facilities to be provided by editing packages which could be used to make comparative evaluations. The catalog had been completed for the AERO system. It was agreed to be a useful contribution which should also prove valuable for the work on Generalised Survey Processing.

A paper on interactive editing had also been completed by Hungary and it was thought as much useful work as possible had now been done in this area. There were now a large number of working papers on editing in general, and the time had come to draw the work together so as to provide input to the handbook for wider dissemination to the Statistical community.

Hungary reported that there were no serious difficulties in converting AERO to use the PL1/F compiler. An estimate of 4 man months of work was made.

The plan of work for the next meeting was discussed on the basis of proposals made during earlier discussions of items on the agenda. The following agenda was adopted:

- a. A revised paper on *Data quality problems* will be produced by Sweden on the basis of contributions from participating countries. Each country will write to Sweden by the end of this year indicating whether or not a contribution will be forthcoming.
- b. Further reports on *DLA/Spain* and *Interactive AERO/Yugoslavia* will be made.
- c. Finalisation of the *Glossary of Editing terms* will be required at the next meeting. Participating countries agreed to be prepared to summarise their views and give recommendations at the next meeting.
- d. *Handbook of editing methodology*. Hungary will take the lead in drawing together material for the handbook on the basis of suggestions made by participating countries. The views of countries on the papers to be included should be sent to Hungary by the end of February. On request, Hungary will supply copies of any papers which participating countries may have missing.
- e. *Generalised Survey Processing*. France will draft a paper on the user interface. The United Kingdom will prepare a detailed checklist of features to be provided in a GSPS as the basis for comparative evaluations of software packages.
- f. There are no resources at present among AERO users to contribute to the *conversion of AERO* to the PL1/F compiler. Ireland will give further consideration to whether it can attempt the work with technical support from Hungary.

Further information on this group is available from Derek Barker, Office of Population Censuses and Surveys, Room 336, St Catherines House, 10 Kingsway, London, WC2B 6JP. Previous reports on Statistical Computing Project meetings appeared in *Statistical News* 57.26, 57.33, 58.28 and 59.47.

UNECE Statistical Journal

The United Nations Economic Commission for Europe recently issued the first volume of its quarterly *Statistical Journal*. This Journal was introduced chiefly for two reasons. First, to increase knowledge about the objectives and the activities of the Conference of European Statisticians; and secondly, it is hoped that contributions received for publication will help the Conference in its continuing efforts in different fields of statistics. The first issue of the Journal is devoted to a review of the origins, the achievements and the future work programme of the Conference. Copies of the *Statistical Journal* are available from North-Holland Publishing Company, P O Box 211, 1000 AE Amsterdam, Netherlands, price US \$88.00 for 4 issues.

PUBLICATIONS

Annual Abstract of Statistics

The 1983 edition was published on 8 February 1983. In order to contain costs the contents of this issue have been subject to a major editorial review. The Abstract now includes about 350 tables that provide important economic, industrial and social statistics for the United Kingdom.

Most of the tables give annual figures, as far as they are available, for each of the years 1971 to 1981 and a few tables include monthly figures for the early months of 1982. Current data for many of the series appearing in the Abstract are contained in *Economic Trends*, the *Monthly Digest of Statistics* and in *Financial Statistics*. Regional information supplementary to the national figures is published in *Regional Trends*. These publications are all prepared by the Central Statistical Office.

Changes in content this year include the addition of two new tables – 8.16 Fuel input and gas output: gas sales and 8.51 Synthetic rubber, carbon black and rubber products. The Education section has been completely revised to correspond with *Education Statistics for the United Kingdom*. Table 8.1 Census of Production now incorporates 1979 and 1980 figures on the Standard Industrial Classification Revised 1980 basis. Sixteen tables have been combined into eight and a list of the tables deleted is given in the introduction to the Abstract.

Reference

Annual Abstract of Statistics, No. 119, 1983 Edition (HMSO) (Price £17.50 net)

Economic Trends Annual Supplement

The 1983 edition of the *Economic Trends Annual Supplement* was published on 13 January 1983. This eighth issue of the Supplement brings together long runs of quarterly and annual data for the key series of economic statistics which are included in the monthly *Economic Trends*. It is of special value to economists, planners, analysts and academic researchers. Some 300 series are included, linked to give continuous runs as far back as possible in the post-1945 period. In many cases there are both seasonally adjusted and unadjusted figures and over half the series span twenty five years or more. Tables on the Supplement are backed by concise notes and definitions and an index to further, more detailed sources.

In the GDP tables (pages 4 to 6) the first four columns now contain series based on estimates valued at market prices, where value figures are shown these are given in £ billion. Retail sales have been rebased onto 1978=100. An additional column giving 'Units previously shown under assembly' is included in the 'Motor vehicle production' pages. The 'Output per person employed' tables show a series on 'Output per person hour in manufacturing industries'. 'Domestic credit expansion and changes in money stock' have been replaced by 'Counterparts to changes in money stock'. 'Appropriation accounts of industrial and commercial companies' now include gross trading profits, net of stock appreciation, for N. Sea oil companies and other companies separately: the two of which columns relating to financial companies' rent, etc. and dividends, etc. have been dropped. The Financial transactions pages 184 to 189 have been altered to conform with page 62 of *Economic Trends*.

The following amendment should be made to this edition:

Page 121 Visible trade

World commodity prices index

1981 Q3 delete footnote 6

Reference

Economic Trends Annual Supplement No. 8—1983 Edition (HMSO) (Price £11.50 net)

Economic Trends (HMSO monthly) (Price £10.75 net)

Scottish Economic Bulletin

The latest issue contained two articles. The first was 'The microelectronics application project: an analysis of Scottish applicants' by S. Hampson and P. McLaren. The main purpose of the article is to elucidate Scotland's record in taking up microelectronics application project (MAP) funds, to consider whether in aggregate it differs significantly from United Kingdom take-up and to examine whether establishments within particular industries or under Scottish or other ownership are more or less likely to use the scheme.

The primary focus is on the MAPCON element of MAP for this part of the project has involved a comparatively large number of individual grants for specific investigations and the records of expenditure thus provide a particularly useful basis for analysis.

The second article 'The labour market for Scottish school-leavers: 1977-1981' by A. J. Scatter reviews recent trends in the destinations of Scottish school leavers in their first year of leaving school. The results are based on three surveys carried out in 1977, 1979 and 1981 which sampled both 'qualified' and 'unqualified' leavers in the school years 1975/76, 1977/78 and 1979/80 respectively. The surveys differ in various respects and there are some problems of comparability in the tables presented. But a sufficient degree of continuity exists to give a reasonably clear picture of the changes in school leaver destinations over the four year period which has been examined.

In addition to the articles the charts and statistics section includes a short note and tables of manufacturing employment estimates and information from the Retailing Inquiry has been updated to give 1980 results. Investment in manufacturing in 1980 is shown on the Standard Industrial Classification (revised) 1980 basis, along with 1979 figures. Also in this issue are the European Regional expenditure tables and fuel consumption in Scotland and the UK: these are updated to 1981. The table showing trade through Scottish ports has been substantially altered to take account of the revised groupings. A new page has been included at the front of the charts and statistics section: this shows six charts of Scottish Economic indicators.

Reference

Scottish Economic Bulletin No. 26/1983 (HMSO Edinburgh) (Price £6.00 net)

Northern Ireland Annual Abstract of Statistics – 1982

The first edition of the Northern Ireland *Annual Abstract* was published by HMSO for the Department of Finance and Personnel (NI) on 29 December 1982, price £9.50 net. This publication replaces the six-monthly *Northern Ireland Digest of Statistics*.

A Guide to Financial Times Statistics

Although not primarily intended for 'City aficionados' who rely heavily on the daily coverage of the markets – *A Guide to Financial Times Statistics* is, however, a useful and interpretive layman's reference for those executives, small investors, students of economics and statistics, and the many others who want to know more about how the markets work and, at the same time, how the *Financial Times* reports and interprets them.

The twelve Chapters cover the whole range of business and general economic information included in the

Financial Times, beginning with a description of the compilation and content of the 'Share Information Service' and the related reports of trading, indices and other measures of market activity.

The Guide then proceeds to describe the continually expanding coverage of overseas markets, the 'Unit Trust Information Service', a number of 'options' and 'futures' markets, international money markets, commodity dealings, and the international capital markets (or euromarkets as they are commonly called).

The *Financial Times* coverage of both United Kingdom and international company data (results, trends, forecasts, etc.) and of general economic data and official statistics is described and the most important series listed.

An appendix gives a brief explanation of the methodology and purpose of some of the most common arithmetical formulae used in compiling various averages, indices, etc. which appear throughout the *Financial Times*.

Edited by Alan Greenhorn, Director of Statistics, and David Bell, Features Editor, and compiled by the *Financial Times* own staff, the guide is periodically revised and updated.

Reference

A Guide to Financial Times Statistics (price £9.50 including postage) obtainable from:

The Marketing Department (Management Reports),
Financial Times Business Information Ltd.,
Bracken House,
10 Cannon Street,
London EC4P 4BY
Telephone: 01-248 1744

International publications

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

United Nations

Demographic Yearbook 1980, price £48.75 net (bound), £41.25 net (paper bound).

Yearbook of National Accounts Statistics 1980 (in three parts not sold separately) Vol. 1 Individual country data, Part 1 A–K, Part 2 L–Z. Vol. II International Tables, price £93.75 net.

UNESCO

Statistical Yearbook 1982, price £34.40 net.

Statistics of Students Abroad 1974-1978, No. 27, price £3.85 net.

Economic Commission for Europe

Annual Bulletin of Housing and Building Statistics for Europe, price £6.00 net.

Statistics of world trade in steel 1981, price £6.00 net.

Department of International Economic and Social Affairs

Population Studies No. 77, *Model Life Tables for Developing Countries*, price £17.25 net.

Statistical Papers Series M, No. 49, Rev 2, *Standard Country or Area Codes for Statistical Use*, price £3.00 net.

International Monetary Fund

International Financial Statistics Yearbook 1982, price £11.70 net.

Statistical Office of the European Communities

Economic and Social features of households in the member states of the European Community, price £3.70 net.

Government Financing of Research and Development 1975-1981, price £7.60 net.

Industrial Disputes – methods and measurement in the European Community (by K. Walsh), price £3.10 net.

Multiple Job Holders. An analysis of second jobs in the European Community (by J. Alden and R. Spooner), price £3.70 net.

Structure and Activity of Industry Main Results 1977, price £8.60 net.

Vacancies Notified – methods and measurement in the European Community (by K. Walsh), price £2.50 net.

OECD

Historical Statistics of Foreign Trade 1965-1980, Series A, price £5.50 net.

World Fertility Survey

Recent publications by this world-wide survey of possible interest to readers of *Statistical News* include:

Scientific report series

No. 35 *Evaluation of the Venezuela Fertility Survey 1977* by Gilberto Vielma

No. 36 *Evaluation of Birth Histories: A Case Study of Kenya* by Roushdi A. Henin, Ailsa Korten, Linda H. Werner

No. 40 *An Exploratory Study of the 'Synthesis Framework' of Fertility Determination with World Fertility Survey Data* by Richard A. Easterlin, Eileen M. Crimmins

Comparative studies

No. 14 *Family Size Preferences* by Robert E. Lightbourne, Alphonse L. Macdonald

Further information about these and other WFS publications may be obtained from:

Publications Office

International Statistical Institute

428 Prinses Beatrixlaan

PO Box 950

2270 AZ Voorburg

Netherlands.

CONFERENCES AND MEETINGS

Energy statistics conference

A Conference on Energy Statistics is being organised by the Institute of Statisticians from 6-9 July 1983 at King's College, Cambridge. The Conference will cover a wide range of statistical methods but with the emphasis on their practical application across the whole range of energy related matters.

Some idea of this range can be gained from the following list of planned topics: national demand forecasting; world trade in energy; energy consumption within an industry; modelling short-term fluctuations in demand; risk and safety; energy resources and exploration; data bases; energy alternatives.

The following have already agreed to participate: Peter Ashdown (Chief Statistician, British Gas), Phillip Brown (Imperial College, London University), John Chesshire (Senior Fellow, Social Policy Research Unit, University of Sussex), Alan Clarke (Shell UK plc), Charles Davies (Central Electricity Generating Board), Peter Huggins (Head of Division, Energy Statistics, International Energy Agency, OECD), Frank Hutber (Head of Statistics – Manpower, Ministry of Defence; formerly Department of Energy), Frank Lyness (Operational Research Manager, British Gas), Alan Marriott (Technical Director, British Paper and Board Industry Federation), Richard Ormerod (Deputy Director of Planning, National Coal Board), Ken Wigley (Senior Economic Advisor, Department of Energy).

The Convenors are inviting contributed papers showing examples of statistical methods in practical situations in the energy field. In addition, one evening will be devoted to poster sessions, allowing display and discussion of recent work.

All enquiries to:

The Administrative Convenor,

The Institute of Statisticians,

36 Churchgate Street,

Bury St Edmunds,

Suffolk

IP33 1RD

Telephone: 0284 63660.

International Time Series Meeting

The ninth International Time Series Meeting (ITSM) will be held at Nottingham University (England) from 11 to 15 April 1983. The following provides a first list of those (some still tentative) whom it is hoped will be speaking at the Conference (forty four people from sixteen countries, so far):

R. J. Bhansali (UK)	G. V. L. Narasimham (USA)
W. R. Bell (USA)	R. Y. Pei (USA)
R. J. Bennett (UK)	J. Pemberton (UK)
M. Borgard (France)	D. A. Pierce (USA)
W. Bruggeman (Belgium)	D. S. Poskitt (UK)
D. W. Bunn (UK)	M. A. Rahim (Canada)
M. Daub (Canada)	D. Ray (India)
Y. Hosoya (Japan)	M. J. Routman (USA)
A. J. de Hoyos (Brazil)	S. Shahabuddin (USA)
M. Deistler (Austria)	J. Q. Smith (UK)
R. F. Galbraith (UK)	T. M. F. Smith (UK)
E. J. Godolphin (UK)	P. Stoica (Romania)
J. R. M. Hosking (UK)	T. Subba Rao (UK)
R. R. Hyatt (USA)	G. Thury (Austria)
P. B. Kenny (UK)	A. R. Tremayne (UK)
A. J. Lawrance (UK)	A. M. Walker (UK)
J. Lillestøl (Norway)	G. C. Watkins (USA)
A. Lopez C. (Chile)	M. West (UK)
R. M. Loynes (UK)	H. O. Wold (Sweden)
E. U. Makov (UK)	Y. Yajima (Japan)
A. Maravall (Spain)	S. K. Zaremba (UK)
A. Milhoj (Denmark)	
W. Mohr (West Germany)	

Further contributed papers can still be considered, and 100-word abstracts (or enquiries concerning attendance) should be sent as soon as possible to the Convenor (from whom details and application forms can also be obtained): Oliver D. Anderson, 9 Ingham Grove, Lenton Gardens, Nottingham NG7 2LQ, England.

GOVERNMENT STATISTICAL SERVICE

Appointments and Changes

Mr D. Wallage, Statistician, Ministry of Agriculture, Fisheries and Food, transferred to the Department of Health and Social Security, on promotion to Chief Statistician on 29 November 1982.

Mr T. Griffin, Statistician, Central Statistical Office, was promoted to Chief Statistician on 13 December 1982.

Mr A. A. Croxford, Chief Statistician, transferred from the Ministry of Defence to the Central Statistical Office on 1 February 1983.

Mr P. W. Ward, Statistician, Department of Employment, transferred to the Home Office, on promotion to Chief Statistician on 1 February 1983.

Mr N. J. Lithgow, Chief Statistician, transferred from the Home Office to the Ministry of Defence on 1 February 1983.

Mr C. P. Hogan, Statistician, Department of Health and Social Security, was promoted to Chief Statistician on 1 March 1983.

New Year Honours List 1983

Mr P. Redfern, lately Deputy Director of the Office of Population Censuses and Surveys was awarded the CB.

LATE ITEMS

Public records: possible amendment to the Statistics of Trade Act

This note seeks views on a possible amendment to the Statistics of Trade Act 1947 to permit unrestricted public access to individual identified returns from businesses after a minimum period.

The White Paper *Modern Public Records* (Cmnd 8531), published in March 1982, contained the Government response to the Report of the Wilson Committee (Cmnd 8204). The Committee, under the chairmanship of Sir Duncan Wilson, was appointed in 1978 to inquire into the working of those provisions of the Public Records Acts of 1958 and 1967 which have a bearing on the selection of and access to modern public records. The inquiry was mounted because of changes in both the bulk and the nature of departmental records over the twenty five years since the last such inquiry.

Certain public records comprise information collected from industry, commerce and private individuals under legislation which specifically prohibits for all time disclosure of the information so collected. These are known as 'statute-barred' records. The Committee recommended that access arrangements for these records should be reconsidered. As an example of such a statute, the Committee considered the Statistics of Trade Act, 1947, and based their recommendations principally on that act.

The Committee had received convincing testimony that public access to individual returns collected under the Act would be of long term value for research purposes. Although many needs are met by the publication of statistical aggregates, there is advantage in research work being carried out directly on original data. Government departments have difficulty in devoting staff resources to this type of work, and often it will not be appropriate for them to do so. One recommendation of the Committee was that conditions

might be drawn up to permit *bona fide* researchers to have access to individual returns.

The Government in its response did not consider that limiting access to accredited researchers was a satisfactory solution and did not accept this recommendation. The arrangement was seen as difficult and expensive to operate and it was considered that doubts would always exist about the effectiveness of the protection against disclosure.

The Government agreed in principle, however, that a move towards greater public access to statistical data was desirable, provided that it did not prejudice the ability of departments to obtain data in future, and that costs could be kept within reasonable bounds. Views are therefore now being sought on a possible amendment of the Statistics of Trade Act to allow unrestricted public access to individual identified returns from businesses after a specific minimum period from the year to which the information relates. The minimum period might be thirty years, the normal access period for public records, or such other interval after which the information may not be commercially significant or otherwise sensitive.

If the Statistics of Trade Act were to be amended, precisely how much material would be retained to be made publicly available through the Public Record Office would depend on the costs involved and the likely potential usefulness of the information. However, it is not anticipated that any amendment to the Statistics of Trade Act would differentiate in any way between categories of information. In providing comments on a possible amendment, suppliers should recognise that if it were implemented any information they provide in inquiries conducted under the Act would become, in due course, potentially available to the public.

Clearly an amendment to the Act would be of earlier value if it could be given retrospective effect; but it may well be that such a step would be regarded as a breach of faith with those who had previously provided information under an assurance of confidentiality.

Comments are sought, on the proposal to amend the Statistics of Trade Act 1947 as outlined above, from both suppliers of data and potential users of such material. In particular views would be welcome on:

the value to potential users of the data which might be made available and especially on the criteria which might be used to determine what should be selected for preservation and consultation in the Public Record Office;

the selection of samples of series of records which are too bulky to be preserved in their entirety;

the choice, where both exist, between original returns and machine readable versions (which will often not contain names of the businesses for which data are held);

the minimum period before unrestricted public access is allowed, bearing in mind that some of the data will relate to small, sometimes single-person businesses, and may be considered in a sense to be personal data;

whether it would be regarded as unreasonable that any change to the Act should be given retrospective effect.

Any amendment that may be agreed to the Statistics of Trade Act 1947 will be reflected in a corresponding proposal to amend the Statistics of Trade Act (Northern Ireland) 1949.

Comments should be addressed to the Director of Statistics, Department of Industry, 1 Victoria Street, London SW1H 0ET to reach him by 22 April 1983. Any inquiries about this notice should be addressed to Branch 4, Business Statistics Office, Cardiff Road, Newport, Gwent NPT 1XG; telephone number: 0633 56111, extension 2563.

References

Modern public records: selection and access: report of a committee (the Wilson Committee) Cmnd 8204 (HMSO 1981) (Price £8.10 net)

Modern public records: the governments response to the report of the Wilson Committee, Cmnd 8531 (HMSO March 1982) (Price £2.65 net)

United Kingdom shipping industry: capital expenditure 1977 to 1981

An article in February *Economic Trends* by John Walker and David Ruffles, Departments of Industry and Trade, examines capital expenditure on shipping over the five years 1977 to 1981 by UK shipping companies and other UK companies owning ships, and by the United Kingdom offices of Commonwealth companies which operate UK registered ships. Capital expenditure is the cost of purchasing new and second-hand ships after deducting the amounts realised on the sales of existing ships, plus expenditure on additions and alterations to existing ships – an item which has become more important in recent years – plus expenditure on fixed assets such as containers and buildings for use in connection with ship-owning activities. The definition of the United Kingdom shipping industry used here is explained more fully in the notes at the end of the article; it is not quite the same as that of the United Kingdom merchant fleet used in Business Monitor *MR 15, General trends in shipping*. The notes also explain that the figures of capital expenditure given here are compiled on a slightly different basis from those published elsewhere by the Department of Trade and the Central Statistical Office.

References

Economic Trends, February 1983 (HMSO) (Price £10.75 net)

Business Monitor *MR15 General trends in shipping* (HMSO biannually) (Price on application)

Alphabetical Index

The index to *Statistical News* covers the last nine issues. Page numbers are prefixed by the issue number, e.g. 57.30 signifies number 57, page 30.

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 earnings. Articles and notes dealing particularly with Scottish statistics are indexed under 'Scotland' as well as the topic, e.g. 'Scotland, population projections', and similarly for Wales and Northern Ireland.

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