

Statistical News

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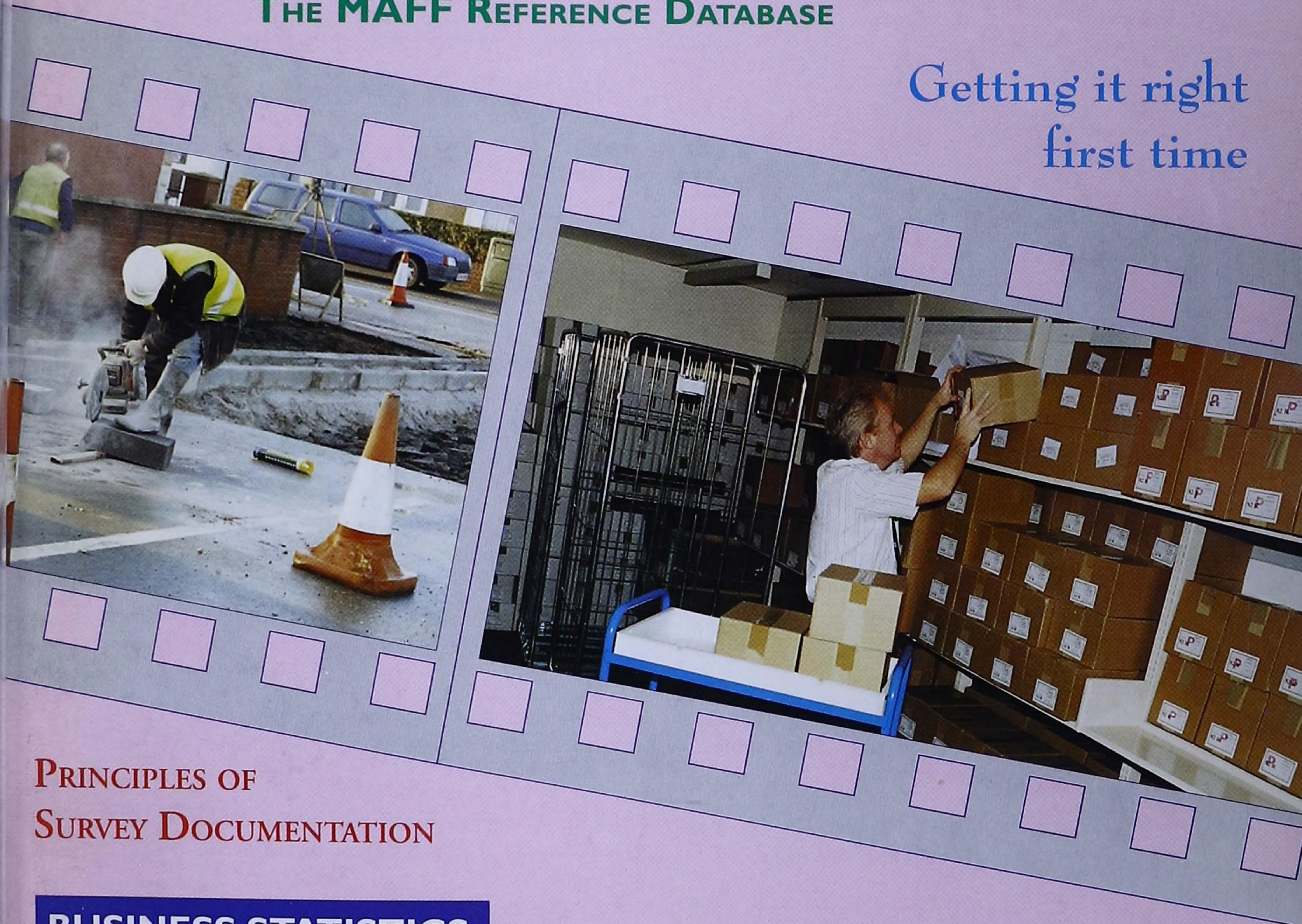
Central Statistical Office



**OCCUPATIONAL
ILL HEALTH**

THE MAFF REFERENCE DATABASE

*Getting it right
first time*



**PRINCIPLES OF
SURVEY DOCUMENTATION**

**BUSINESS STATISTICS
USERS' CONFERENCE**

*Survey of the Miscellaneous
Mechanical Engineering Sector*



A publication of the Government Statistical Service

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Statistical News

**Developments in British
Official Statistics**

**No. 110
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The Government Statistical Service



MISSION

To provide Parliament, government and the wider community with the statistical information, analysis and advice needed to improve decision making, stimulate research and inform debate.

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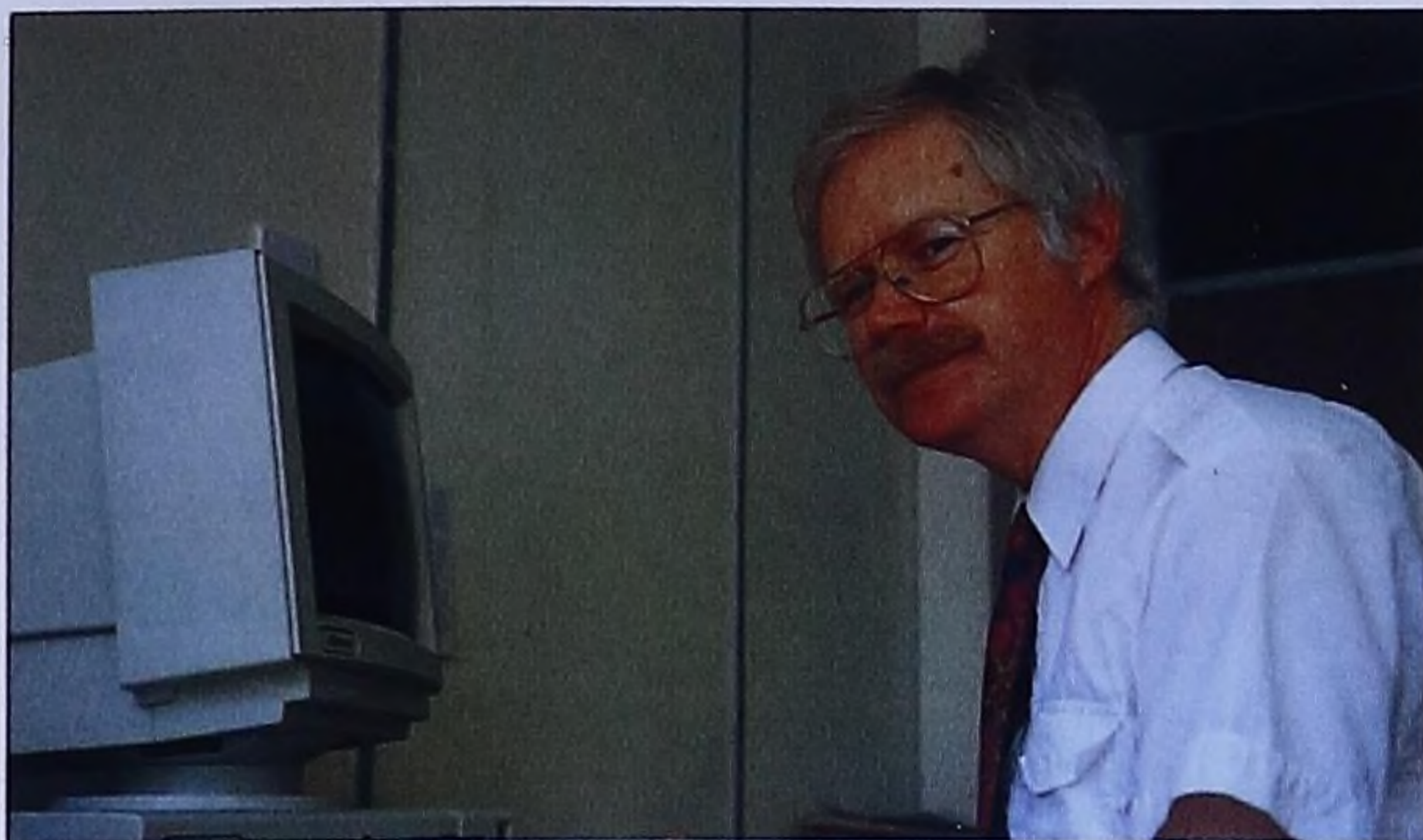
	<i>Page</i>
Occupational ill health	3
Getting it right first time	7
The MAFF Reference Database	12
Principles of Survey Documentation	17
Survey of the Miscellaneous Mechanical Engineering Sector	22
(Activity Heading 3289 in SIC 80)	
Business Statistics Users' Conference	25



News from around the GSS and beyond

GSS - General	28
Department for Education and Employment	29
Department of Environment.....	31
Office of Population Censuses and Surveys.....	34
Scottish Office	34
Department of Social Security	34
Department of Trade and Industry	36
Northern Ireland Office	36
Other Organisations.....	45

Occupational ill health



TREVOR BENN / EPIDEMIOLOGY AND MEDICAL STATISTICS UNIT, HEALTH AND SAFETY EXECUTIVE

What do we mean by ill health?

If we define health in a very broad way to mean the integrity and unimpaired function of our bodies, then one obvious way in which health may be impaired by work is by mechanical injury, such as wounds, abrasions, or fractures caused by accidents in the workplace. We know from the statistics that the Health and Safety Executive (HSE) collects that such accidents are an important cause of both personal suffering and economic wastage [1,2,3]. However I shall concentrate in this article on a wider range of adverse effects of work on health, excluding cases of mechanical trauma caused by a single incident, but including musculoskeletal disorders caused by repeated injury or strain, lung diseases such as asthma and pneumoconiosis caused by breathing in toxic substances, skin diseases caused by contact with toxic or irritant materials, conditions caused by physical agents such as noise induced deafness and other similar conditions, examples of which are shown in the box opposite; the list is not exhaustive.

How do we count or estimate occupational ill health?

Many people suffer from illness or physical disorders which have been caused or made worse by their work. Such illness can cause them to take time off work, or it can even lead to permanent disability. The quantification of work related illness is not however a straightforward matter. Whilst conditions like pneumoconiosis and lead poisoning are clearly work

related, others may have both occupational and non-occupational causes, and the link with adverse working conditions may be less clear in individual cases. Also the link may not be immediately obvious where there is a long time interval between the start of the relevant employment and the manifestation of the disease. No single source of data can provide anything approaching a complete picture. In the Health and Safety Executive we therefore use a variety of sources, as appropriate, and are developing new ones.

In 1990 nearly six per cent of adults responding to a household survey (a special trailer to the Labour Force Survey) reported suffering from a work related illness in a twelve month period [4]. This implies a national estimate of 2.2 million cases of illness per year in England and Wales, of which 1.3 million were believed by the sufferers to be caused, not merely made worse by

MAJOR KINDS OF OCCUPATIONAL ILL HEALTH

Caused mainly by chemical substances:

- ◆ asbestos-related: asbestosis and mesothelioma
- ◆ miner's pneumoconiosis, silicosis and other lung diseases caused by dusts
- ◆ asthma caused by sensitising substances
- ◆ dermatitis caused by sensitisers or irritants; other skin diseases
- ◆ poisonings and injuries from chemical agents
- ◆ cancers

Caused by physical agents:

- ◆ noise induced deafness
- ◆ vibration white finger, hand arm vibration syndrome

Caused by biological agents:

- ◆ infections
- ◆ byssinosis, farmer's lung and similar diseases

Caused by other types of workplace hazard:

- ◆ disorders of upper limbs, lower limbs and back caused by repeated injury
- ◆ depression, anxiety and similar disorders attributed to "stress"
- ◆ building related illnesses - legionnaire's disease, "sick building syndrome"

TABLE 1: COMMONEST GROUPS OF HEALTH DISORDERS CAUSED BY WORK

	Survey estimate of self reported prevalent cases ¹	Annual incidence of more serious cases ²
Musculoskeletal	593,000	>1,200 ⁴
Respiratory	121,000	>5,000 ⁵
Injuries and poisoning	108,000 ³	2,000 ⁶
Stress/depression	105,000	?
Deafness, ear disorders	103,000	>900 ⁷
Skin diseases	54,000	3,400 ⁸

(1) Estimates are for England and Wales 1990.

(2) Based on figures for 1994 or most recent available year, for Great Britain, or for UK in the case of SWORD and EPI-DERM figures.

(3) The self reported injury and poisoning cases were "long term" in that they were attributed to incidents which happened more than a year previous to the survey, but were still causing a problem within the twelve months prior to it.

(4) New cases assessed as prescribed diseases under the Industrial Injuries scheme, which does not cover all musculoskeletal diseases. The recently prescribed disease carpal tunnel syndrome is excluded from the figure given since it is too soon to estimate the likely annual incidence of new cases.

(5) Based on Industrial Injury awards for pneumoconiosis with more than 10 per cent disability,

death certificates for mesothelioma, and SWORD for other diseases, with an estimate for asbestos related lung cancers. The recently prescribed disease of chronic bronchitis or emphysema in coal miners is excluded from the figure given since it is too soon to estimate the likely annual incidence of new cases.

(6) Injuries caused by exposure to chemicals or pathogens (e.g. asphyxiations, poisonings, or chemical burns), which resulted in more than three days unfitness for work, and were reported under the *Reporting of Injuries Diseases and Dangerous Occurrences Regulations 1985 (RIDDOR)*.

(7) Industrial Injury awards for 20 per cent or more disability.

(8) Data from EPI-DERM.

work. An estimated 700,000 sufferers took sick leave, with a total of 13 million working days lost. Obviously not all self-reports of illness can be accepted at face value **Table 1** (above) shows the figures for selected major groups of illnesses for which reporting was judged to be generally reasonably reliable, on the basis of internal evidence of the survey responses and expert medical opinion. By far the biggest category was musculoskeletal disorders, which made up nearly 0.6 million cases of illness caused by work, with respiratory diseases, injuries and poisonings, "stress" and deafness accounting for over 100,000 cases each.

The self reported cases will include many relatively minor cases; about half of the sufferers in the 1990 survey who had worked in the twelve months prior to the survey,

did not take any time off work. For estimates of what are generally more serious and medically confirmed cases, we have other sources. From the official Industrial Injuries compensation scheme one can derive figures for claimants assessed as having some amount of long term disability, though the degree of disability may be as small as 1 per cent [1]. This scheme covers only specified "prescribed" industrial diseases. There are also voluntary schemes, operated with HSE funding, for the reporting of cases of occupational disease seen by specialist doctors; at present they cover respiratory and skin diseases [1,5].

The second column of figures in table 1 shows estimates of the annual incidence or number of newly diagnosed,

Industrial Injuries Scheme - Prescribed Diseases

This official compensation scheme is operated by the Benefits Agency on behalf of the Department of Social Security. Diseases are "prescribed" in connection with defined occupations or occupational conditions. They are only prescribed if an occupational cause is well established, and if terms of prescription can be framed in such a way that the majority of cases falling within the terms of prescription will be of genuine occupational origin. Where there is a long delay between the cause of a disease and its appearance, it may be difficult both to identify and prove occupational causes. Statistics of cases assessed under the Industrial Injuries Scheme therefore provide us with lower bound estimates for well recognised and mainly more serious cases of occupational disease. Trends in these figures are often not easy to interpret since they may be affected by many extraneous factors. Contraction of traditional heavy industries may lead to increases in claims by redundant workers. The prescription of a new disease, or the widening of the medical or occupational criteria, generally leads to a temporary surge in assessed cases, which is made up mainly of pre-existing cases which had not previously been eligible; numbers of assessed cases fall once the backlog is cleared.

generally "more serious" cases occurring each year, using a combination of voluntary reporting, Industrial Injuries, and other sources of statistics. They are much smaller than the numbers in the first column for several reasons. Firstly they are incidence, not prevalence estimates. Secondly some of the incidence estimates do not cover such a wide range of diseases as the prevalence estimates. Thirdly the self reported prevalence estimates will include appreciable numbers of less serious cases. **Figure 1** shows schematically how different data sources pick up

Voluntary Medical Reporting Schemes

The National Heart and Lung Institute, in collaboration with relevant medical professional bodies and with HSE funding, co-ordinates a voluntary scheme known as SWORD (Surveillance of Work-Related and Occupational Respiratory Disease) whereby specialist doctors (chest physicians and occupational physicians) notify anonymised details of new cases seen by them. Details include age, sex and occupation of the sufferer, the nature of the disease and the causative agent if known.

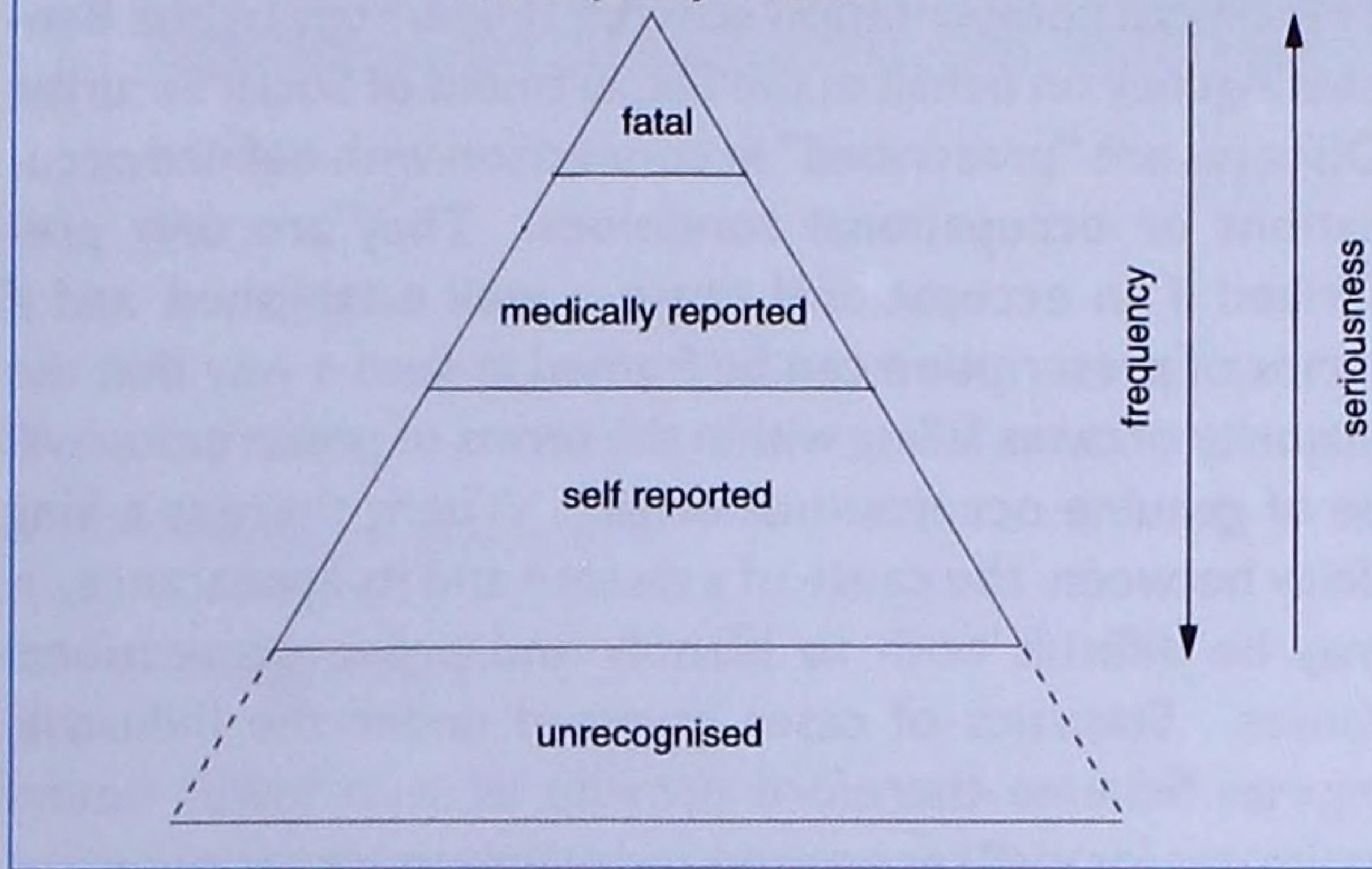
A similar scheme called EPI-DERM is coordinated by the University of Manchester for the reporting of work-related skin diseases by dermatologists and occupational physicians.

Statistics of cases reported under these schemes are regularly published in HSE reports [1], and in more detailed articles in medical journals by the academic coordinators [5].



PHOTOGRAPH: NATIONAL MEDICAL SLIDE BANK

Fig 1. Sources of information and their association with seriousness and frequency of cases



cases with differing degrees of contact between sufferers and the medical profession, which tends to reflect both increasing seriousness and decreasing numbers.

Other sources of information

Other sources include:

Death certificates. Use of death certificates for routine monitoring of fatal occupational diseases is limited to diseases like pneumoconiosis which are occupational by definition because exposure to the causative agent (e.g. asbestos, silica, or coal dust), to an extent sufficient to cause death, is unlikely to have occurred in anything other than an occupational setting. It is less easy to quantify mortality from non-specific diseases such as bronchitis or lung cancer, which can be caused by occupational or non-occupational causes, or a mixture of the two. The assignment of individual cases to occupational causes may therefore be problematic. Estimation of the number of excess deaths (above those expected from national rates) from such diseases in workers in particular occupations may give us some indication of the number of deaths caused by workplace exposures, though there are various methodological complications here, and the estimates can only be regarded as approximate. Some of the analyses of mortality given in the Occupational Health Decennial Supplement [6] provide figures from which such estimates could be derived. Studies of mortality in workers exposed to asbestos have given a wide range of estimates for the rate of excess deaths from lung cancer - these are probably at least as numerous as mesotheliomas, or possibly more so.

Statutory reports of some occupational diseases are required under the RIDDOR regulations (*Reporting of Injuries Diseases and Dangerous Occurrences*). Employers are required to make a report to the HSE or other

enforcing authority if they receive a doctor's written diagnosis of a case of occupational disease in an employee, whose current job involves the work activity associated with the disease. Comparison with figures from other sources suggests substantial under reporting, which is likely to be due to the criteria for reporting and the reporting mechanism. The schedule of reportable diseases and associated work activities is based on the list of compensatable prescribed diseases at the time when the RIDDOR regulations came into force in 1986. Following consultation with occupational health experts, industry, and unions, revised regulations have been approved by parliament and will come into force in April 1996. These will revise and extend the schedule of reportable diseases.

Further developments

In line with our policy of extending the range of occupational ill health data, a further survey of self reported complaints is collecting items of information additional to those in the first survey, including details of working conditions, and with respondents' permission, information from their doctors. It is expected that results will be ready for publication in 1997. In the field of voluntary medical reporting, a pilot scheme is under way to extend coverage to other conditions including musculoskeletal disorders and occupational deafness.

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Getting it right first time



BY BECCY WALLACE,
CENTRAL STATISTICAL OFFICE



If we are to be an innovative, risk taking organisation, then we will make mistakes. And so we must also be a learning organisation. This is not about public blame. It is about using our mistakes to generate a positive learning experience.

Tim Holt

Director of the CSO

Background

In May 1995 an error occurred in the Retail Prices Index which had consequences in terms of both our finances and our reputation. At the same time, an error came to light in Family Expenditure Survey data supplied to DSS. Although on this occasion the implications of the error were minimal, DSS were forced to pull a pre-announced publication.

As a result of these errors, Tim Holt arranged a Data Quality Seminar. FES and RPI were invited to share and discuss what they had learnt with about 30 managers involved in similar work across the CSO and OPCS.

The meeting was not concerned with allocating blame. It was concerned with encouraging everyone to reflect on the errors made and to apply the lessons learnt to their own areas of responsibility. Equally importantly, it brought home the message that we are all equally capable of making mistakes and that we should be continually seeking to make our procedures more secure and to understand the key points at which risk might be introduced.

The notes below summarise the main elements of the discussion that took place at the Data Quality Seminar.

The environment in which we work

The pressures

The GSS has always worked in an environment where there is constant pressure to keep the numbers flowing. This inevitably has two effects. Firstly it means that there is always conflict between routine production to strict deadlines and developmental work, the latter of which requires more time and more money. Production takes

precedence and as a consequence we are often unable to develop our procedures as fully as we would like and so we are unable to implement ideal systems designed to maximise security and prevent the occurrence of errors. Secondly, we have a limited amount of time for carrying out quality control and so the chance of errors passing undetected is increased. The issue of quality control extends to the accuracy of source data, interim data and final outputs.

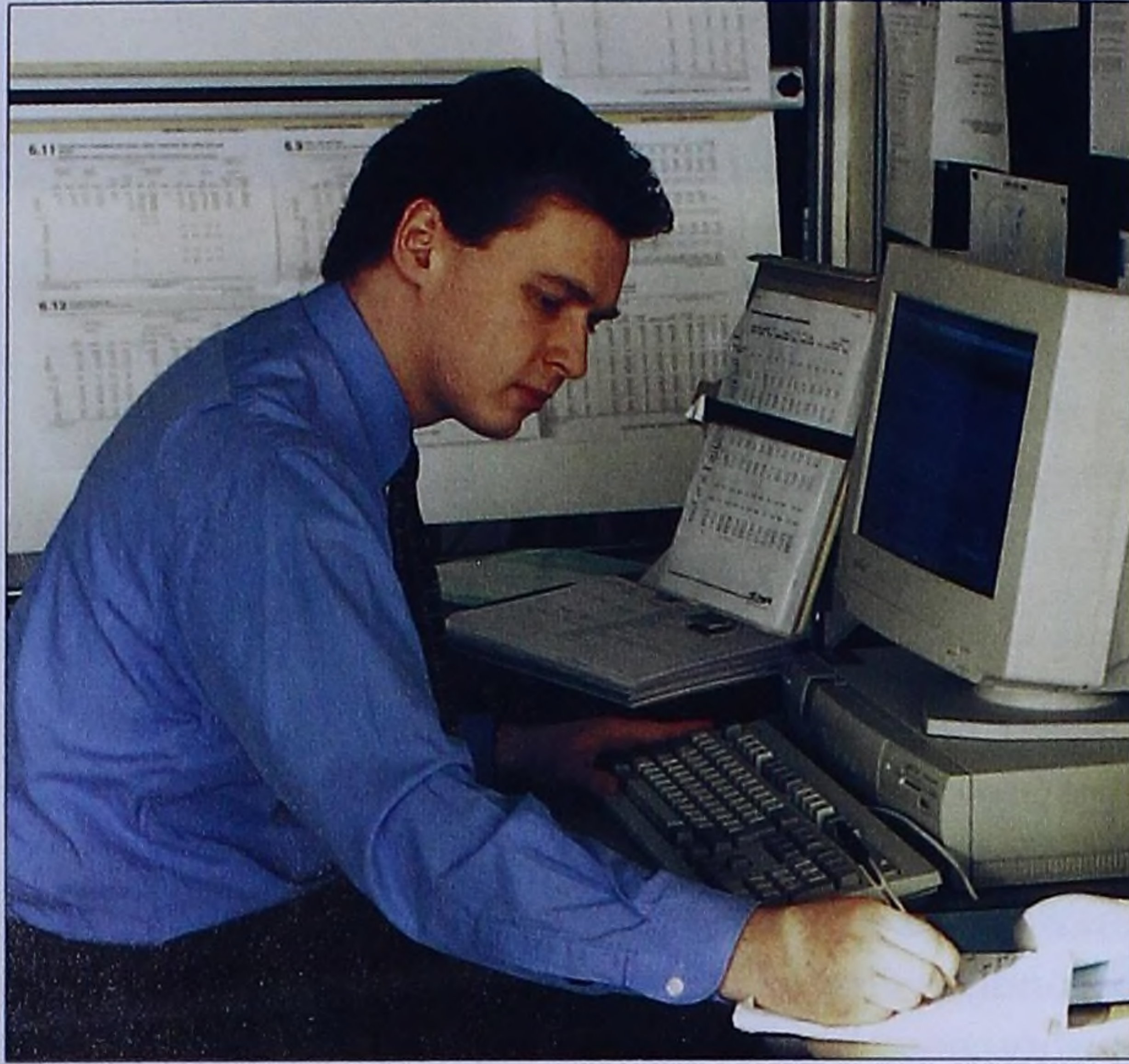
Beyond this, there is always a balance to be met between quality and timeliness. The objective should be to produce figures 'fit for the purpose', which is not always the same as producing figures which are 'perfect'.

The environment in which we operate is changing. The GSS has long been in the business of producing a limited number of standard outputs but we will increasingly need to recognise and take responsibility for our ad hoc outputs as well as the routine ones. We must be flexible enough to change our outputs accordingly which has implications in terms of our technology and the potential for 'getting it wrong'.

The technology

Many of the production systems in use around the GSS have been developed over several years by various different people and are consequently very complex. But in general, and despite the pressures of production, we have moved forward from the days of huge inflexible systems, requiring an expert to run them and a computer branch to amend them. Great efforts have been put into making systems more manageable and user friendly. This has been done through re-designs and rationalisation, conversion to modern computer software (particularly spreadsheet packages), and the development of comprehensive user documentation.

The majority of us are now in a position where we have much greater control over the systems that we manage in



terms of timeliness and improvements, and the systems themselves are becoming increasingly flexible. This is just as well in view of our changing environment which will demand that the differentiation between the processing system and the analysis system becomes more not less blurred.

But flexible systems have their down side: it is often argued that spreadsheets, for example, are transparent and flexible, but just as they are easier to amend and adapt so are they easier to corrupt. It is often the case that each spreadsheet within a system is idiosyncratic and different from any other. The people who developed them may have moved on and the people who use them may have neither the IT skills themselves to understand what lies behind them nor the opportunity to ask someone who does. The often poor standard of documentation serves to exacerbate the situation.

Responsibilities

The issue of responsibility is one that can have an impact on quality. It is often the case that the person who finally approves the data is a long way up the line from the person who processes it. The lack of understanding at the top of the intricacies of the sources and processing may mean that managers are having to place their trust in the skill of the processor to have done their job correctly. So what then are the implications when the person who does the processing knows that there are several more people up the line who will check the data after they do, reducing their own responsibility for the quality?

In addition, in some cases people have often been doing the same job for many years which might lead to less tendency to challenge production methods. This is the classic 'we do it like this because this is the way it's always been done' scenario.

The learning culture

Tim Holt's advice is clear: the key to quality lies in using our mistakes to create a positive learning experience. Hiding and denying our errors does nothing to ensure that the same thing will not happen again to ourselves or to others. We should recognise and take ownership of the mistakes we make, then we should put them right and then we should reflect on them and learn from them.

This 'learning culture' philosophy is being put into action all around the CSO through the use of the Five-Step Action Learning Model. The five steps, shown below, can be applied equally effectively to the analysis of everyday procedures as well as to one-off errors:

- ◆ What did you set out to do?
- ◆ What happened?
- ◆ What did you learn?
- ◆ What actions arise?
- ◆ What do you intend to do next?

This five step analysis was used to explore the RPI and FES errors. *The resulting reports are available from:*

Jon McGinty - tel: 0171 217 4232 and
John King - tel: 0171 217 4207 respectively.

It could have been you

The types of procedures carried out across the GSS do not vary very greatly in nature. We all input data, carry out calculations, tackle outliers and missing values, develop our definitions, use spreadsheets, macros, databases. The problems inherent in your system are essentially the same as those inherent in mine. There is a great deal we can learn from one another.

The poignant side to the mistakes made by the FES and RPI was that the errors in themselves were very minor. Each involved a tiny oversight within a standard procedure: an amendment to a single series of source data without subsequent recalculation on spreadsheets further down the line; the use of an incorrect coding frame. The underlying procedures are things that we all do every day. We have been aware of the potential for these errors to occur for a long time. All statisticians are.

The message that comes through loud and clear is that this could have happened to any one of us. RPI and FES were unlucky. The rest of us are luckier because we can learn from their mistakes and take steps to ensure that it is not us the next time.

Where are the risks?

The key to preventing errors lies in asking, understanding and acting on the question '*where are the risks?*'.

We can introduce all sorts of electronic gadgets to ensure that we do not inadvertently alter calculations, delete data or overwrite spreadsheets. With skill and resources we could produce ideal systems which are completely automated and run at the touch of a button. But all of these systems will carry with them their own areas of risk. Moreover, at the end of the day there will always be the inherent risk that is associated with human intervention.

The procedures 'prone to error'

There are two main types of error:

- ◆ Processing errors - where there is some mistake in the structure of the processing system. This might be an incorrectly defined calculation or macro.
- ◆ Human error - where an individual introduces a mistake into the system. The RPI and FES errors were of this type.

The first type of error has to be prevented by thorough checking and testing of the system. The second type of error can be minimised by quality control.

But in all cases, there is benefit to be derived from understanding the points within a system that are 'prone to error' and in developing procedures and focusing resources to cover that risk. The points that are risk-prone will vary from system to system, *but there are some common ones which affect most systems:*

- ◆ The accuracy of source data - should we assume that source data are always correct?
- ◆ Inputting data
- ◆ Amending a value from which other values are calculated
- ◆ Matching two or more sets of data through the use of coding frames
- ◆ Communicating changes in classification definitions or contents of variables, and reflecting this in publications
- ◆ Skills, knowledge and experience of checkers - in terms of being familiar with processing and 'understanding' the data
- ◆ Standard of defining and documenting the procedures

Suggestions for error minimisation

The following areas were discussed in relation to minimising the risk of errors:

- ◆ It would seem that, in the CSO at least, a tighter definition of roles and responsibilities is needed. There are opinions in favour of 'sharing' responsibility so that it does not all rest with the team manager. This would mean pushing the responsibility back to the lowest appropriate level.

- ◆ If we are putting greater responsibility on less senior members of staff, we must ensure that they have sufficient knowledge and skill to carry that responsibility. There must be high quality support and training, which means good management. Going beyond this, people need to understand clearly where their job fits into the work of their section and the wider organisation.
- ◆ Checking needs to extend to questioning the accuracy of source data as well as ensuring accurate inputting of that data. Where possible, data should be received directly from source and not through a third party.
- ◆ Security 'ring-fencing' of the routine processing segments of our systems might be one solution, but the options here are many and varied and it is important that we take into account our own needs and constraints.
- ◆ If we were to ring-fence our core processing systems and allow no manual adjustment within them, we would need to focus even more on the accuracy of our sources and inputting procedures.
- ◆ Links between spreadsheets and data transfers should be automated wherever possible.
- ◆ In some cases the same spreadsheet is held on more than one PC. Duplication of live spreadsheets should be avoided at all costs.
- ◆ We need to be aware of the knock-on effects at every level throughout the system of any adjustments made.
- ◆ The confusion introduced by the use of different coding frames across the GSS for the same or similar classifications is the root of many an error. The development of common coding frames would be an obvious step in the right direction.
- ◆ It is important to remember that whenever a part of an old system is cut away and replaced with a new one, the issues of risk and quality control need to be carefully reconsidered.
- ◆ The issues surrounding the security of our production systems are central. But equally important is checking the final output. Why is it that all too often our customers pick up mistakes in our data that we have not ourselves picked up? It is not usually because they have more information than us, though on occasions they do. So if they know how to check the data, why don't we? We need to put ourselves in the customer's position and re-construct the data ourselves quite separately from our processing system. The trouble is the expense and the time involved.
- ◆ We need to acknowledge that final stage checks require a knowledge of the market - the 'real life' meaning of our data. We should not check it in isolation in terms of either the time period or the context. There is clear benefit in getting users to look at data as soon as possible.
- ◆ Documentation is another key area in the pursuit of quality. How many of us can confidently say that we have adequate documentation? There is an assumption that documentation injects quality into a procedure, which is not necessarily true - the quality mark ISO 9000, for example, requires that procedures are documented but does not require that it is ensured that those procedures are the right ones in the first place! But documentation does limit the potential for making errors.
- ◆ An excellent piece of advice is to add a final step onto the procedures recorded in all documentation. It would read '*introduce any new procedures into the documentation*'.
- ◆ What use can be made of internal auditors for the checking of systems and outputs and spreading best practice across the whole organisation?
- ◆ Peer-group appraisal, where statisticians explain methodologies and changes in front of peer group and users, is a useful way of using one another to improve our procedures and share best practice.

- ◆ The division that produces the RPI holds 'Quality Days' once a month. On this day staff step back from their regular work and decide for themselves how best they can improve the quality of their work.
- ◆ The CSO's Statistical Methods and Quality Division is proposing to run a conference on quality management, with perhaps 100 people sharing their experiences.

The next steps

Producing a quality output requires the acquisition of expertise and confidence and an understanding of the relationship between sources, inputs, outputs and users.

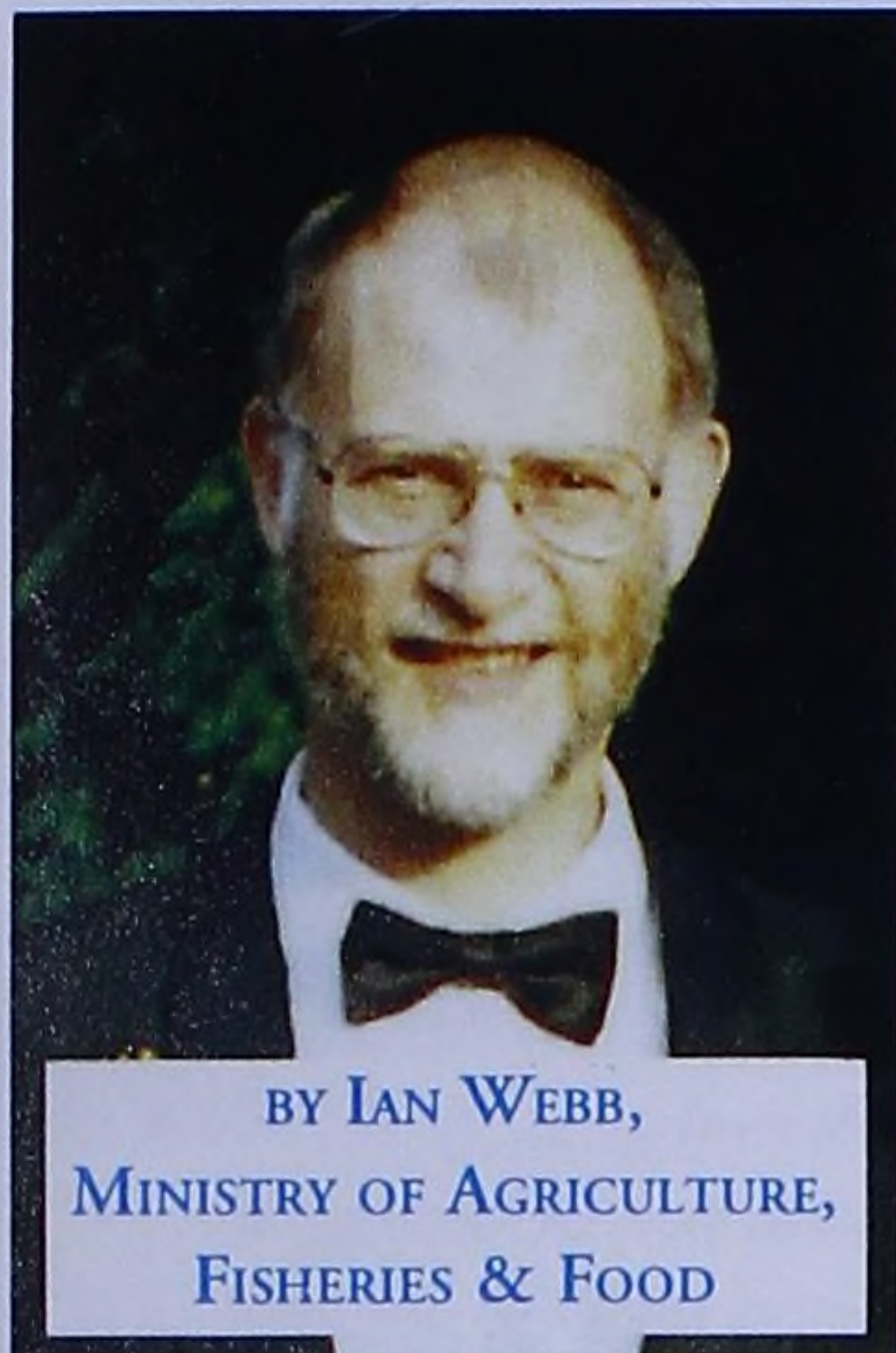
The picture for the future is one of increased flexibility and diversity and we will have to take as much care in the production of our ad hoc outputs as in our routine outputs. There will always be a balance to be met between automation and control, between processing and development, between timeliness and quality. We will be faced with new systems, new procedures and new responsibilities. The issue of learning from our mistakes will become more not less important because unknown territory will bring with it new potential for making mistakes. And however we design new systems the potential for making mistakes will always be inherent wherever there is human intervention.

The next step is to ensure that everyone learns from the mistakes of others and that in every area there is someone not only asking but understanding and acting on the question 'where are the risks?'

If you have any comments or suggestions please write to:

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or telephone: 0171 270 6521.

The MAFF Reference Database



Introduction

The Reference Database has been developed by a small team in the Economics & Statistics Group of the UK Ministry of Agriculture, Fisheries and Food (MAFF). It is primarily a statistical database but one which can be used for disseminating non-statistical information. The idea and

the technology have attracted much interest and the software has been licensed for statistical use in other UK Government Statistical Service (GSS) departments. This article briefly documents the early development of the idea, gives an overview of the system itself, and discusses how it is being shared and taken forward within the GSS.

The chief purpose of the MAFF Reference Database is to provide, in a single place, a definitive set of agriculture and food related statistics and other information in a convenient electronic format which can be accessed readily and quickly by anyone in the Ministry. The challenge in meeting this objective was to devise a system which even occasional computer users would find intuitive and easy to use. Another purpose is to assist and promote the use of statistics within MAFF resulting, it is hoped, in greater dialogue between statisticians, economists and administrative colleagues on the interpretation rather than the simple provision of statistics.

Historical perspective

The idea of setting up an electronic database to meet these needs was conceived in the late 1980s but, at that time, the technical infrastructure to support it successfully was not available within MAFF. An early prototype in 1989 involved the use of a mini-computer acting as a depository for data to be made available to Eurostat. A little later, a slightly refined version was in use for providing various weekly data to a few policy division colleagues elsewhere in MAFF. These early prototypes provided useful experience of the need for ease of access,

speed and usability. Users also wanted data delivered in a format that was already familiar to them and, even at that time, a preference for spreadsheets for statistical tables was apparent.

In the early 1990s MAFF started developing plans for its organisation-wide office automation system. The Economics and Statistics Group (ESG) was quick to perceive that this system would provide the ideal platform for its desired Reference Database. Alongside the office automation project, ESG set up a formal Reference Database project as part of its new IT Strategy. During the course of these two initiatives, common wordprocessor and spreadsheet products were established in ESG and the rest of MAFF, which greatly assisted progress.

The Economics and Statistics Group was among the first to receive, by August 1993, the office automation infrastructure and, once this was in place, it took only a few weeks to make available a core of data that had already been assembled together with an index for the database. Live service within ESG began in the Autumn of 1993. A pilot service for a small group of administrative users was conducted in the Spring of 1994, during which some further useful modifications were made to the system to improve its ease of use. In the Autumn of 1994, there was a series of management briefings to the Minister of State and senior officials in MAFF as part of the launch of the service Ministry-wide.

Technical architecture

The Reference Database was intended from the outset to be a low cost system, both to set up and to run. The approach was, first, to keep things technically simple while at the same time aiming for compatibility with the developing MAFF office automation system, and secondly leaving as much responsibility and control as possible with the separate data providers (so that maintaining the database did not become a large central overhead).

It was decided to implement a client/server-type solution. Data and information about the data are stored on a central fileserver connected to a high-capacity Local Area Network (LAN). Requests for data are initiated by users from desktop PCs running in the Microsoft®

Windows™ environment. The LANs are interconnected through a lower capacity Wide Area Network (WAN), so that in principle any PC in MAFF can access the Reference Database, even if it is in a different building or in a different part of the country. However, since wide area networks are slower than LANs, careful capacity planning has been necessary. Data providers use the same infrastructure.

The atomic unit of the Reference Database is the 'dataset' which is typically a table of statistics, such as one would find in a statistical publication. Alternatively, it can be a text document such as an EU Regulation, a brief on a food manufacturing company or details of Common Agricultural Policy (CAP) reforms. This contrasts with most conventional database systems where the atomic unit is usually a single statistic or metadatum. The advantage of presenting a complete formatted dataset is that it will have been designed with users' needs in mind and will include full documentation such as headings, references and qualifications (e.g. regarding data quality, breaks in time series etc.). The lack of flexibility inherent in having such a large atomic

unit is partly compensated for by the dataset being presented within a live spreadsheet or word processor environment in which the sub-atomic structure can be manipulated before being exported to the user's application.



“sheep” icon, which gives the Reference Database a suitably agricultural identity. Most datasets are stored in Excel format (for statistical tables) or Word for Windows™ format (for narrative documents), since MAFF has standardised on these products. However, except for the index which requires Excel for its operation, the data themselves can exist in any Windows format which can be universally accessed by the user community, such as Windows help files.

The Microsoft Windows environment is fundamental to the current operation of the Reference Database. Datasets are accessed through a central index which is a Microsoft Excel™ spreadsheet with additional features written in Visual Basic for Applications. The index is opened by clicking on the

ESG Reference Database Main Index

© MAFF 1994, 1995

Open selected dataset

Search...

Show full index

Noticeboard

This noticeboard is used to provide information about topical developments on the database. More detailed information is given in "News".

December 1995

News

Subject	Title	Keywords	Geog	Freq	Start	Source	Provider
Advice	Data Provider's Guide	help					Co-ordinator
Advice	User's Guide	help					Co-ordinator
Agric production	Cereal yields	wheat oats barle	UK	Annual	1885	Various	Stats(C&F)A
Agric production	Milk production and utilisation	milk production	UK	Annual	1973	AUK	Stats(C&F)D
CAP	Stock levels of commodities held in intervention at EU and UK levels	intervention stocks cereals	UK	Monthly	1986	EC Division	Econ(I&F)B
Capital	Agricultural balance sheet	assets fixed real	UK	Annual	1970	AUK	Econ(RU)A
Employment	Agricultural labour input in the UK	labour input fam	UK	Annual	1973	Farm Censu	E&S(FB)A
Farm Structure	EC farm structure survey	beef milk sheep	EC	Annual	1987	Eurostat	Stats(C&S)E
Finance	Day-weighted green rates	olive oil beef pi	UK	Monthly	1981	Eurostat	Econ(I&F)A
Food & Drink	Consumers' expenditure on food, alcohol & catering	household beer spirits wine	UK	Quarterly	1973	CSO, MQ24	Econ(I&F)D
Incomes & Accounts	Aggregate agricultural account: measures of farming income	farming income accounts	UK	Annual	1973	Net Income Calculation	Stats(C&F)C
Land Use & Livestock	Pigs and sheep on agricultural holdings	sheep pigs census sows	UK	Annual	1983	Farm Census	Stats(C&S)F
Legal Requirements	Statistics of Trade Act 1947	legislation disclosure	E&W			HMSO	E&S(FB)C
Other	Government Statistical Service telephone directory	GSS staff	UK			CSO	E&S(FB)C
Overseas Trade	Trade data at SITC level for Division 02 (dairy products & birds eggs)	OTS overseas trade imports	UK	Annual	1988	Customs & Excise	Stats(C&F)C
Prices	Commodity prices : livestock	beef sheep pigs	UK	Weekly	1985	Various	Stats(C&S)A
Survey Conduct	Code of practice for official statistics	GSS standards	UK			CSO	E&S(FB)C

ESG Reference Database Main Index

© MAFF 1994, 1995

Open selected dataset

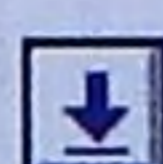
Search...

Show full
Index

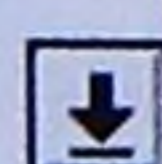
Subject



Title



Keywords



Subject	Title	Keywords
Agri	Horticultural Statistics - Commentary	summary fruit pr
Agri		orchard apples p
Agri		non-edibles flo
Agri		fruit vegetables
Agri		vegetables peas
Agri		milk production
Agri		products butter
Prices	Commodity prices: Barreners & cows in milk	calving calves

Reference Database Index Search

Type words to search for (separated by spaces)

commodity price

Frequency: Weekly

Geographical Coverage: UK

OK

Cancel

Help

Since the Reference Database is defined by user needs, it is not surprising that the pilot exercise in the Spring of 1994, involving colleagues in policy divisions, played a key role in its development. Although considerable care and planning preceded the pilot, it was initially a chastening experience and served to highlight just how difficult electronic systems are to use by all but the most practised. *The main lessons learnt were that:*

- ◆ speed is very important; slow response is far more detrimental to users' perception of a system than would be indicated by the actual time lost;
- ◆ users found it difficult to find their way around the database (whereas we had thought it was easy);
- ◆ the quality and range of the statistics provided and the presentation of them was very uneven; for the database as a whole to be useful, a good minimum standard of presentation is essential;
- ◆ it is crucial that statistics are always up to date; unless users are convinced that all the data will be updated sufficiently promptly they will lose faith quickly; and
- ◆ users did not have sufficient training in spreadsheets to make the best use of the database.

These problems were vigorously addressed during and after the pilot. In particular, the index's search facility was improved and a special half-day training course for new users was introduced. The illustrations shown of the index and the search dialog box give an indication of how the system works. Basically each row in the index represents a dataset and these can be perused either by scrolling through the spreadsheet in the usual way, or by using the filtering facility, or by using the direct search mechanism.

The selected dataset can then be directly opened from the index. More details of how the system works can be found in Price and Webb ⁽¹⁾.

The provider perspective

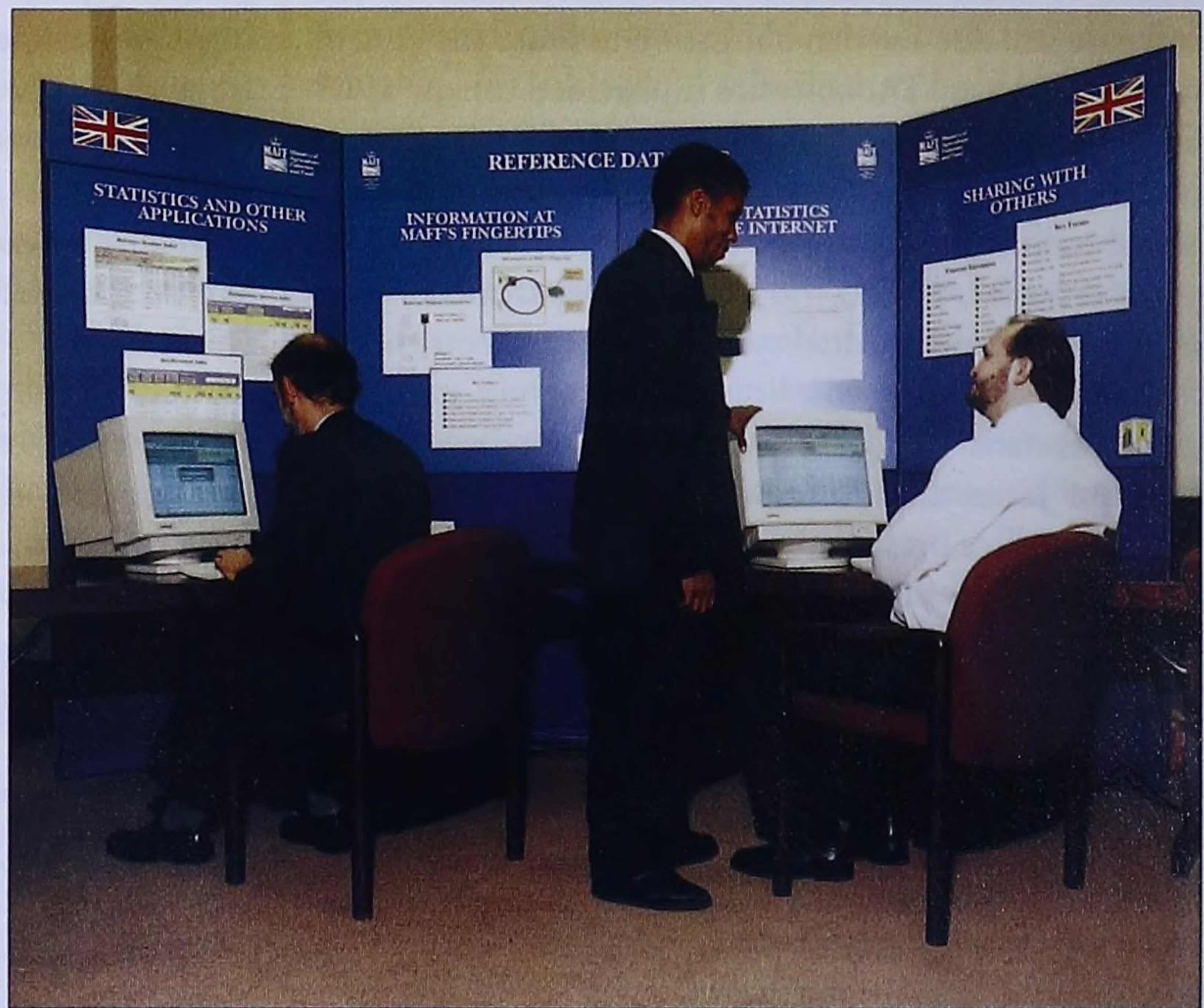
There has been little mention so far of data providers. Not all statisticians are convinced of the necessity for this medium of dissemination, and some see dangers in it. Worries have been expressed over the costs of maintaining this additional outlet and whether users may misunderstand, and hence misuse, data now that the important advisory service which traditionally accompanied the provision of statistics can so easily be by-passed. However, the Reference Database is not a substitute for regular dialogue but another medium for publishing data (but with the addition of contact details to encourage further dialogue between users and providers). There should be the same care in their preparation as for traditional publications or the paper versions of internal use documents. To ensure that this is achieved, the responsibility for the data remains with providers. It has been a key requirement that there is no dilution of this basic principle, by imposing intermediaries or co-ordination layers. Providers have direct access to, and full control of, their data and are able to correct or update them, or improve their presentation within set guidelines. What they cannot do is to delete datasets or create new ones without going through a formal registration process.

The consequence of this is that most of the data which feed into the Reference Database originate from the publication end of the statistics production line rather than directly from 'big' statistical database systems. Although some of the data may originate from such systems, it has to be checked, annotated, and made presentable for publication. The task of convincing providers to participate in the Reference Database was made easier by the fact that many datasets prepared for publication or internal circulation were already in electronic form. The Reference Database, however, is not intended simply to duplicate published material but to provide longer time series and greater structural coherence. Some providers have adapted their spreadsheets to suit both purposes or have linked the publication to their Reference Database datasets. Most of the work put into the Reference Database is borne by data providers, but it is spread thinly across many of them so that it should not be onerous for any one. This contrasts with many centrally managed databases where the workload falls disproportionately on a few people.

Whilst the decentralised nature of the day to day management of the database is seen as a strength, the need for consistent quality of data requires a degree of central editorial control. An Editorial Board sets achievable standards for data quality, coverage, timeliness and presentation but it does not interpose itself between providers and users who are the main participants. It is chaired by the head of one of the statistics divisions; the main provider and user areas are represented.

It must always be borne in mind that statistics are only of value when they are useful and used. Statisticians may be either embarrassed or delighted if they knew just how little or how much their statistics were used. Normally there is no way of knowing this other than indirectly through the volume of sales of the publications in which they are reproduced. Even conventional computerised databases do not usually feed this information back to the provider of the data. The Reference Database, on the other hand, records for each access the identity of the user, the date of access and which dataset was used. This

record of usage can be analysed by data providers and by the Editorial Board responsible for the smooth-running of the Reference Database. Data which are never used can be removed from the database and, in the long term, so can the work which produced them. More impor-



THE EXHIBIT PREPARED FOR THE BONN NTTTS 95 CONFERENCE'

tantly, the coherence of the available statistics can be exposed and gaps or inadequacies identified. If the Reference Database assists in this process, it will have fulfilled one of its main purposes of helping providers of statistics to focus on users' needs.

The wider perspective

Although there are no plans to extend on-line access to the database itself outside MAFF, the system has been demonstrated on a number of occasions to GSS colleagues, including a presentation to the GSS (Computing) Technical Sub-Committee in January 1994 and then to the *GSS Conference on Electronic Dissemination of Statistics* in October 1994⁽²⁾. The basic ideas and the technology underlying them have subsequently been shared with over twenty other UK Government Departments. With due regard to striking a balance between protecting its intellectual property rights and sharing expertise with government colleagues, MAFF instituted a licensing arrangement for the software. Essentially, all rights

remain with MAFF whilst the licence holders are permitted to use the software without charge for disseminating statistics within their UK Government Department providing the data and index are held on only one server within the department. Licensed departments are required to share any improvements they make to the software and also have an obligation to share any data of mutual interest. The software is provided on an "as is" basis without warranty or support. MAFF has run two half day technical seminars in December 1994 to provide initial training to developers along with a "starter kit of parts". So far, five of the licensed Departments have successfully implemented systems and the Scottish Office has negotiated a wider licence to cover non-statistical as well as statistical applications within the department. Graham Jones and Andrew Wilson-Annan from the Scottish Office presented significant developments, including use of the software for a departmental PQ system, at the second *GSS Electronic Dissemination Conference* in October 1995.

Most recently, a group of those departments most active in this area have formed a Reference Database Interest Group (RDIG). Its purpose is to provide a forum to share experiences and promote co-operation on this subject, as encouraged by the licensing conditions. The first meeting, which was advertised in the October GSS Bulletin, was hosted by the Scottish Office in its impressive new Victoria Quay building at Edinburgh in December 1995. MAFF released a new version of the software with a number of improvements. Home Office, GRO (Scotland), Welsh Office, Lord Chancellor's Department, Scottish Office and MAFF gave presentations of various aspects of their respective developments. Transport, OPCS and MoD were also represented and spoke about their plans. There was good cross-fertilisation of ideas and a report of the proceedings is being coordinated by the hosts.

An international perspective has also emerged with presentations to an OECD database group in Paris in June 1995 and to a Conference on New Technologies and Techniques in Statistics (NTTS, November 1995) in Bonn. We have also agreed to contribute to a forthcoming Training of European Statisticians course on the *Basic Principles of Publication and Dissemination of Statistical Products*.

MAFF is currently applying the experience gained with the Reference Database to disseminating its statistics on the World Wide Web (WWW). In November 1994, MAFF became the first part of the UK Government Statistical Service to publish a selection of its data on the WWW (on the UK Government Information Service at <http://www.open.gov.uk>). This data was largely drawn from the Reference Database. One interesting issue regarding Internet publishing is the selection of data format. It is unsafe to assume that the user has a particular spreadsheet or word processor, or even a PC. We decided therefore to provide a limited series of data (typically three years) as text files which would fit easily on a WWW browser screen, and to make longer time series available for file transfer in Lotus 1-2-3 and Excel formats. Having gained an initial experience of publishing on the Internet, we plan to update and expand the range of available statistics.

Conclusion

MAFF's successful low cost solution for disseminating information in electronic form over a modern office automation network, using readily available tools, has attracted much interest from within the GSS and without.

Anyone requiring further information should contact the author:

Ian Webb (i.webb@esg.maff.gov.uk)

or either of his colleagues,

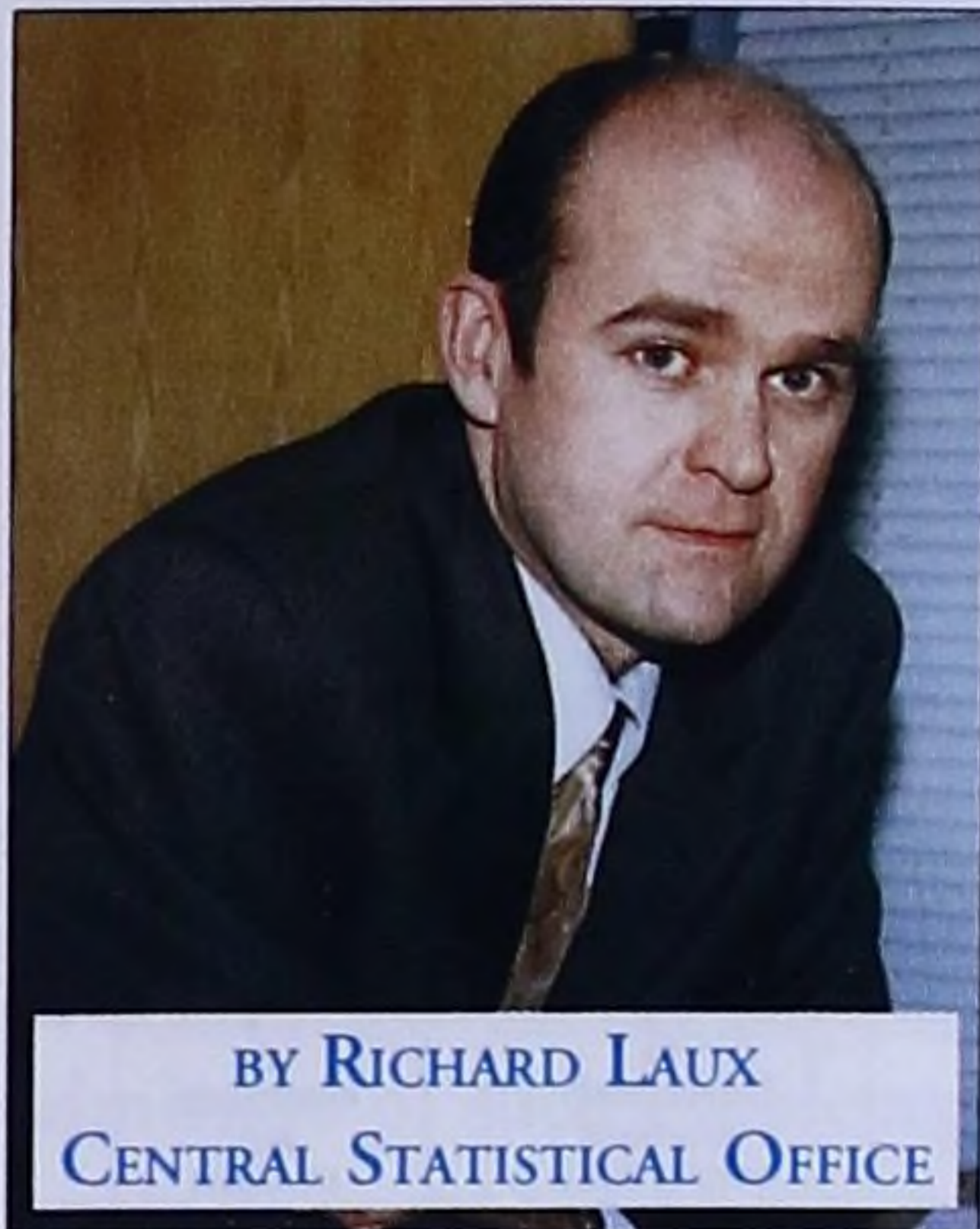
Jeremy White (j.white@esg.maff.gov.uk) *or*

Leslie James (l.james@esg.maff.gov.uk).

References

- 1 Price, RDS and Webb, I. An On-line Statistics Database for Government Users: 1995 Seminar on "New Techniques and Technologies for Statistics" Bonn, Germany, 20-22 November 1995, sponsored by Eurostat. (*Reprints available from the authors*).
- 2 Statistical News, Spring 1995, Issue 107, p107.29

Documenting the Labour Force Survey



BY RICHARD LAUX
CENTRAL STATISTICAL OFFICE

If there is one key principle underlying good survey documentation, it is that the content and presentation of the documentation should be driven by the needs of users. That's the easy bit. The hard bit is knowing *what* the user needs. Users' needs will differ between dif-

ferent surveys, and will change over time. And of course, at any point in time, working on any one survey, no two users are likely to have identical requirements. Mediating between the different interests is the role of the documentation-provider.

This note suggests a number of good practices in the production of survey documentation, (namely: flexibility; user-friendliness; accuracy; honesty; completeness; timeliness; and availability) and describes them in the context of the recently revised documentation of the Labour Force Survey. It is particularly concerned with ongoing, rather than one-off, surveys.

Flexibility

Survey documentation should be in a form which can readily be added to and amended, in order to meet changing needs of users. This implies flexibility of the structure, physical format, and the frequency of review of the documentation.

The flexibility of the revised LFS User Guide has been enhanced by placing greater emphasis on modularity than in its predecessor. Rather than producing one large volume (which was difficult to update and revise, even though it was in ring-binder form), the Guide is now

being produced in the form of seven separate (comb-bound) volumes; some of these will need to be updated or replaced each year, others (details of classification schemes, for example), will need to be changed only occasionally.

Another advantage of the documentation being presented as a number of physically different volumes is that the user can easily compare information about LFS questions, flowcharts of derived variables, and industry or occupation classifications, without having to flick between different sections of one enormous document.

The frequency with which documentation should be

reviewed owes much to the rate at which the survey, or the needs of users, change over time. The documentation which was introduced in September 1992 to support the quarterly LFS was closely modelled on that used for the annual (1984 to 1991) surveys: there was little scope for a major overhaul. The recent revision to the User Guide is thus the first review for at least three years. Whilst there

is likely to be a considerable amount of feedback, which will be addressed as soon as practicable, it is hoped that the documentation should be quite stable so that it will not need to be reviewed seriously for another three years or so.

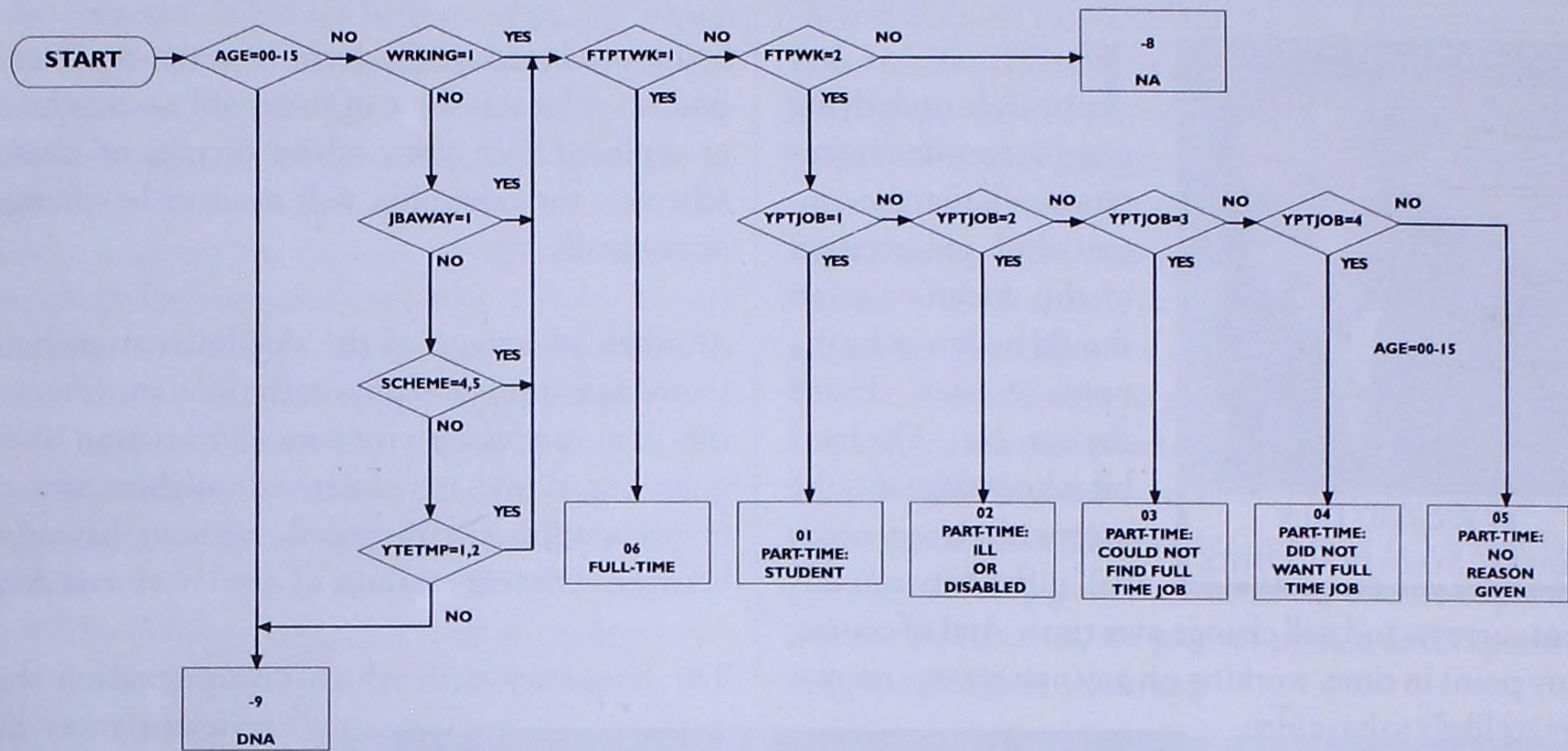
User-friendliness

User-friendliness is not just a nicety, it is an important consideration in its own right. If documentation is unattractive or difficult to follow it will tend not to be used; this means that the survey itself might be overlooked as a source of data on a particular topic, and it increases the risk of misusing the survey data.

A number of issues need to be addressed - should the survey documentation be available in hard copy, and/or

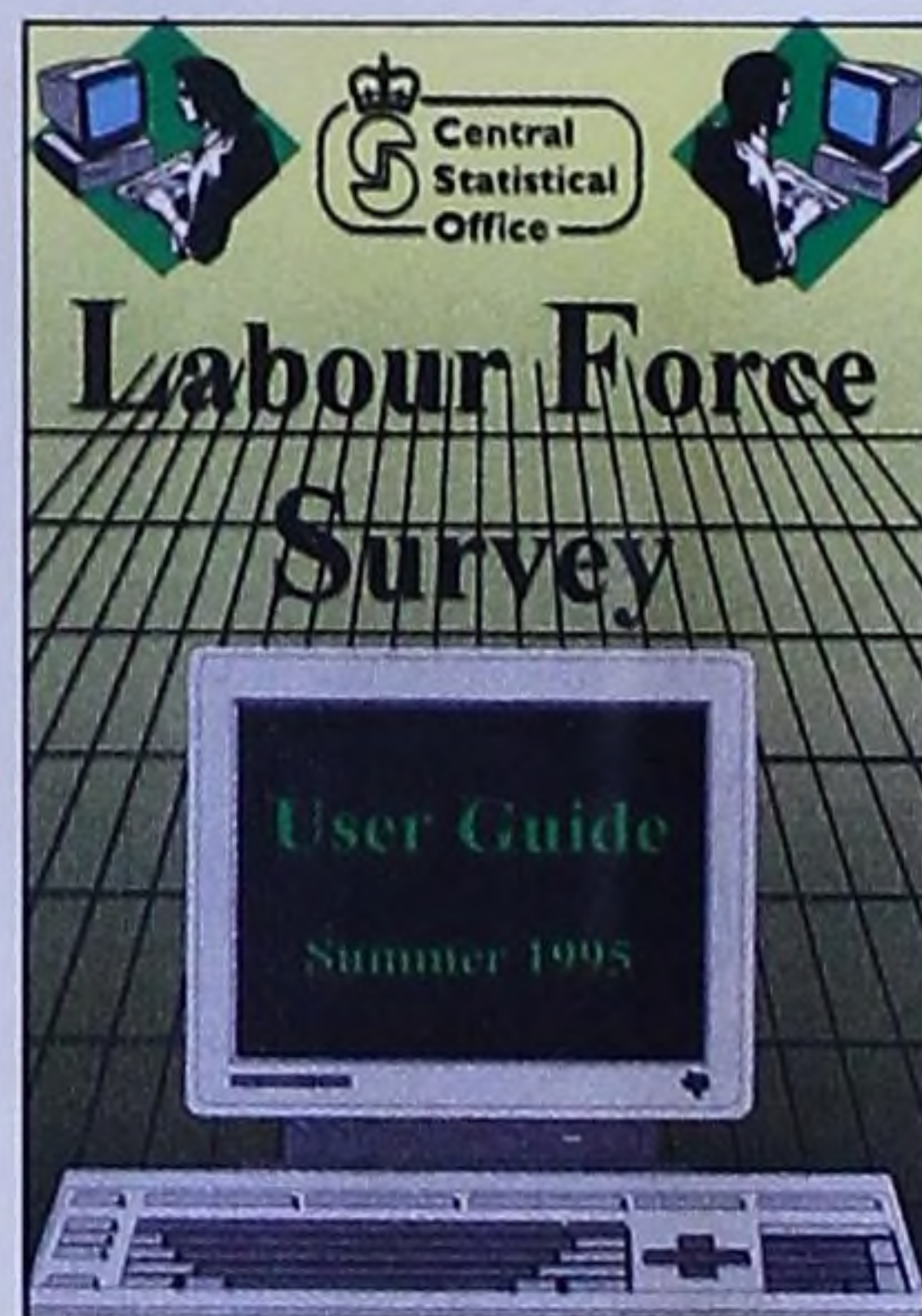


EXAMPLE OF DERIVED VARIABLE SPECIFICATION AS DOCUMENTED IN VOLUME 4 OF THE USER GUIDE



in electronic form? If it is hard copy, should it be a single document, or a number of separate documents? If it is to be electronic, what format should it be in? How can it be made most accessible to users who only refer to it infrequently?

Providing LFS documentation solely on paper is barely sufficient today - a variety of users find it valuable to extract certain elements for their own purposes, and this requires an electronic format. One highly specialised user with just such a requirement is the Data Archive; staff there are currently undertaking a project to make it available via the World Wide Web.



One advantage - at least in the LFS context - of producing documentation as a series of separate volumes was mentioned above. Another is that not every user is faced with every detail in the User Guide; different users can readily focus on the areas of documentation which they require.

But there is much more to presentation than just this point; whilst everyone has their own views on style and layout, a well-spaced document, preferably presented in a single style, with charts and tables where appropriate,

helps make the documentation more attractive. Survey users' lives can also be simplified by signposting to help them find their way round what might be a relatively large document. Tables of contents, indexes and cross-references are helpful here; tables of keywords can be useful, but time-consuming to set up. In electronic formats, search facilities are normally relatively straightforward. In addition, electronic documentation is cheaper to produce and circulate than paper equivalents, so increasing its usefulness. It is planned that the next update of the LFS User Guide should be widely available in electronic format, as well as on paper.

Accuracy

The importance of providing accurate information within survey documentation goes without saying. If response codes or classification details are given incorrectly, for example, then data can be misinterpreted, with potentially huge problems. This means that the onus is upon the provider of the documentation to:

- ◆ check all possible aspects of the documentation against other sources of the same information;
- ◆ undertake "beta-testing" by allowing experienced users of the survey to check the documentation, in order to identify any relatively obvious mistakes;

- ◆ build into the production of the documentation a feedback/revision cycle, so that any mistakes which are identified can be corrected.

Honesty

One aspect of this is dealt with immediately above - owning up to, and correcting, any mistakes in the documentation.

More important, though, is the need for honesty with respect to problems in the survey data itself. Any survey, particularly if it is ongoing, is likely to contain mistakes or discontinuities for one reason or another. Whilst the admission of such problems is not easy, there is absolutely no point hiding problems in the data from users - they will simply tend to make mistakes themselves in their analyses, and could rightly attribute blame to the documentation. Users should be given detailed descriptions of any such problems, together with how they might affect their work.

Of course the LFS is not exempt from problems which users should be aware of. For example:

- ◆ in the four quarterly surveys spring 1992 to winter 1992/3, a mistake in the routing of the questionnaire led to certain age-groups not being asked about the reasons for their economic inactivity. Hence whilst the total numbers of economically inactive people are correct, the individual categories (numbers of people who are economically inactive for different reasons) are not;
- ◆ one of the office-based edit checks performed by OPCS (who are responsible for LFS data collection) is to check respondents' reported occupations and their reported employment status - particularly, whether they are employees or self-employed. Based on the Standard Occupational Classification, certain occupations are defined as employee-only, for example police officers, judges, and so on. Hence if a respondent claims to be a self-employed police officer, then their LFS record will be edited to show them as an employee. But one consequence of this is that they will not have been asked any LFS questions which are routed to employees alone, because the routing in the interview will be based on their self-classification as self-employed. This leads to unexpectedly large

numbers of respondents appearing in the "Does Not Apply" (DNA) category in employee-only questions (such as whether the respondent's job is temporary, or whether the respondent's employer operates a PAYE scheme)

Whilst these sorts of issues and problems are detailed in the LFS User Guide in the context of describing the relevant variables, it is hoped that in future a new section will be introduced, concentrating specifically on aspects of the survey to which analysts need to pay particularly close attention.

Coverage and detail

This is related to the issue of user-friendliness. The coverage of the documentation clearly needs to reflect users' requirements, but this still leaves the provider to make a number of judgements as to which aspects of the survey to document, and to what extent. If too much detail is provided, then there is a danger that users will miss the important elements, or will 'switch off'; at the same time the updating burden is increased for the provider. On the other hand, if insufficient detail is provided then users might run into problems in analysing the survey or interpreting their results. Finding a suitable balance is largely a question of experience of using survey documentation, comparisons with documentation of existing, similar surveys, talking to users, and fine-tuning the documentation to provide more detail if it is clearly required (or removing levels of detail, if there is evidence that it is not being used).

To a certain extent, the issue of how much detail to provide is influenced by the format of the documentation. In general, electronic documentation can 'bear' more detail than paper documentation, provided adequate navigational facilities are available.

As well as describing the survey itself, it is important that documentation should indicate how the survey data may be accessed. As before, the provider of the documentation has to make a choice whether to, for example, simply indicate where to access the data and what computer formats it is available in, or whether to provide sufficient information about the computer software to enable users to perform their own analyses.

When the results of the first quarterly LFS were released in September 1992, they were accompanied by a User Guide describing the key features of the survey, and the

VOLUME 1 LFS: BACKGROUND AND METHODOLOGY

- Section:1** LFS in Great Britain
2 LFS in Northern Ireland
3 Sample Design
4 Fieldwork
5 Sampling Errors and Confidence Intervals
6 Coding and Processing the data
7 Non-Response
8 Weighting the LFS sample using Population Estimates
9 Imputation in the LFS
10 Seasonal Adjustment
11 Uses of the LFS
12 Dissemination and Publications
13 Local Area Data
14 Time Series Databases
15 LFS Contacts
Annex A Derivation and Examples of Standard Errors on the LFS

VOLUME 2 1995 LFS QUESTIONNAIRE

Complete Spring 1995 - Winter 1995/96 Questionnaire

VOLUME 3 DETAILS OF LFS VARIABLES

- Section:1** Household Characteristics
2 Demographic Characteristics
3 Economic Activity
4 Main Job
5 Second Job
6 Seeking/not seeking work
7 ILO Unemployment
8 Benefit Entitlement
9 Employment situation 3 months ago
10 Employment situation 12 months ago
11 Education & Training
12 Health
13 Income
14 Local area variables (available via NOMIS)

VOLUME 4 LFS STANDARD AND EUROSTAT DERIVED VARIABLES

- Section:1** Standard LFS Derived Variable Flow-charts
2 Eurostat Derived Variables Flowcharts

VOLUME 5 LFS CLASSIFICATIONS

- Section:1** Background Information on SIC and SOC
2 Industry (SIC) Derived Variables
3 SIC - Details relating to LFS usage
4 Coding of Industries SIC 92
5 Coding of Industries SIC 80
6 Coding of Occupations (inc. Manual/Non-manual indicator)
7 Educational Qualifications/NVQs
8 Income data bands
9 International Classification of Status in Employment (ISCE)

VOLUME 6 ANNUAL LFS VARIABLES 1979 - 1991

This volume is still in preparation - details of the prospective release date will be made available in due course.

variables available. Each quarter's supplement, until quite recently, described the variables which were included in that particular quarter's survey. This was in large part a reflection of the way in which the annual LFS had been used: as a series of free-standing survey databases supporting cross-sectional analyses. In fact users of the LFS are now much more focused on the time-series aspect, since over three years' worth of quarterly data are available. This is reflected in the temporal coverage of the revised LFS User Guide, which indicates for each variable when it was introduced, and in which quarter any significant changes to the response categories were made.

The coverage of the LFS User Guide is shown in the overall contents page, replicated above; indirectly this also gives an indication of the amount of detail provided.

Relatively little information is included in the User Guide about the detailed mechanics of running LFS analyses. This is because the data are disseminated commercially via Quantime Ltd., and are (generally) made available in their tabulation package, Quanvert. Whilst the User Guide includes details of the services Quantime provide and how to contact the company, it is more appropriate that users of the survey data should contact Quantime direct for details of how to use their software. Dissemination to academic users is undertaken by the Data Archive. Their expertise and progress in the area of electronically disseminating survey data and documentation is such that it is not sensible to try to describe in the LFS User Guide what they do; better for interested parties to approach them.

Up-to-date and timely

Survey documentation is clearly inadequate if it does not cover the latest survey period for which data are available, or if it simply isn't produced until some time later. Ideally documentation should be made available at the same time as the data, and preferably with a note drawing attention to any changes in the latest survey (if it is ongoing). Indeed, it is Data Archive policy not to release data unless supporting documentation is available.

LFS User Guide supplements - containing details of changes to questions asked in the most recent quarter - have performed this function in the past, and it is likely that a 'latest news' supplement to the revised User Guide will be required to deal with last-minute changes. The supplements are circulated on (or as close as possible to) the day on which the data are released.

Ready availability

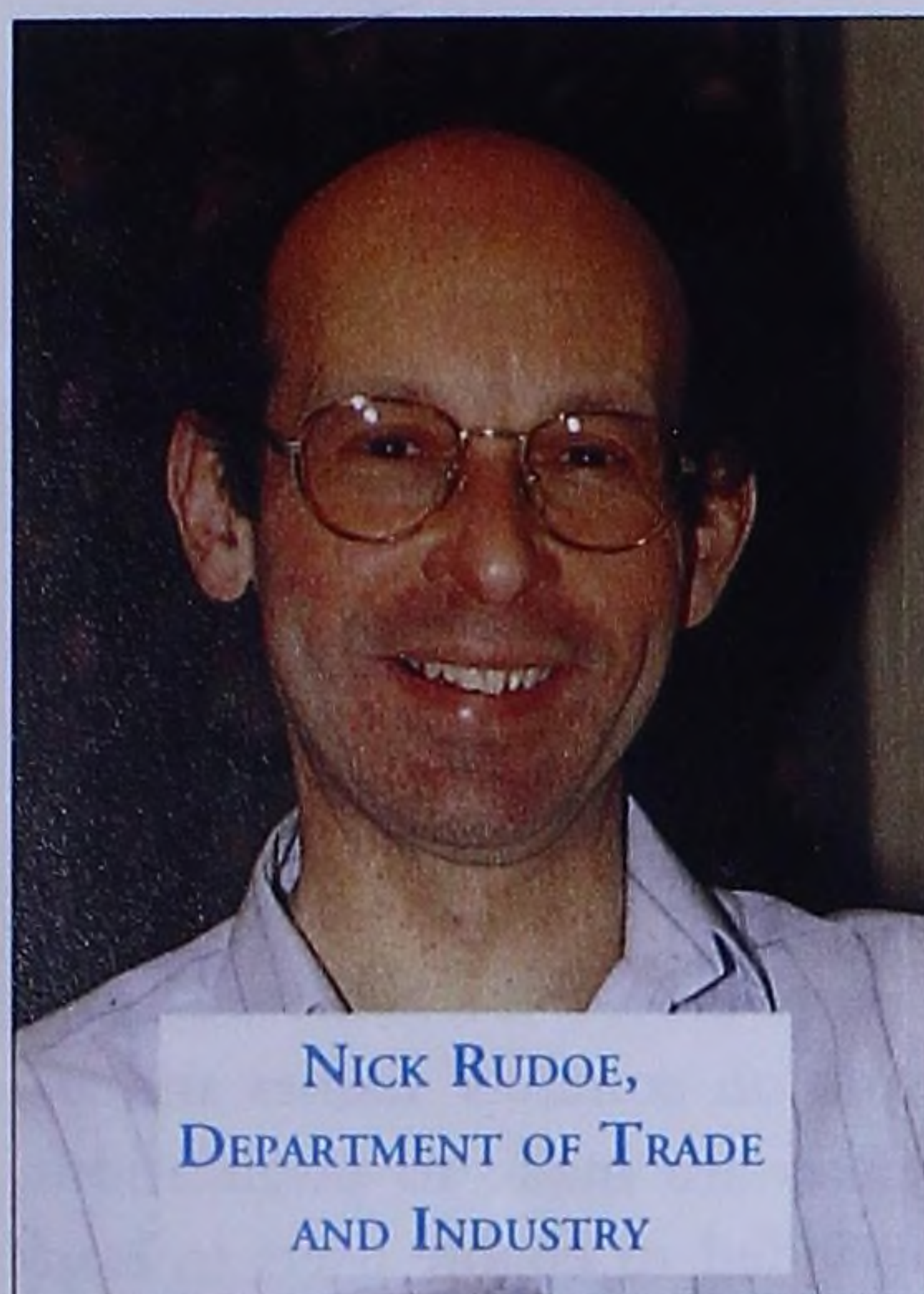
It is important that survey documentation should be readily accessible by all users of the survey data. This means that the provider has to keep track of the details of survey users, in order to send revisions to, and receive feedback from, them. It follows from this that the documentation should include details of how to get further information (including further copies of the documentation itself, for example for other users in the same organisation) on issues it covers. (And it is important that the documentation-provider maintains a database of users to whom revisions and updates should be sent).

In the case of the LFS User Guide, this is achieved by the simple means of a section on contacts' names and addresses. Where references are made to publications, sufficient details are provided to enable users to track them down.

Further information is available from the author at the:

Central Statistical Office,
Room 114,
Caxton House,
Tothill Street, London
SW1H 9NF.
Tel: 0171 273 5583.

Survey of the Miscellaneous Mechanical Engineering Sector (Activity Heading 3289 in SIC80)



Introduction

This survey, which was conducted in the Spring of 1995, offered an opportunity for joint working between CSO and DTI. The CSO selected the sample, and this was the first occasion since its establishment that the IDBR has been

used as the sampling frame for a one-off survey falling within DTI's responsibilities. The CSO also prepared despatch lists and the necessary address labels.

The sector is an extremely diverse industry, in that it is involved in manufacture of precision products, repair and maintenance, sub-contract work and combinations of all three of these. Perhaps the main feature of the sector is the prevalence of subcontract machining work; ie the manufacture of parts and/or components (usually in metal) for other firms located elsewhere in the manufacturing sector. The high degree of subcontract work in the UK engineering industry is an aspect which distinguishes it from its overseas counterparts, where the incidence of subcontracting is much lower. The nature of the sector means that it is largely composed of small firms: over three-quarters of the total number of firms are classified to the 1-9 employees category.

Purpose of the Survey

The survey was requested by DTI's Electronics and Engineering Division, one of the Department's industry sponsorship Divisions. *The aims of the project were to identify:*

- ◆ the precise types of product made or service provided by the sector;
- ◆ the number of companies broken down by size, products, services and customers;

- ◆ the key customers for each product or service and their location;
- ◆ the main markets for each product or service;
- ◆ the extent to which firms specialise in serving particular industries;
- ◆ main factors driving competition;
- ◆ extent of capital investment;
- ◆ knowledge and use of DTI services.

The tender process and choice of sampling frame

Having obtained Survey Control Unit approval for the survey, the first task was to select the contractor who would carry out the fieldwork, and four firms were asked to tender for the contract. It was immediately apparent from their bids that there were serious deficiencies in the registers that the potential contractors were proposing to use as sampling frames from which to select the sample. Comparison of a breakdown by employment sizeband of the numbers of Reporting Units for AH 3289 on the IDBR with equivalent figures from the commercial databases, demonstrated very clearly that the IDBR was far more comprehensive in the smallest company size categories which predominate in this sector. DTI decided to use the IDBR as the frame for drawing the sample for the survey. DTI also discussed the IDBR with the successful contractor and obtained his agreement to its use as the sampling frame for the survey.

The pilot survey and sample design

The policy Division was advised that it would be essential to conduct a pilot survey, mainly because their knowledge of the sector was quite sparse (ie they had little information about the kind of manufacturing processes in which firms in this industry were involved), and therefore there was a great deal of uncertainty about the phrasing of many of the main questions. In the event it was decided to approach 60 firms for the pilot and get the questionnaire completed by telephone interview. This method would allow the contractor's interviewers to

NATURE OF BUSINESS ANALYSED BY EMPLOYMENT SIZEBAND

	Total	1 - 9	10 - 49	50 - 99	100+
Sample nos	518	245	205	40	28
Universe nos	7138	5397	1486	170	84
Sub-contract machining	1777	1300	421	38	18
Component manufacture	1610	1256	305	26	24
Other sub-contract	1253	903	290	51	9
OEM manufacturer	921	617	261	26	18
Maintenance	356	308	29	13	6
Repair	403	352	51	0	0
Design	209	198	7	0	3
Distribution	169	154	15	0	0
Sub-assembly	81	66	7	4	3
Other	360	242	102	13	3

probe, for example to ask for more detail about the products and services of the pilot companies. The efficacy of this approach was indeed justified; it turned out that the range of products and services was far wider than had been anticipated, and the questionnaire underwent some radical changes as a result of the pilot!

For the main sample a stratified design was adopted, the stratification factor being company size (defined by employment sizeband). Universe figures from the IDBR showed that overall there were about 7000 firms in the sector. It was decided to aim for an **achieved** sample of 10 per cent of the universe (ie, 700 firms). However, in a non-statutory sample of this nature the expected response rate will be only about 30 per cent, which means that the **initial** sample size has to be about three times that of the **achieved** sample. Hence the initial sample size was fixed at 2,000, and it was this number that was given to CSO, who selected firms at random within the employment strata and produced a listing by name and address, turnover and employment. DTI mailed out a letter to the 2000 firms, accompanied by a one-page summary of the themes to be covered by the questionnaire. The contractor followed this up with the telephone interview in order to complete the questionnaire (16 pages in length). In the event the actual achieved sample was 518, implying an overall sample fraction of 1 in 13.5 or 7.4%.

Some results from the survey

The table above gives an idea of the range of activities engaged in by firms in the sector.

The contractor has produced a full report on the results of the survey. *Some of the principal findings were:*

- ◆ firms in the sector make more than 300 different types of products or services.
- ◆ the majority of respondents export to the EU, particularly France and Germany.
- ◆ for the smaller firms (49 employees or fewer) there was little difference between the numbers of customers located within a 50 mile radius of the site and those based elsewhere in the UK. However, significantly more customers of those firms employing 50 or more people are located outside the local catchment area.
- ◆ overall, 58% of the turnover of the sector's firms is generated by customers located within a 50 mile radius of the firm, another 33% by customers located elsewhere in the UK, and 9% by overseas customers.

- ◆ the key markets into which products are sold include most of the major sectors such as vehicles, aerospace, mining and construction, food & drink, electronics, energy/power, chemical and pharmaceutical, etc. The most common market is the automotive sector.
- ◆ 61% of respondent firms felt that market competition is largely driven by price; the next most important factor identified was quality.

DTI is pleased with the outcome of the survey; it has a much better understanding of the sector, which will

enable it to target its assistance to the sector with increased effectiveness. DTI will wish to continue to use the IDBR for future surveys of industrial sectors.

Further enquiries may be addressed to:

Nick Rudoe
Industry Analysis Branch
Department of Trade and Industry
151 Buckingham Palace Road
London SW1W 9SS
Tel: 0171 215 1907

Business Statistics Users' Conference



BY MICHAEL PRESTWOOD (CSO) & CHRIS KIRRI (DTI)

Introduction

On 14 September 1995, at a conference held at St. Ermin's Hotel, London, the Business Statistics Users' Group (BSUG) was launched. The conference was organised by the Central Statistical Office (CSO), in association with the Department of Trade and Industry (DTI) and the Statistics Users' Council (SUC).

The need for BSUG

The CSO and DTI had been considering for some time the formation of such a group, and this need was confirmed at a meeting of the CSO Advisory Committee in 1994. Following from this, Mike Pepper (CSO) and Stephen Penneck (DTI) met with Ian Maclean of the Statistics Users' Council in November 1994. At this meeting it was confirmed that BSUG should be a sub-group of the Statistics Users' Council - an umbrella organisation that oversees several other user groups, for example, labour market statistics and international trade.

BSUG's primary purpose is to develop and maintain close liaison between users and producers of business statistics. This will enable users' views to feed back to the CSO and DTI on how existing and future statistical sources could be more usefully focused on the needs of industry. Identifying gaps in existing business statistics is a further role.

As in the case of the other user groups, BSUG is run on a voluntary basis, and financed by a small annual subscription which covers all administrative costs. The

Group consists of nearly 100 members, and will hold four main meetings a year. Aligned to that the committee meets on a more regular basis.

BSUG Conference Steering Group

It was decided that the best way to launch the User Group was by means of a one day conference, and responsibility for organising the day was given to the CSO and DTI. In February 1995 a steering group made up of representatives from the CSO, DTI and

the private sector was set up. The range of interests brought to this group led to a full agenda for the day, for which the users played the major part. Seven months later the Business Statistics Users' Conference took place at the St. Ermin's Hotel.

The Conference

On 14 September 1995, 150 delegates attended the launch of the Business Statistics Users' Group, comprising users from all sectors of the economy, together with an array of civil servants and colleagues from Eurostat.

Mike Pepper, the Chair for the morning sessions, opened the conference by welcoming the large gathering, and indicated that this reflected the interest in government statistics by users. He emphasised the importance of BSUG, and the greater communication with users that pre-empted the setting up of BSUG. He then introduced the three opening speakers, Richard Page MP (Parliamentary Under-Secretary of State for Small Business, Industry and Energy), Tim Holt (Head of the Government Statistical Service) and Ian Maclean.

Richard Page MP emphasised the need for business and government to work together. He stated that genuine dialogue and partnership between both parties is a key factor in ensuring that British business keeps pace with its competitors.

Tim Holt referred to the emphasis now given by government to produce statistics for users, and not principally for government. Ventures such as BSUG reinforced this



statistics), John Kerr (small firms) and Sandra Tudor (Profit from Facts). They outlined how DTI use statistics to measure and assess the competitiveness of British industry, and how it can help businesses get the best out of official statistics.

Three aspects of industrial statistics were discussed:

- ◆ statistics for the Competitiveness White Papers;

view, and it is paramount that statistics, as well as being of high quality, meet the requirements of the users.

Finally, Ian Maclean highlighted that the 1990s was recognising the full use of official statistics, after the 'dark ages' of the 1980s. The setting up of BSUG confirmed the commitment of government to producing statistics for users, as detailed in the CSO's statement of objectives.



The remainder of the morning concentrated on presentations by CSO and DTI statisticians. The CSO was represented by Ole Black (production statistics), Peter Isom (distribution and services) and John Kinder (product prices and sales). They outlined the outputs within each work area, and highlighted the new initiatives that form such a core part of the present and future plans. This included work being undertaken to enhance the statistical methodology and data collection methods, with electronic data collection currently being piloted.

They explained that there has been much improvement in service sector statistics in recent years, with the aim of paralleling the quality of production statistics currently produced, especially now that the service sector has such an impact on Gross Domestic Product (GDP). Examples of such work included the introduction of a monthly turnover inquiry for the service sector, and additional work on developing service sector prices.

The DTI session was given by Stephen Penneck, Linda Oldfield (competitiveness statistics), Bill Cave (service

- ◆ the President's Task Force on Services Statistics; *and*
- ◆ the work of the Small Firms Statistics Unit (including the role of Business Links).

Finally, the session was brought to an end by the announcement of a new release, in 1996, of "Profit From Facts", last published in 1979, which aims to help businesses improve their business performance through the use of official statistics.

Over the lunch break delegates took the opportunity to view the numerous stands on display. *These demonstrated:*

- ◆ the CD-ROM and hard copy versions of "UK Markets" - the publication of CSO PRODCOM data, produced by Taylor Nelson.
- ◆ I-FAX Ltd - a company that provides UK Markets data via a fax service to users.



The User Group

The discussions on the 14th, together with continuing dialogue between users and producers of statistics, have provided a wealth of topics (PRODCOM, services, retailing, regional analyses, confidentiality, Europe, and so on) for consideration by the Group. Delegates at the conference, together with other interested parties, have been invited to enrol as members of the Group, including an option to be on the committee.

This has attracted a good response from users, and to date there are nearly 100 members, of which 20 are involved on the committee. There have been four

committee meetings so far, to set up the structure of the Group, and the content and timetable of the initial User Group meetings.

The main points agreed, at time of writing, have been:

- ◆ **NAVIDATA** - a user friendly graphical package for use with CSO Databank.
- ◆ **DTI** use of statistics on competitiveness, services and small firms.
- ◆ **Business Links** - single points of access on a range of information and services for business.

- ◆ the first User Group meeting will be held in February 1996, and PRODCOM will be the topic;
- ◆ the first AGM will be held in May 1996; *and*
- ◆ an annual subscription fee of approximately £30 will be charged - the amount to be confirmed at the AGM. However to cover initial administrative and set-up costs £20 will be charged until May 1996.

The afternoon, chaired by Jill Leyland, an independent consultant, provided talks on Eurostat and the CSO's marketing and pricing strategy.

The Eurostat session was presented by John Pullinger (CSO) and Francois de Geuser (Eurostat). They emphasised that as Eurostat data was very much published at an aggregate level, the quality of these outputs was dependent on the accuracy and timeliness of the disaggregated data supplied by the member National Statistical Offices.

The final presentation of the day, on marketing and pricing, was given by Philip Powell (CSO). This proved to be the most contentious session of the day; in particular CSO's contract with Taylor Nelson for the publication of PRODCOM data. He indicated that the role of the CSO marketing section was to be externally focused, and to concentrate on meeting users' needs.

The day concluded with an open forum session that discussed, amongst other things, the best way to take BSUG forward.

The Group is run by users, but both the CSO and DTI attend meetings in an observer capacity. Until the AGM an acting Chair and Treasurer have been appointed. Ian Maclean holds the post of Chairman, and for further details about the Group, *he can be contacted at:*

Business and Trade Statistics Ltd,
Lancaster House, More Lane,
Esher
Surrey KT10 8AP
Tel: 01372 463121



1995 Assistant Statistician Conference

On December 8 last year assistant statisticians from around the Government Statistical Service struggled with their maps and eventually found their way to the Barbican for their 10th annual one-day conference. In all 228 delegates and 15 speakers attended, the aim of the day being to learn more about current GSS issues and innovations and the application of statistics in the commercial world.

Time Holt, the new head of the GSS, gave the opening address on the changing role of statisticians in the GSS. He was followed by Professor Adrian Smith, President of the RSS, who showed how basic analysis of data can be misleading creating a need for expert statisticians who can interpret the data correctly.

There followed the first set of workshops, the most heavily subscribed being that given by Graham Medley (University of Warwick) on the *Why and How of predicting AIDS cases*. He gave an interesting overview of how difficult it is to predict the spread of a disease when so little is known about the underlying processes and when it is so difficult to measure sexual behaviour. A good prediction would result from knowing how many people had the HIV virus; however, the ethical and practical problems of screening make this unfeasible. So in practice the number of people developing AIDS is used to estimate the pattern and number of people who have contracted HIV in the past (a process known as back calculation). This information is then used to predict future AIDS cases. Graham concluded by describing how scientists are now facing similar problems when trying to predict the spread of BSE or 'mad cow disease', although there is even less knowledge about how that disease spreads.

Lunch was followed by afternoon workshops, including one by Clare Shaw (Civil Service College) on planning career moves. Clare stressed how important it is to retain control of your own career, ideally by identifying your strengths and weaknesses and then finding a post to fill

the gaps. To help with the task a SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) was provided, to aid with 'blueprinting' your next post.

Chris Hatfield (University of Bath) led another of the afternoon workshops focusing on the rights and wrongs of data presentation. He gave an entertaining talk, using real-life examples, of what can go wrong when data is misinterpreted, either due to bad experiment design or simply by being poorly presented.

The final session of the day was an interesting and highly entertaining talk by Rachael Hudson of Camelot. Rachel covered the structure and background to Camelot and described the logistics behind what was the largest launch of a lottery the world has ever seen. What looked like being an interesting but not immediately relevant talk turned out to be a fascinating insight into the importance of planning ahead and investing in the future when working to tight deadlines - perhaps food for thought for those of us working in a traditional GSS environment.

The committee would like to thank all the speakers: Heidi Edwards for doing an excellent job as Chair and keeping the conference to schedule; Darren Short and Bill Wilson for their help and advice; and all the AS groups who provided suggestions for speakers and venues. Thanks also to Stephen Balchin (CSO), Jason Bradbury (DSS), Leicha Rocke (CSO) and Beccy Wallace (CSO) for their contributions to this article.

Lastly, we need your help! If you are an assistant and would like to be on the committee for this year's conference, please contact any of the present committee members.

By Sheena Maclean (HO), on behalf of the organising committee:

Amanda Bellringer (FC), Martin Boyle (C&E), Tim Johnson (CSO), Angela Marshall (HMT), Helen Moore (DH), Tom Marlow (DoE) and Alex Saywell (CS).

GSS Internet Task Group

The Government Statistical Service Internet Task Group was set up by the GSS Joint Working Group on Electronic Dissemination in January 1995 to investigate the use of the Internet by the GSS. The group has met on five occasions with representation from 12 Departments and has now produced a report which is being considered by Directors of Statistics. This report supports the further development of GSS use of the Internet for the dissemination of official statistics, provides advice for departments who are not already using the Internet to enable them to do so, and give further guidance on best practice to those departments already involved.

The group expects that the development of the Internet will enable the GSS to radically enhance its publication practices, making statistics quickly and freely available to the general public in electronic form. This is in line with Open Government principles aimed at making statistics more easily accessible.

Further information can be obtained from the Secretary to the Internet Task Group:

Jon Simmons on 0171-273-4119.

GSS departmental statistics on the Internet can be located through the CCTA's Government Information Service World Wide Web site at <http://www.open.gov.uk>.

Department for Education and Employment

In the Summer of 1995 it was announced that the former Department for Education (DFE) and Employment Department (ED) would merge to form the Department for Education and Employment (DfEE).

In the weeks following the announcement, efforts were concentrated on improving communications between the former departments and sites; for example an email system which spanned the new Department was devel-

oped enabling users to exchange messages and convert software attachments. At the same time the new structure of the Department was discussed and agreed in principle; all posts at and above grade 5 level were opened up to competition with incumbents required to apply for posts and with some posts phased out in the wake of the merger.

Within DfEE, the new structure of Analytical Services, headed by Denis Allnutt, combines the analytical branch of the former DFE with a few parts of the Statistical Services Division within the former ED (most of which transferred to the CSO) and the Economic, Research and Evaluation Division (some of which transferred to the DTI). The Command and its Divisions are multi-disciplinary combining the talents of economists, operational researchers, statisticians, administrators and social researchers located in Darlington, London and Sheffield. Divisions' roles are focused on aspects of the Department's policy rather than being specialism based.

Divisions (grade 5 command) and teams (mostly grade 7 command) within Analytical Services have been reorganised to a greater and lesser extent - for example the Youth and Further Education Division provides data and analysis, briefing and evaluation on the full range of the Department's policies relevant to the 16-19 age group and FE more widely. This Division brings together work previously done by separate education and training focuses in the two former Departments and includes significant numbers of staff from both. In contrast the Higher Education division keeps a similar structure although there has been some transfer of work albeit to a lesser extent.

The new Divisions of Analytical Services within DfEE are:-

DENNIS ALLNUTT x5399 SB
Director Analytical Services

JOHN GARDNER x5408 SB

Qualifications

MARION ROUT x4051 MF

**Youth & Further
Education**

MICHAEL CHAPLIN x3625 MF

**Skills & Training
analysis**

DAVID THOMPSON x5420 SB

Higher Education

JUDITH WALTON x2540 MH

**Schools, teachers &
general**

JOHN ELLIOTT x3667 MF

TECs & Lifetime Learning

BILL WELLS x5503 CH

Labour market analysis

RICHARD BARTHOLOMEW x4895 CH

**Schools resources &
research**

VACANT x5384 SB

**Social analysis &
modelling**

Contact points for information about specific topics are:-

FURTHER EDUCATION

Nick Kew x 5423 SB

GCSE's, GCE A LEVELS, AND KEY STAGE ASSESSMENTS

Ramnik Jain x 5428 SB

GOVERNMENT SUPPORTED TRAINING

Michael Daly x 4317 MF

HIGHER EDUCATION

Michael Davidson x 2343 MH

SCHOOLS

Stephen Cook x 2765 MH

TEACHERS

John Pascoe x 5426 SB

TRAINING

Arnott Rankin x 4979 MF

VOCATIONAL QUALIFICATIONS

Alison Neave x 3374 MF

YOUTH LABOUR MARKET/YOUTH COHORT STUDY

Stephanie Morgan x 3639 MF

PARTICIPATION IN EDUCATION AND TRAINING

Roger Boothroyd x 5427 SB

Buildings and external telephone numbers:

SB: Sanctuary Building, London - 0171 925 x GTN 3060

MF: Moorfoot, Sheffield - 0114 275 x GTN 5301

CH: Caxton House, London - 0171 273 x GTN 273

MH: Mowden Hall, Darlington - 01325 46 x GTN 5211



Local Government re-organisation

Guidance for Departments

Since April 1995, England, Wales and Scotland have undergone a major re-organisation of local government. In Wales and Scotland, 22 and 32 unitary authorities respectively have been established with effect from April 1996. The situation in England is somewhat more complicated with the retention of two-tier local government in some areas and creation of unitary authorities in others. The changes in England have been staggered: the first unitary authority came into being in April 1995 and there will be further changes in April 1996 and April 1997. The final composition of local government in England will not be known until decisions have been made on 21 districts, being re-reviewed for unitary status, at the time of writing.

Central government collects a vast range of data from local authorities which are widely employed in the Government Statistical Service and elsewhere. The re-organisation will have significant implications for the collection and presentation of statistics - especially as authorities currently providing data are abolished or assume extra responsibilities.

The Information Development and Liaison Group (IDLG), the forum for central/local government consultation on (non-financial) statistical issues, has recognised the need for guidance in this area, to help ensure consistency across government in the handling of statistical issues arising from the re-organisation.

An IDLG working group, with input from key departments and the Local Authority Associations, has now produced a guidance note. IDLG has acknowledged that individual departments have already given a great deal of thought to implementing solutions to their own data collection needs. With this in mind, the guidance, reproduced below, has been pitched at a broad overview level in order to avoid duplicating other advice. It can be used as a checklist for officials in government departments responsible for the collection and use of data from those local authorities affected by re-organisation.

1. Departments should hold early discussions with new local authorities (LAs), including shadow authorities, created by the re-organisation of Local Government.

Such discussions should:

- ◆ emphasise the importance that departments attach to the provision of information;
- ◆ inform LAs of their statutory obligations regarding information provision;
- ◆ provide LAs with timetables/wall planners incorporating details of statistical returns, key dates, and contact points within departments (sample pro-forma below);
- ◆ provide LAs with guidance on the acceptability, or otherwise of estimates;
- ◆ provide LAs with contact points in the department for expert guidance on completion of individual returns; *and*
- ◆ seek to establish contact points within the new local authorities for the completion of returns.

2. Departments should recognise that the response rate for returns, especially those not required under statute, may be affected by re-organisations. They should therefore consider how they might deal with lower response rates, *by for example:*

- ◆ generating estimates using historic data on the basis of the new areas; *or*
- ◆ delaying publication of results until a target response rate is achieved.

3. In order to avoid undue complications, departments should, where possible, avoid making major changes to existing returns during the period of transition to unitary authorities.

4. Where boundary changes occur (eg York), aggregate statistics should be disaggregated to provide exact figures for the new authority. Where this is not possible, departments should encourage the use of consistent methods to allocate data to the new LAs, eg on the basis of number of households or population size. This should ensure that valid comparisons can be made across LA functions.

Example

STATISTICAL RETURNS' REQUIREMENTS: PLANNER FOR LOCAL AUTHORITIES

Return	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
General Development Control	PS1 (Jan-Mar)			PS1 (Apr-Jun)			PS1 (July-Sept)			PS1 (Oct-Dec)		

Issue Date Return Date

5. Where Departments collect data for calendar or academic years they should negotiate with the existing LAs on the possibility of collecting data for the period up to re-organisation in such a form that enables a breakdown (by area and time) to be provided for the new LAs. The new authority will then be able to combine these data with its own in order to provide information for the whole year as required by the Department.

6. Departments should recognise the need for historic series for the new authorities to enable valid comparisons to be made over time and these should be provided as quickly as possible.

7. Where returns are required for the period ending in March (normally completed one or more months later) in areas where existing LAs are abolished, *Departments should consider the following options:*

- ◆ investigating the possibility of using other indicators;
- ◆ existing authorities to provide estimates for the full year shortly before their abolition;
- ◆ existing authorities to provide figures for less than the full reporting period to enable Departments to produce estimates for the whole of the reporting period (eg quarter or year);

- ◆ existing authorities to pass information to the new authorities to enable them to provide the information; (NB in some instances, there is a requirement for the designated authorities to provide information for the abolished counties)
- ◆ where there is a delay in the new authority providing information supplied by the existing authority Departments to make an initial estimate and collect the actual information from the new authority at a later date.

8. Departments should be aware of the anticipated increase in joint working arrangements between LAs and should ensure that data are neither double counted nor allowed to 'fall' between authorities.

9. Departments are encouraged to raise statistical issues and problems arising from local government re-organisation through the IDLG structure so that common solutions can be found and implemented across Departments.

Example

STATISTICAL RETURN

General Development Control Return

FORM NO/WALLCHART REFERENCE

PSI (District)

ACTIVITY OF RESPONDENT

Planning

PURPOSE AND CONTENT

To provide summary information on development control activity

- i. Planning applications and decisions
- ii. Applications determined
- iii. Permissions granted under Regulations 3 and 4 of the Town and Country Planning General Regulations 1992
- iv. Applications for determination whether local authority approval is required for certain works
- v. Enforcement Action

Information is published in the quarterly bulletin of "Statistics of Planning Applications" and the annual bulletin of "Statistics on Planning Enforcement Action by Local Authorities and Appeals against Enforcement Action"

KEY DATES

Reporting Period	Form to be return by ...
1/4 to 30/6	1 August
1/7 to 30/9	1 November
1/10 to 31/12	1 February
1/1 to 31/3	1 May

CONTACT

NAME	Mr F Milazzo
ADDRESS	Room P1/168a Department of the Environment 2 Marsham Street LONDON SW1P 3EB
TELEPHONE NO	0171 276 4168
FAX NO	0171 276 4912

TO BE COMPLETED FOR:

COUNTIES	
DISTRICTS	✓
METROPOLITAN DISTRICTS	✓
LONDON BOROUGHS	✓
UNITARIES	✓
NATIONAL PARKS	✓

NOTES

Harmonised Questions for Government Surveys

Following a study by the Social Survey Division of OPCS, under the auspices of the Government Statistical Service's Committee on Survey of Persons and Households, Government Departments are to harmonise the questions which are common to all or most of their social surveys.

Consultations amongst users of government social statistics revealed users found frustrating differences in concepts and definitions, design and fieldwork practices across government surveys. OPCS identified a clear need to achieve greater comparability of data from different sources and investigated the scope for harmonising questions across a range of national surveys, such as the Labour Force Survey, the Family Expenditure Survey and the General Household Survey.

Harmonised Questions for Government Social Surveys, published in December in a Government Statistical Service report, sets out the questions which it has been agreed with the Departments that sponsor the surveys should be harmonised wherever possible. The topics covered include: household composition and the demographic attributes of household members, such as age, sex and marital status; tenure; economic activity; industry, occupation, employment status and socio-economic classifications; full-time and part-time work; and household income classification. Further sets of questions which are common to several surveys include: social security benefits; consumer durables; income from employment; accommodation type; length of residence; housing costs and benefits; vehicles; and health.

The changes should be of benefit to both users of official statistics, especially those who make use of the results from more than one of the household surveys, and those who wish to collect and present information in the same format as used in major government household surveys.

For more information, contact:

Tony Manners on 0171 396 2299

Harmonised Questions for Government Social Surveys,
OPCS, Price £9.00, ISBN 0 11 691642 7

Industry Department

The Index of Production and Construction for Scotland was published on a reclassified SIC92 basis, for the first time, on 8 November 1995.

Work has begun on a feasibility study into the production of a full quarterly GDP(O) index for Scotland. The results of this study should be available by summer 1996.

Contact:

Jill Alexander GTN 7231 5459

Housing Statistics

Changes are being made to the methodology used by The Scottish Office Development Department in producing household projections. This new methodology will be used in 1996 to produce the 1994 - based projections. The most notable change being made to the projections is the production of projected households by household type rather than the previously used size of household.

Contact:

Alan Fleming GTN 7188 7234

Department of Social Security



The ASD Lifetime Labour Market Database (L.L.M.D.B)

General Objective

The LLMDB is being developed to provide - for a statistically representative large section of the population, as comprehensive a picture of their interactions with the labour market as possible.

The first stage of LLMDB is now up and running. It is unique in the UK in containing continuously updated longitudinal information on a very large sample of the UK population.

Uses

The **LLMDB** will be used for developing and evaluating policy.

People's transitions through the labour market have important implications for Social Security, employment and taxation policies. The **LLMDB** will offer the potential for improved policy making and evaluation in all of these areas by providing improved information on the labour market status of people at any one time; the transition from one status to another as time goes by together with the factors which influence it.

*Specific ways in which the **LLMDB** will be used to improve policy development will include:*

◆ **Cross Section Analysis: Simulating Policy**

The **LLMDB** contains the most up to date information available on membership of contracted out pensions schemes by (among other things), age, earnings, sex, and national insurance status. It is a relatively straightforward task to quantify the immediate potential effects of policy changes in related areas.

◆ **Dynamic Simulation**

For a number of policies, particularly in the pensions area, interest is primarily concentrated on the effects of policies many years in the future. The **LLMDB** will provide a sufficiently large sample to massively enhance our ability to reliably model the future effects of current changes in pensions policy.

◆ **Longitudinal Analysis: Understanding Processes**

By following a large number of individuals through their working lives, and examining the patterns of transition between the different work types and benefits, and finally into retirement, we shall gain an unrivalled insight into the factors which affect people's ability to participate in the labour market.

Current content of the **LLMDB**

Comprehensive details of over 600,000 individual records (a 1% sample) from the National Insurance record System (NIRS) have been extracted. Some 1,600 sepa-

rate fields of data per person have been downloaded to create the **LLMDB** which includes from 1978/79 to 1992/93, personal details, National Insurance contributions history, details of all contracted out pension arrangements - including personal pensions; and all Social Security benefits which carry a National Insurance credit. Additional years will be added approximately 18 months after the end of each financial year.

The data from **NIRS** is supplemented by annual taxable earnings from class 1 employment from the same 1% sample used by the Inland Revenue to produce their National Income Statistics. It is also currently being supplemented by data from the **NEW EARNINGS SURVEY** for the years 1987 onwards, which includes details of employment type eg full/part time employment.

Future content of the **LLMDB**

It is technically possible to extract other benefits data from the separate benefit recording systems in a longitudinal form which can be merged with the **DATABASE** by a person's National Insurance number. This is of particular importance, since many of the current benefits which comprise a large slice of the Social Security budget do not carry a National Insurance credit. The addition of these data will greatly enhance the analytical capability of the **LLMDB** in examining the factors associated with benefit dependence.

For more information, contact:

Mike Marland on 0171 962 8223

Use of Statistical Evidence in Court

Mehdi Hussain at the Office of Fair Trading is currently looking into the use of statistical evidence in court, as part of a long-term project.

He is particularly interested to hear from any GSS members who have experience of preparing survey data as evidence for court proceedings, or have appeared as statistical expert witnesses, or know of relevant literature.

Mehdi intends to produce some useful guidelines for statisticians faced with preparing statistical evidence for legal proceedings in due course.

Anyone interested is invited to contact him on:

0171 242 2858 Ext 530 (not GTN).



The National Trunk Road Journey Speed Survey, 1995

How fast are average journey speeds on England's trunk road network? This survey, commissioned by the Department of Transport, on behalf of the Highways Agency, will, for the first time, provide an accurate measure of traffic speeds on trunk roads. This is to be the inaugural survey in a series which aims to monitor congestion in HA's domain of responsibility. It is hoped to repeat the survey every three years.

The survey uses the "floating car" method, whereby a specially-equipped car traverses the network and attempts to balance the number of vehicles overtaking and being overtaken. Each link on the 5,000-mile network is covered six times, once in each direction in each of three time periods (am peak, daytime off-peak and pm peak). As no surveying is done in the summer months, these being deemed to be atypical, it took from March to December 1995 to drive this lengthy distance.

Validation of the data is currently being undertaken and a report should be published in the late-spring.

New branch for Statistics and Social Division

Statistics and Social Division is branching out further with the secondment of Dr Robert Barry to the Industrial Development Board (IDB). He will be developing a strategy to meet the full range of the IDB's statistical and research needs and providing professional statistical and research services consistent with these needs.

Contact:

Dr Robert Barry - Tel: 01232 545032

Agency developments

The Northern Ireland Statistics and Research Agency (NISRA), formerly Statistics and Social Division of the Policy Planning and Research Agency, will be established as an Executive Agency of the Northern Ireland Department of Finance and Personnel with effect from 1 April 1996. The Agency will provide statistics, social research and registration services and will be responsible for the taking of the Census of Population.

After an open competition Mr Edgar Jardine has been appointed as Chief Executive of NISIRA the headquarters of which will be *at the address below:*

NISRA
The Arches Centre
11-13 Bloomfield Avenue
Belfast
Northern Ireland
BT5 5HD

For further information contact:

Dr Gerry Mulligan - Tel: 01232 526906

Northern Ireland Child Support Agency data to be published.

A computerised dataset of Northern Ireland Child Support Agency (CSA) statistical information has recently been obtained by the Social Security Statistics Branch of the Department of Health and Social Services. The statistics will form the basis of a new quarterly report on CSA data and will allow comparisons with Great Britain CSA data to be made. The information will be included in the CSA's March 1996 statistical report and will be used to develop forecasting models of CSA operations. Preliminary analysis suggests that significant differences exist between NI and GB in terms of the type of benefit received by clients, repartnering rates and maintenance assessment amounts.

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Study of lone mothers and benefits.

Social Security Statistics Branch has commissioned a study of lone mothers and benefits on behalf of the Department of Health and Social Services (DHSS). The main thrust of the study will be the investigation of factors which either help or impede mothers in moving from Income Support to Family Credit and to higher paid work and independence from means-tested benefits. This will involve exploration of the importance of recent rule changes to benefits, the significance of maintenance and the impact of child support policy, the importance of childcare and the influence of other factors such as age, work experience, education and training. The findings should be useful not only in terms of policy evaluation but also in terms of forecasting future caseloads and expenditure.

The research is being undertaken by the University of Ulster and to date a literature review has been completed and a number of focus group interviews carried out. The focus group interviews have been of considerable help in

designing the next stage of the research. This will be a survey of claimants and ex-claimants of Income Support and Family Credit, scheduled to commence in February 1996. The fieldwork will be carried out by interviewers from the Central Survey Unit (CSU) of the Policy, Planning and Research Unit. CSU will also carry out data preparation and preliminary analysis of the survey results.

The study is currently being funded mainly by DHSS, with a small contribution from the Central Community Relations Unit. The final report is due in October 1996.

Contact:

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(Mon-Wed) / 01232 522814 (Thur-Fri)

Other Organisations

Bank of England: Inflation Report

The November Inflation Report provided a detailed analysis of recent monetary, price and demand developments in the UK economy, and offered the Bank of England's current assessment of the prospects for inflation over the following two years. It included analysis of recent money and credit growth and of the latest news on output, the labour market and earnings.

Bank of England: Quarterly Bulletin

In addition to regular articles providing commentaries on the operation of UK monetary policy, and developments in the world economy and in financial markets, the August issue of the Bank's Quarterly Bulletin *contained the following items:*

- ◆ **The net debt of the public sector: end-March 1995** analysed developments affecting the national debt and the public sector position during the last fiscal year. As a share of GDP, the public sector's net debt rose by 3.8 percentage points to 42.0%. General government consolidated gross debt (on a Maastricht basis) rose to 50.5% - but remained well below the 60% reference level.
- ◆ **The external balance sheet of the United Kingdom: recent developments** examined changes to UK net external assets during 1994, focusing on changes in the pattern of capital flows and the impact of valuation changes.
- ◆ **The foreign exchange market in London** set out the results of the survey earlier this year into London's foreign exchange market, and compares them with those from previous surveys and for other major centres. The results showed that London has consolidated its position as the world's largest centre for foreign exchange business.

A new look for Bank of England statistics

The Bank's statistical releases have been given a new face.

The releases, prepared by the Monetary and Financial Statistics Division, now have a bright green header-band to distinguish them from the Bank's other releases. The front page now has only the key figures, charts and brief text summarising the latest dates.

This is only stage on of MFSOIS plans for improving the presentation of the Bank's statistics. There are plans to introduce a standardised house style for table including looking into the feasibility of developing the present monetary statistics release into a monthly statistical publication.

The Head of MRD also hopes for an expansion of electronic dissemination. A start has already been made with a diskette from the commercial company PMC, which has distributed with the monthly booklet 'Monetary Statistics' in October 1995.

A Code of practice for Bank of England statistics

A code of practice for official statistics, endorsed by the Prime Minister, was published by the Government Statistical Service (GSS) in April of this year. The GSS code applies to statistics produced by policy departments of government, as well as to statistical agencies such as the Central Statistical Office and the Office of Population, Censuses and Surveys. It is intended to enhance the professional integrity of professional statisticians and their independence from ministerial or other policy-related pressures. The International Monetary Fund is also developing a code of practice for statistics which it would expect member states to follow.

The Bank of England is not a government department or an agency. Nevertheless, it is a public sector body, and outside observers regard the statistics produced by the Bank as 'official statistics'. The Bank therefore believes that it is right to produce and follow a version of the code of practice, adapted to suit the circumstances of a central bank. The philosophy of this new statistical code is consistent with the Bank's principles of openness and integrity.

The key principles to be followed in the new code are the same as in the GSS code. All of these are principles which the Bank's Monetary and Financial Statistics Division has followed for many years. In particular, existing practice and the new code require publication of statistics to pre-announced publications dates, limited circulation of the figures in advance of publication, and careful assessment of the costs imposed on respondents by any new statistical requirements.

Some changes from current practice will also be required. *A full version of the Bank of England code of practice for statistics is available on request from:*

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Divisional Administration Group HO-5,
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Threadneedle Street,
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Department of Transport

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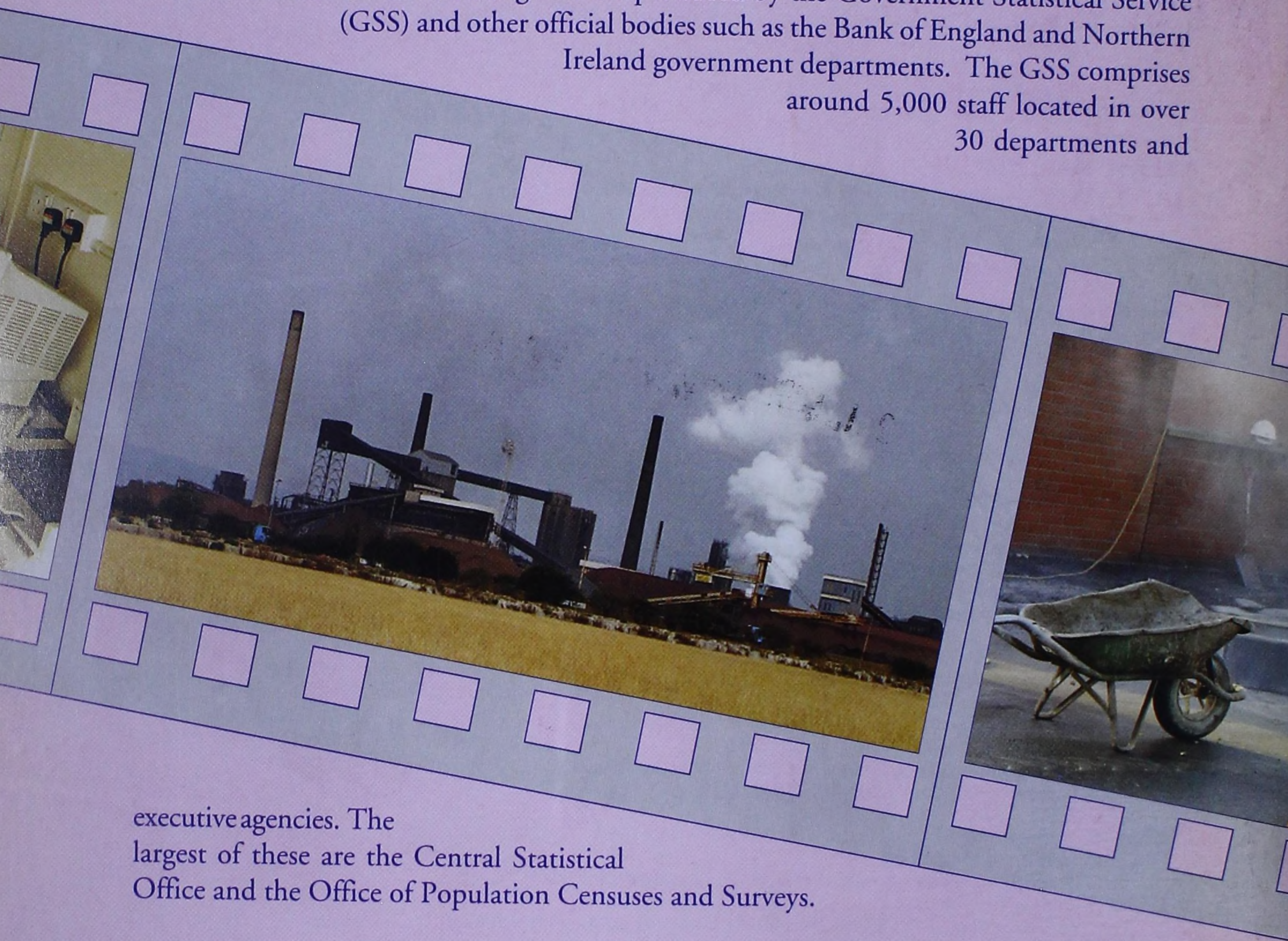
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