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STATISTICAL NEWS

Developments in British Official Statistics

A publication of the Government Statistical Service

Note by the Editor

The aim of *Statistical News* is to provide a comprehensive account of current developments in British official statistics and to help all those who use or would like to use official statistics.

It appears quarterly and every issue contains two or more articles each dealing with a subject in depth. Shorter notes give news of the latest developments in many fields, including international statistics. Some reference is made to other work which, though not carried on by government organisations, is closely related to official statistics. Appointments and other changes in the Government Statistical Service are also given.

A cumulative index provides a permanent and comprehensive guide to developments in all areas of official statistics.

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

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Statistics Users Conference 1977
Financial statistics

Brian Baty, *Statistician, Central Statistical Office*

Background

The first Statistics Users Conference was held on an experimental basis in 1970 and covered the general topic of business, economic and financial statistics. Following this successful experiment a Standing Committee of Statistics' Users was set up under the auspices of the Social Science Research Council. The Committee* is an independent body of representatives from various national organisations and professional associations with a particular interest in the field. Each year one of the organisations represented arranges a conference to cover a different subject area of UK statistics. The subjects covered since 1970 have included social statistics and, separately, statistics in the fields of education, local government and labour. Attendance is by individual invitation to different groups of users and suppliers of statistics as well as to representatives of the Government Statistical Service.

The 1977 Conference

The eighth and most recent conference was held on 23 November 1977 and, as usual, took place in the rooms of the Royal Society. On this occasion the topic was financial statistics and the conference was arranged by the Bank of England with the assistance of a planning committee drawn from organisations with a special interest in the subject.

The structure of the conference followed the broad pattern of its predecessors. There were four sessions during which eleven papers were taken. These papers were circulated some weeks beforehand and the authors were only required to introduce them briefly, so that there was time for up to an hour's discussion in each session from the floor.

These notes† follow the sequence of the conference proceedings and are only intended to cover them and the papers briefly; a comprehensive official report‡ will soon be available from the Bank of England.

*Further details on the composition of the committee were given in *Statistical News* 14.18

†Readers unfamiliar with financial statistics may find some technical points difficult to follow. References which should be helpful, and articles for further reading are listed at the end of these notes

‡The full report entitled *Statistics Users Conference on Financial Statistics*, will include the text of the discussion papers and will be available shortly at an inclusive price of £4 per copy by application to Economic Intelligence Department, Bank of England, London, EC2R 8AH

Opening address

The opening address was given by the Governor of the Bank of England, the Rt. Hon. Gordon Richardson MBE, who expressed his pleasure at being associated with the conference. His reasons were the Bank's involvement in the collection and use of financial statistics; the auspicious timing, bearing in mind developments in monetary policy and the deliberations of the Wilson Committee; and because such gatherings were an invaluable way of promoting the right kind of development in statistics.

Session 1—General survey of financial statistics currently collected

The first session opened, under the chairmanship of Professor P. G. Moore, London Graduate School of Business Studies with the paper *Official statistics; a general review* presented by Mr. P. J. Stibbard of the Central Statistical Office. This paper attempted some 'scene setting' for the conference by defining the scope of the subject matter, at the same time describing how collection, processing and dissemination was organised. Having delineated the structure of the financial accounts, the paper continued with a brief history of official financial statistics, leading up to a description of recent developments – in the collection of statistics from public sector bodies and financial institutions; and in improved dissemination of statistics through *Financial Statistics*, and the recently published *Explanatory handbook*. Finally, the author asked users whether they thought the framework of the financial accounts was right, and to say which statistics might be cut out as well as those which should be added.

Professor A. D. Bain, Walton Professor of Economics, University of Strathclyde, spoke to his paper *The flow of funds accounts*. He commented on the readily visible improvements in the quality of official financial statistics over recent years. However, he thought it would be more helpful if he were to concentrate in his paper mainly on deficiencies in the system. The lack of up-to-date sector balance sheet data integrated with the flow of funds estimates was unfortunate because, if available, it would provide a cross-check on the accuracy of transactions figures, and would probably help to explain some kinds of

economic behaviour. The definitions of sectors should be modified so as to identify an 'unincorporated enterprises' sector and to reclassify certain bodies from industrial and commercial companies to other financial institutions. More detailed information on company and overseas security markets, and comprehensive figures on the maturity structure of gilts, should be published. There was also a need to collect statistics of the property market and show them in the financial accounts. On the question of presentation Professor Bain put a case for issuing figures from *Financial Statistics* in separate publications, and for making data available to users in the form of computer output.

In his paper *Financial statistics – too much, too little or just right?*, Mr. Christopher Johnson, Lloyds Bank Limited, stated his personal view as a voracious consumer of financial statistics. His suggestions were intended for the coming years, perhaps even decades.

Financial statistics could be appraised under a number of general headings such as topicality, periodicity, openness, and so on. It should be possible with computer technology to speed the input, processing and distribution of financial statistics. The choice of time period should be rationalised so that banking month figures related to calendar months, and both the government's financial year and companies' accounting years coincide with the calendar year. There was a need to issue more of the data collected by government than at present, and interpretation of detailed financial statistics would be helped by the publication of more commentaries, and charts, on a regular basis. Improvements under these headings would lead to greater utility of the published figures.

The author also considered issues specific to financial statistics. The sectors should be reformed so that, among other changes, the personal sector would be limited to households, and a business enterprise sector would be drawn up to encompass industrial and commercial companies, unincorporated businesses and public corporations; a new central bank sector should also be created. The financial accounts should be deconsolidated into sub-sectors so that users might build up their own sector groups in different combinations.

Improvements in the information system would cost time and effort but would be worthwhile if some of the fog of uncertainty in which the authorities and the financial markets operate could be lifted.

Among the points made in the discussion of these three papers were a number of suggestions for presenting the financial accounts. Incorporation of the capital accounts in the financial matrix, a change to zero sum presentation, the compilation of a 'jumbo' matrix (which would also show transactions terms, stocks of assets and revaluations items) and a quality matrix were suggested by one speaker; another discussant sought an industrial dimension to the financial flows figures. A request was made for occasional surveys to supplement the data published regularly. Two suitable topics were a survey into the liability structure of long-term financial institutions and an exploration of the reasons for the continued disposal of company securities by persons.

Session 2—Money and banking

The second session was chaired by Professor H. B. Rose, Barclays Bank Limited, and opened with the paper *Survey of money and banking statistics* by Mr. R. H. Atkinson, Bank of England. This paper explained the various purposes for which the authorities collected statistical information from banks, including requirements for the execution of monetary policy, for prudential banking supervision and administration of exchange control. The recently introduced integrated system of banking returns and the published statistics were described, as were the concepts and definitions of the three M measures of money supply. There was an explanation of how changes in M3 could be linked to domestic credit expansion, and how the analysis of its component influences provided a framework in which the inter-relationship of fiscal policy, monetary policy and the balance of payments could be considered.

The precise boundary between what was considered to be money and what was not, must be arbitrary, and a case could be made for including deposits with savings banks and building societies in a wider measure of liquidity than the present definition based solely on banking liabilities. There were particular problems with monetary information arising from the volatility of the level and distribution of bank deposits and bank lending. The determination of underlying trends could be very difficult and, because administrative action (e.g. on collection of taxes) could lead to abrupt changes in seasonality, the process of seasonal adjustment was more uncertain than for many other economic series. Weekly figures were now being collected from banks, but it would be some time before weekly money supply aggregates could be considered as other than experimental.

Mr. A. N. Grayson, Committee of London Clearing Bankers Statistical Unit, produced the paper *Banking statistics: a view from contributors* showing how the banking system was complying with the authorities' many requests for information, and emphasising a few of the problems for suppliers of banking statistics. Banks had welcomed the Bank of England's initiative in 1973 to revise comprehensively the system of banking

returns. The CLCB Statistical Unit also serviced the British Bankers' Association and therefore had been ideally placed to provide the expertise needed to co-ordinate between the authorities and banks. The arrangements for joint consultation and negotiations, which were set up at the time between the banking associations, had continued on a permanent basis.

Some banks had developed properly structured management information systems in recent years; ideally, the statistics required by the authorities should be tailored so that they could be extracted from information collected for the banks' own purposes. However, the provision of sector analyses in the completion of certain returns at end-quarter dates was an example of an extra burden placed on banks by the authorities. Banks also found it difficult to believe that the tuning of monetary policy would depend to any important extent on weekly figures.

Mr. G. T. Pepper delivered the paper written by himself and Mr. R. L. Thomas, both of W. Greenwell and Company, entitled *Banking statistics and monetary control*. The paper concentrated on monetary controls and the associated data – to the exclusion of prudential controls – with particular attention on trying to detect underlying trends in monetary aggregates as soon as possible. The importance in monitoring short term behaviour of the money supply in the United Kingdom lay in the fact that it was an open economy. Gross excesses or deficiencies in the domestic supply of money, lasting only two or three months, could have major implications for flows of funds across the foreign exchanges. Two main distortions, 'round-tripping' and 'soft arbitraging', were identified and it was explained how the 'corset' could cause the latter and other distortions to interest-bearing eligible liabilities.

The authors considered that smoother series could be obtained by making changes to the definitions of money supply. They proposed that interest-bearing deposits should be excluded from M1 and that – very important in their view – a US style M2 measure should be derived by excluding wholesale deposits and large certificates of deposit from sterling M3. A new M3, also on US lines, would be defined as M2 plus deposits with building societies and savings banks, and the existing sterling M3 would be re-titled M4. Finally M5 would comprise M3 plus large certificates of deposit.

Another problem lay in the fact that UK monetary aggregates referred to make-up dates and were subject to larger erratic fluctuations than data averaged over a period. It was considered that the more frequent the issue of data, the less likely that the stock market would react in an erratic manner when monetary statistics were published.

In the lively discussion that followed several speakers gave their support to the Pepper and Thomas suggestions for new monetary aggregates. Another speaker thought that the development of banking figures had gone far enough and proposed instead that priority should be given to organising various existing statistics to provide national balance sheets. He was also in favour of a monetary base series and of having a number of target ranges for the main monetary aggregates. One of the discussants said that NIESR were looking for links at a disaggregated level between monetary variables on the one hand, and real variables and prices on the other, and therefore sought a fine sector disaggregation of sight and time deposits.

The Bank of England's system of seasonal adjustment was criticised in some quarters as being so comprehensive as to take too long to introduce. In reply the Bank suggested that users could readily carry out simple seasonal adjustments themselves. There were some requests for publication of the new weekly money figures without waiting for the Bank to seasonally adjust them.

Session 3—Industrial and commercial

This session, chaired by Mr. M. J. Thornton, Bank of England, opened with the paper *Industrial and commercial companies financial statistics*, delivered by Mr. M. J. Erritt, Department of Industry, on behalf of himself and Mr. P. J. Stibbard of the Central Statistical Office. Much of the information needed on transactions for the financial accounts was based on enquiries to other parties to the transactions. As a result, the accounts were liable to contain inconsistencies and the coverage was incomplete. Ideally, more direct reporting by industrial and commercial companies was required. The major source of direct information was companies' annual profit and loss accounts and balance sheets. An analysis of the consolidated accounts of a panel of large companies was published in Business Monitor M3. Among other things, it provided consistent data on profits, balance sheets and sources and uses of funds, as well as a basis for estimates of rates of return on capital employed and for inter-industry comparisons. The analysis was perforce out of date; the accounts covered differing periods and the results of activities at home and abroad were not adequately distinguished. Other direct sources were the corporation tax returns used by Inland Revenue to estimate company trading profits and the Department of Industry's survey of company liquidity.

The analysis of company accounts was being extended to cover a representative sample of all industrial and commercial companies. This would entail the construction of a sampling frame – which might be of intrinsic

interest to users – from the register maintained at Companies' House. The results of the completed analysis would be used *inter alia* in the development of national and sector balance sheets. The company liquidity survey was being developed to a full sources and uses of funds return, and in time might be extended to cover smaller companies. These developments were expensive in official resources, although an important advantage with the analysis of company accounts was that it imposed no additional statistical burden on companies.

Mr. J. Turner, Confederation of British Industry, presented the paper *Corporate financial statistics: experiments in collection and experience of analysis* on behalf of himself and his colleague, Mr. R. H. Price. During late 1973 and early 1974 the CBI felt that the official statistics were inadequate for government policy towards companies. The financial accounts regularly appeared four months after the period to which they related, and the results of the company liquidity survey had not then been published. The Chancellor of the Exchequer, in his March 1974 Budget, used the published aggregate liquidity figures for the third quarter 1973 when raising the burden of company taxation. However, the CBI felt that this evidence was incomplete, and the effects of interrupted production and sharply rising input prices during January 1974 would not show up in official statistics for several months. The CBI therefore decided to add special questions to the October 1974 Industrial Trends Survey and these have been repeated every six months. The results of the October 1974 survey had confirmed the seriousness of the corporate liquidity position and subsequent surveys had charted developments in their position. It was hoped that in time the survey would play a full role in CBI analysis and forecasting of trends in manufacturing industry. In the meantime, the company liquidity survey and improved statistics of bank lending to industry had been published, and had both been found valuable by the CBI.

A paper *Financial statistics on manufacturing industry – suggestions for improvement* was presented by Mr. C. M. Evans of the National Economic Development Office. The Office was currently concentrating its resources on the development of the Industrial Strategy, an exercise in developing strategies for sectors of industry to achieve medium-term objectives in terms of market shares. These strategies were being developed by Sector Working Parties which were tripartite bodies, (government, trade unions and management) under the aegis of the National Economic Development Council. The most extensively available source of financial data on industrial and commercial companies was annual published company reports, but these suffered from a number of deficiencies including too broad a grouping by industry, and the accounts were not adjusted for inflation. Among official statistics the CSO's figures were revision-prone, insufficiently disaggregated by industry, and there were no operating accounts or balance sheet data. The Department of Industry's analyses reflected the drawbacks of the company reports on which they were based.

NEDO saw company reports as a starting point for improvement. These financial data should be reported in a form disaggregated down to Minimum List Heading levels, wherever possible distinguishing between UK and overseas activities. The recommendation on value added statements in the Green Paper, *The Future of Company Reports* (Cmnd 6888), would be extremely useful, and NEDO felt that as simple a system of inflation accounting as was acceptable should be introduced as uniformly and speedily as possible. More meaningful company reports would lead to more useful aggregate financial statistics. It might also be possible for the government to obtain direct reports based on management accounts.

One of the discussants, with an industrial background, called for statistics of companies' activities differentiated by products within industries. Another speaker found aggregate company sector statistics more useful than individual company accounts, and advocated a legal requirement on companies to publish balance sheets, valued at market prices, and cash flow accounts. The second priority might be disaggregation – on a limited basis – but he felt that value added statistics could be obtained elsewhere and he saw no need for quarterly data. A stockbroker echoed the need to separate property and oil company figures from those for the rest of the industrial company sector, and also for Sandilands-style balance sheets. He sought more accurate and timely aggregate statistics from the CSO, perhaps based on company accounts, and a change in the treatment of unremitted profits of overseas companies' subsidiaries and branches resident in the United Kingdom (and of their UK-owned counterparts resident overseas).

Another stockbroker warned of the effect of window dressing on individual company accounts and, in commenting on disaggregation, one speaker mentioned that financial decisions were only relevant to the group, often spanning both UK activities and overseas activities – this consideration put a limit on the disaggregation that was meaningful. An analyst pointed out the flexibility of value added statements; they were relevant for a variety of statistical units – the group, the company, the establishment, and even for the product.

Session 4—Future developments and open forum

Sir Claus Moser, Director, Central Statistical Office, and chairman of the final session, introduced Dr. D. J. Reid, author of the paper *National and sector balance sheets*, also of the CSO. Official work on a full system of sector balance sheets was well under way but not expected to be complete for at least a year. Each sector's balance sheets would comprise their holdings of tangible assets, financial assets and financial liabilities. The sum of assets, *less* liabilities, would measure the net worth of the sector; for the nation as a whole net worth could be measured as the sum of the net worth figures for the domestic sectors. This extension would transform the national accounts into a full accounting system. The CSO would supply provisional estimates of personal sector balance sheets as at the end of 1975 to the Royal Commission on the Distribution of Income and Wealth before the New Year.*

The main benefits from the sector balance sheet work were expected to be as an aid to economic analysis and forecasting; to provide statistics of total national wealth, and in particular, the distribution of wealth between and within sectors; and as a means for improving the quality of the comparable transactions figures.

The programme of work currently being undertaken involved the development of existing sources, and some new ones, and an attempt to reconcile alternative sources where they existed. An example of the latter work was the reconciliation of estimates of personal wealth based on estate duty sources, with information from the Company Share Register Survey and other counterpart and indirect sources. The work so far had been done mainly with official needs in mind and observations from non-official users were sought. Views were also invited from users on how best to disseminate the enormous volume of data which would be generated by this work.

A discussant suggested that the main benefit from the balance sheet work would be the introduction of surveys on ownership of assets. In discussion the author explained that it was official policy to publish results from new surveys as soon as they became available.

Professor J. R. S. Revell, Department of Economics, University College of North Wales, Bangor, delivered the final paper of the conference, on *International comparisons of financial statistics*. The author's main research, on an international level, into financial statistics had been through a consultancy for the Statistical Office of the European Communities (SOEC) into loans advanced by credit institutions and non-financial enterprises. The emphasis of the paper was therefore on the financial statistics of those institutions and was limited to the EEC countries.

The author had noticed a marked change in the nature and intensity of demand for financial statistics. European countries had felt the same pressures in the early 1960s to produce aggregate transactions accounts. The pressures had been reinforced by the publication in 1968 of the United Nations' System of National Accounts. As yet only five of the nine EEC countries had produced a complete financial transactions table, and the UK official statisticians led the world in attempting to produce national and sector balance sheets integrated with the transactions accounts. The recent trend in demand was for detailed statistics of financial institutions in their own right.

The countries of continental Europe had more elaborate systems of licensing and regulation of financial institutions, although this did not always lead to better statistics. The forthcoming licensing of credit-granting and deposit-taking institutions in this country should at least improve the statistical coverage of the non-bank financial institutions sector.

Each country's financial statistics had good points and bad, and the United Kingdom had as good a system as any European country. The SOEC sought to harmonise the statistics of loans by financial institutions in member countries by generalising the best practice amongst them. The author's proposal implied very detailed balance sheets from each kind of financial institution, and he suggested there was also a need to obtain operating accounts from them.

There was nothing comparable, for non-financial enterprises on the Continent, to the Department of Industry's analysis of company accounts, partly because the company form of organisation was less dominant there. However, there were many problems with published accounts and the author thought that ultimately more reliance should be placed on a direct enquiry.

An OECD user of UK financial statistics said in discussion that, among other improvements, he sought better statistics of trade credit and improved coverage of financial institutions.

During the open forum requests were made for publication of more detailed statistics on the banking and issue departments of the Bank of England, and for amalgamation of their figures in a central monetary authority sector. A building societies' representative suggested that official statisticians should concentrate on improving the collection of statistics from laggard groups of financial institutions rather than ask the leading groups to supply even more data.

*The submission has now been made and has been published in the January 1978 issue of *Economic Trends* (HMSO), (Price £1.95 net)

Tailpiece

A measure of the success of the 1977 conference was the record allocation of 270 places – nearly twice the previous highest allocation – and its diverse composition. Apart from the representatives of financial institutions and government departments, there were investment analysts, business economists, journalists, industrialists, market researchers, and representatives of local government and the academic world present at the conference.

The 1978 conference will cover the subject of 'Dissemination of Statistics'.

References

Many of the topics referred to in these conference notes are discussed in:

Explanatory handbook for *Financial Statistics*, 1977, (HMSO), (Price £1·35 net)

An introduction to flow of funds accounting: 1952–70. Reprinted 1974, Bank of England, (Price 60p net). It will soon be published again in revised form.

Further reading

A. H. Cowley, 'Development of enquiries to financial institutions'. *Statistical News* No. 34, August 1976

David J. Reid, 'National and sector balance sheets,' *Statistical News* No. 35, November 1976

Nicholas Rudoe, 'Statistics on industrial and commercial companies', *Statistical News* No. 37, May 1977

Designing a database for use in compiling the national accounts

Anne Harrison, *Statistician, Central Statistical Office*

Introduction

The quarterly national accounts article that appears in *Economic Trends* in January, April, July and October and the annual tables that comprise the Blue Book are assembled by the CSO from data supplied by very many government departments and from a number of outside sources. The role of the CSO is very much one of co-ordination and scheduling. Each set of accounts is put together as soon as possible after the last major contributory series are available. For the quarterly exercise this leads to an intense period of about three weeks between the availability of provisional data on investment and stock-building in manufacturing industry and the date when this information is finalised. Much of this time is spent chasing up maybe only one or two series from a large number of disparate contributors and, if for any reason a delay is inevitable, in making the best guess for the missing information.

Because of the nature of this work it had until recently always been done manually and earlier assessments had cast doubt on the feasibility of providing a computer system that was as quick and as flexible as the manual one. There were, however, a number of major disadvantages to this conclusion. Any major changes in definition that affected series for a long way back in time were extremely tedious to process by hand. Moreover the data were not readily available in computer-readable form for subsequent analysis such as model building. These disadvantages are particularly acute in a year when rebasing the constant price estimates must be undertaken, as will be the case in 1978. With the advent of easier terminal access to computers and the development of database techniques, it was decided to review the possibility of setting up a computerised system that would be at least as quick as the manual system and provide the ability to exploit the data subsequently at no extra resource cost.

The problem

Before outlining the solution it will be helpful to explain the process of compilation in slightly greater detail. Typically, each of the main items appearing in the summary tables for Gross Domestic Product form the work of one section in the CSO and each is expanded in a later table. For example consumers' expenditure is shown in Table 1 of the quarterly article as a component of the expenditure estimate of Gross Domestic Product and in Table 13 the same figure is shown, together with thirteen sub-divisions. Table 4.9 of the National Income and Expenditure Blue Book shows the same data in annual terms but with many more components and the relationship between the broader and more detailed breakdown is shown in Fig. 1. An even finer breakdown is produced in the worksheets of the sections – mainly for groups headed 'Other', but these individual series are felt to be either too approximate or of such minor importance that their publication is not justified.

By examining the hierarchy shown in Fig. 1 it can be seen that whenever an individual series is amended, each next higher level of aggregation must also be amended until the revision is incorporated in total consumers' expenditure. Thus, for example, a revision to books means also amending books, newspapers and magazines, other goods and total consumers' expenditure.

However, this chain of amendments is not the only one consequential on a change to books. If we look back to the quarterly article we find that consumers' expenditure appears in three forms. As well as figures in current prices not seasonally adjusted, Table 1 also gives figures in constant prices both on an unadjusted and a seasonally adjusted basis. (In practice the fourth combination, current prices seasonally adjusted, also exists and is on the CSO macro-economic databank, but has not been incorporated within the published tables as demand for this has never been manifested.) Each of these three alternative forms of total consumers' expenditure is comprised of a hierarchy of components exactly analogous to Fig. 1, and each is built up from the bottom. Thus when we change books in current prices not seasonally adjusted we must also alter the current price seasonally adjusted and the constant price not seasonally adjusted versions, and changing this last also implies changes to the constant prices seasonally adjusted estimate. Then the changes of each of these three hierarchies must be carried through. Fig. 2

attempts to show schematically the consequences incurred by making what may be a very simple change to books.

It would be nice to think that the complications ended here, but of course they do not since the changes to each measure of total consumers' expenditure have to be carried through the hierarchies leading to the corresponding measures of Gross Domestic Product. The tight time-table of the whole exercise means that while these changes to consumers' expenditure are being processed, revisions will be being made within other sections and their consequential changes carried through and that all these changes must be collated simultaneously within the compilation of Gross Domestic Product.

We have already encountered one series, Total Consumers' Expenditure, which logically belongs to two hierarchies–its own and that for Gross Domestic Product. Because it forms the top layer of one and belongs to the bottom layer of the other these two hierarchies could be merged into one large one and the 'duality' of this series submerged. However, there are some series (for example, items from the balance of payments accounts) which enter into several hierarchies as components of different sub-aggregates and their duality or even plurality cannot be suppressed.

It is this characteristic of series belonging to several work sections that makes conventional computer approaches difficult if not intractable, since in computing terms it is necessary for several users to have simultaneous access to a data file, parts of which all the users may be modifying. The problem could be solved theoretically by making the users operate sequentially, but this is impossible in practice because of the time constraint mentioned above. This problem of requiring complex access to a data file is by no means unique to our sort of application, and indeed it is the prevalence of this phenomenon over a wide range of applications that has led to the development of database management systems as a great growth point within computing in recent years.

The solution in outline

It was to this technology, therefore, that we turned in 1974 to see whether it would provide a suitable framework for our purposes. We had to decide at the outset whether to develop our own software or to use an existing package and we decided to use the product available from the manufacturer of our hardware. (UNIVAC's DMS 1100). The reason for this was straightforward; such a choice represented a considerable saving in resource cost. What was on offer was a system that already coped with multi-user access; provided file security against unlawful prying and file integrity against machine malfunction and program errors. In addition, provision existed for handling well-known but tedious housekeeping problems such as dealing with variable length records. After about six months' experimental work on a pilot study, the results were sufficiently encouraging for us to start a policy of implementing the computerisation of each section's work involved in the compilation of the Blue Book. Work started in earnest in early 1975 and is now nearing completion.

The Annex contains a figure showing what the system looks like in technical computer terms, but to non-computer experts (which include all our end-users) a more helpful picture is given in Fig. 3. The left-hand side shows the notional structure with the terminology we use, and the right-hand side shows a specific example based on Figs. 1 and 2. Broadly, each database corresponds to the work of one section. The variants may be thought of as corresponding to different ledgers, classes to the individual pages or accounts within the ledger and the series to the rows or columns on each page. Each database forms a rather squat pyramid; typically, each has between four and twenty variants. Each of these normally has two to four classes, and most classes have between twelve and eighty series each. In all, we now have twenty databases covering about 20,000 series in operational use.

The work of updating the series is done by the sections which previously compiled the manual worksheets and it is handled mainly by executive and clerical officers. All the revisions are made over terminals which are available for use at the officer's desk so that he has ready access to working documents and advice and assistance when necessary from senior staff. The programs are designed to be used by staff who are not computer specialists, and are operated by following question and answer sequences in English over a terminal. To help in this all the variants, classes and series are referred to using mnemonics (such as those in Fig. 3), since these are the familiar terms of reference and are less likely to give rise to ambiguity or mis-punching errors than, for example, numeric codes. Only the basic data need be input via the terminal, since all derived series including sub-aggregates, seasonally adjusted and constant price versions can then be calculated automatically. For example, in Fig. 2 only the current price unadjusted series and a suitable price deflator need to be updated across the terminal for the other three series to be computed automatically. If later the current price unadjusted series is revised again, the effects of this will be carried through to the constant price estimate using the existing price deflator. Because the consequential amendments are done by the computer, staff have more time to concentrate on plausi-

bility checking of the basic input data, facilities for which are built in to the basic programs, and this is leading to a more critical assessment of new data and hence an improvement in quality of the final figures.

The solution of specific problems

One decision we had to make early on was how much repetition of data to allow in the system. Should we keep aggregates stored as such or just the information about how to compute them? Some experimentation was undertaken with this latter approach, but because so many demands are made for the highest level of aggregation, the overheads in continually recalculating them proved unacceptable. (This overhead was in the number of disc accesses to retrieve all the components rather than the degree of calculation involved.) Thus we store all the aggregates so that these are readily available. On the other hand although we make considerable use of implied deflators found by dividing current price aggregates by their constant price equivalents, we decided this was not sufficient to justify storing them and so they are calculated as required. Each series is stored at its greatest frequency, that is monthly for wholesale and retail price indices and the index of industrial production and quarterly for almost everything else. Less frequent observations – quarterly from monthly and annual from both – are calculated as required. The choice about when to store and when not to store derived data must be pragmatic but at the moment this trade-off between storage costs and computing costs seems about right for our usage.

It is inevitable that during the process of compiling a new set of accounts for the latest quarter there will be times when the relationship between aggregates and their components break down. It is simply not feasible to amend every superior aggregate that is affected for every revision to a basic series, and even if it were feasible, it would involve a great deal of wasted effort; if all the components of a total are being altered it is only necessary to recalculate the totals at the end. What happens, therefore, is that the basic series for each section are updated in batches as the new information comes in, and then the hierarchy concerned is recomputed. Other users requiring access to the basic data are not impeded by this process. Users requiring access to the aggregates are advised to wait until the process is complete, but if this advice is ignored, an error will be reported and the series called for will not be made available. In practice this arrangement works well. The people responsible for picking up other people's totals are few in number and will already be in close personal contact to monitor progress and find out whether and when further revisions are expected.

Extensions to the basic solution

Clearly, however, this situation will not suit all users. In particular, for many purposes what will be required is the last complete and consistent set of figures as published. To meet this need, we introduced a system of putting each series on the database twice. The first copy we call a data record and the second we call provisional. As revisions are made they are made only to the provisional record, and in general these are only made available to those users responsible for compiling the accounts; other users are restricted to using the data records. When a new set of accounts is complete and released for publication the data records are updated to agree with the provisional records and the system starts over again.

Implicit in the description of how provisional information is treated is the fact that we operate a sophisticated security system on the data. It is one area where the promise of a solution available as part of the database package did not eventually meet all our requirements and we have had to design our own. We can now allow individual users access either to the whole database, chosen variants or classes or to individual series. Access at any level implies access to every lower level entry. At all levels it is controlled to have 'write' permission (i.e. the user may alter the values of the series) or to have 'read' permission (where the series can be used for analysis or tabulation but not altered), and each sort of permission may apply either to data records or to provisional records as described above. Thus the owner of a database has 'write' permission to all the provisional records throughout his database; some users may have 'read' access to selected provisional records and more general access will be given to read data records throughout given variants or classes.

One advantage of keeping the values of the data as last published is that it is possible to see what changes have since been made. In fact, we go further than this and build up a whole history of revisions showing exactly when a change was made and the reason for it. In this way we can track back to examine revisions individually or by reconstituting the series by successively undoing the revisions we can discover the cumulative effect of revisions over any period of time. The physical limitations of the size of analysis sheets makes this process quite impracticable in a manual system, but it can be made largely automatic in a computerised one. It is another area where we hope that our new system may help to improve the quality of the data since if an analysis of the revisions shows up any consistent patterns we should be able to anticipate these and thereby help to reduce later revisions.

An assessment of the resultant system

As was stated above, our new system is nearly complete if we regard it simply as a means of replacing the manual method of assembling the national accounts. We have had some problems on the computer side. The software for handling database systems is not as highly developed or as robust as, for example, high level language compilers. Although we found very few serious snags, when these did occur we were entirely in the manufacturers' hands in searching for a solution. A number of the features offered by DMS proved to be not entirely suited to our application. The question of security has been mentioned as one example; another unsatisfactory area was the housekeeping arrangement for dealing with the extension of variable length records. DMS was designed for an application where this happens rarely; because it is something we do continually, the overheads in using DMS for this purpose are punitive. Indeed, the situation became so bad that a year ago we had to alter completely the internal relationship between DMS and our own application programs. This was a major exercise since we had to continue developing and extending the system on the old basis at the same time as devising the new one, and this was very expensive in terms of scarce resources. All in all, we have not been able to accept DMS as a perfectly working 'black box' whose internal conventions need not concern us. The effort in discovering exactly how it worked, and where necessary programming round undesirable features, has meant that the savings in resource cost we had hoped to achieve by using a standard package were in large measure unrealised.

Nevertheless, we now have a system with which we are reasonably satisfied. It is fully capable of meeting the original target of producing the national accounts within the prescribed time-tables. The possibilities of transcription and arithmetic errors inherent in a manual system have been eliminated. The advantages of being able to carry out better plausibility checks and of analysing the revisions made to the system have been mentioned. Another immediate area for consideration concerns the final tables of the accounts. We are already using computer output rather than tables prepared by hand for printer's copy and in preference to typed versions for internal circulation and are hoping to extend this to press notices and possibly to some publications.

Looking forward

However, it is in matters beyond this that the really rewarding benefits of the system lie and these benefits are just beginning to be exploited. For as long as all subsequent analysis of the data had to be carried out by hand, only high priority developments whose benefits were assured beforehand could be initiated. Now alternative methods of, for example, seasonal adjustment and deflation can be experimented with quickly and easily. This last will be of inestimable assistance in the course of deriving the new constant price estimates later in the year. The implications of linking back over such a long time-span and of alternative methods of dealing with the valuation changes caused by the severe inflation surrounding the new base year had never been followed through before and the savings from having the consequent computations mechanised will be considerable.

Other areas of development of the accounts were described in a recent article in *Economic Trends* (1) and for a number of these are only practicable in terms of a computerised system. One project that has already started is that of matching indicators relating to the same industry group across the conventional sections of the accounts, partly as a means of quality control on the basic data and partly to try to assess how the economy is moving at the detailed industrial level rather than being restricted to the final aggregate information. This is only one example of a trend to try to improve the quality of our statistical system by better exploitation of the information that we already collect rather than attempting to collect more, and for this to be possible a computer based system is essential. The CSO system described here is one example of what is now possible.

Reference

(1) 'Developments in the National Accounts', *Economic Trends*, July 1977 (HMSO) (Price £1.95 net)

Fig 1

The composition of consumers' expenditure

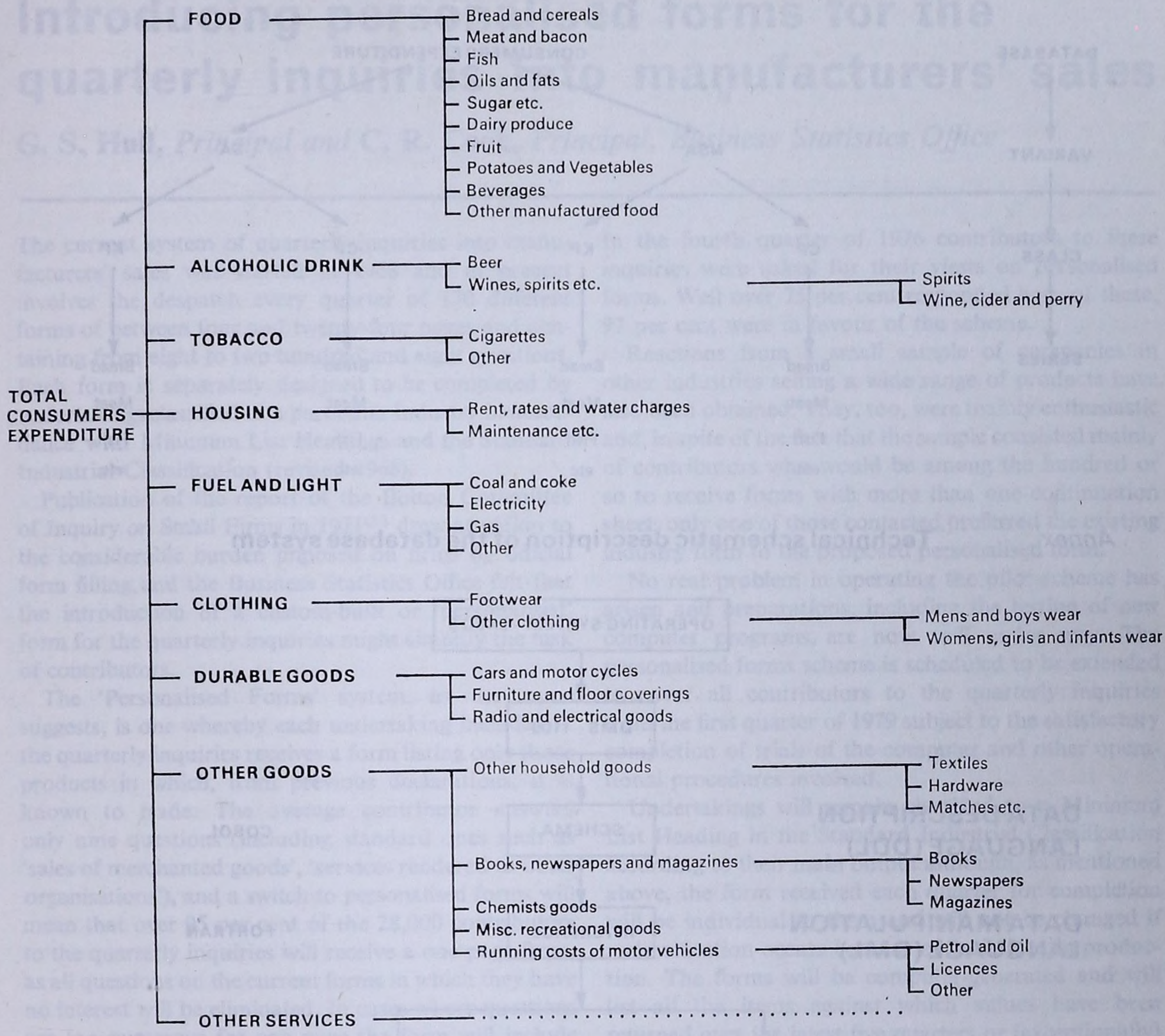
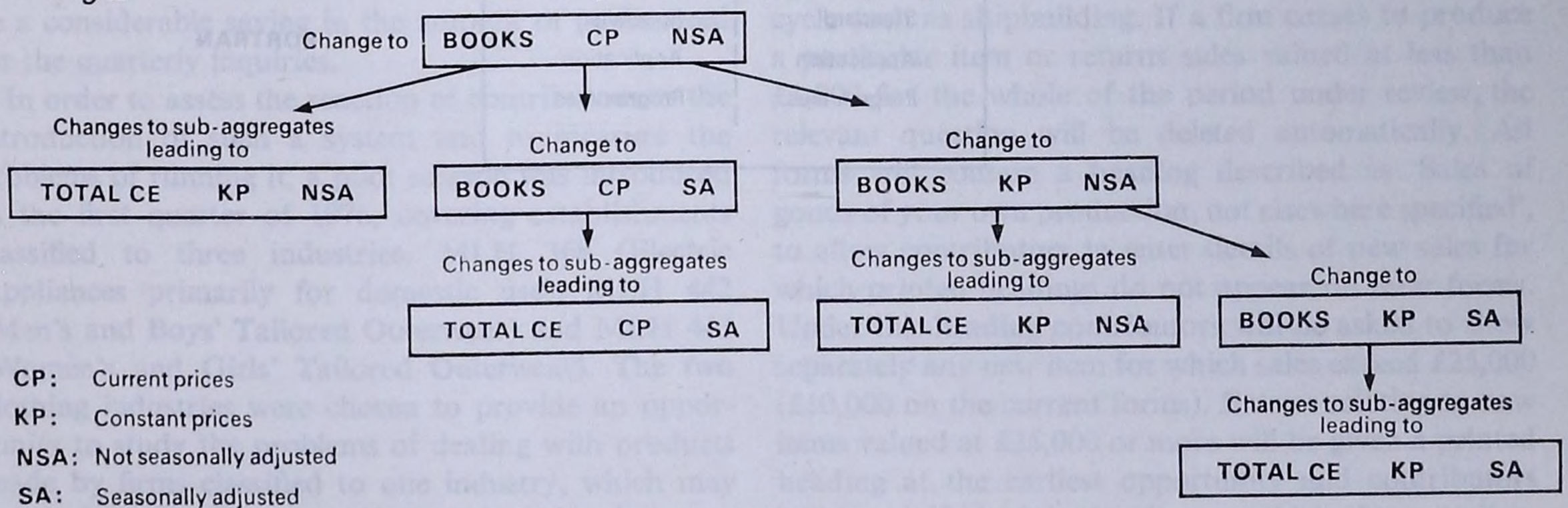


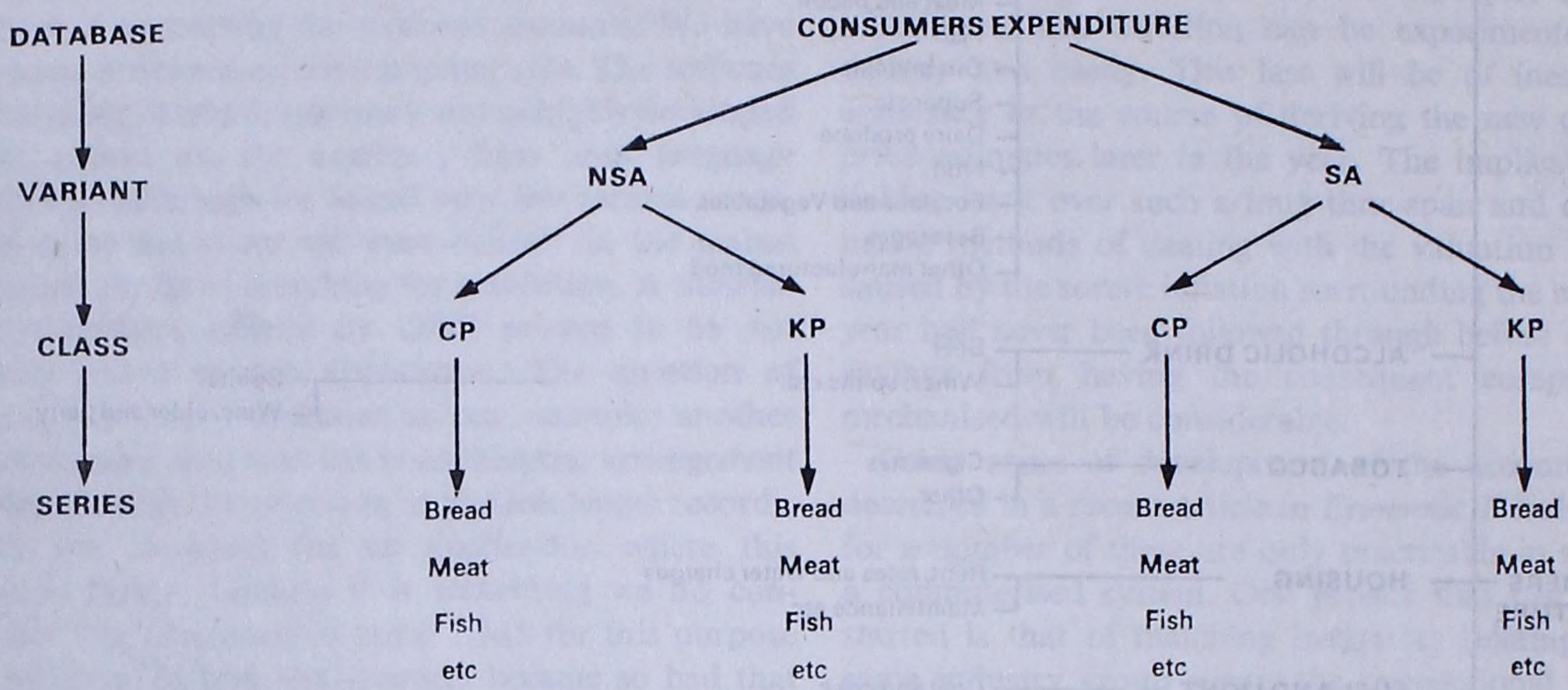
Fig 2

Consequences of changing an item

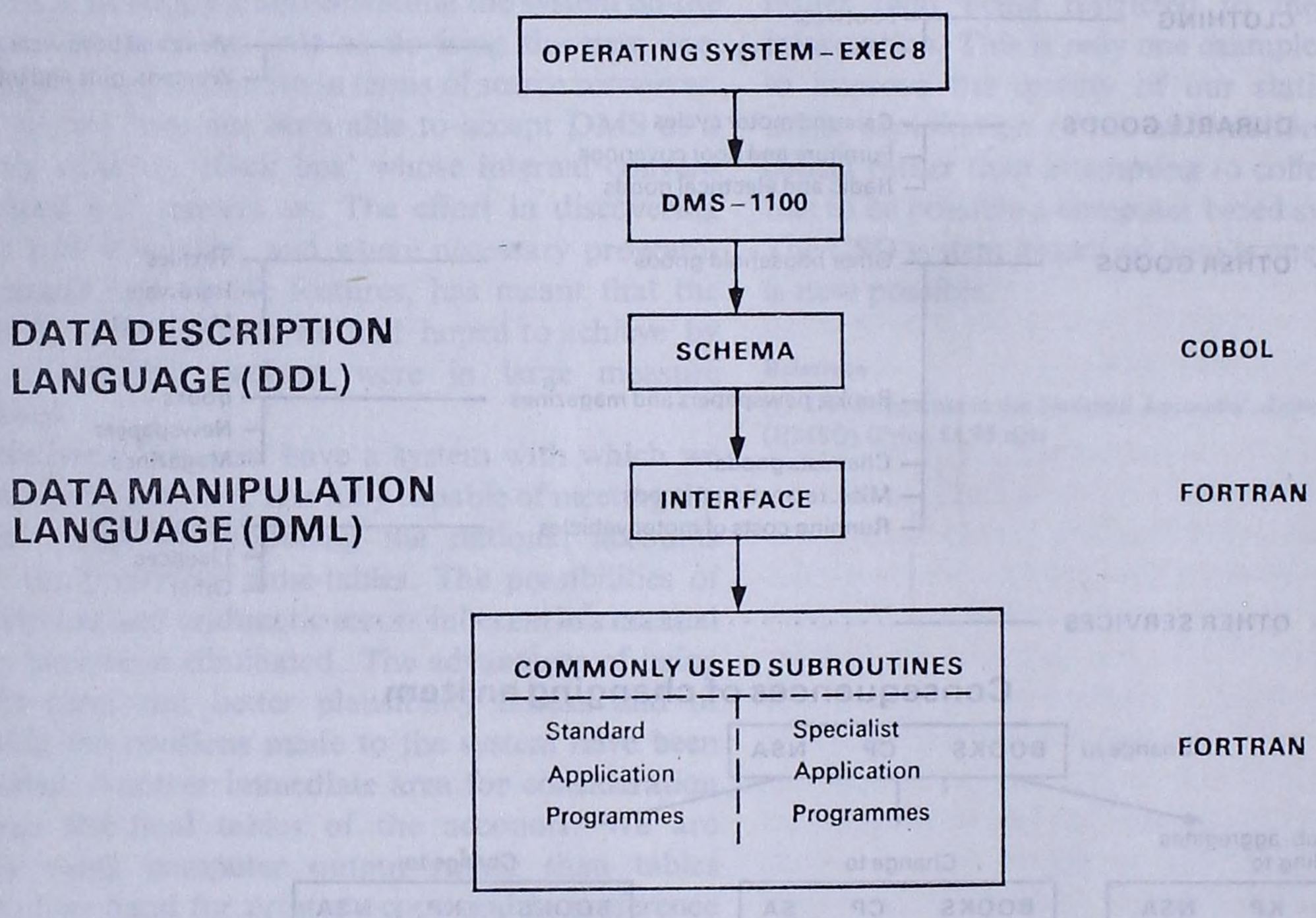


CP: Current prices
KP: Constant prices
NSA: Not seasonally adjusted
SA: Seasonally adjusted
CE: Consumers' expenditure

Fig 3 Diagrammatic view of a database



Annex **Technical schematic description of the database system**



Introducing personalised forms for the quarterly inquiries into manufacturers' sales

G. S. Hull, *Principal and* **C. R. Cook,** *Principal, Business Statistics Office*

The current system of quarterly inquiries into manufacturers' sales was started in 1968 and at present involves the despatch every quarter of 170 different forms of between four and twenty-four pages and containing from eight to two hundred and eight questions. Each form is separately designed to be completed by undertakings classified to a particular industry in accordance with Minimum List Headings and the Standard Industrial Classification (revised 1968).

Publication of the report of the Bolton Committee of Inquiry on Small Firms in 1971[1] drew attention to the considerable burden imposed on firms by official form filling, and the Business Statistics Office felt that the introduction of a custom-built or 'personalised' form for the quarterly inquiries might simplify the task of contributors.

The 'Personalised Forms' system, as the name suggests, is one whereby each undertaking included in the quarterly inquiries receives a form listing only those products in which, from previous declarations, it is known to trade. The average contributor answers only nine questions (including standard ones such as 'sales of merchanted goods', 'services rendered to other organisations'), and a switch to personalised forms will mean that over 95 per cent of the 28,000 contributors to the quarterly inquiries will receive a one-page form, as all questions on the current forms in which they have no interest will be eliminated. In cases where questions are too numerous for one page the form will include one or more continuation sheets, but overall there will be a considerable saving in the amount of paper used for the quarterly inquiries.

In order to assess the reaction of contributors to the introduction of such a system and to measure the problems of running it, a pilot scheme was introduced in the first quarter of 1976, covering establishments classified to three industries, MLH 368 (Electric Appliances primarily for domestic use), MLH 442 (Men's and Boys' Tailored Outerwear) and MLH 443 (Women's and Girls' Tailored Outerwear). The two clothing industries were chosen to provide an opportunity to study the problems of dealing with products made by firms classified to one industry, which may be produced by firms classified to the other industry. In the fourth quarter of 1976 contributors to these inquiries were asked for their views on personalised forms. Well over 75 per cent responded and, of these, 97 per cent were in favour of the scheme.

Reactions from a small sample of companies in other industries selling a wide range of products have also been obtained. They, too, were mainly enthusiastic and, in spite of the fact that the sample consisted mainly of contributors who would be among the hundred or so to receive forms with more than one continuation sheet, only one of those contacted preferred the existing industry form to the proposed personalised form.

No real problem in operating the pilot scheme has arisen and preparations, including the testing of new computer programs, are now well under way. The personalised forms scheme is scheduled to be extended to cover all contributors to the quarterly inquiries from the first quarter of 1979 subject to the satisfactory completion of trials of the computer and other operational procedures involved.

Undertakings will remain classified to a Minimum List Heading in the Standard Industrial Classification according to their main output although, as mentioned above, the form received each quarter for completion will be individual to them and will not be changed if reclassification occurs because of variations in production. The forms will be computer-generated and will list all the items against which values have been returned over the latest five quarters or (exceptionally) twelve quarters for industries with a long production cycle such as shipbuilding. If a firm ceases to produce a particular item or returns sales valued at less than £1,000 for the whole of the period under review, the relevant question will be deleted automatically. All forms will contain a heading described as 'Sales of goods of your own production, not elsewhere specified', to allow contributors to enter details of new sales for which printed headings do not appear on their forms. Under this heading contributors will be asked to show separately any new item for which sales exceed £25,000 (£10,000 on the current forms). Entries relating to new items valued at £25,000 or more will be given a printed heading at the earliest opportunity and contributors will be notified of the heading to which the new item

has been classified.

The personalised form has been designed so that there will be space for the insertion of details relating to up to four local units on each form (to replace lists at present supplied separately) and the heading asking for the total value of sales during the quarter will appear as the first item instead of as at present, at the end of the individual sales items.

Questions asked on the personalised forms will not be changed from those currently asked, although, to avoid any possible confusion due to the reduction in the number of headings on each form, many of the heading descriptions have had to be reworded. For this purpose, a Question Library is being prepared of all headings currently in use in the quarterly inquiries. Depending on the suitability of the wording of the product headings, some of the questions will be 'free-standing' and some will be based on an hierarchical structure. The free-standing headings are complete and meaningful in isolation, e.g.:

a. New parts of turbines for electricity generation
b. Glass containers for wines, spirits, beer and cider

Headings included in an hierarchical structure are complete only when preceded by a descriptive main heading, e.g.:

a. New turbines for electricity generation, complete
   Gas
   Steam
   Other than gas or steam
b. Mechanically gathered domestic and ornamental glassware
   Stemmed drinking vessels
   Tumblers and mugs

On a number of current inquiry forms there are questions supplementary to the main sales questions, e.g. exports, total production and special analyses (such as sales of toilet preparations in aerosol form or warp knitted fabrics by end use). These questions will be linked to the appropriate sales headings and, to avoid the possibility of supplementary information being lost because the relevant questions are not contained in the form, will appear automatically on a personalised form even if values have not been recorded in the past.

In order to keep the number of sheets comprising a form to a minimum, no heading description will exceed four lines. In most instances it has been possible to make the coverage of a heading clear within the space of four lines; in the remaining cases, reference to special notes will be made against the headings. These notes will be in the form of a booklet, which will include the general notes as shown on the current inquiry forms, together with these special notes. Copies of these booklets will be circulated to contributors periodically and amendments will be sent out each year. As with the present system, a document for retention by the contributor will be despatched with the form for completion in the first quarter of the year, to enable firms to keep a record of details entered in returns made to the BSO for each of the four quarters of the year. The possibility of including previously returned data on the personalised form, to give contributors a ready reference to figures they had provided earlier, was considered, but the idea was rejected because of the risk of a serious breach of confidentiality if a form was misdirected and also because space on the form was at a premium.

Coinciding with the development of personalised forms, a unique product coding system is to replace the multi-industry codes now in use. Each question has been allocated a unique code number of eight numeric digits and one alpha check digit.

It is considered essential to give contributors an opportunity to become acquainted with the new system well before it comes into operation. An advance information package will therefore be despatched to all contributors in the late summer of 1978. The package will consist of a letter outlining the objectives and operation of the system, together with a copy of the personalised form (sample at Appendix) which will contain all the questions answered by a recipient in the preceding five (or twelve) quarters, the notes for guidance and a record sheet (see paragraph 11). Recipients will be asked to check the question content of their form and invited to comment on the scheme and to make suggestions for improving it.

While the introduction of personalised forms will not exempt manufacturers from completing quarterly inquiry forms, it is confidently expected to make their task less time-consuming. The BSO is hoping this will in turn lead to an improvement in response and thus enable earlier publication of the results of the inquiries to the benefit of both industry and government.

Reference

(1) *Report of the Committee of Inquiry on Small Firms*, Cmnd 4811 (HMSO) (Price £2·55 net)

An Inquiry conducted by the Government Statistical Service
IN CONFIDENCE

FV

Please quote this reference in any enquiry

Please correct any errors in the name, address and postcode

INCLUDE ALSO RETURNS FOR *(Changes in production units should be recorded overleaf)*

QUARTERLY INQUIRY INTO MANUFACTURERS' SALES — PQ1

NOTICE UNDER SECTION 1 OF THE STATISTICS OF TRADE ACT, 1947

The Secretary of State for Industry hereby requires you by law to provide to the Business Statistics Office the information called for in this inquiry form. The information is required for the purposes of the appreciation of economic trends and the provision of a statistical service for government and industry. The form should be returned to the Business Statistics Office within 15 days from the end of the period to which it relates.

N.B. The information given by you will be treated as confidential in strict accordance with the Act and subject to the further restriction that information about individual businesses will be used and disclosed under Ministerial direction to other government departments for statistical purposes only, except that the names and addresses of individual businesses, their industrial classification and the numbers of persons of different descriptions employed by them may, if a Minister so directs, be made available to Ministers and officials of government departments who need them for carrying out their functions.

Department of Industry
BUSINESS STATISTICS OFFICE
Newport Gwent NPT 1XG

Telephone Newport (0633) 56111 ext
Telex: 497121 Answer Back BSONPT G

Dear Contributor

We are conducting this inquiry to obtain up-to-date statistical information about the sales of industry. The information collected is important to the work of government departments and is used for such purposes as the preparation of economic indicators (including the index of production) on a national and regional basis, the identification of market trends for individual commodities, input/output studies and the classification of industrial undertakings. For the benefit of industry and the public generally, commodity sales statistics are published quarterly in Business Monitors, available from Her Majesty's Stationery Office on payment of an annual subscription. General information about the quarterly inquiries is given in the "Guide to short term statistics of manufacturers' sales" (Business Monitor PQ 1001 available from HMSO).

Notes to help you complete your return are given in the separate Notes for Guidance booklet already provided and the main notes (1 to 7) are repeated overleaf. If you have any difficulties or would like further information about this particular inquiry, my staff will be pleased to help you. The telephone extension of the person dealing with this inquiry is shown above.

Yours faithfully

R. ASH
Director

THIS ESTABLISHMENT IS CLASSIFIED TO M.L.H.

RESULTS ARE PUBLISHED IN BUSINESS MONITOR

Start Here

		day	month	year
Period covered by return (see note 3)	from	11	/	/
	to	12	/	/
Average number of employees (see note 4)		13		

Information should relate to sales of goods of your own production unless otherwise specified *(see note 1c)*	Code	Value (£) *(see notes 1d & 6)*	Quantity	Unit of Quantity
Total value of sales of goods of your own production (including exports), amounts charged for services rendered and for work done and sales of merchanted goods (See note 1c) Note: this total should be the sum of all values (£) except those marked thus '*'	09870099R		XXXXXXX	XXXXXXX

PLEASE PROVIDE THE EXTRA INFORMATION REQUIRED OVERLEAF →

The use of postcodes in statistical work by central government departments

E. J. Kafka, *Statistician, Department of the Environment*

In recent years there has been a growing interest within central government in the use of the postcode as a 'building brick' code which will permit statistics to be compiled for virtually any desired area from data based on comprehensive enquiries or registers. (In the case of data based on sample enquiries, sample size and sample design impose limitations on the areas for which statistics can be derived.) A postcode normally identifies a group of addresses (on average 16) but there are 187,000 'large users' who have their own postcode for a single address. Thus the specification of a given area as a set of postcodes can rarely be completely accurate since some postcodes will normally straddle its boundaries. However, the approximation to the desired area is likely to be satisfactory unless the area concerned is very small. For central government the areas of interest are usually large enough to make this a relatively minor source of error. This article gives a summary of developments so far in the statistical use of postcodes within central government.

General Register Office (Scotland)

Since the start of 1974 GRO(S) have allocated births and deaths to local government and health areas by taking the postcode of residence into the computer record and using a computer directory which indexes each postcode in Scotland. (There is also an output of abbreviated birth and death tables at postcode sector level*.) The GRO(S) directory contains the following items for each postcode:

i. date of introduction
ii. date of deletion
iii. local government region code
iv. local government district code
v. health district code
vi. health board code
vii. new town code
viii. urban/rural classification code

The directory was derived from maps that had been produced by GRO(S) in preparation for the cancelled 1976 Census of Population. These maps, which have been kept up-to-date by GRO(S), are being used in area planning for the 1981 Census. Enumeration districts in Scotland will be built up from postcode areas and GRO(S) are planning to include in their Census records the postcode of remote addresses (i.e. place of work, address one year ago for migrants) in addition to the postcode of the address of enumeration.

OPCS

The Office of Population Censuses and Surveys is considering the use of postcodes in (a) compiling statistics of births and deaths for local authority districts and health districts, with wards as the basic areal units; and (b) 1981 Census records in respect of previous address (migration) and workplace address (transport to work); both these activities relate to England and Wales. Another use under examination is the postcode address file as a sampling frame for social survey purposes. A computerised directory which translates postcodes to standard administrative areas and wards is a pre-requisite. Progress has been made in compiling this directory from Post Office postcode directories and electoral registers (some of which include postcodes) and it is hoped to complete it by 1980.

Department of Transport

In their work on the Regional Highway Traffic Models (RHTM) project the Department of Transport and their consultants are using postcodes in the computerised coding of traffic census and travel data by some 3,600 RHTM zones. (These zones are groups of Wards that aggregate to local authority districts.) A computer system has been developed consisting of three elements:

i. a data file linking each postcode to an eight digit (100 metre) co-ordinate reference.
ii. a data file containing the digitised co-ordinates of the RHTM Zone boundaries.
iii. software to link any postcode held on a data file with (i) and (ii) above and thus allocate the postcode (and its associated data) to the appropriate zone.

As RHTM zones can be aggregated to local authority areas it has been possible to use this system to produce

*See Information Paper 1 from: Statistics (General) Branch, GRO, Ladywell House, Edinburgh, EH12 7TF

a computer directory containing the following items for each postcode in England and Wales:

i. the eight digit co-ordinate reference
ii. the RHTM zone number
iii. the DOE/DTp Standard Local Authority Code

The Department of Transport and the Post Office hope to conclude an agreement under which the Post Office will be granted a licence to use this directory commercially. Crown bodies will, however, have the right to use the directory without paying a royalty, and *for transportation planning purposes only* local authorities will also be able to use the directory free of charge. (Enquiries from local authorities wishing to use the directory for transportation planning purposes should be directed to TE Division, Department of Transport, St Christopher House, Southwark Street, London SE1 0TE; other enquiries from non-Crown bodies to G. Petherick, Post Office National Data Processing Service, Tenter House, 45 Moorfields, London EC2Y 9TH.)

Proposal for a master postcode directory

As there are now two operational postcode directories, the GRO(S) directory and the RHTM directory, with OPCS in the process of setting up a third directory, it is natural to ask whether it would not be more efficient to bring these together into one master directory covering Great Britain. This possibility is under consideration but there are a number of issues to be resolved and it is unlikely that a decision will be made until later this year.

Applications so far

Apart from the use of postcodes by GRO(S) and DTp which have been mentioned already, there are a number of recent developments that involve the use of postcodes:

i. The Department of Health and Social Security 1 per cent sample of the insured population, about 400,000 insured persons, is being postcoded by DHSS at Newcastle. The first sample data will be in respect of 1975/6 and it is hoped to produce tabulations of income from employment for local authority areas using the RHTM and GRO(S) postcode directories early in 1978; if possible, in time for the next round of Rate Support Grant negotiations. (It is expected that these tabulations will relate to about 250,000 people with income from employment in 1975/6.)

ii. The Department of Health and Social Security Child Benefit records include the post office of payment. For a 4 per cent sample it is intended to allocate Child Benefit recipients to local authority areas on the basis of the postcode of the post office of payment. Since post offices do not have defined catchment areas the allocation of Child Benefit records in this way will involve a degree of inaccuracy, but it is hoped to produce some useful estimates of the number and proportion of large families (three children or more) and of the number of single parent families receiving Child Benefit increase. It is hoped to be able to use these estimates in the RSG allocation for 1979/80 if they are available by April 1978.

iii. The Department of Transport driver and vehicle licensing directorate has been postcoding the addresses of driving licence holders and vehicle keepers for administrative purposes since October 1974. Using the RHTM directory it is intended to produce statistics of vehicles licensed for individual districts from the end of 1978 onwards.

iv. In the 1976 Census of Employment employers were asked by the Department of Employment to give the postcode of their establishment. Only about one third of establishments were postcoded in this way but the remainder of the 1976 establishments are now being postcoded by DTp and new establishments in the Census of Employment for 1977 and later years will be postcoded by DE. The Census of Employment tapes supplied to local authorities will therefore carry the postcode of an increasing proportion of establishments (census units).

At present the emphasis is mainly on using the postcode as a means of producing statistics, or estimates, for local authority areas; however, in the longer term, the postcode/grid reference file created by the RHTM Team will be used to produce statistics for other areas as well. In DOE arrangements are being made to convert the postcode/grid-reference file into a format suitable for DOE's LINMAP programme. Once this has been done, it should be possible to specify a variety of areas, the boundaries of which have already been digitised in many cases, in terms of postcodes, with the object of obtaining statistics for these areas. The limiting factors are likely to be whether or not the data has been postcoded, and if the data has been postcoded, whether the department concerned has the computing resources to produce the statistics. The need to ensure that there is no disclosure of information relating to individuals will of course restrict the range of statistics that can be produced for very small areas.

Survey of small goods vehicles 1976

J. M. Haslam, *Statistician, Department of Transport*

Introduction

The Continuing Survey of the Transport of Goods by Road provides estimates of the work done by goods vehicles subject to Operators Licence, i.e. goods vehicles over $3\frac{1}{2}$ tonnes gross vehicle weight (gvw). (Some details of the Continuing Survey appeared in *Statistical News* No. 21.) Estimates of the relatively small amount of work done by goods vehicles under $3\frac{1}{2}$ tonnes gvw, prior to the present survey, were made using the 1967/68 Survey of Roads Goods Transport (described in *Statistical News* No. 9) and a survey of small goods vehicles carried out in 1974. Since the 1974 survey (the first to deal exclusively with vehicles under $3\frac{1}{2}$ tonnes) showed that the extrapolations which had been made from the 1967/68 survey results were inaccurate, it was decided to carry out another survey during 1976 to check the level of carryings by small goods vehicles.

The sample

It was estimated that a sample size of about 5,000 vehicles (compared with 2,600 in 1974) would provide results of the required accuracy. This size of sample allowed for a 25 per cent non-response rate from all sources (i.e. vehicle sold or scrapped, operator gone out of business, etc.). The population for which estimates were required consisted of goods vehicles of 2 tonnes unladen weight or less. Goods vehicles over $3\frac{1}{2}$ tonnes gvw falling in this group were excluded from the survey. This population of about 1,234,000 vehicles includes about 50,000 farmers' goods vehicles which were not sampled. In order to make the results compatible with the Continuing Survey these farmers' goods vehicles were included in the population for grossing up purposes. It is not thought that this exclusion of a relatively small number of unsampled vehicles gives rise to any significant error.

The survey was carried out under the Statistics of Trade Act 1947 and a contact rate of about 98 per cent was achieved. As mentioned above, an allowance of 25 per cent had been made for returned forms which related to vehicles which had been sold or scrapped etc. In fact the number of usable forms (4,060) was about 78 per cent of the number originally sent out. The majority of the licence records of goods vehicles having been transferred to the Driver and Vehicle Licensing Centre (DVLC) Swansea, the major part of the sample (3,239 vehicles) was selected from there. The remaining 1,875 vehicles were selected from Local Taxation Offices (LTOs) in two stages. In November 1975 1,211 vehicles were selected from twenty-five randomly selected LTOs and in May 1976, 750 vehicles were selected from eighteen randomly selected LTOs. In each case the number of vehicles selected from each LTO was proportional to the number of small goods vehicles in their area.

Questionnaire

The forms used were virtually identical to those used in the Continuing Survey. The form asked for details of the selected vehicle as follows:

i. unladen weight
ii. carrying capacity
iii. gross weight
iv. type of body
v. whether the vehicle was operated for own account, hire or reward, a mixture of the two, on contract work, or for domestic use.
vi. mileage in the last 12 months
vii. type of fuel
viii. reason for not being used on public roads (if appropriate).

The rest of the form covered the record of a week's work by the selected vehicle. For each journey or journey-leg the operator was asked for the origin, destination, the weight and type of goods carried and the loaded and empty mileage run. In order to reduce the form filling burden for operators whose vehicles performed journeys with several intermediate collection and delivery points, only summary data were requested when there were five or more of these intermediate points. These were the origin, final destination, type of goods carried, loaded and empty mileage, total tonnage delivered and number of delivery points, total tonnage collected and number of collection points.

Processing

The returned forms were post-stratified using unladen weight and year of first registration as the post-stratification variables. The population values for each unladen weight group/year of first registration group were extracted from the excise licence statistics. The

forms were coded, the code used for commodities being the 'Uniform Goods Nomenclature for Transport Statistics' (NST) of the Statistical Office of the European Communities (SOEC). The data from the forms were then transferred in grossed up form to edge-punched cards and a preliminary analysis carried out. Some of the results of these analyses are given in the next section.

Results

Although small goods vehicles accounted for just over 70 per cent of all licensed goods vehicles (including farmers' goods vehicles) in 1976 the tonnage lifted by them was only 5·4 per cent of the total and the goods moved (measured in tonne-kilometres) were only 2·9 per cent of the total. The following table summarises these figures:

	Vehicles		*Tonnes*		*Tonne-kilometres*	
	Number (thousands)	Per cent	Number (millions)	Per cent	Number (thousand millions)	Per cent
Small Goods Survey	1,234	70·3	82	5·4	2·8	2·9
Continuing Survey	521	29·7	1,434	94·6	92·8	97·1
All goods vehicles	1,755	100·0	1,516	100·0	95·6	100·0

The figure of 2·9 per cent of the total tonne-kilometres compares with a figure of 3·3 per cent in the 1974 survey. A move away from small vehicles had been suggested by a comparison of the 1974 results and the 1967/68 results and this move away is now confirmed by a figure which is exactly on trend from the previous results.

The vast majority of carryings by small vehicles (96 per cent of tonnes and 93 per cent of tonne-kilometres) are on 'own account' i.e. they are carrying goods in connection with the operator's trade or profession. The contribution of the small goods vehicles to the public haulage industry is extremely small – 0·4 per cent of total tonnes and 0·3 per cent of total tonne-kilometres.

As regards the commodities carried in small goods vehicles, nearly 25 per cent of the tonnes lifted was perishable foodstuffs (NST group 14). However, because the average length of haul for this commodity is relatively short (18 kilometres compared with 34 kilometres for all commodities) this group only represented 13 per cent of tonne-kilometres. In contrast, the carryings of servicing equipment, tools and spares accounted for 14 per cent of total tonnes and because of the relatively long average length of haul (55 kilometres) for 22 per cent of total tonne-kilometres.

As mentioned earlier, small goods vehicles account for just over 70 per cent of all goods vehicles, but only a small percentage of the total work. Their contribution to the total mileage run by goods vehicles is, however, quite substantial. Using figures derived from this survey and the 1976 Continuing Survey, small goods vehicles are estimated to account for just over 45 per cent of vehicle kilometres run by all goods vehicles. The total estimate of vehicle kilometres run by goods vehicles in 1976 is just under 31 thousand million kilometres. This compares with the figure derived from traffic counts of just over 41 thousand million kilometres.

There are two reasons for this difference, one of which is roughly quantifiable and another which is not. First, for traffic count purposes, goods vehicles are divided visually into 'light vans' (not exceeding 30 cwt unladen weight) and 'other goods vehicles'. The 'light vans' category includes about 469,000 vans registered as private (using figures from the Department's National Travel Survey) which, using a visual roadside check, are indistinguishable from light vans registered as goods vehicles. These privately registered light vans are estimated to run an average of 14,100 kilometres each per year (the same as private cars). This gives a total of 6½ thousand million kilometres as their contribution to the traffic count figures.

The second difference arises from vehicles which are included in the traffic count category 'other goods vehicles' but which are not covered by the Continuing Survey. These vehicles include, as well as goods vehicles registered outside Great Britain, tractors and trailers, combine harvesters, fire engines, post office heavy lorries and other specialised vehicles. It is not possible to estimate independently this category's contribution to the traffic count total figure.

Bringing these figures together produces the figures in the table below. The implication of these figures is that the total represented by vehicles included in traffic counts but not in the Continuing Survey is about 4 thousand million kilometres. Errors in any of the results might of course falsify this figure.

1976	*Thousand million vehicle kilometres*
Traffic count: light vans	21·36
less private light vans estimate	6·61
=Commercial light vans estimate	14·75
Small Goods Survey	14·09
Traffic count: other goods vehicles	20·22
Continuing Survey	16·86
Total traffic count *less* private light vans	34·97
Total small goods *plus* Continuing Survey	30·94

The question on the form about reason for not being used on public roads produced the result that 75 per cent of the vehicles were being used to carry goods, 5 per cent were being used for domestic purposes and 20 per cent were not being used for some reason such as repair, driver on holiday, or no work.

Publication of results

Copies of the summary report of the survey are available on request from the Department. The results have also been used in the production of the 1976 version of *The Transport of Goods by Road in Great Britain*, also available free from the Department.

Future surveys

Because of the closeness of the estimates using the 1967/68 and 1974 surveys and the 1976 survey it is not considered necessary to carry out another survey until 1980 at the earliest.

A study of school improvement policy, and the role of a survey of school buildings

Alan McIntyre, *Statistician, Department of Education and Science*

Expenditure on school building can be divided, at least notionally, into two elements – that for providing sufficient places for local increases in the school population ('basic need'), and that for remodelling or replacing deficient accommodation ('improvement'). Historically, the first element has been much the larger of the two but, with the certainty of an imminent and substantial decline in the school population, the improvement element will assume greater importance. With this in mind, an inter-departmental group was set up to review the aims of school building improvement programmes, and its report was published by the Department of Education and Science and Welsh Office last November as *A Study of School Building* (HMSO, £5·50 net).

To help identify the major existing deficiencies in the stock of school buildings, two sample surveys of maintained schools in England and Wales were undertaken in 1975 and 1976. These surveys provided a large amount of information about the age of the buildings, the types and areas of the teaching spaces and, in the 1976 survey, details of the amenities of the schools (number of sites, availability of playing fields, etc.), and of their structure (number of storeys, condition of the fabric, etc.).

Hypothetical 1986 rolls were assigned to each of the sample schools (these rolls were consistent with the national and regional school population projections for that year), and the sample was re-analysed to indicate the likely effects of the population decline both on the deficiencies (for example, the degree of over-crowding and the amount of temporary accommodation needed), and on the space available for further developments.

Together with data obtained from other sources, including 34 case studies of school improvement, this information enabled estimates to be made of the capital and recurrent costs of remedying particular deficiencies in the schools, and of advancing particular policies. These costs are given in Chapter 5 of the report. In Chapter 6, the report goes on to suggest possible objectives that might demand priority over the next decade, and to indicate what could be achieved by various hypothetical levels of expenditure – setting these in the context of the Public Expenditure Survey plans.

As well as the report itself, *A Study of School Building* contains a number of annexes, outlining some of the work that was undertaken to inform the group. Most of this material has not been published before. Annex 2, for example, discusses in some detail the question of the appropriate standards of space per pupil that should be used in assessing the capacities of the schools. It sets these standards in their historical, educational and international contexts. Annex 10 looks at the potential scope for the closure of surplus school accommodation, and the savings in costs which might accrue from this. Some annexes are more technical – Annex 8 discusses and tabulates the various unit costs involved in arriving at the total costs given in the report, and Annex 9 explains the reasoning behind the statement that the great majority of older schools can be remodelled to the standards of a new school, giving a comparable new lease of life, at an average of 40 per cent of the cost of a new school.

The surveys

Annex 5 gives some details of the two school building surveys. Of the 23,280 maintained primary and 5,034 maintained secondary schools in England and Wales in 1975, a random sample of 2,318 primary and 535 secondary schools was selected for the first survey. Returns were obtained for 2,302 primary and 522 secondary schools, covering all the local education authorities except the Isles of Scilly. The results were grossed-up to known regional totals of schools.

This first survey asked for the number of teaching spaces in temporary buildings, and the numbers in permanent buildings dating from each of four periods (before 1903; 1903 to 1918; 1919 to 1945; 1946 or later). For primary schools, each of these numbers was subdivided into three size bands of teaching space (taking 400 sq. feet and 500 sq. feet as the boundaries of the bands); for secondary schools, the numbers of teaching spaces were subdivided according to six types of use (general teaching, light practical, heavy practical, PE spaces, drama studios and halls) – the numbers of each of the first three types being further subdivided into two size bands.

Following the conclusions of Annex 2 regarding appropriate space standards per pupil, it was possible to determine the maximum number of pupils that could be taught in each of the type/size categories of teaching space under these standards. The pupil capacity of each school was then calculated by adding up these numbers for each teaching space in the school, and reducing the total by a factor to take account of the normal utilisation of space within a school of that size. Comparing this capacity with the actual number of pupils on roll in 1975 gave a measure of the surplus, or defficiency, of capacity in the school.

As mentioned above, it was necessary to find out the extent to which the projected population decline will, of itself, alter things like the amount of surplus and deficient accommodation in the schools. Given that regional school population projections were available, this problem was similar to that encountered quite frequently both in social and in economic fields – that of estimating the effects of a known (or postulated) overall trend when the individual units are likely to display marked differences in trend. Moreover, it was decided that, to give sufficient flexibility for analysis, it was desirable to assign 1986 rolls to each sample school – even though a detailed study of the population trend in each catchment area was obviously out of the question.

One method of approaching the problem would be to hypothesise a percentage change to each school's roll equal to that projected for the relevant region. This could be refined by adding in random fluctuations to the changes – or even doing this several times independently and studying the range of the results. It was felt, however, that it would be unwise to assume (as these methods implicitly do) that the characteristics of schools in areas that will experience, for example, a steep population decline are, on average, the same as those of schools in areas that will not decline at all.

It was therefore decided that it would be better to make use of any information that the local education authorities, or the schools themselves, could supply on the likely changes to the school populations in the various catchment areas. An estimate of the expected 1975 to 1980 rate of change was therefore obtained in the survey for each sample school. This rate of change was then abated for the period 1980 to 1986, and hence a first estimate of each 1986 roll obtained. (The abatement factor was derived from consulting data from three consecutive censuses of population – had time permitted, it would have been interesting to study the effects on the results of applying random fluctuations to this factor.) For each region, the 1986 rolls of the sample schools were then adjusted to give, in total, the same proportionate decrease between 1975 and 1986 as was projected for that region. They were also adjusted to take account of new places projected to be opened between these dates.

The calculation of these hypothetical 1986 rolls enabled the prospective surpluses and deficits in accommodation in that year to be estimated. Obviously, the procedure could not yield reliable estimates for individual schools, and the sensitivity of the analyses to errors in this methodology had to be borne in mind. Nevertheless, it probably gave a more reliable indication of the types of buildings that would be relatively under-used in 1986 than any other simple method.

Finally, the first survey asked whether the school served an area of 'special social need' (using Urban Programme criteria), and for the code of the Census enumeration district in which it was situated. Comparing the answers to the first of these questions with data obtained on household amenities and socio-economic groups in the area from the 1971 Census showed a reasonably close agreement, considering that they were not measuring exactly the same aspects of the surrounding areas. Areas of special social need figure prominently in the list of possible objectives suggested in the report.

The second survey was carried out in 1976 on a subsample of the schools from the first survey. It covered 702 primary and 251 secondary schools in half the local education authorities, and again had a very high response rate. This survey was linked to the first survey, which made it possible to estimate, for example, the degree of concentration of amenity deficiencies in old schools, or in areas of special social need.

Annex 5 of *A Study of School Building* gives more details of all the stages outlined above, together with sampling errors, and then presents some results from the surveys. The figures which follow are extracted from it.

In their foreword to the publication, the Secretaries of State for Education and Science and for Wales explained that the list of possible objectives identified and costed in the report should be seen as a basis for the discussion of priorities, and not as an established commitment. They invited all interested parties to enter into the debate and to submit their views early in 1978.

Table 1

The age of school accommodation

	All areas		*Areas of special social need*	
	Primary	*Secondary*	*Primary*	*Secondary*
Percentage of accommodation:				
In permanent accommodation built:				
before 1903	20	4	26	7
1903 to 1918	7	4	11	5
1919 to 1945	10	13	16	13
1946 or later	51	72	42	71
In temporary accommodation	11	7	6	4
TOTAL	100	100	100	100

Source: sample survey

Table 2

Overcrowding (1) *in 1975 and 1986 (Rounded to nearest 10 schools)*

	Primary		*Secondary*	
	1975	1986 (prospective)	1975	1986 (prospective)
Number of overcrowded schools	8,640	890*	2,470	450*
of which, at least 10 per cent overcrowded	4,380	380*	1,260	250*
Deficit of space in all overcrowded schools ('000 cost places)	270	23*	223	32*

(1) Based on 40 sq. ft. per primary pupil and 70 sq. ft. per secondary pupil.

Source: sample survey

Table 3

Schools with particular deficiencies (Rounded to nearest 10 or 50 schools)

	Primary Schools with oldest teaching accommodation built				*Secondary schools*
	Before 1903	1903 to 1945	1946 or later	total	
All schools	8,320	4,290	10,670	23,280	5,030
Schools with:					
At least 20 per cent of accommodation in temporary buildings	2,200	1,000	1,610	4,820	620
At least two sites	1,250	100	200	1,550	1,000
Grossly inadequate site area:					
i. for 1975 rolls	2,750	500	450	3,750	—
ii. for prospective 1986 rolls	2,500*	400*	400*	3,350*	—
Outside WCs	4,550	1,550	850	6,950	600

Source: sample survey

Table 4

Schools with deficiencies in specialist secondary accommodation (Rounded to nearest 10 schools)

	Light practical		*Heavy practical*		*Large spaces*	
	Schools deficient	Total deficit ('000 places)	Schools deficient	Total deficit ('000 places)	Schools deficient	Total deficit ('000 places)
1975 rolls	3,470	164	3,660	115	1,830	25
Prospective 1986 rolls	1,650*	48*	2,080*	44*	630*	7*

*These figures can only be regarded as approximations, as they are dependent upon the hypothetical 1986 rolls.

Source: sample survey

Road traffic and the environment

F. D. Sando, *Chief Statistician, Department of Transport*

Introduction

There is growing interest in the changes in the environment and their effects upon the quality of life. The impact of the increasing volume of road traffic is a particular example of such a change. This article surveys the results of a study sponsored by the Department of the Environment and carried out in 1972[1]. It comprised a broadly based survey, covering the whole of England, of disturbances caused by road traffic to local residents. It was intended to provide a background and context for future specific studies.

The data collected for the study were derived from an interview survey of a representative sample of adult residents, a set of observations associated with their immediate traffic environment, and physical readings of traffic noise for a sub-set of the sample of addresses. The home interview consisted of over fifty questions seeking respondents' attitudes on the area in which they lived and the types of disturbance apparent to them and which bothered them, together with the usual questions on personal characteristics.

The technical direction of the interview survey was undertaken by Social and Community Planning Research, the sample design, resident interviewing and area observations (including some traffic counts) by the Office of Population Censuses and Surveys, whilst the noise measurements and traffic counts were the responsibility of the Transport and Road Research Laboratory (TRRL). The survey was supervised by a committee consisting of representatives of the Department of the Environment, Building Research Establishment and the Centre for Environmental Studies together with the three participating organisations.

Exposure to road traffic

At all of the 5,315 responding addresses, interviewers conducted ten-minute traffic counts in the road outside at peak and/or off-peak times. When grossed up by appropriate weighting, these interviewer counts were found to compare well with the more intensive counts of 18 hour flows (total vehicles passing between 0600 and 2400) conducted by TRRL at a sub sample of addresses. They were therefore used to estimate the broad classification of traffic flows for all addresses. The distribution of the grossed up 18 hour traffic flows for the sample is:

Vehicles per 18 hours	*Less than 200*	*200 to 299*	*300 to 499*	*500 to 999*	*1,000 to 1,999*	*2,000 to 9,999*	*10,000 and more*
Per cent	16	15	15	19	12	17	7

A third of the adult population is subject to flows of less than 300 vehicles per 18 hours (17vph), a quarter have flows of 2,000 or more vehicles (111 vph) and 7 per cent have flows greater the 10,000 vehicles (555 vph).

When peak hour flows are examined about 4 per cent of the population appear to experience flows of 1,200 vehicles or more per hour although the median flow was only 45 vehicles per hour. The mean peak hour flow was 208 vehicles, of which 20 were heavy vehicles. In the off peak, whilst the mean heavy vehicle flow remained unaltered, the total flow reduced to 133 vehicles per hour; the increase in traffic at peak hours is attributable to light vehicles. An indication of the variability in traffic flows can be derived by expressing the off-peak flows as a percentage of the peak flows. This variability ranged from off-peak flows of less than 30 per cent of peak for a fifth of respondents to 90 per cent or more for a quarter of respondents. It is the quieter sites that have more variability in traffic levels during a day and hence a ten-minute off-peak count can be a more unreliable measure of off-peak flows than in the case for peak flows. Consequently, these estimates should be regarded with caution. Nevertheless there is an indication of good agreement between interviewers' counts and respondents' assessments of the traffic incidence outside their address.

There is variation in the levels of traffic flows between different regions and population density patterns. This is shown for peak hours in Tables 1 and 2.

Table 1

Regional: peak hour traffic flows

Region	*Peak hour traffic flow vph*
GLC	349
South West	216
North West	214
South East (ex. GLC)	191
West Midlands	185
North	173
Yorks/Humberside	166
East Midlands	133
East Anglia	104

Table 2

Population density patterns: peak hour traffic flows

Density type	*Peak hour traffic flow vph*
GLC	349
10–19 persons per acre	227
Other conurbations	220
0·625–9·9 persons per acre	144
Less than 0·625 persons per acre	116

It is apparent that the two variables, regional and population density pattern are related since in general the regions with high traffic flows tend to have a greater population density. London appears to be a special case because of its very high traffic flow. East Anglia has no areas of dense population and consequently has the lowest traffic flow. Also East-Midlands, despite large towns like Leicester and Nottingham, is not densely populated and has the second lowest flow. Other regions are close to the average with the northern part of the country on the low side. The high figure for the South West probably reflects holiday traffic.

The exposure to traffic is fairly uniform over most socio-economic groups, see Table 3.

Table 3

Socio-economic groups: peak hour traffic flows

Group	*Peak hour traffic flow vph*
Managerial	268
Professional	258
Other n.e.s	226
Other non-manual	202
Semi-skilled manual	193
Skilled manual	189
Unskilled manual	181

If there are any exceptions, it is the upper groups who have above average traffic flows past their dwellings. It is possible that greater vehicle flows for these groups are offset by acquiring environments with other characteristics; for example, dwellings being set back from the road or the respondents preferring centrally situated accommodation, but this does not necessarily indicate lack of concern about traffic.

Other analyses show that respondents who live near road junctions, about 20 per cent of the sample, experience high traffic flows. As expected, residents in cul-de-sacs experience low flows of 25 vph, compared with non cul-de-sac flows of 251 vph; in contrast people on bus routes experience flows of 626 vph against non-bus routes of 76 vph. Residents in roads where half or more of the buildings are commercial or industrial have flows of 667 vph whereas those in entirely residential roads have only 110 vph. By housing type, flats experience high flows of around 438 vph whilst council houses, usually on estates, have flows of 145 vph.

Disturbance because of traffic

The main disturbances covered in the survey are listed below:

i. Pedestrian/vehicle conflict (pedestrian danger)
ii. Parking in street outside the home
iii. Vibration
iv. Noise, as experienced in the home
v. Noise, as experienced outside the home
vi. Dust and dirt in the home
vii. Fumes, as experienced at home
viii. Fumes, as experienced outside the home
ix. Visual intrusion.

People at home are subjected to a variety of noises, and Table 4 shows that noise from road traffic is heard, bothers and is the biggest nuisance for more people than from any other source.

Table 4

Noises heard from outside (by people at home)

Source	*Heard per cent*	*Bothered per cent*	*Biggest nuisance per cent*
Road traffic	89	23	16
Aircraft	83	13	8
Children	72	14	8
Animals	55	16	9
People	53	8	3
Trains	33	2	1
Factories	13	4	2
Construction	12	3	1

Only 23 per cent of people admitted to being bothered by traffic noise generally. When consideration is given to the specific types of traffic noise about 52 per cent of people were bothered by at least one, see Table 5.

Table 5

Types of traffic noise disturbance

Specific type	*Heard*		*Bothered*	
	Ever per cent	*Often per cent*	*Overall per cent*	*Very much per cent*
General noise	73	38	18	9
Starting, gear changing	72	23	21	10
Motor-cycles	67	18	26	15
Lorries	66	22	22	12
Car door slamming	64	17	20	9
Car horns	57	8	13	6
Brake, tyre squeal	46	11	22	13

The peripheral types of traffic noise such as brake squeal and slamming doors are widely experienced; though not heard often, they can cause a great deal of disturbance. The high percentage of people bothered on hearing brake squeal could well be caused by the association with overtones of danger. The table suggests that motor cycles are a bigger noise nuisance than lorries but respondent replies (shown in Table 6) to a subsequent question, asked when experiences both outdoors and at home had been covered, give a different relative position of lorries and motor cycles.

Table 6

Vehicle making worst noise

Vehicle type	*per cent*
Lorries	39
Motor-cycles	19
Buses, coaches	5
Cars	4

This is not difficult to understand. In the home the sudden, isolated sound of motor-cycles is viewed as an unnecessary disturbance, but outside the noise of lorries at close quarters is overwhelming and it is this total amount of noise that is relevant. In considering noise nuisance both the intensity and the frequency are important and it is unlikely that respondents were able to assimilate these aspects simultaneously.

About half of the respondents were bothered by at least one specific type of traffic noise. The major disturbances identified are shown in Table 7.

Table 7

Major noise disturbances

Specific disturbance	*Respondents affected per cent*
Wakes up	25
Startles	19
Difficulty in hearing TV/radio	15
Stops getting to sleep	14
Interferes with conversation	7

Some respondents claimed to have used their rooms differently because of the effects of traffic noise. Regardless of the total vehicle flows, all respondents were conscious of traffic noise in the home. With flows up to 50 vehicles per hour not many were bothered; thereafter as the flow increased there was a sharp increase in disturbance.

About 50 per cent of respondents are bothered by traffic noise regardless of whether they experience it in the home or outside. Vibration, closely associated with noise, bothered about 20 per cent of respondents although the degree of disturbance varied according to frequency. Vibration is also associated with the proportion of heavy vehicles in the passing traffic outside the home.

One aspect of the survey was concerned with people's beliefs about the effects of fumes and in the outside area over half of the respondents detected them and almost all found fumes a nuisance. Slightly fewer respondents are disturbed by fumes than noise when out in their area but fumes do tend to evoke stronger responses. Thirty-seven per cent of respondents thought that the worst fumes were given out by lorries compared with 13 per cent for buses, 3 per cent for cars and 1 per cent for motor cycles. About a third of respondents said they were bothered by dust and dirt. It is difficult to attribute causes of dust and dirt; road traffic may only be responsible for 'disturbing' the existing deposits.

Pedestrian danger is a generic term for a set of disturbances that are related to crossing the road. Respondents divided into two groups, those that had difficulty in crossing roads because of the traffic flow (66 per cent) and those that did not (34 per cent). An important part of attitudes to pedestrian danger is the concern for the safety of other people. In particular concern is expressed about children and elderly people who are represented in a large number of households. It seems that about one journey in three gives rise to at least some feelings of concern about road crossing problems. The anxieties of parents about children is indicated in Table 8. For a given age this table shows the vehicle flow at which 50 per cent of parents would allow their children to cross the road.

Table 8

Flows at which 50 per cent of parents allow children of differing ages to cross the road

Age	*Traffic flow vph*
4	0
6	85
8	400
10	1,500

The ascending order of disturbances ranked by respondents as being the most 'bothersome' is as follows:

i. Pedestrian danger
ii. Fumes: outside
iii. Noise: outside
iv. Noise: in home
v. Dust and dirt
vi. Vibration
vii. Parking
viii. Fumes: in home

Indices of disturbance

A large number of questions was asked about disturbance caused by road traffic. The answers to these questions were investigated using Principal Component Analysis. The aim of this technique is to identify groups of variables which seem to be associated with some particular 'dimension' of disturbance called a component. Three components were established and variables associated with them are listed below.

Component 1: General disturbance in the home
Traffic noise rating in home
Road outside is quiet
Keep windows shut because of noise
Road outside is dangerous to cross

Bother from traffic indoors
Bother caused by vibration due to traffic
General rating of disturbance due to traffic
Noise indoors
Bother indoors from lorries passing
Bother indoors from general traffic noise
Traffic noise makes TV/radio difficult to hear
Traffic noise interferes with conversation
Annoyance due to dirt in home from traffic
Traffic noise affects use of rooms

Component 2: Specific disturbance in the home
Bother caused by the noise of engines starting/revving
Bother caused by car doors slamming
Bother caused by car horns and hooters
Traffic noise stops sleeping
Traffic noise wakes up
Bother caused by noise of motorbikes
Bother caused by parking outside
Bother caused by squeal of brakes

Component 3: Outdoor disturbance
Difficulty crossing roads in area
Bothered by danger on pavements in area
Main roads in the area are difficult to cross
General rating of traffic noise in area
Annoyance from fumes outdoors

After identifying these components each respondent in the survey was given a score on each question, a high score indicating high disturbance. The question scores within each component are appropriately weighted to give an overall score for the component.

When these overall disturbance scores are plotted against vehicle flows it is seen that specific disturbance in the home scores are independent of traffic flow whilst the index of general disturbance in the home is found to have a strong association with traffic flow. The index of outdoor disturbance is related to traffic flow in the street outside the home at the higher exposure levels. This suggests either that traffic in the immediate vicinity is a good indicator of outdoor conditions or that the traffic level in the adjoining streets affects the respondent's perception of the neighbourhood.

Examination of high and low scores on the general disturbance in the home index showed no differences between sex, age or socio-economic group, nor did the scores vary very much according to the length of time respondent had been in residence. The high scorers on this index were very much more likely to describe themselves as suffering from nerves.

This pattern of differences between high or low scorers was repeated for the index of specific disturbance in the home with perhaps a small difference between ages suggesting younger people were more disturbed. Scorers on the outdoor disturbance index were associated with nerves and sensitivity to noise.

Disturbances and the traffic environment outside the home

In order to explore further the road traffic conditions that give rise to disturbance the technique known as Automatic Interaction Detection[2] was used whereby the relationship between a number of independent variables and one dependent variable is examined. In this case the measures and descriptions of the traffic environment were the independent variables and the indices of disturbance the dependent variables.

By using the technique the independent variable most associated with the dependent variable subdivides the sample into two sub-groups in terms of the independent variable making the subdivision at the point that maximises the discrimination on the dependent variable. The procedure is repeated within each of the growing number of sub-groups until there are no more associations between the dependent and independent variables of sufficient magnitude to meet the appropriate level of significance.

In this analysis the objective is to divide the respondents into a number of groups between which there are significant differences in the degree of disturbance. Nineteen independent variables are used. Using this technique seven groups of respondents were identified as shown below.

Description of group	*Disturbance score*
1. 18 hour traffic flow 0–499; road residential	95
2. 18 hour traffic flow 500–1,999; road residential	98
3. 18 hour traffic flow 0–999; road contains half or more commercial property	98
4. 18 hour traffic flow 2,000–2,999; house 12 or more yards from road	101
5. 18 hour traffic flow 1,000–1,999; road contains half or more commercial property	102
6. 18 hour traffic flow 2,000–9,999; house under 12 yards from road	107
7. 18 hour traffic flow 10,000 or more	112

For each of the seven groups it is possible to give a picture of the type area in which the residents are likely to find themselves for a given disturbance score.

A similar analysis was carried out on the specific disturbance in the home index yielding five sub-groups which although the level of discrimination was statistically significant it was by no means dramatic.

Attitudes to the neighbourhood and road traffic

Both in attitudes to overall satisfaction with the area of residence and with the home, older people tend to be more satisfied than younger, possibly because older people have fewer expectations. Similarly, those people not showing nervous symptoms are more likely to be satisfied on both counts than are nervous people. However, most people claim to be satisfied with their

area of residence. Socio-economic groups are only marginally associated directly with area satisfaction. In general it is likely that the less well off live in less attractive areas suggesting that people tend to limit their expectations to what is economically practicable.

Before being made aware of the purpose of the survey when asked, over four-fifths of respondents identified at least one feature that they particularly liked about living in their area. Three aspects frequently identified which might be associated with the absence or presence of noise were (i) good transport and access, (ii) countryside characteristics and (iii) peace and quiet. Good transport and access was the most frequently mentioned item as being liked even by those people dissatisfied with their area.

When asked about dislikes of their area three-fifths of the people did not mention any. Of those dislikes mentioned, traffic was the most frequent. It appears that complaints about neighbours and about the streets being neglected are more strongly related to area dissatisfaction than complaints about traffic. In fact satisfaction seems to arise from the streets being very clean and having plenty of places for the children to play, but the possibility of streets being difficult to cross and traffic noise are not immediately associated by people as reasons for being dissatisfied.

There is a marked association between area dissatisfaction and the general noise rating. Those respondents who gave the area a high noise rating are more likely to say the shopping facilities are something they liked. They are no more likely than respondents in general to mention good transport and access which might be expected to be better in areas with more traffic. On the other hand those who gave low noise rating are more likely than the high noise raters to like peace and quiet, countryside characteristics and pleasantness of other residents. Those respondents who rate the general noise level as unsatisfactory are the more likely to mention traffic as something they dislike. Among the high noise raters the most frequently mentioned dislike is traffic. These relationships suggest that traffic noise is an important element in overall noise rating and noise is a determining element in area dissatisfaction but not necessarily the most important one.

Those living in the noisiest areas are most dissatisfied and those in the quietest areas are the most satisfied, there is little variation between these extremes. As the types of areas at the extremes may be different from each other in ways other than exposure to noise it is not possible from the information to conclude with certainty that noise is the major factor in attitudes to area satisfaction.

Reference

(1) *Road Traffic and the Environment* by Jean Morton-Williams, Barry Hedges and Evelyn Fernando, published in January 1978 can be obtained from Social and Community Planning Research, 16 Duncan Terrace, London N1 8BZ, price £2·25 net

(2) *Searching for Structure alias AID III* by J. Sonquist, E. Baker and J. Morgan. University of Michigan, Survey Research Centre

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 1978. 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 Education and Science
Statistics of Education, Volume 2, 1976: School leavers and examination statistics 1975–76

Department of Employment
Family Expenditure Survey – Annual Report
The *Department of Employment Gazette*, published towards the end of each month, contains indicators on earnings, unemployment and prices. Issues due in the first quarter will contain articles on the 1977 Family Expenditure Survey and RPI 'General Index' households, one-and two-person pensioner households, and all households.

Department of the Environment
Housing and Construction Statistics, Issue 23: figures for the third quarter 1977
Local Housing Statistics, Issue 43: figures for the third quarter 1977

Home Office
United Kingdom Fire Statistics 1974
Liquor Licensing Statistics for England and Wales 1977

Department of Health and Social Security
In-patient statistics from the Mental Health Enquiry for the year 1975

Inland Revenue
*The Survey of Personal Income 1975–76**
Inland Revenue Statistics 1977

*Obtainable from the Board of Inland Revenue

Office of Population Censuses and Surveys
Population Trends No. 10
OPCS Monitors, available free from the Office of Population Censuses and Surveys include:

Births and Deaths	VS	Weekly
Deaths from Accidents	DH4	Monthly
Legal Abortions	AB	Monthly
Adoptions	FM3	Quarterly
Infectious Diseases	MB2	Quarterly

Scottish Office
Scottish Hospital In-Patients Statistics
Housing Return for Scotland

In addition to the above, the following analyses in the Department of Health and Social Security statistical series have recently become available. Extracts and summaries from these will eventually be published in *Social Security Statistics*

Further information can be obtained from:
Mr. R. J. McWilliam,
Department of Health and Social Security,
Room 128, Friars House,
157–168 Blackfriars Road,
London SE1 8EU.

Unemployment benefit
Quarterly analysis of decisions of Insurance Officers, quarter ended 31 December 1977
Monthly analysis of claims by sex and region:
4 weeks ending 29.10.77
5 weeks ending 5.12.77
4 weeks ending 2.1.78
Quarterly analysis of decisions of Insurance Officers:
Quarter ended 31 December 1977

Family allowance/child benefit
Analysis by families and children:
3 months ended 31 December 1977

Death Grant
Analysis of grants paid by sex of deceased, age and date of death, country, amount, reason for reduction and whether incapacitated – quarter ended 30 June 1977

Adjudication
Quarterly analysis of appeals and references to local NI and II appeal tribunals – quarter ended 31 December 1977

Family Income Supplement
Monthly analysis of numbers and characteristics – October 1977, November 1977, December 1977

Attendance allowance
Quarterly analysis of allowances current and awards and cessations in period by age, cause and area separately for higher and lower rates – quarter ended 31 December 1977

New surveys assessed by the Survey Control Unit

September to December 1977

For further information on the surveys listed, the appropriate departmental contact may be obtained from Mr R. C. Ponman (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–December 1977

Title	*Sponsor*	*Those approached*	*Approximate number approached*	*Location*	*Frequency*
		Business Surveys			
Stress Grading of Timber – Firms Outside the South-East Region	BRE	Architects/Builders	1,200	UK	AH
Manufacturers Sales – Industrial Plant and Fabricated Steelwork	BSO	Engineering Companies	528	UK	Q
Direct Trader Input to Customs ADP System	C&E	Importers/Exporters	2,500	UK	AH
Interpretive Signs Erected for the Guidance of Tourists	CC	Manufacturers	500	UK	AH
Upland Landscapes Study	CC	Farmers	350	EW	AH
Campaign Development for Youth Opportunities Programme	COI/MSC	Employers	85	E	AH
Work Experience Campaign in Scotland and North East	COI/MSC	Employers	116	GB	AH
Survey of Financing Needs of Medium-Sized Firms	CRFF	Managers	50	GB	AH
Pesticide Usage Survey – Vegetables 1977	DAFS	Farmers	180	S	I
Pesticide Usage Survey – Cereals 1977	DAFS	Farmers	296	S	I
SOEC Pilot Survey of Retailed Prices of Electrical and Photographic Domestic Applicances	DEM	Retailers	25	SE	AH
Survey of the Small Firms Employment Subsidy Scheme	DEM	Employers	150	GB	AH
Community Response to Marital Violence	DHSS	Solicitors	50	SW	AH
London's Greenbelt Land – Landowners survey	DOE	Farmers/Landowners	100	SE	AH
Hull Industrial Location and Freight Transport Study – Phase 2	DOE	Managers	35	YH	AH
Business Communications	DOE	Managers	120	N	AH
Vehicle Excise Duty Evasion – Survey of Used Cars in Garages	DTP	Garage Owners	2,200	GB	AH
Inland Origins and Destinations of International Freight Consignments	DTP	Import/Export Agents	72,000(a)	UK	AH
Survey of the Hire-Cruiser Industry	ETB	Hire-Cruiser Companies	150	E	AH
Hotel Profitability and Investment Intentions	ETB	Hoteliers	300	SE	AH
Research into the Efficiency of Grassland Usage	MAFF	Farmers	300	EW	AH
Pilot Study of Agricultural Landownership	MAFF	Farmers/Land Agents/ Landowners	450	WM	AH
Research into Economics of Fish Farming in Great Britain	MAFF	Fishfarmers	400	GB	AH
Mole Damage in Wales	MAFF	Farmers	2,500	W	AH
Phase II Sift for Farming Employees With Supervisory Duties	MAFF	Farmers	1,100	GB	AH
Special Programmes for Young People	MSC	Employers	40	GB	AH
Prices and Margins in Importation and Distribution of Bacon	PC	Retailers/Wholesalers	190	UK	AH
Prices Costs and Margins in the Distribution of Footwear	PC	Retailers/Wholesalers	150	UK	AH
Animal Feeding-Stuffs Examination	PC	Manufacturers/ Merchants	46	UK	AH
Books Examination	PC	Publishers/Printers/ Distributors	220	UK	AH
Proprietary Medicines Examination	PC	Manufacturers/Retailers /Wholesalers	140	UK	AH
Monitoring the Labour Force on Offshore Production Platforms	SEPD	Oil Companies	10	UK	A
Survey of Drivers of Heavy Goods Vehicles	TSA	Employers	5,000	GB	AH
Employers Reactions to the Training Opportunities Scheme (TOPS)	TSA	Employers	550	GB	AH

(a) Number of separate consignments covered by the survey.

Title	*Sponsor*	*Those approached*	*Approximate number approached*	*Location*	*Frequency*
Local Authority Surveys					
MSC "Prospects" Campaign – Research Among Local Authorities and Voluntary Bodies	COI/MSC	Employers	50	GB	AH
Numbers and Distribution of Gypsy Population in England/Wales	DOE	Environmental Health Officers	422	EW	HY
Housing for the Elderly	DOE	Housing Departments	400	EW	AH
Review of Homelessness Statistics	DOE	Housing Departments	377	E	C
Research Project into Local Authority Housing Management and Maintenance Expenditure	DOE	Housing and Treasury Departments	445	EW	AH
Community Land Scheme: Supplementary Information	SDD	Planning Departments	49	S	A
Links between Pupils Taking Environmental Studies at Primary School and Geography and History Courses in first year at Secondary School	SED	Local Education Authorities/Schools	40	S	AH
Other Surveys					
Occupant Capability in House Maintenance	BRE	Households	400	E	AH
Thermal Comfort in Dwellings	BRE	Households	1,000	UK	AH
Study of Parents' Reactions to 6 Different Filler Adverts	COI	Parents	60	E	AH
Energy: Opinion Formers: Fuel Industry Campaign	COI/DEN	Adults	48	SE	AH
Energy Saving TV Campaign – December Omnibus Check	COI/DEN	Households	1,000	GB	AH
Drink and Drive Campaign Evaluation 1977/78	COI/DTP	Drivers	1,200	GB	AH
An Investigation of Possible Anti-Vandalism Advertising	COI/HOME	Boys	32	E	AH
Mobile Electric Radiant Heaters: Advertising Evaluation	COI/HOME	Housewives	1,200	E	AH
Fire Prevention: Infants Chart Communication and Research	COI/HOME	Teachers	15	E	AH
Anti-Vandalism Campaign Evaluation Studies	COI/HOME	Parents/Boys	1,340	E	AH
East Sussex Research on "Metric Shopping Made Easy" Card	COI/METB	Elderly	150	SE	AH
Withdrawn Applications for RAF Commissions	COI/MOD	Youths	624	UK	AH
Army Commercial Test	COI/MOD	Youths	16	NW	AH
Attitude of Young Unemployed to Coventry Newspaper Project	COI/MSC	Youths	30	WM	AH
Monitoring Awareness and Knowledge of MSC: Development Work	COI/MSC	Adults	2,000	GB	AH
Pink Book Readership Survey	CSO	Readers	250	UK	AH
Study of Mobility Allowance Beneficiaries	DHSS	Adults	1,220	E	AH
Lambeth Health Survey – Screening	DHSS	Households	10,000	SE	AH
Cohort Study of the Unemployed	DHSS	Unemployed	3,500	EW	AH
Resource Worker Study	DHSS	Parents	275	NW	AH
Family Doctor Survey	DHSS	Adults	1,000	SE	AH
Study of Infant Feeding in Newcastle-Upon-Tyne	DHSS	Women	512	N	AH
Liverpool Housing Co-ops Survey	DOE	Adults	350	E	AH
New Private Sector Housing in Inner Urban Areas	DOE	Owner-Occupiers	1,000	E	AH
Holloway Tenants Co-op Survey	DOE	Households	150	SE	AH
Communications in Rural Areas	DOE	Adults	500	EM	AH
Domestic Accidents Involving Tins and Tin Openers – Pilot	DPCP	Patients	59	E	AH
Domestic Accidents Involving Ladders and Step-Ladders etc. – Pilot	DPCP	Patients	72	E	AH
Survey of Night Time Disturbance by Aircraft and Other Noise	DT	Households	630	SE	AH
National Travel Survey: 1978/79 Pilot Surveys	DTP	Households	1,460	E	AH
Damage Only Accidents	DTP	Drivers	5,000	GB	AH
Self-Catering Holiday Market Exploration Survey	ETB	Households	2,000	GB	AH
1977 Holiday Entitlements	ETB	Adults	2,000	GB	A
RN Officer Selection Evaluation	MOD	Forces Personnel	19	UK	AH
Second Cohort Study of Ex-Job Creation Programme Employees	MSC	Trainees	2,414	GB	AH
Consumer Behaviour and Attitudes Towards Footwear	PC	Adults	2,300	GB	AH
Blackmount On-Bus Survey and Household Survey	SEPD	Households/Bus passengers	90	S	AH
Medical and Paramedical Factors in Road Accident Causation	TRRL	Drivers	2,000	SE	AH
East Coast Corridor Study	TRRL	Car Drivers/Coach Passengers/Air Passengers	75,000	GB	AH
Study of Traffic Induced Vibration – Exploratory Interviews	TRRL	Adults	50	SE	AH
View from the Road	TRRL	Car Travellers	200	SE	AH
Pedestrian Delay: Annoyance and Risk	TRRL	Pedestrians	1,600	SE	AH
Rutex: Exe Valley Market Bus Survey	TRRL	Passengers	150	SW	AH
Works-Bus User Surveys	TRRL	Employees	300	GB	AH
Evaluation of Giving Road Safety Leaflets With Pensions	TRRL	Pensioners	300	NW	AH

Abbreviations used

General

ADP – Automatic Data Processing
EEC – European Economic Community
N/K – Not Known
PPE – Public Participation Exercise
RAF – Royal Air Force
RN – Royal Navy
SOEC – Statistical Office of the European Communities

Sponsor

BRE – Building Research Establishment
BSO – Business Statistics Office
C&E – Customs & Excise
CC – Countryside Commission
COI – Central Office of Information
CRFF – Committee to Review the Functioning of Financial Institutions
CSO – Central Statistical Office
DAFS – Department of Agriculture and Fisheries, Scotland
DEM – Department of Employment
DEN – Department of Energy
DHSS – Department of Health and Social Security
DOE – Department of the Environment
DPCP – Department of Prices and Consumer Protection
DT – Department of Trade
DTP – Department of Transport
ETB – English Tourist Board
HOME– Home Office
MAFF– Ministry of Agriculture, Fisheries and Food
METB – Metrication Board
MOD – Ministry of Defence
MSC – Manpower Services Commission
PC – Price Commission
SDD – Scottish Development Department
SED – Scottish Education Department
SEPD – Scottish Economic Planning Department
TSA – Training Services Agency
TRRL – Transport and Road Research Laboratory

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
SW – South West England
WM – West Midlands
YH – Yorkshire & Humberside
UK – United Kingdom
W – Wales

Frequency

A – Annual
AH – *Ad Hoc* (or single time)
C – Continuous
HY – Half-yearly
I – Irregular or less frequent than annual
Q – Quarterly

Notes on current developments

POPULATION AND VITAL STATISTICS

Population Trends

The latest edition of *Population Trends*, the journal of the Office of Population Censuses and Surveys, was published in January. The editorial sets out the trends in population in the twelve months to mid-1976. Deaths exceeded births by some 4,000 and this, together with a net loss of 15,000 by migration, led to a decline in the population of England and Wales for the second year running.

The first article describes the preparations in planning the 1981 Census. Amongst the proposals being discussed is the possibility of a direct question on each person's ethnic group. One of the innovations for 1981 being considered by the census offices, is the issue of certain broad census statistics in the form of data tapes containing anonymous extracts from a sample of individual census responses.

Of 1,000 males born in East Anglia some 300 can expect (at present death rates) to survive to age eighty. In the North West, however, the figure is only 215. For females the corresponding figures are 510 and 430. This is just one of the points made in an article on abridged life-tables for the regional health authorities of England and Wales for 1974–75.

In 1950 the crude perinatal mortality rate in England and Wales for legitimate single births was 34·2 per 1,000 live and still births. In 1973 the corresponding rate was 18·9. Trends in the mother's average age, her social class and the number of children she has had are examined to see how far they could have accounted for this decline in perinatal mortality.

The final article describes the trends in marriage and divorce over recent years and projects their effects on the marital composition of the population of England and Wales in 1991. The divorced population, for example, is estimated to rise from 2·4 per cent in 1976, of the population aged sixteen and over, to over 5 per cent of the same age group in 1991. A rise in numbers from 900 thousand to about 2 million.

The regular series of tables continues, brought up-to-date with the latest available figures.

Population Trends 11 is due for publication in March 1978.

References

Population Trends 10 January 1978 (HMSO) (Price £2·00 net)
Population Trends 11 due in March 1978 (HMSO) (Price £2·25 net)

Census of Population – England and Wales

A series of voluntary tests to try out enumeration procedures and question wording and to seek the public's views on these matters has been launched by the Office of Population Censuses and Surveys. This follows the test carried out in April 1977 in areas of Cambridgeshire, Devon, Leicester and York.

A further test involving some 50,000 households in the districts of Slough (Berkshire) and Weymouth and Portland (Dorset) is planned for April this year. Its purpose is to try out modifications in procedures aimed particularly at helping the public make their census returns.

The answers given in these voluntary tests will be entirely confidential and no information about individual persons or households will be passed outside the Office of Population Censuses and Surveys. The form to be used in this question wording test has been developed over the past year after a separate series of small-scale tests.

Further information can be obtained from:

Census Division,
OPCS,
St. Catherines House,
10 Kingsway,
London WC2B 6JP.

SOCIAL STATISTICS

Social Trends

The eighth edition of *Social Trends* was published on 20 December 1977. Its Social Commentary was devoted to the 'decade of transition' in people's lives – the years between the ages of fifteen and twenty five. A considerable degree of Press publicity (more than 1,100 column centimetres) was accorded to this edition. A summary of its contents appeared in the last issue of *Statistical News* (No. 39, November 1977).

Reference

Social Trends No. 8, 1977 (HMSO) (Price £6·90 net)

Amendments to Social Trends No. 8

Social Trends No. 8, 1977 was published by HMSO on 20 December 1977. The following errors have since been discovered in the published version:

Page 13, Further and higher education
Line 13, **Delete** 12, **Insert** 14
Line 15, **Delete** 50, **Insert** 58
Line 16, **Delete** 18, **Insert** 20

Page 14, Figure A.3
Title and footnote, **delete** 1974/75, **insert** 1975/76.
After footnote 1, **insert** 2 provisional

Page 22, last paragraph
Line 6, **delete** In 1976 nearly a third, **insert** In 1973 nearly 30 per cent
Line 8, after child **insert** although there has since been a decline in the numbers of pre-marital conceptions in this age group

Page 57, Chart 2.18
Left-hand chart, Age groups, **Delete** age key 20–24, **Insert** 20–34

Page 75, Chart 4.9
Left hand chart Examination achievement,
In key,
CSE (grades 2–5) **add** footnote indicator 2 after CSE;
'O' level (5+) **add** footnote indicator 1 after level

Page 121, Table 7.1
Units above table and above the first two columns, **Delete** million

Page 151, Table 9.4
United Kingdom, last two columns, **Delete** 48.2 and 51.8, **Insert** 45.1 and 50.4 respectively

Page 170, Table 10.13
Total row, **Delete** (thousands), **Insert** (millions)

Page 170, Table 10.14
Staff row, **Delete** (thousands), **Insert** (number)

Page 180, Chart 11.3
Transpose Holidays taken abroad and Main[2] holidays taken in GB

Page 195, Chart 12.7
Source, **Delete** Institute, **Insert** Institution

Any queries should be referred to Ron Freeman (01-233 7637) in the Central Statistical Office, Great George Street, London SW1P 3AQ.

Welsh Social Trends – No. 1 1977

A new Welsh Office annual publication, *Welsh Social Trends*, which was released in December 1977, brings together key facts of social interest about the Principality. While the main source of detailed statistical information on Wales will continue to be the *Digest of Welsh Statistics*, this new publication is intended to highlight points of particular interest and to present analyses and interpretation of the data.

The format is similar to that of *Welsh Economic Trends*; each page contains a table on a particular subject with a description of the most important trends and, in most cases, diagrammatic representation of points of particular note.

The publication is divided into nine main sections. The first section gives details of population trends and vital statistics. In the second section social characteristics are illustrated, including size and type of households, patterns of migration between Wales and the rest of Great Britain and the number and distribution of people who speak Welsh. The next section relates to economic characteristics and includes details of income and expenditure. The section on health and personal social services begins with tables illustrating morbidity and includes details of staff employed in the National Health Service and social service departments, the availability of hospital beds, psychiatric hospital facilities and local authority services for selected client groups. The section on justice and crime contains details of offences recorded as known to the police and persons found guilty of offences.

The section on education gives details of provision at all levels from nursery to university. Tables on housing give details of the age of housing stock in Wales, the amenities of houses and tenure. The section on transport gives details of passenger transport resources and the final section on finance summarises expenditure on the various services described in the volume.

Mental illness and mental handicap statistics

Facilities and services

A wide range of information about hospitals and units for the mentally ill and the mentally handicapped in England in 1975 is given in a report(1) published in November 1977. National statistics as well as information about individual hospitals are included.

The report shows that at the end of 1975 the number of in-patients in mental illness hospitals and units per 100,000 population was 33 per cent below the 1964 level and 3 per cent below that for 1974. Admission rates, which increased from 1964 to 1970, have since shown little change, although, after slight reductions in 1973 and 1974, there was a small increase in 1975. The use of hospital services other than for in-patients increased rapidly in the second half of the 1960s but since 1970 day patient facilities have continued to expand, although there has been comparatively little growth in out-patient services.

In mental handicap hospitals and units the number of resident patients per 100,000 population fell by 11 per cent from 1970 to 1975 while admission rates rose by 23 per cent due largely to the increased use of

hospital beds for short-term care for those normally cared for in the community. The staffing statistics also showed continued increases.

The statistics for individual hospitals show improvements in the ratios of staff to patients, and those for mental illness hospitals that minimum standards in the provision of certain amenities for patients were reached in fifteen more hospitals than in 1974, representing a fall of 25 per cent in the number of those failing to reach minimum standards. The number of mental handicap hospitals not achieving the minimum standards stayed the same since 1974.

The report also illustrates the continuing reduction in the numbers of large mental illness and mental handicap hospitals. Since 1966 the number of mental illness hospitals with 1,500 or more beds has fallen from thirty to eight, the number of mental handicap hospitals of this size falling from ten to three. There are now no hospitals with 2,000 or more beds, in either category, compared with thirteen in 1966.

Reference

(1) Statistical and Research Report Series No. 19. *The Facilities and Services of Mental Illness and Mental Handicap Hospitals in England 1975*, November 1977 (HMSO) (Price £4·00 net)

In-patient statistics

In January 1978 the Department of Health and Social Security issued Number 20 in their *Statistical and Research Report* series, *In-patient statistics from the Mental Health Enquiry for England 1975*[1]. The report contains in-patient statistics from mental illness and mental handicap hospitals and units, and from the Special Hospitals. There are detailed tables on admissions, discharges, deaths and resident patients by various categories such as age, diagnosis, type of hospital and length of stay. Some time series for the last six years are also included and a separate section of the report is concerned with legal status of in-patients.

In addition to the usual commentary on trends there is a paper on 'The probability of admission to a mental illness hospital or unit' which shows that, on the basis of 1975 admission rates, about 10 per cent of the population can expect to be admitted to a mental illness hospital at some time in their lives.

Reference

(1) *In-patient statistics from the Mental Health Enquiry for England 1975.* DHSS Statistical and Research Report series No. 20. (HMSO) (Price £3·75 net)

Criminal Statistics

Drunkenness

Offences of drunkenness 1976 England and Wales, published in September 1977, (HMSO – price 50p net) provides detailed historical information about offences of drunkenness covering the past 20 years and shows the age of young offenders in greater detail than in previous annual publications. It distinguishes between offences of simple drunkenness and drunkenness with aggravation and shows other offences with which offences of drunkenness were associated. Sentencing by the courts is shown in greater detail than previously. A new table shows the number of persons admitted to the first of the new detoxification centres, to which the police may take offenders as an alternative to prosecution.

Motoring offences

Offences relating to motor vehicles 1976 England and Wales, published in November 1977 (HMSO – price £1·85 net), includes several new tables. The volume shows for the first time how fixed penalty notices were dealt with, either by payment of the fixed penalty or by instituting court proceedings, or, if no proceedings were instituted, the reason for this. Other new tables show the amount of the fine where sentences of a fine have been ordered, and the age of the persons found guilty of offences involving alcohol in the blood or urine above the prescribed limit.

MANPOWER AND EARNINGS

Survey of the characteristics of the unemployed

Two further articles on the results of the 1976 sample survey of the characteristics of the unemployed (see *Statistical News* 38.35) were published in the September and October 1977 issues of the *Department of Employment Gazette*.

The September article includes the results of a follow-up survey in January 1977. These show that fifty three per cent of the men who were unemployed in June 1976 had left the register by January 1977, over half of whom were known to have entered employment. The results also suggested that, overall, the assessments of prospects were reasonably consistent with the follow-up data.

Regional data were compared in the other article. Age distributions were similar, but the proportions of the unemployed registered for work in managerial and professional occupations and as general labourers showed marked variations between regions. The proportions of long-term unemployed were high in the North West and North regions of England particularly in comparison with the South East.

References

Department of Employment Gazette, September 1977 and October 1977, (HMSO) (Price £1·20 net)

Manpower planning

Recent issues of the *Department of Employment*

Gazette contained further articles on manpower planning and related topics (*Statistical News* 39.26, etc.). In the September 1977 issue an article appeared which analysed information available on the migration of managers from the United Kingdom. The October 1977 issue contained two articles, the first described a survey of career attitudes of final year male undergraduates, the second was a further article on manpower planning literature and covered the subject of statistical techniques of manpower analysis. An article on the decline of employment in metropolitan areas appeared in the November issue.

Reference

Department of Employment Gazette, September, October and November 1977 (HMSO) (Price £1·20 net)

Qualified scientists and engineers

A report about qualified scientists, engineers and technologists (QSEs) in Great Britain entitled *Changes in the population of persons with qualifications in Engineering, Technology and Science 1959 to 1976* (*Studies in Technological Manpower* No. 6) was published by the Department of Industry in October 1977. A comprehensive statistical study of numbers, employment and migration of scientists and engineers qualified to degree level or its equivalent, it up-dates earlier information published in 1971 in *Studies in Technological Manpower* No. 3 (see *Statistical News* 14.6). The report is in three parts together with appendices which include a comprehensive list of references to earlier publications and explain the improvements made to earlier statistics.

Part One gives details of the total number (that is, stock) of persons, the change in number arising from the addition of the newly qualified, gains and losses from migration, and losses from deaths. The patterns of employment in major industries and in manufacturing as a whole are also shown.

Part Two outlines the conceptual basis for the study. The stock of qualified persons was estimated for 1961, 1966 and 1971 from information in the population censuses in those years. The components of change are the supply of newly qualified offset by deaths, and migration from Great Britain offset by immigrants with similar qualifications. Estimates are given as at the 1 January of each year.

Part Three, drawing on data from the population censuses of 1961, 1966 and 1971, provides further analyses of the stock of qualified persons by economic activity, age, industry and occupation.

The Appendices include very detailed lists of definitions and notes on the quality of the data. All census results are estimates from ten per cent samples. Despite improvements to earlier migration figures based partly on extra information from professional institutions, available information on the migration of QSEs continues to have acknowledged weaknesses.

The derived statistics in this study serve as a primary source for other reports, an example being the recent report by the British Association for the Advancement of Science – *Education, engineers and manufacturing industry* in the chapter 'Engineers: an overall perspective'.

References

Studies in Technological Manpower No. 6
Changes in the population of persons with qualification in engineering, technology and science 1959 to 1976. (HMSO) (Price £3·25 net)

Unfair dismissal applications to industrial tribunals

Two articles in the October and November 1977 issues of the *Department of Employment Gazette* present information on the characteristics of the parties and the regional distribution and outcomes of unfair dismissal applications to industrial tribunals heard, settled or withdrawn during 1976. The analysis extends material already published for the period 1972–75.

References

'Unfair Dismissal Cases: 1976'. *Department of Employment Gazette.* October 1977. (HMSO) (Price £1·20 net)
'Unfair Dismissal Applications in 1976: Characteristics of the Parties', *Department of Employment Gazette* November 1977. (HMSO) (Price £1·20 net)

Attitudes to pay and hours

An article in the September 1977 *Department of Employment Gazette*, arising from a long standing project exploring attitudes to pay and hours, presents new data on these matters from the General Household Survey. Since 1974 the survey has asked individual members of households a series of questions about their satisfaction with their job, how far they are satisfied with their take-home pay from employment and the number of hours they work, and their reasons for feeling as they do about these. The article discusses data for the period 1974–76.

Reference

F. J. J. Butler, 'Pay and Hours: How satisfied are you?'. *Department of Employment Gazette*, September 1977. (HMSO) (Price £1·20 net)

Employment analysed by sector and industry 1971–76

An analysis of employment in the United Kingdom by sector and by broad industry group at June each year from 1971 to 1976 was published in the December issue of *Economic Trends*. Out of a total employed labour force of 24·8 million in June 1976, 17·4 million (70·5 per cent) were employed in the private sector. The remaining 7·3 million were employed in central government (2·3 million), local authorities (3·0 million) and public corporations (2·0 million).

Corresponding estimates up to 1975 have been published in previous articles in *Economic Trends*, but on this occasion it has been possible to include an analysis by industry group for self-employed persons for the first time. Consequently, the main table differs in format from the corresponding tables in the February 1976 and February 1977 editions. Estimates for each year from 1961 to 1970 on the revised format are available from:

Branch 6,
Central Statistical Office,
Great George Street,
London SW1P 3AQ.

Reference
'Employment analysed by sector and industry 1971–76', *Economic Trends* No. 290, December 1977 (HMSO) (Price £1·95 net)

Earnings of employees in the public and private sectors
Official approximate estimates of general averages of earnings of employees in the private sector of the economy and in the whole and main branches of the public sector in Great Britain were published for the first time in the December 1977 issue of the *Department of Employment Gazette*. Indications of the dispersions of earnings around the averages were also given. These new series are based on the results of the annual New Earnings Surveys. They relate to April in each year from 1970 to 1977. Estimates for later years will be included in the survey results published in October each year.

Reference
Department of Employment Gazette, December 1977, (HMSO) (Price £1·20 net)

Public and private sector manual workers' pay 1970–1977
A. J. H. Dean
This article in the November 1977 issue of the *National Institute Economic Review* examines the average earnings of male manual workers in the public and private sectors. It extends to 1977 the findings of an earlier study (to 1974) reported in the November, 1975 issue of the Review.

PRICES

Retail Prices Index (RPI): current developments
The Retail Prices Index Advisory Committee met in November 1977 to consider proposals for technical improvements to the RPI. The Secretary of State for Employment has accepted the recommendations of the committee that the improvements be implemented and changes to the RPI are to be introduced in early 1978. (See also *Statistical News* 23.29, 24.22, 25.29, 29.34, 32.25 and 37.34.)

From February 1978, in respect of the January index, the Department of Employment will publish in its Gazette an extended range of detailed price indices for various groups, sub-groups and sections within the RPI, subject to constraints of confidentiality and reliability. The index numbers will be given to one decimal place.

A new system of stratification by region and by form of organisation based on information from the *Family Expenditure Survey* and *Census of Distribution* will be introduced to improve the method of weighting the index.

Where appropriate, the stratum indices for particular goods and services will be calculated on the basis of changes in average prices. The price quotations used in compiling the indices, covering identical items in the current month and the base month of January each year, will be combined to give average prices for the two months and the stratum indices calculated as the ratio of the averages.

The Advisory Committee also considered the reference base of the index (currently January 1974) and agreed that this should not be changed again until at least 1980.

A fuller report of the changes to the index is being published in an article in the February 1978 issue of the *Department of Employment Gazette*.

HOUSEHOLD INCOME AND EXPENDITURE

Distribution of income
In the first article of the present series on the distribution of income in the United Kingdom, published in *Economic Trends*, August 1975, No. 262, further areas of study were suggested. The December 1977 issue of *Economic Trends* contains a report on the results of work on three of these areas: the inclusion of the imputed rent of owner-occupied dwellings in the distribution, and the sub-division of one income-receiving population into the economically active and inactive; another of the areas of study was estimates of income distribution for the years 1968/69 to 1971/72. These are now available and can be obtained from:

Mr. A. I. Pearce,
Central Statistical Office,
Great George Street,
London SW1P 3AQ.
Telephone: 01-233 7666.

The effects of taxes and benefits on household income 1976
The latest article in this series is published in the February issue of *Economic Trends*. The general purpose of these articles is to show how the payment of taxes and the receipt of government benefits such as

social services, cash benefits and consumer subsidies affect the observed distribution of income for different types of household. This year's article contains important changes in format, content and tables. Previously, only results for a single year have been considered, but this year there is a comparison of the results for 1976 with those for 1971. In order to make these comparisons more easily for a period when basic incomes have been rising rapidly, the tables are generally presented on a decile basis rather than in terms of fixed income ranges. As far as possible, the sections dealing with the results have been separated from the detailed methodology used in producing them.

An article in the November 1977 issue of *Economic Trends* dealt with the redistributive effect of subsidies on households.

Family Expenditure Survey 1976

The recently published *Family Expenditure Survey* report for 1976 is in the well-established general format but there are, once again, some new features.

Two new charts show the variation over time in the pattern of household expenditure and income of households in each quartile group of the distribution of households by income. This year the charts showing variations in expenditure and income patterns with household income and composition also give information for households in the quartile groups of the income distribution, A third new chart shows variation in the sources of income of all households over time.

There are four new appendices. One appendix lists the main changes in recent years in definitions used in the survey; two others list information from the survey appearing in other official publications and available on request, though unpublished; and the fourth gives information about households from other official surveys.

Some preliminary results for 1976 and comparisons with 1974 and 1975 were published in an article in the July 1977 issue of the *Department of Employment Gazette*, whilst a further article in the November issue gave more details of the 1976 results for all households, discussed the kinds of credit used by various types of household, and compared for different groups of households the extent to which the head of the household is also the chief economic supporter.

An article intended as a 'Layman's Guide' to the FES appeared in the January 1978 issue of the Gazette. Also, for the first time, articles in 1978 issues of the Gazette present the main features of FES data quarter by quarter from the beginning of 1977 as they become available.

References

Family Expenditure Survey Report for 1976, 1977 (HMSO) (Price £4·50 net).
Department of Employment Gazette, July 1977 (HMSO) (Price £1·20 net)
Department of Employment Gazette, November 1977 (HMSO) (Price £1·20 net)
Department of Employment Gazette, January 1978 (HMSO) (Price £1·20 net)

National Food Survey

The annual reports of the National Food Survey Committee for 1975 and 1976 were published together on 15 November 1977. These reports analyse and compare the levels of food consumption, expenditure, prices and nutrition in various categories of private households in Great Britain. Thus, in addition to national averages, the reports present the customary breakdowns of data according to income group, family composition, region and type of area. The report for 1975 includes a review of changes between 1970 and 1975, while the report for 1976, in response to many requests, concentrates on up-dating that information and making it generally available much earlier than has been the case with previous reports.

The main economic feature in the period covered by the reports for 1975 and 1976 was the rate of inflation, which rose from about 6 per cent per year in 1970 to around 24 per cent in 1975 before falling to 16½ per cent in 1976. In the latter year the General Index of Retail Prices was 2·15 times (and food prices nearly 2·5 times) the levels of 1970. The increase in retail prices was more than matched (and that on food prices almost fully matched) by the increase in personal disposable income per head over the period to almost two and a half times its 1970 level. In real terms, personal disposable income per head was 18 per cent greater in 1976 than in 1970.

Barely any of the increase in average real incomes over the seven years appears to have been spent on food (and none of it on food for consumption in the home), most of it being devoted to expenditure on alcoholic drink, private motoring, electrical goods, housing, entertainment, recreational goods, chemists' goods, air travel and to personal saving.

The reports show that in money terms, average expenditure on food for consumption in the home (i.e. excluding the cost of meals out and also excluding expenditure on soft drinks, alcoholic drinks, chocolate and sugar confectionery, food for pets and any other food not forming part of the household supply) rose from £2·07 per person per week in 1970 to £4·41 in 1976. This increase was outpaced by the rise in food prices so that the real value of household food purchases per head fell by about 5 per cent, most of this fall occurring between 1972 and 1974. Although much of the fall was due to a decrease in the physical quantity of food bought for consumption in the home (probably because less was wasted and also because there was a small

increase in eating out), part of it is attributable to a shift in purchasing patterns in favour of cheaper foods or those which suffered the smallest increases in price. Nearly a third of the decrease in real value was attributable to bacon and lamb, a third to bread and cereal foods, and a third to sugar and potatoes. Small decreases for some other foods were fully offset by increases for milk (up to 1975), cheese, processed vegetables, fruit juices, ice-cream and frozen convenience-foods, consumption of the latter increasing by about 75 per cent over the seven years.

Changes in food prices and purchases over the period had only a modest effect on the distribution of the average household food budget amongst the main food categories. The introduction and extension of subsidies on milk, cheese, butter, bread, flour and tea in 1975 helped to keep down the proportionate shares of these items in the amount spent in the household food budget, even though they stimulated some switch in purchases to the foods subsidised, but the running-down of subsidies in 1976 had some counter-effect. Expenditure on subsidised foods comprised a somewhat greater share of the budgets of pensioners, low income families and those with several children than of the budgets in more affluent or smaller families.

Although small differences between the levels of food prices in different regions of the country persist, *changes* in food prices over the seven years were of broadly the same order of magnitude in each region. Average food expenditure tended to be least in Scotland, the East Midlands and the South West, and greatest in London and the South East.

Towards the end of the period, differences in total food expenditure between earning households at different income levels narrowed, primarily because of some levelling down by the highest income group and some levelling up by the lowest. Most of the remaining differences in food expenditure between income groups were due to differences in food prices paid, and therefore perhaps in quality or grade and in service offered.

Ownership of deep-freezers had increased to about 26 per cent of households in 1976 while ownership of a refrigerator had become almost universal. Possession of a deep-freezer seemed to have a greater effect on the pattern of food purchases than on the overall level or its nutritional value.

Between 1970 and 1976, the fall in the physical quantities of food obtained for consumption in the home by all types of household resulted in a decrease in the average energy content from 2,560 to 2,280 kcal per day. The nutritional intake of the higher income families has declined in relation to other income groups, but otherwise there have been only minor changes in the relative positions of families of different composition or in the various regions. The nutritional quality of the average diet improved slightly between 1975 and 1976; the average energy intake was almost unchanged, but the proportion derived from protein, especially animal protein, has never been higher.

The reports also give some statistical information about consumption of milk in the home by different categories of person, and of the numbers of meals eaten out. Estimates of price and income elasticities of demand for most food items have been calculated from the Survey data and are presented in appendices to the report together with estimates of changes in demand since 1970. The main tables in the reports show average consumption and prices in each year from 1970 to 1976, together with summarised information on regional, income group and family composition differences in consumption and nutrition in 1975 and 1976.

The classification of households according to degree of urbanisation of the local authority area in which they were located was continued until the end of 1975 on the basis of local authority areas as they existed prior to the re-organisation which took place in 1974 and 1975. In 1976, a new classification was introduced which, in addition to showing separate results for the GLC area (as previously) and for a new group consisting of the metropolitan counties of England and the central Clydeside conurbation, distinguishes according to electorate density four categories of wards in non-metropolitan districts.

Summarised results of the Survey are published in the *Monthly Digest of Statistics* as soon as they become available. They are supplemented by brief quarterly commentaries in *Trade and Industry* usually within three months of the end of the quarter to which they relate. Additional information in a more detailed form is also obtainable each quarter; applications for such data should be addressed to:

National Food Survey Branch,
Ministry of Agriculture, Fisheries and Food,
Tolcarne Drive,
Pinner,
Middlesex HA5 2DT.
Telephone: 01-868 7161, Ext 43 or 44.

References

Household Food Consumption and Expenditure: 1975 (HMSO) (Price £4·00 net)
Household Food Consumption and Expenditure: 1976 (HMSO) (Price £3·50 net)
Monthly Digest of Statistics (HMSO) (Price £1.95 net)

ENERGY

The value and distribution of the benefits of North Sea oil and gas, 1970–1985 – *S. A. B. P. Page*

An article in the November 1977 issue of the *National*

Institute Economic Review shows that oil and gas from the North Sea will make the United Kingdom a net exporter of energy in the 1980s and will supply a substantial portion of its needs through the 1990s. In value terms, the benefits are principally to the balance of payments and government revenue. The former is improved slightly relative to the pre-oil price-rise position, and significantly compared with either the present balance or that of other industrial countries. The absolute size of these benefits and the share of the government in the total are extremely sensitive to the assumptions made about changes in the exchange rate, including those which result from the improvement in the balance of payments. Decisions about the distribution of the benefits are already being taken, for example, in policies for the energy sector and the exchange rate. It is therefore too late to plan to allocate all the benefits to a single purpose, and it may be undesirable to do so.

The 'real' price of crude oil – *G. F. Ray*

This note, also in the November 1977 issue of the *National Institute Economic Review*, traces the course of the price of crude oil back to 1880 and attempts to assess the changes in its purchasing value by deflating it by the export prices of manufactured goods. The purchasing power of the posted price of crude oil declined through the 1960s, even without allowance for significant discounts, and then trebled in 1974. The sixfold nominal rise of the oil price from 1972 to 1977 compares with a 150 per cent increase in the prices of other primary products and a rise of about 75 per cent in the price level of manufactured goods in world trade.

INDUSTRIAL STATISTICS

Business Monitors – Annual Census of Production 1973

Lists of the Business Monitors reporting the results of the 1973 Census of Production which had been published appeared in *Statistical News* issue numbers 36–39. Those published since then are listed below.

Business Monitor Number	*Description*	*Standard Industrial Classification Minimum List Heading*
PA 109	Miscellaneous mining and quarrying	109/1, 2, 3 and 4
PA 211	Grain milling	211
PA 216	Sugar	216
PA 217	Cocoa, chocolate and sugar confectionery	217
PA 229.2	Starch and miscellaneous foods	229/2
PA 231	Brewing and malting	231
PA 239.1	Spirit distilling and compounding	239/1
PA 239.2	British wines, cider and perry	239/2
PA 240	Tobacco	240
PA 261	Coke ovens and manufactured fuels	261
PA 263	Lubricating oils and greases	263
PA 272	Pharmaceutical chemicals and preparations	272
PA 273	Toilet preparations	273
PA 274	Paint	274
PA 276	Synthetic resins and plastics materials and synthetic rubber	276
PA 278	Fertilizers	278
PA 279.1	Polishes	279/1
PA 279.4	Formulated pesticides, etc.	279/4
PA 279.5	Printing ink	279/5
PA 279.6	Surgical bandages, etc.	279/6
PA 279.7	Photographic chemicals materials	279/7
PA 322	Copper, brass and other copper alloys	322
PA 323	Miscellaneous base metals	323
PA 332	Metal-working machine tools	332
PA 333	Pumps, valves and compressors	333
PA 336	Construction and earth-moving equipment	336
PA 337	Mechanical handling equipment	337
PA 349.1	Ball, roller, plain and other bearings	349/1
PA 349.2	Precision chains and other mechanical engineering	349/2 and 3
PA 369.2	Primary and secondary batteries	369/2 and 3
PA 369.4	Electric lamps, electric light fittings, wiring accessories, etc.	369/4 and 5
PA 399.8	Miscellaneous metal manufacture	399/2, 3, 4, 8, 9, 10, 11, 12
PA 412	Spinning and doubling on the cotton and flax systems	412
PA 413	Weaving of cotton, linen and man-made fibres	413
PA 419	Carpets	419
PA 423	Textile finishing	423
PA 429.1	Asbestos	429/1
PA 429.2	Miscellaneous textile industries	429/2
PA 472	Furniture and upholstery	472

Annual Census of Production 1976

Business Monitor PA 1000 – Provisional Results – the first of the volumes reporting the results of the Census of Production 1976, will be published shortly. This volume presents estimates of some of the principal results of the Census of Production 1976, with comparative data for 1973–75. Besides giving information on output, employment and net capital expenditure, it includes figures for total sales of goods produced and work done, cost of purchases, a breakdown of employment and wages and salaries between operatives and other employees and details of capital expenditure. Estimates of gross value added at factor cost are shown for the first time with comparative data for 1973–75.

Copies of these Business Monitors can be obtained on Standing Order from Her Majesty's Stationery Office, PO Box 569, London, SE1 9NH (telephone 01-928 6977), or through any Government Bookshop. They are not, however, included in the global subscriptions arrangements of the Business Monitor series.

Further information on the PA series of Business Monitors and of the censuses generally can be obtained from:

Mr. R. J. Egerton,
Business Statistics Office,
Cardiff Road,
Newport,
Gwent NPT 1XG,
Newport 56111 (STD Code 0633) Ext 2455

Business Monitor PM 423

Monthly inquiry into foam backing, foam laminating and fabric to fabric bonding

The monthly collection of information relating to foam backing laminating and fabric to fabric bonding was discontinued at the end of 1977, the December 1977 issue of PM 423 being the last monitor published in this series.

Business Monitor PA 1003

Analyses of UK manufacturing (local) units by employment size

A further Business Monitor in the PA 1003 series will shortly be available. It presents analyses for 1975 of the information about UK manufacturing units recorded in the register of businesses maintained by the Business Statistics Office. The monitor includes tables showing the number of manufacturing units in various size-groups by industrial classification and by area and the total number of persons employed in each category. Previous monitors in the PA 1003 series provided similar analyses for 1971, 1972 and 1973 (no monitor was published for 1974). The monitor for 1975 is the first to use local authority areas as the basis of the geographical analyses.

Engineering sales and orders

Volume indices of sales, orders-on-hand and new orders for the mechanical, instrument and electrical engineering industries have been extensively revised from 1970 onwards as a result of improvements to the quality and accuracy of the data and its processing. In particular, the method of revaluing sales and orders data to a constant price basis has been improved. The wholesale price indices formerly used generally reflect the price quoted for a good at the time of order, and may not be appropriate to deflate the current value of sales at the time of delivery of goods which may have been ordered some months earlier. A survey into pricing methods and order-delivery lags was carried out among respondents to the monthly engineering enquiry. Information from this survey has now been used to construct, from the wholesale price indices, deflators which are more appropriate for application to the current values of sales and orders-in-hand. As the volume indices for new orders are subsequently derived from these two deflated series, they have also undergone revision.

The revised series for the three sectors and for combined engineering were published in the issue of *Trade and Industry* dated 2 December 1977 and in the August 1977 issue of Business Monitor PM33–36 Engineering (volume indices of sales and orders). It is hoped to make available at a later date a series for each of the thirty six industries within these three broad sectors and to publish a complete account of all the changes and the methodology now in use for the derivation of the volume indices.

DISTRIBUTION AND OTHER SERVICES

Inquiries into retailing and wholesaling and dealing for 1978

Sample inquiries into the retailing trades and the wholesaling and dealing trades in Great Britain in respect of their business during 1978 are to be carried out by the Business Statistics Office in 1979.

The retailing inquiry will be the third of the new series of annual sample inquiries, described in 'Developments in the Statistics of the Distributive Trades' (*Statistical News* 31.11). The proposal described in that article was for a basic list of questions to be asked every year together with some additional questions which would be included, some each year, on a rotating basis. However, as explained in the note in *Statistical News* 35.41, no additional rotating questions were included in the 1977 inquiry. For the 1978 inquiry it has been decided to include questions on costs and employment as additional rotating questions. Because the Labour Costs Survey to be conducted by the Department of Employment for 1978 will cover hours worked and wages and salaries in distribution, questions on these topics will not be included in the BSO inquiries but data from the Labour Costs Survey will, as far as possible, be included with the results of the 1978 retailing and wholesaling inquiries.

Annual sample inquiries collecting a limited range of information needed for the national accounts are carried out in wholesaling. The 1978 wholesaling inquiry will also include questions about costs and employment to match those in the retailing inquiry because of the value of having comparable figures for retailing and wholesaling for the same year. It will be the first wholesaling annual inquiry since the large scale annual inquiry for 1974 in which businesses have been asked questions on topics other than turnover, stocks and capital retailing.

The inquiries will be based on the central register of businesses which has been developed by the BSO from VAT records. The availability of the register will enable scientific samples to be designed so that in retailing less than 25,000 businesses out of a total of some 300,000 within scope will be asked to complete returns. The size of sample to be selected from the 80,000 in scope of the wholesaling and dealing inquiry has not been decided but it will be no more than about 12,000 used for recent annual inquiries and certainly very much less than the 26,000 sample used for the 1974 inquiry. As before, the sample will include all the

larger businesses and progressively smaller proportions of the small businesses.

Different form types will be used for different sizes of business. The large businesses will be asked about their turnover (analysed by commodity for retailing only), capital expenditure, stocks, purchases for resale, employment, transport and other costs, and, in the retailing inquiry only, about payments of value added tax and an analysis of their turnover and number of shops in England, Scotland and Wales. Simpler forms will be sent to smaller businesses. They will not be asked about their transport and other costs and in the case of retailing they will be asked a much simpler question about commodities sold.

The purpose of the inquiries is to provide statistics needed by both Government and outside users. In particular, the Government needs information on stocks, capital expenditure, sales of each type of commodity, employment and costs for use in compiling the national accounts and input/output tables; to provide firmer bases for stocks, capital expenditure and the important retail sales index; and monitoring developments in the economy. Outside users are interested, for example, in sales of individual commodities by various different kinds of business and in gross margins for different kinds of business.

Individual letters are being sent out early in 1978 to the large businesses likely to be selected in the inquiries giving them notice of the questions to be asked about their trading in the coming year. This will enable them to make any necessary arrangements in their record keeping. Forms will be despatched for completion early in 1979. It is planned that provisional results of the retailing inquiry will become available by the end of 1979 with final results during 1980. It is also planned that the results of the wholesaling inquiry should become available by the end of 1979.

Inquiry into the motor trades for 1977

The annual inquiry into the motor trades, covering capital expenditure and stocks, is being extended from 1977 to include questions on turnover and purchases which have not been asked since 1972. The inquiry is carried out by the Business Statistics Office on behalf of the Department of Industry and other departments.

The additional questions are required for estimating consumers' expenditure on motor vehicles and for the estimation of real output in the national income accounts. They are also needed to maintain the reliability of the quarterly turnover inquiry which has been simplified from the beginning of 1977. The agreement of the Trade Associations to the simplification of the quarterly inquiry and the additional questions in the annual inquiry was obtained.

The questions for 1977 will cover retail sales and sales to other dealers of new motor cars and of other new motor vehicles, gross sales of used motor vehicles, sales of petrol, oil, etc., purchases of new vehicles from other dealers and trading purchases of used vehicles. Respondents will be asked also to classify themselves to one of the twelve kinds of businesses identified in 1972.

The inquiry is being conducted on a sample basis using the VAT register developed at the Business Statistics Office. The sample will include all the larger businesses and progressively smaller proportions of the smaller ones. The total sample will be no more than about 8,500 out of the 60,000 businesses within the scope of the inquiry.

Summary results of the inquiry are expected to be published in *Trade and Industry* early in 1979.

AGRICULTURE

Agricultural censuses and surveys

The June 1977 Agricultural Census

The final results of this census in England and Wales are yet to be published. Provisional results were published in Press Notice No. 266 on 17 August 1977.

The 1977 September Sample Census

The results of the September 1977 Sample Census were published in Press Notice No. 368 on 21 November 1977. Estimates based on these results show that dairy cows increased and beef cows decreased in number compared with September 1976. The numbers of dairy-type and beef-type heifers in calf (first calf) decreased. The pig breeding herd was again smaller than a year before. The egg-laying flock decreased and the number of growing pullets also fell compared with September 1976.

Agricultural statistics

Agricultural Statistics England and Wales 1975

This volume, to be published shortly, gives for agriculture and horticulture in England and Wales details of the area of crops and the numbers of livestock, workers and holdings at June 1975; it also gives information on the production of crops from the 1975 harvest on agricultural machinery and implements returned at censuses held in 1974 and 1975 and on prices of agricultural products, livestock, fruit and vegetables, feedingstuffs and fertilisers for the calendar year 1974 and the harvest year 1974–75.

Final results of the June 1977 Scottish Agricultural Census

Final results of the Scottish Agricultural Census held

on 1 June 1977 were published as a Scottish Office Press Notice on 14 November 1977 (Press Notice 1218/77).

Although at 296,000 the number of dairy cows was again down, the marginal fall of just over 1,000 cows was less than a third of that in 1976. For the second year the number of beef cows fell and at 504,000 the number was 25,000 (5 per cent) down on the previous year. At 7,237,000, the sheep flock showed a 241,000 (3 per cent) reduction. Although the pig breeding herd fell by 5,000 (8 per cent), compared with June 1976 this represented a marginal increase over the Spring of 1977. Although there were 38,000 (6 per cent) fewer pigs overall than at the previous June, this represented a marginally higher level than in June 1975. There was an overall reduction of 1,033,000 (7 per cent) in the poultry flock. This was almost solely due to a 1,320,000 (19 per cent) decrease in broiler numbers which was only partly offset by an 86,000 (2 per cent) rise in the egg-laying flock and a 292,000 (27 per cent) rise in the breeding fowl numbers. In the cropping sector the total cereals' area had increased by 10,000 hectares (2 per cent). There was a reduction of 5,000 hectares (18 per cent) in wheat bringing it, at 21,500 hectares, to its lowest area since 1955. The 6,000 hectares' (10 per cent) fall in the oats' area was considerably less than that of the previous year. These decreases in oats and wheat were more than offset by a 5 per cent increase in the barley crop which, at 407,000 hectares, was nearly 21,000 hectares greater than last year's record area. For the second year in succession the potato area increased. A rise of 2,700 hectares (8 per cent) brought it to 36,800 hectares, the highest figure for five years. The 800 hectares' (11 per cent) rise in the area devoted to vegetables for human consumption brought this area for the first time to over 8,000 hectares. The soft fruit area showed a drop of 100 hectares (3 per cent), mostly in raspberries, a considerably smaller decline than in the two preceding years. Following the December 1976 census results, the June 1977 census provided further evidence that the continuous decline in the regular labour force employed on Scottish farms had been arrested.

August 1977 pig sample census – Scotland

The results of the census in Scotland were published as a Scottish Office Press Notice on 5 October 1977 (Press Notice No. 1046/77).

These results showed that total pig numbers were then 52,000 (9 per cent) below the peak of a year previous, but, compared with the final census figures for June 1977, the fall was only 5,800 (1 per cent).

The breeding herd had dropped by 2,600 (5 per cent) since June. The number of gilts in pigs had fallen by 600 (10 per cent) but the number of maiden gilts had increased by 800 (20 per cent).

TRANSPORT

Annual Digest of Port Statistics 1976

Continuing the format adopted since 1973, this National Port Council publication appears in two parts.

Volume I contains ninety tables, divided into four sections: goods traffic analysed by commodities and by port; container and roll-on traffic, analysed by port, by country, and by type of service and unit; passenger traffic, by port, and by route; and manpower statistics.

Volume II contains, in over eighty tables, details of goods traffic through UK ports, analysed in terms of overseas trading areas and commodity groups; a financial summary for the major ports; and details of port facilities in the main British ports, with a separate section for unit load berths serving container and roll-on services.

Reference

Annual Digest of Port Statistics 1976, Volume I and Volume II (price £10 net each volume). Obtainable from:

The National Ports Council,
1–19 New Oxford Street,
London WC1A 1DZ.
Telephone 01–242 1200

NATIONAL ACCOUNTS

Recent improvements to output statistics

The measurement of changes in production (HMSO, 1976), No. 25 in the series of *Studies in Official Statistics* described the index of industrial production and the output-based measure of gross domestic product as compiled at mid-1975. A number of subsequent changes in methodology were set out in *Statistical News*, February 1977, pages 36.30 to 36.32 and November 1977, pages 39.31 to 39.33. Further improvements have been made as follows:

Index of Industrial Production

The single indicators for 'toys and sports equipment' (part of MLH 494) and 'miscellaneous manufacturing industries' (MLH 499) have been replaced by new series as follows:

Series	*Weight per 1,000*
Toys and sports equipment	
Toys and games	2.02
Sports equipment	0·63
	2·65
Miscellaneous manufacturing industries	
Musical instruments	0·32
Other	1·08
	1·40

As an aid to interpretation of movements in the economy, quarterly estimates of the output of all industries other than industries engaged in exploration for, and extraction of, mineral oil, natural gas and natural gas condensates on land and offshore (Minimum List Heading 104) are now published in the industrial production press notice and as a footnote to Table 6.1 of the *Monthly Digest of Statistics*. For the full definition of this industry – MLH 104 – see Amendment List 1 of the Standard Industrial Classification, HMSO, 1977. Quarterly estimates of Gross Domestic Product other than MLH 104 are also published in Table 1.3 of the *Monthly Digest of Statistics*.

Personal sector balance sheets

The Central Statistical Office has recently submitted evidence in the form of estimated personal sector balance sheets to the Royal Commission on the Distribution of Income and Wealth; this was in response to a recommendation in the Royal Commission's first report on its standing reference. The submission, which is published[1] with a brief introductory note in the January issue of *Economic Trends*, gives detailed estimates of assets and liabilities held by the personal sector as at 31 December 1975 and 31 December 1976. The estimates are disaggregated between non-profit-making bodies and the rest of the personal sector (mainly households).

These estimates are part of a project aimed at producing regular balance sheet estimates for all sectors of the economy. This project is described in an article[2] in the November 1976 issue of *Statistical News*. Estimates for most other sectors are unlikely to be complete for at least a year and, since financial claims between sectors interlock, the estimates for the personal sector may need to be revised when estimates for other sectors are complete.

The Royal Commission regard balance sheets as the most reliable method of estimating total personal wealth and its asset composition. The balance sheet totals are used by them to adjust the estimates of the distribution of wealth constructed by Inland Revenue and based on the estate multiplier method. An attempt is made in the submission to quantify the known gaps and deficiencies in the estate multiplier estimates. The estate multiplier estimate of total personal wealth in 1975 is about one third lower than that produced by the balance sheet method, but when full account is taken of the differences in timing, coverage and valuation, etc. the discrepancy may be 5 per cent or less.

In addition to the balance sheet estimates for recent years, less detailed estimates covering a ten year period are included. When these are linked to estimates for earlier years made by the Department of Applied Economics at Cambridge using similar methodology, the submission is able to show trends in total personal wealth and its composition over almost two decades.

References

(1) 'Personal sector balance sheets: evidence submitted to the Royal Commission on the Distribution of Income and Wealth by the Central Statistical Office'; *Economic Trends* No. 291, January 1978 (HMSO) (Price £1·95 net)

(2) 'National and sector balance sheets' by David J. Reid; *Statistical News* No. 35, November 1976 (HMSO) (Price 60p net)

HOME FINANCE

Company finance and profitability

The ninth issue of the annual Business Monitor M3 – Company finance (available from HMSO, PO box 569, London, SE1 9NH – price to be notified) will be published shortly. The Business Monitor provides summaries, in a standardised form, of the balance sheets, appropriation accounts and the sources and uses of company funds, both in total and by a number of broad industrial groups, for some 1,500 large listed and non-listed industrial and commercial companies operating mainly in the United Kingdom. It also contains tables of certain accounting ratios and size distributions.

Company financing

The second in an annual series of articles, 'Structure of company financing', appeared in the 3 February 1978 issue of *Trade and Industry* updating, the statistics of the sources and uses of funds of industrial and commercial companies presented in an article in *Economic Trends* September 1975 – 'Structure of company financing' – a shortened version of which appeared in *Trade and Industry* for 10 October 1975 (pages 110 to 113) and in last year's *Trade and Industry* article (issue of 4 February 1977). The recent article gives figures for large listed and unlisted companies in manufacturing, distribution and certain other services (1971–75), large listed and unlisted companies in manufacturing (1971–75); large listed companies (only) in manufacturing, distribution and certain other services (1971–76 provisional); and all industrial and commercial companies (1966–76). Figures back to 1964 for the first two groups of companies were published in the *Economic Trends* September 1975 article; earlier figures for the third group are available on request (see article). The figures for the first three groups of companies are based on the Department of Industry analysis of the published, consolidated accounts of companies as published in Business Monitor M3; those for all industrial and commercial companies form part of the national accounts, published quarterly in *Financial Statistics* and annually in the National Income and Expenditure Blue Book.

Capital returns

Another article – 'Companies' rate of return on capital employed, 1960 to 1976' – appeared in *Trade and Industry* on 16 September 1977. This was the third of an annual series of articles bringing together the latest information on various measures of the rate of return on capital employed by companies. The accounting rates of return given in the article include the ratio of net trading income to net capital stock *plus* book value of stocks for all companies and, separately, industrial and commercial companies with capital stock and depreciation valued (a) at historic cost and (b) at replacement cost, and stock appreciation deducted from net trading income with assets valued at replacement cost.

Equivalent figures for large listed companies engaged mainly in the manufacturing industry, in retailing and in wholesaling (separately), based on the Department of Industry analysis of company accounts, are also given. Separate figures are also given for six broad industry groups within manufacturing. Accounting ratios based on the book values recorded in companies' own accounts are also given.

Inquiries concerning the Business Monitor and the articles should be addressed to:

Home Financial Statistics (Room 241C),
Economics and Statistics Division 6A,
Departments of Industry, Trade and Prices and
Consumer Protection,
1 Victoria Street,
London SW1H 0ET.
(Telephone: 01-215 3132/5705)

Survey of shareholdings in companies

The Department of Industry carried out a survey of the ordinary share registers of UK companies listed on the Stock Exchange in respect of 31 December 1975 to estimate the distribution of ownership of these shares between broad categories of holder (such as persons, charities, insurance companies, pension funds, etc). Earlier surveys of this kind have been carried out by the Department of Applied Economics, Cambridge University, for 1957, 1962/63, and 1969.

The results of the Department of Industry's survey were published in *Economic Trends* No. 287, September 1977 and a full account of the survey is being prepared for publication in *Studies in Official Statistics*.

Many shareholdings are registered in the names of nominees or trustees. The initial survey data were for registered holdings and an important feature of the study, largely based on ancillary information provided by the British Bankers' Association, was conversion of the results for registered holdings into results in terms of the beneficial ownership of the shares. This had been done in the 1963 survey but not for the other previous surveys.

The results of the latest survey, which contribute to the compilation of national and sector balance sheets as well as giving basic information about the ownership of company shares, show an increase in the proportion held by financial institutions and a decrease in the proportion held by the personal sector compared with the earlier results.

References

The Owners of Quoted Ordinary Shares – A Survey for 1963 (Chapman and Hall, 1966).
The Pattern of Ordinary Share Ownership 1957–1970 (Cambridge University Press, 1971).
Economic Trends No. 287, September 1977 (HMSO) (Price £1·95 net)

Business Monitor M5: Insurance companies and pension funds

The first quarter 1977 edition of Business Monitor M5 contains figures of net investment by long-term and general insurance funds and by private, local authority and other public sector pension funds. The last two categories of pension fund appear in M5 for the first time in this issue.

The second quarter 1977 edition of this Business Monitor includes tables showing end-year holdings of assets by each of the above types of insurance and pension fund. These tables give considerably more detailed statistics than have previously been published and liabilities of private pension funds are shown for the first time.

Check trading statistics published for the first time

Official statistics on check trading – credit documents used mainly for the purchase of clothing, footwear and small household items – were published for the first time in *Trade and Industry* on 12 August 1977.

Data on check trading have been collected by Economics and Statistics Division 6A of the Departments of Industry, Trade, and Prices and Consumer Protection for several years. The *Trade and Industry* article sets out monthly statistics of the value of checks issued and the debt outstanding on these for the years 1971 to 1976.

Checks can be exchanged in any one of over 50,000 shops in Great Britain which have arrangements with one or more check issuing houses. A check will typically have a value of between £5 and £30 and this amount is repayable in weekly instalments, collected by an agent, over a maximum of twenty-one weeks.

Credit in this form is typically used as an alternative to other types of credit such as hire-purchase. The statistics in the article therefore add a further dimension to the figures on hire-purchase and other instalment

credit which are published regularly in *Trade and Industry*.

It is proposed to publish these statistics once a year in *Trade and Industry* and the next publication will be early in 1978. Monthly data for 1977 as they become available and data for the years 1966 to 1970 are available on request.

Inquiries:

Departments of Industry, Trade, and Prices and Consumer Protection,
Economics and Statistics Division 6A,
Room 349,
Sanctuary Buildings,
20 Great Smith Street,
London SW1P 3DB
(Telephone: 01-215 3162)

The government expenditure plans, 1978–79 to 1981–82

The annual White Paper on the Government's expenditure plans (Cmnd 7049) was published on 12 January 1978. It sets out the Government's plans for public expenditure for the years 1978–79 to 1981–82 together with figures for the past five years, 1972–73 to 1976–77 and the current year, 1977–78. The figures are generally presented at 1977 survey prices and are analysed by programme and by economic category. A breakdown by spending authority is also given.

The White Paper this year includes an important addition in that projections of general government revenue, on the basis of certain economic assumptions, are also given for the years 1977–78 to 1979–80. These together with expenditure projections consistent with the Government's plans provide a projection of the general government account to 1979–80 showing the financial balance and the general government borrowing requirement in each year.

The White Paper also includes certain classification changes. In last year's White Paper (Cmnd 6721) the government financing of nationalised industries was included in public expenditure instead of their capital expenditure as previously. In this White Paper this treatment has been applied to some other public sector bodies; but there still remain a number of public corporations whose capital expenditure is public expenditure.

Public expenditure by programme and in total at outturn prices is shown in a table for the years 1972–73 to 1976–77. This table updates (with reclassifications) the Treasury analysis of public expenditure published in the September, 1977, issue of *Financial Statistics*.

Bank of England Quarterly Bulletin, December 1977

Distribution of the national debt

An article on the distribution of the national debt at end-March 1977 in the Bank of England's December 1977 Bulletin continues the annual series began in June 1962

The following changes were made to tables in the same issue.

TABLE 30 Flow of funds

The net increase in public sector pension schemes which are contributory but not funded is now treated as a direct liability of the public sector in line 7 of the matrix (previously it was shown as a liability of other financial institutions in line 7 with a corresponding claim in the public sector in line 19).

Hire-purchase and other instalment lending by finance houses, previously shown in line 17, is now included in line 19. Line 17 is now restricted to instalment lending by retailers.

Accruals adjustments included in line 19 have been extended to cover central government current expenditure on goods and services, rent rebates, North Sea oil royalties and income tax withheld under PAYE.

Table 30/40 Flow of funds: public sector

Advance payments for imports by public corporations are now included in 'lending and other transactions' as an item leading to the public sector borrowing requirement; previously they were treated as an item financing the borrowing requirement.

TABLE 30/10 Flow of funds: all financial institutions

A new summary table for financial institutions shows their total identified financial transactions and their financial surplus or deficit for a run of recent quarters.

Copies of the Bank's Bulletin may be obtained, free of charge, from:

The Economic Intelligence Department,
Bank of England,
London,
EC2R 8AH.

OVERSEAS FINANCE

Bank of England Quarterly Bulletin December 1977

Some recent developments in the United Kingdom's invisibles account

An article in the Bank of England's December 1977 Bulletin discusses the recent performance of the major components of the UK invisibles account and looks at prospects, particularly in the light of changes which the development of North Sea oil will bring.

Export credit: foreign currency contracts

Another article in the Bulletin discusses the development of arrangements for supporting UK exports.

Schedule of capital repayments of public sector foreign currency borrowing

Table 24/2 summarises scheduled capital repayments of all government and other public sector foreign currency debt. It updates the figures given in Table 5 of the Treasury's Economic Progress Report published in May.

Copies of the Bank's Bulletin and off-prints of articles may be obtained, free of charge, from:

The Economic Intelligence Department,
Bank of England,
London,
EC2R 8AH.

British Aid Statistics 1972–1976

Full information on aid flows to developing countries is given in *British Aid Statistics* which was published in January 1978, by Her Majesty's Stationery Office, priced £6·25. It provides comprehensive information on official sector long-term flows to the less developed countries of the world, together with aggregated data for private flows for the period 1972–76. A summary of the main items was given in *Statistical News*, August 1977 (38.40).

The latest trends in aid flows and the United Kingdom's performance against international targets are discussed in an article in the January edition of *Economic Trends* entitled 'United Kingdom's official and private flows to developing countries in 1976'.

Further particulars of the development activities of the United Kingdom and the other members of the Development Assistance Committee of the OECD are included in the chairman's annual report, published last November as the DAC 1977 Review.

Reference

Development Co-operation. Efforts and policies of the members of the Development Assistance Committee. 1977 review by the chairman of the Development Assistance Committee, November 1977 (Organisation of Economic Co-operation and Development) (Price £8·00 net)

Overseas travel and tourism

Information on overseas travel and tourism is obtained by the International Passenger Survey. The survey is conducted by the Social Survey Division of the Office of Population Censuses and Surveys by interviewing a stratified quasi-random sample of passengers entering or leaving the United Kingdom at principal air or sea ports. It is a multi-purpose survey designed to give results on migration, the pattern of travel visits together with the expenditure involved and thus the contribution to the UK balance of payments. It also collects information of general interest for the planning of transport, accommodation and other facilities for tourists.

Results derived from the survey are currently published in four ways: by a quarterly press release, in the quarterly and annual Business Monitor series number M6, and in an annual article published in *Trade and Industry*. The first is a summary of the latest available quarter's results to be published in the next monitor. It gives details on the amount of overseas tourists' expenditure in the United Kingdom, UK resident tourists' expenditure abroad, the number of visits to or from various countries or groups of countries, the purpose of visit (e.g. holiday, business, etc.) and the mode of travel. The quarterly monitor gives the above information but with more detailed breakdowns. These include individual countries by the number of visits, the area of visit or residence by purpose, together with data on the number of nights stayed in the United Kingdom by overseas residents and those spent abroad by UK residents. The annual monitor again gives a wider breakdown with country detail split by mode of transport (i.e. air or sea) for visits and expenditure, with information on the average length of stay, expenditure per visit and per day. The list of countries is longer, and estimates for the traffic to and from the Irish Republic, not covered under the sampling scheme, are included throughout. The annual article, whilst reproducing some of the main tables of the monitor gives also a commentary on the most interesting features.

During the past year it was possible to analyse data which although previously collected had not been subjected to in-depth study. These new analyses have been summarised and included in an article called 'The Pattern of Tourism and Foreign Travel 1976' and published in *Trade and Industry* of 16 December 1977. The article meets in part the growing demand for further information on tourism brought about by the recent rapid increase in the number of visits to the United Kingdom by overseas residents. It gives tables and commentary on the following:

(i) Length of stay, by four band widths (e.g. 0–4 nights, 5–20 nights, etc.) cross-analysed by the number of visits, expenditure and broad country area.
(ii) Expenditure, by seven band widths (e.g. £0–20, £21–60 . . . over £750) analysed by broad country area and purpose of visit.
(iii) Average expenditure per day, cross-analysed by country and purpose.
(iv) The nationality of departing overseas residents, for a long list of countries.
(v) The destination of departing overseas residents by mode of travel.
(vi) The nationality (or flag) of tourist transport by mode of travel and area groups.

The first three groups increase our knowledge of previously analysed variables. For example, whereas

we knew that the average length of stay was shorter for the overseas visitor, we now know that this was caused by a very much larger proportion staying between nought and four nights. This effect was most prominent in holiday and miscellaneous purpose of visit groups for the more distant countries, and in particular the USA. A possible reason is that the United Kingdom is visited as part of a tour of several countries. This can be supported to some extent from the fifth analysis listed above which shows that over forty per cent of United States residents were going to other countries, mainly Europe, on leaving the United Kingdom.

The fourth table gives information for the first time on the nationality of departing overseas residents. It shows, for example, that in total 12 per cent are UK nationals, but for certain flows, particularly those of Australian, New Zealand, South African and British West Indian residents, the proportion is much higher at around the 30 per cent mark. These figures help to explain some of the differences between Home Office arrivals figures which are on a different basis and those obtained from the International Passenger Survey, and also some of the apparently anomalous stay and expenditure patterns shown by residents of these countries.

The fifth and sixth analysis groups, again for the first time, gives material on the movement of passengers, the former, in terms of their immediate destination on leaving the United Kingdom, is useful for the planning of transport and may provide the necessary results to support arguments such as the 'Tour of the United Kingdom' given above. The latter indicates the benefit of tourism to the transport accounts of the UK balance of payments.

It is hoped that in the future it will be possible to include the new tables presented in the article with the annual monitor and annual article.

Notes on the coverage and methodology of the survey are included in the monitors and Annual Article and the system of interviewing passengers was described in the *Board of Trade Journal*, 23 August 1963. A review of tourism statistics in general with particular reference to the International Passenger Survey, was published in *Review of United Kingdom Statistical Sources*, Volume IV.

References

Board of Trade Journal, 23 August 1963 (HMSO)

Business Monitor M6, (HMSO) quarterly (Price £1·00 a year)

Business Monitor M6, (HMSO) annual (Price 40p net)

Trade and Industry, 29 July 1977 (HMSO) (Price 35p net)

United Kingdom Balance of Payments 1966–1976 (HMSO) (Price £2·95 net)

Review of United Kingdom Statistical Sources, Volume IV (HMSO 1975) (Price £6·00 net)

OVERSEAS TRADE

Changes in the external trade statistics for 1978

From 1978, starting with the January figures published in the Press notice for February, the external trade statistics are re-classified onto Standard International Trade Classification (SITC) Rev. 2. This change was described in an article in *Trade and Industry* of 21 October 1977. At the same time the export and import unit value and volume indices previously on 1970=100 were re-based onto 1975=100 and some small changes made to their methodology back to 1970. An article in *Trade and Industry* of 10 February gave a description of the nature of the above changes; provided, for the major areas and commodity groups on an Overseas Trade Statistics (OTS) basis, a back-run of quarterly and annual data for the period 1970 to 1976; and outlined the general plans for publishing data on this new basis.

National Ports Council Bulletin

Results of a study which forecasts the extent to which modern systems of cargo handling will have replaced traditional methods of handling general cargo at British ports by 1985 have been published in the November 1977 issue of the *National Ports Council Bulletin*.

While a further decline in traffic in conventional general cargo berths was expected up to 1980, there was some prospect of stability in the level of conventional traffic by 1985.

New statistics supplied to the Council by port authorities in Britain show that in 1975 conventional break-bulk vessels carried 12·7 million tonnes out of a total general cargo traffic of 62·6 million tonnes. It is expected that this conventional traffic will fall below this level but will reach some stability at around 8 million tonnes by 1985.

Unit load traffic is expected to reach 53 million tonnes by 1985 compared with 27 million tonnes in 1975 and traffic carried on specialised shipping – mainly chemicals and forest products – will be about 39 million tonnes compared with 23 million tonnes in 1975.

Unitised traffic, which already accounts for 25 per cent of the non-fuel total, should have increased its share to 30 per cent by 1985. This expansion will take place relatively faster on deep-sea routes, where there is greater scope for further conversion to unitised services. Nevertheless, the short sea and near sea (including domestic) routes will still account for about 75 per cent of the unitised total in 1985.

Traffic on roll on/roll off services already accounts for about 60 per cent of the unitised traffic, and it is

expected that there will be a gradual increase in this share to 62 per cent in 1985.

Reference
National Ports Council Bulletin No. 11. Published by the National Ports Council, 1–19 New Oxford St, London WC1A 1DZ. 68pp. (Price £3·00 net)

MEETINGS

Institute of Statisticians

The Institute of Statisticians 1978 Conference on Time Series Analysis (and Forecasting) will be held at Cambridge University, July 12–15.

A very distinguished group of speakers are expected to provide papers.

They are:

Dr. H. Akaike	Professor R. E. Kalman
Professor M. S. Bartlett	Professor E. Parzen
Professor G. E. P. Box	Professor M. B. Priestley
Professor J. Durbin	Dr. J. Shiskin
Professor C. W. J. Granger	Professor G. C. Tiao
Professor E. J. Hannan	Professor J. W. Tukey

Some further equally eminent authorities have indicated their intention to attend – including the Institute's President, Professor Sir Roy Allen, and Sir Maurice Kendall.

Application forms and full particulars are available from:

The Secretary,
36 Churchgate Street,
Bury St Edmunds,
Suffolk IP33 1RD.

Early booking is strongly advised.

Social research seminars

The Association of Social Research Organisations is sponsoring a series of meetings for social researchers and research users. The series has been designed to cover issues relevant to people from a wide range of employment bases and disciplines.

Seminar programme

All meetings will be held at County Hall, South Bank (entrance at main foyer). The nearest underground is Waterloo. They will start at 5 p.m. and are expected to end at 6.30 p.m. Admission free.

February 2

'Policy makers use of social research'. The Rt. Hon. Sir Keith Joseph, Bt., MP.
discussant: Michael Shanks
chair: Mia Kellmer Pringle.

February 16

Symposium: 'The ethics of social research'.
Professor W. Brass, Roger Jowell, and Professor C. Winsten.
chair: Peter Willmott.

March 2

'The measurement of social change and the analysis of social trends'.
John Boreham and Mark Abrams.
chair: Nicholas Deakin.

March 16

Symposium: 'The organisation of social and policy research'.
Stuart Blume, Professor M. Kogan, and Jennifer Platt.
chair: Ray Pahl.

April 6

Open meetings to discuss the formation of an association of social researchers.

FORMS

The FDR1, a new fire report form

The main instrument for reporting fire data for many years has been a form known as the K433. It was introduced during the war (for fires not resulting from enemy action) and, at the time of writing, is still being used. Its purpose is to provide a record of each fire and, at the same time, to yield data which can be collated into useful tables of regional and national fire statistics. In the latter role it has become the basic source document in the data system now operated by the Home Office Fire Statistics Section.

No one would expect a form designed in the early nineteen forties to provide thoroughly for the complex needs of today and the K433 falls short in a number of ways. In particular, it is difficult for the firemen to fill in, difficult for the statistics section staff to code accurately and provides insufficient data. The need for a completely new form was seen several years ago and a team set up by the Home Office to design a new one. After extensive trials in 1976 and 1977, the new form is ready to come into service in January 1978.

It goes by the title of FDR1. The initials stand simply for Fire Data Requirements but, like the other FDR, it can be said to bring a kind of new deal! Although larger than the K433 and much more specific in its questions, it takes, on average, no longer to fill in, thanks to careful design which allows complete sections to be omitted if they do not apply to a particular fire. The FDR1 will provide more detailed information on a number of important topics, like the extent and nature of fire damage and the ways in which fire casualties occur.

To see that the FDR1 gets a good start in life, much thought and energy during the past year has been devoted to pre-natal activity. The new code list (for use by statistics section staff) runs to fifty pages and the notes on completion of the form (for use by firemen) to forty. Particular care has been taken to give both coders and firemen adequate training in the use of the new form. To help Fire Brigades organise their own training, five short courses were given for Brigade Training Officers at the Fire Service Technical College, Moreton-in-Marsh. Another preparatory activity has been to design and build a completely new data handling system: this was necessary because the old one could not cope with the extra complexity.

When the inevitable birthpangs from the new form are at their peak it may be some consolation to reflect that fire forms are a long lived species and that, if the FDR1 lasts as long as the K433, its replacement will not be needed until the year 2013.

OTHER PUBLICATIONS

Amendments to Annual Abstract of Statistics, 1977

Annual Abstract of Statistics, No. 114 1977 was published on 23 December 1977, the following corrections should be made in it:

Table 2.14 Migration into and out from the United Kingdom
Manual and clerical: Males: In
1974 **Delete** 30.0 **Insert** 30.1

Table 3.41 Hospital and family practitioner services
Row 21 *Medical services: Paid to doctors*
Wales 1976 **Delete** 20·4 **Insert** 19·5

Table 4.22 Persons convicted or found guilty: analysis by type of crime or offence
Footnote 1 **Delete** page 92 **Insert** page 96

Table 10.22 Road accidents
Row 1 *Pedal cyclists*
1970 **Delete** 538 **Insert** 544
1971 **Delete** 544 **Insert** 555

Table 13.4 Services and transfers transactions of UK government
Row 2 *Services: Other military*
1966 **Delete** 99 **Insert** 9

Table 14.6 Summary capital account
Row 9 *Additions to dividend interest and tax reserves: Industrial and commercial companies*
1975 **Delete** 301 **Insert**-301

Table 14.13 Companies and financial institutions: Appropriation account
Footnote 5 **Delete** page 000 **Insert** page 340

Table 17.8 British banks, Overseas banks and Consortium banks
Column 6 *American banks*
Row 37 *Market loans and advances: UK private sector*
Delete 2,254 **Insert** 2,154

Economic Trends Annual Supplement 1977

The third edition of *Economic Trends Annual Supplement* was published on 6 February 1978 and is available from HMSO at £2·65 net. The Supplement brings together long runs of quarterly and annual data for the key series of economic statistics and should be of particular 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-war period. About half span twenty-five years or more. In this edition the section on appropriation accounts has been expanded to include separate tables on industrial and commercial companies and financial companies and institutions.

Statistical News

Correction

In the last issue of *Statistical News* (No. 39, November 1977) it was stated that the CSO's leaflet, 'What is *Financial Statistics?*', designed to promote *Financial Statistics* and the new *Explanatory handbook*, would be distributed with copies of the *Bank of England Quarterly Bulletin*. The Bank were, however, unable to circulate these leaflets.

GOVERNMENT STATISTICAL SERVICE

Business Statistics Office

Speaking to the staff of the BSO recently, Mr. Les Huckfield, Parliamentary Under Secretary of State at the Department of Industry, stressed both the problems and the promise of the Office. He said:

"I expect that most of you at one time or another when talking to contributors to your inquiries have been asked what use the figures are; or you have been told that they are no use, especially to the person talking to you. And yet can anyone seriously imagine that a highly industrialised country such as this can be run if the government does not have information about the economy? You may not always agree with the decisions that the government – any government – makes. But it is much more likely to make the right decision if it has real information and not guesswork on which to base it. This then, is the

main reason why you collect statistics. The part that the BSO plays in providing the government with economic information is vital. Your figures enter into many of the most important economic indicators, such as the index of industrial production and the retail sales index and many parts of the national accounts. They are used also widely by industry and commerce to help them make their own decisions. And they are used by all sorts of ordinary people who want to be better informed about what is going on in the country – it is one thing to criticise the government but people are much more likely to listen to you if your arguments are backed up by figures.

"I have said that the government needs statistics. Nevertheless I am worried about the burden of form-filling particularly on small firms. I am concerned to examine the ways the form-filling burden could be reduced. Already a lot has been done by the BSO: by much greater use of sampling methods, following the permission granted by Parliament to use the VAT register: by raising some employment cut-off levels in the quarterly system and by simplifying forms and reducing the number of questions. For example, the Retail Inquiry form for small traders is being reduced from sixteen pages to four. However, I think there may be scope for further reductions and I have made some recommendations".

He went on to discuss some current developments in the BSO.

"The first is the use of personalised forms* for the short period production inquiries. On my visit here last year, you had started an experiment with three pilot industries. This experiment was so successful, in terms of satisfaction by the subscribers to the inquiries, that it is now hoped to widen the scheme to cover all quarterly production inquiries, starting probably from the first quarter of 1979. Personalised forms, for those of you who have not seen one, are printed by the computer for each contributor to show essentially only those headings which he has filled up in previous quarters. In nearly all cases, except the very largest firms, each contributor will receive only a single sheet instead of the multi-page form which he has had so far; he will not have to pass over large numbers of headings in which he has no interest in order to find those which are relevant to him.

"Secondly, your branch dealing with the annual census of production has been working on a scheme to send contributors various operating ratios for their industry next spring and instructions on how to work out their own operating ratios from the information which they supply on the form. The ratios selected cover a wide range of indicators of the efficiency of a firm, such as net output per head, gross value added per head, and ratio of output to stocks. I am very keen to develop this proposal, because it will show those manufacturers who are genuinely keen on improving the performance of their firm how the figures we collect can be of direct and practical use to them."

* For a fuller survey of this subject see page 40.13 of this issue of *Statistical News.*

Appointments and changes

Mr. J. Draper, Chief Statistician in the Ministry of Defence, was transferred to the Department of Energy on 7 November 1977.

Dr. D. Wishart, Statistician in the Civil Service Department on loan to the Scottish Office Computer Service, was transferred to the Scottish Office Education Department on temporary promotion to Chief Statistician on 19 December 1977 to replace Mr. J. R. Howe who has been granted leave of absence.

LATE ITEMS

The surveys of councillors and local authorities

The Committee of Inquiry into the system of remuneration of members of local authorities chaired by Mr. Derek Robinson presented its report to Parliament on 1 December 1977. To assist the Committee with its task, two surveys were carried out by the Department of the Environment and the analyses from them have been published in Volume II of the Committee's report. The larger survey was based on a sample of councillors in Great Britain and covered the personal and demographic characteristics of councillors, their duties and the time spent on council activities, and the financial implications of being a councillor. The data obtained in this way were supplemented with information supplied by local authorities on the types and rates of allowances available and the amounts that councillors claimed.

Reference

Remuneration of Councillors Volume I Report, Cmnd 7010 (HMSO) (£1·40 net) December 1977

Volume II The surveys of councillors and local authorities (HMSO) (£2·00 net) December 1977

Quarterly Bulletin of Port Statistics 1977 – Quarter 3

This is the latest in a series of quarterly publications which have been produced by the National Ports Council since the beginning of 1975. It has been designed to provide up-to-date indicators of movements in port traffic in terms of the tonnages of cargo handled at the various ports.

Quarterly data are supplied by some thirty port authorities providing approximately 90 per cent coverage of both total traffic and unit load traffic handled by all

the ports in Great Britain. The traffic has been analysed to the main commodity groups, namely foodstuffs, basic materials, manufactured goods and fuels, for foreign/coastwise and import/export movements. For each port, quarterly time series are given for total traffic analysed to the main commodity groups. Separate information is also available on container and roll-on traffic, in terms of both number of units and tonnage of goods handled, for selected ports and for the major trading areas.

Quarterly data from H.M. Customs and Excise provide analyses of foreign trade by port, by country, and by commodity. In the Quarterly Bulletin, tonnages are given for country x main commodity groups and for trading area x port x main commodity groups. Detailed analyses at the port x commodity x country level, including analyses of trade in containers and road goods vehicles (and, for 1978 onwards, rail wagons) are available on request to the National Ports Council.

Reference

Quarterly Bulletin of Port Statistics 1977 – Quarter 3 (Price £6·00 net), obtainable from:

National Ports Council,
Commonwealth House,
1–19 New Oxford Street,
London WC1A 1DZ.

New Year's honours

Members of the Statistician Group will be pleased to learn of the award of the CB to Mr. G. Penrice, Principal Director of Statistics, Departments of the Environment and Transport.

Alphabetical Index

The index to *Statistical News* covers the last nine issues. Page numbers are prefixed by the issue number, e.g. 32.30 signifies number 32, 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.

The following conventions have been observed in printing this index: references to items appearing in articles are shown by (A); italics are used for the titles of published books or papers.

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The Government

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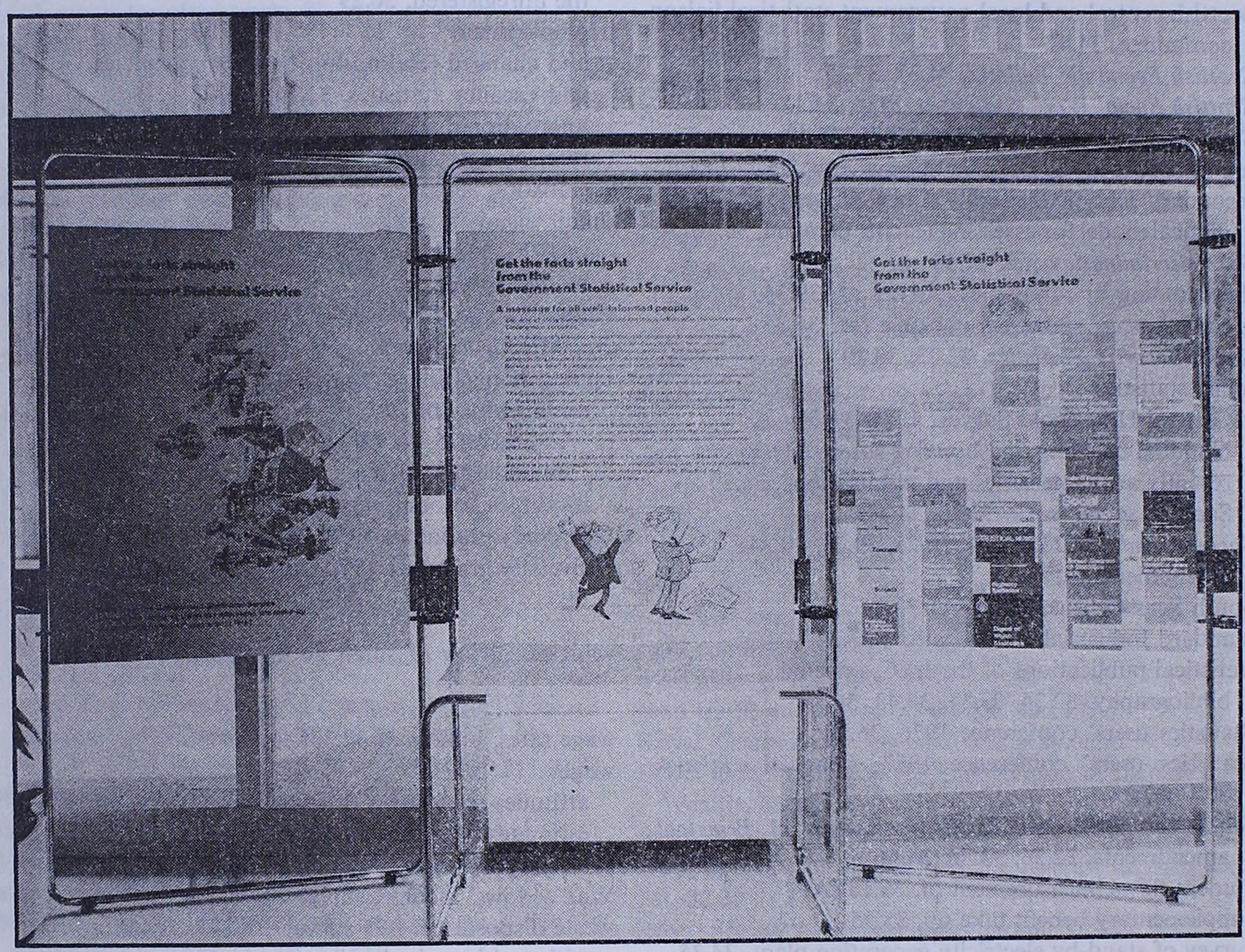

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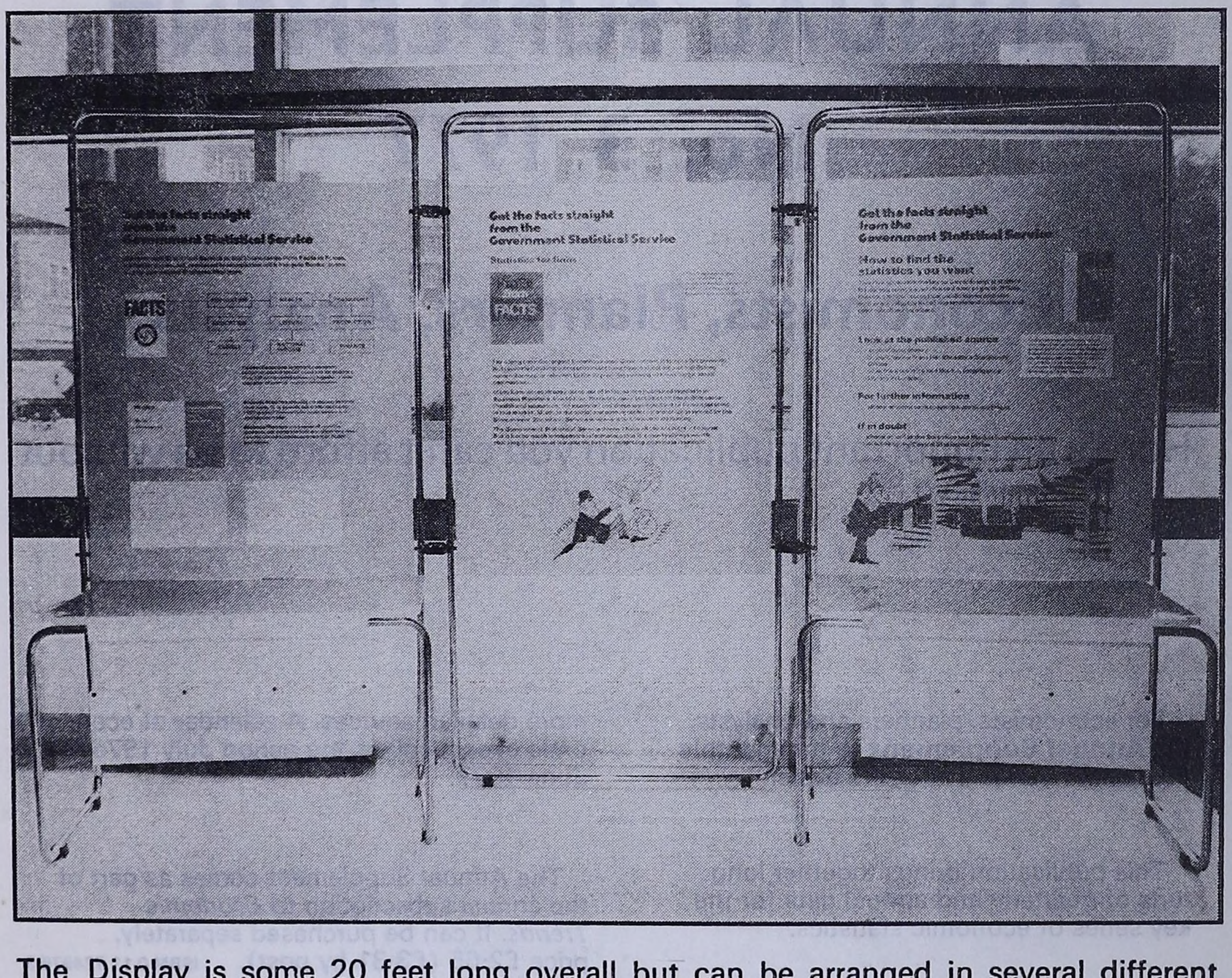

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