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STATISTICAL NEWS

Developments in British Official Statistics

Note by the Editor

R. E. Beales

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

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

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

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

Policy on *Statistical News* is decided by the Advisory Committee for Policy on Central Statistical Office publications whose members are

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OFFICE

MAY 1970

Statistical News No. 9

Developments in British official statistics

LONDON
HER MAJESTY'S STATIONERY OFFICE

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NOTES ON CURRENT DEVELOPMENTS

*Indicates that the contribution refers to work outside the Government service but is included because of its relevance to Government statistical work.

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Articles in recent issues of *Statistical News*

HAROLD BISHOP, DFC

A personal tribute from Professor C. A. Moser

Many readers will have learnt of the death of Harold Bishop, editor of *Statistical News*, in hospital at Epsom on 7th March. He had been ill for several months, but his death came as a terrible shock. So important was the part he played in launching *Statistical News* and shaping it in its first two years that it will be difficult to think of it without him.

But for us in the Central Statistical Office, with so many vivid memories of Harold, it is, and always will be, difficult to think of the Office without his presence. For it was an essential part of his character to take an active interest in every aspect of the work of the Office, and not only in those subjects for which he, as an Assistant Director, had special responsibilities.

His constant search for more knowledge and his catholic interests were reflected in his own office, where he was always surrounded by books and journals from which he tried to keep up with every new development over a remarkably wide field, in between dealing with day-to-day problems, chairing meetings or dashing off to lecture to a group of visiting students.

I first came to know him well in the days of the Robbins Committee in the early 1960s, when he shared responsibility for CSO work on aspects of higher education. Later he took a great interest in the Higher Education Research Unit which I set up at the London School of Economics and there, as everywhere, he quickly made friends and admirers. In the last three years, it has been my good fortune to work very closely with him. I could not imagine a better colleague. Working with him was not only rewarding in a professional sense, but also invariably enjoyable. In Harold the seriousness of the professional statistician and civil servant and the light touch of a lively personality were perfectly blended. We worked together on many aspects of Government statistics, including some of the more recent developments. Once Harold had been convinced that a particular idea was a good one – and, like any man of independent mind, he often needed a good bit of convincing – he pushed it along systematically and relentlessly. The subject, whatever it was, was kept constantly on the move; and, if there is any comfort at this time, it is the knowledge that Harold has left behind him a large number of achievements which will stick. He was in short extraordinarily *effective*.

Although Harold loved the detail of his work, he constantly stood back to contemplate general directions of development and to think of our work in the widest context of what was happening in the country. This is another reason why it was always such a pleasure to be with him. One of my pleasantest recollections of the last two or three years was the few days he and I (with Laurie Berman) spent together in Stockholm early in 1969 to study the statistical organisation there. In meetings with our professional Swedish friends, Harold's questions were consistently penetrating and, helped by his constant note taking, he always managed to squeeze the maximum gain out of the sessions. The same applied to the rest of the trip. In our meal time conversations, which ranged over every subject under the sun, I was constantly amazed by how much he had managed to absorb and learn about Sweden in the short time there.

'Bish', as he liked to be known throughout the Office, was deeply involved in the work associated with the re-organisation of the Government Statistical Service, in particular the development of a co-ordinated service-wide programme; and he regarded *Statistical News* as being of the highest importance in helping to convey information about the latest developments to a wider audience of users. But *Statistical News* represented a relatively small part of the work for which he was directly responsible. Apart from programme development, he was involved in the expansion of social statistics at the CSO, and the thinking that led to the new Office of Population Censuses and Surveys, the proposed multi-purpose surveys and our forthcoming new publication *Social Trends*. He was also concerned with statistics on highly-qualified manpower and on research and development expenditure, in both of which he had a wide reputation in international circles.

To all areas of his work, as well as to his many activities outside the Office, he brought an intense enthusiasm and sense of dedication which invariably infected those around him. These qualities were reflected in a lifetime of achievement: in his outstanding success at King Charles I School, Kidderminster from which he won an exhibition to Selwyn College, Cambridge; in his distinguished wartime service; and in his notable career as a Whitehall statistician.

We shall remember Harold Bishop as a fine statistician and a dedicated public servant. But above all, we shall remember a warm-hearted man with a gift for friendship and a genuine interest in other people and their problems. Where personal matters were involved, no detail was too small for him and no trouble too great. His sense of personal fairness was absolute and overriding; he was utterly without affectation himself. He could be critical but only after trying to understand people's faults and weaknesses. In every way, he brought out the best in people and we all felt it to be a joy to work and to be with him.

Now he has gone, tragically early in life, and we are the poorer for it. We shall always remember him with deep affection and continue to be inspired by his example.

Statistics in the Ministry of Technology

Introduction

The re-organisation of departmental responsibilities in October 1969 produced an enlarged Ministry of Technology. This article describes how statistics are handled in the new department. There is first a brief description of the functions of the whole department. There follow some general points about statistics in the new department and finally there are four sections describing the work of each of the four divisions concerned with statistics.

The Ministry of Technology

The department is organised into five groups, each responsible for a major block of policies. They are:

The Industry group – which exercises the 'sponsorship' role for most of manufacturing industry, both public and private, and for the energy industries.

The Regional group – which provides the industrial and economic component of regional planning.

The Central Economic group – which provides the department's contribution to national economic and industrial policies, including international industrial policies, and central services for other groups (financial, accountancy, Industrial Advisers and certain economic and statistical).

The Research group – which controls the department's 17 research establishments and maintains close links with the Atomic Energy Authority and the National Research Development Corporation.

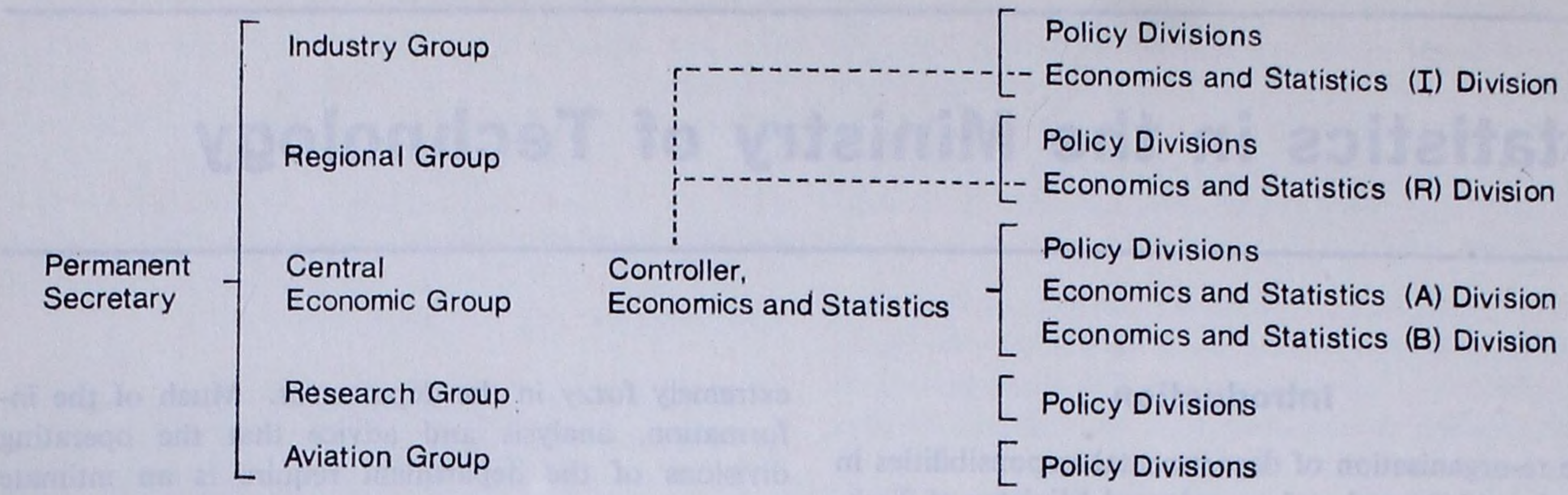
The Aviation group – which is responsible for Government procurement of aircraft, electronics and other equipment for defence purposes and for the 'sponsorship' role for the aircraft industry.

General points about the handling of statistics in Mintech

The brief catalogue of the responsibilities of the Ministry underlines the obvious point that the boundaries between statistics, economics and technology are extremely fuzzy in the department. Much of the information, analysis and advice that the operating divisions of the department require is an intimate compound of economics, statistics and technology. In recognition of this and in order to reinforce it, economics and statistics are grouped together in four divisions. Economists and statisticians with some technological background are favoured for appointment in these divisions, but it is not possible in that way to meet all the needs for technological expertise within economic or statistical studies and in much of the work of the economic and statistics divisions technologists from other divisions or from the research establishments work alongside economists and statisticians in 'project teams'.

The creation and development of the Business Statistics Office means that over the next few years much of the fundamental work of collecting and compiling industrial statistics which is at present carried out in the Ministry of Technology will be transferred to the Business Statistics Office. That part of the output of the four economics and statistics divisions which consists of information in the form of statistics will then be provided by the Business Statistics Office, but the rest of the output of these divisions (analysis, forecasts, advice) will continue to be provided within the department. It is likely that even when the Business Statistics Office is fully developed certain special industrial statistics will continue to be collected and compiled in the Ministry of Technology, but there will certainly be a substantial shift in the balance of effort. Each of the four economics and statistics (ES) divisions is managed by an economist or statistician of Under Secretary rank. Two divisions (ESA and ESB) are in the Central Economic Group of the Ministry directly under the Controller of Economics and Statistics. Of the other two ES divisions, both of which are professionally under the Controller of Economics and Statistics, one (ESR) in the Regional Group is concerned with regional aspects of economic and industrial policies, and the other (ESI), in the Industry Group, is concerned with all economic and statistical work for policies towards the fuel, power and steel industries.

The five groups of the department and the four ES divisions are shown in the following chart:



Economics and Statistics (A) Division – ES(A)

There are four branches in this division. One is responsible for the collection, analysis and interpretation of the statistics of the engineering industries, i.e. mechanical, electrical and electronic (including computer) engineering, vehicles, aircraft (including defence production), shipbuilding and other metal goods industries. Considerable effort has been devoted to the improvement of production statistics for important product groups and over 40 separate short-period enquiries are now in operation. Most of this data is now being published in the *Business Monitor* series. For the mechanical, electrical and electronic engineering industries as a whole, statistics are collected monthly of deliveries and orders. Current work is concentrated mainly on detailed planning of the new system of quarterly enquiries to be managed by the BSO; the assembly in useful form of production, trade, price, capital expenditure and stockbuilding statistics for the engineering industries (this information, other than that relating to production, is provided by other divisions of Mintech, Board of Trade and Customs and Excise); and on a detailed examination of the statistical characteristics of the comprehensive engineering enquiry into deliveries and orders. Forecasting (mainly short-term) forms an increasingly important part of the work of the Branch and is carried out in collaboration with the Treasury, CSO, BoT and the EDC's as appropriate. Attempts are being made, in conjunction with other branches, to develop useful models for forecasting the demand for capital and consumption goods.

A second branch has the responsibility for developing a disaggregated model of the economy for use in medium and long-term economic forecasting. To date a limited degree of disaggregation has been achieved, but with a new data base of input-output tables for 1963 it is proposed to construct a model, with links to the macro-economic models being developed by the Treasury, which will include much finer detail than has been possible previously in the manufacturing sector. Work in this field is being undertaken in conjunction with the Department of Applied Economics at Cambridge. This work is closely linked to the work on industrial assessments undertaken jointly by the Government and the Economic Development Committees. The branch also has the responsibility for developing econometric work in relation to specific manufacturing industries other than in the energy and steel sector, which is the responsibility of ESI Division.

A third branch covers the fields of statistics concerned with all aspects of the supply and utilisation of qualified engineers, scientists and technologists including income and career patterns of professional engineers, and expenditure on research and development in industry. This branch does not collect any primary data itself but collates and analyses statistics collected by a number of other departments and organisations. These include the population census, the triennial surveys of scientists and engineers, the statistics of the new supply of university graduates, migration statistics, surveys of the incomes of engineers and scientists, surveys of research and development expenditure by private industry.

The fourth branch in this division, mainly staffed by economists, is concerned with co-ordinating forecasts and assessments for all the industries sponsored by the department and with economic analysis and advice on general industrial problems.

Economics and Statistics (B) Division – ES(B)

There are three branches in this division. One is concerned with the statistics of two of the Ministry's major groups of industries, the chemicals group and the textiles and clothing group. It also looks after the statistics of the leather and fur industries. At present a great deal of the effort in this Branch is devoted to improving the basic statistics. At the same time, work is continuing in drawing together and relating existing series – e.g. of output, overseas trade, employment, orders, stocks, fixed investment, prices – analysing and interpreting them and forecasting. A new series of quarterly articles on the chemical industry in the

Board of Trade Journal (see the issue of 28 January 1970) is an example of this work.

On the chemicals industries – where there are specially difficult statistical problems of classification, definition and the appropriate ways of measuring and recording output – particular effort is being devoted at present to developing a range of short-period output inquiries in order to provide a better measure of the progress of the industry, both in total and for each of its sectors such as organics and inorganics. Progress is at an advanced stage on the central part of the industry, general chemicals, and consultations with individual firms about these problems are in train. A similar stage has been reached on pharmaceuticals and discussions are nearing completion on paint.

In the textile and clothing field much more statistical data is available. These are being supplemented, however, by new inquiries and the development of existing ones. In the textiles field the existing figures are generally of quantities produced and emphasis will be on figures of the value of sales. A more comprehensive detailed inquiry into the sales of made-up clothing is to be started in the third quarter of this year.

A second branch has three distinct parts. It is, first, responsible for statistics relating to a very wide range of manufacturing industries including paper and board and their products, timber and timber manufactures, non-ferrous metals, rubber, plastics products, floor coverings, tobacco, glass, pottery, etc. Second, it conducts inquiries into manufacturing industry's capital expenditure, stocks and investment intentions and, lastly, it handles publication of the *Business Monitor* series.

The industries covered by this branch are generally well served for output and related statistics mainly from official sources but supplemented in the case of rubber, non-ferrous metals and glass by comprehensive figures collected by industry itself. As in other branches, analysing and interpreting these figures is an integral part of the work and a major effort is being made to recast and extend all production inquiries within the new system of industrial statistics. After long and detailed consultations with industry representatives, the following new, comprehensive inquiries have been or are about to be introduced: furniture, bedding, shop and office fitting, paper products, rubber, toys and games and children's carriages, sports equipment and musical instruments. These will be followed later this year by plastics products, floor coverings, pottery and glass.

Information on manufacturing industry's capital expenditure and stockbuilding is collected quarterly, returns being obtained on a voluntary basis from firms covering about two-thirds of all manufacturing industry's investment. The results are analysed, interpreted and published by industry groups and by asset categories. The quarterly inquiries are supplemented, in years when there is no comprehensive Census of Production, by simple annual censuses covering about 80 per cent of manufacturing industry's investment for which more detailed information is analysed and published; separate figures are also obtained, on an annual basis, of investment by manufacturing industry in Scotland and Wales. Three times a year, in connection with the short-term national income forecasting exercises conducted by the Treasury, an Investment Intentions Inquiry is taken in which manufacturers provide forecasts of their expected capital expenditure in each of the two years next ahead. The analysis and interpretation of these forecasts provides information on the trend of investment. Associated with the work on investment is the analysis of payments of investment grants and the forecasting of future grant costs.

The branch also handles, on behalf of HMSO, publication and distribution of *Business Monitors*, a series of statistical bulletins giving the results of a very wide range of inquiries conducted not only by the Ministry of Technology, but also by the Board of Trade and Ministry of Transport. The series is divided into four broad groups – production, civil aviation, service and distributive and miscellaneous. At present about 90 monitors are published mainly at monthly or quarterly intervals. Over 200,000 copies are sold annually.

A third branch, mainly staffed by economists, carries out industrial economic surveys of private manufacturing industries, in collaboration with technologists, on behalf of the divisions in the industry group of the department, government industrial research establishments, research associations, etc.

Economics and Statistics (Regional) Division – ES(R)

This division, under a professional economist, consists mainly of economists and statisticians providing a research and advisory service on regional aspects of economic planning. On the basis of the rapidly growing volume of regional and sub-regional economic and social statistics experimental work is carried out to establish the underlying relationships between the main economic indicators of growth and decline. This is relevant to the improvement of economic forecasting and to the testing of the cost effectiveness of different instruments of regional policy. A practical application is the carrying out of cost/benefit analyses of the regional implications of the policy of dispersing government establishments to the regions. Much of the division's work is carried out with and through the research staff in the Ministry's regional offices and the regional statistics collected and analysed at head office are circulated in support of their work. One section under a professional statistician is entirely concerned with the production and analysis of statistics yielded in the course of administering distribution of industry controls. One of the two branches in the division carries out and co-ordinates work done in the regional offices on research into the effects and effectiveness of distribution of industry policies, the part played by the incentives provided in locational decisions and the contribution of the present policy measures to the achievement of a better economic balance between the regions.

Economics and Statistics (Industry) Division – ES(I)
The division works in close co-operation with the administrative divisions dealing with the fuel, power and steel industries and occupies one of the central positions in the Ministry's machinery for formulating policy for these industries. It comprises three statistics branches, each headed by a Chief Statistician or equivalent, and two economic branches. Two of the statistics branches, one dealing with fuels and one with iron and steel, are responsible for the collection, presentation and interpretation of statistics relating to their respective industries. The third statistics branch is engaged in the application of mathematical and statistical models to the policy work of the Ministry on fuel while the two economics branches provide economic advice on energy policy and the capital investment programmes and pricing policies of the nationalised fuel and steel industries, on resource cost and cost-benefit aspects of fuel and steel policy and on the application of central government economic policies to the energy and steel industries. The following notes describe the work of the statistics branches in greater detail.

*Energy statistics and forecasts branch – ES(I)*1
This branch, which maintains close liaison with the nationalised coal, gas and electricity industries and with the petroleum industry, carries out detailed econometric analyses of the factors influencing demand for energy in the various sectors of the economy and prepares regular forecasts of availability and demand for all forms of energy. These forecasts are used mainly as the statistical background for fuel policy decisions and for central economic planning purposes, for the examination of the investment programmes of the three nationalised fuel industries and for studying the effect of oil demand on the United Kingdom balance of payments. These forecasts are mainly designed for internal use and up to now have been published only as background appendices in announcements of Government policy decisions on fuel, such as the White Paper on *Fuel Policy* issued in November 1967 (Cmnd.3438) which contained a detailed Appendix describing the wider statistical analyses and forecasts made in the course of that review of policy. (This work, then the function of the Ministry of Power, was reviewed in *Statistical News*, 1.24). The branch does, however, prepare a wide range of current statistical material about fuels and energy for publication and distribution outside the Ministry. It prepares the annual *Digest of Energy Statistics*, the main official publication devoted to fuel and energy statistics of the United Kingdom. The latest issue, that for 1968 and 1969, was reviewed in *Statistical News*, 6.23. In addition statistics are prepared for inclusion in other official publications and regular statements are circulated or issued to the press.

Much of the basic statistics the branch uses are derived from the fuel industries themselves, which have long been well documented with data for their own management purposes. Other necessary information is collected directly from, for example, industrial fuel consumers and distributors of solid fuels. In addition the branch collects returns from mineral producers. These returns are obtained primarily to derive statistics on aspects of safety and health in the mining and quarrying industries for use by the Inspectors of Mines and Quarries and as a background to safety regulations, but they are also the source for the official published output statistics for many minerals.

*Model building and analysis (energy) branch – ES(I)*2
The principal work being carried out by this branch is the development of a computerised model of the energy economy. This work was described in an article by C. I. K. Forster and I. J. Whitting in *Statistical News* No. 3. The primary purpose of the integrated mathematical model is to help in the continuous review of fuel policy. The model is made up of 5 sub-models – a demand sub-model and 4 supply models, one for each of the main fuel industries. Considerable progress has already been made with the demand sub-model and with the supply sub-models for coal, gas and electricity, and although the oil sub-model, which presents special problems, is not so well advanced, a simplified 'tap' model based on limited assumptions is well advanced. This 'tap' model will serve until a more detailed model can be constructed combining an adequate degree of detail and accuracy of representation with practicability.

The integrated models are not yet sufficiently developed to replace other methods of forecasting carried out by ES(I)1 and may never entirely displace them, but the work of developing the models is increasingly contributing to improved understanding of many parts of the energy field, which leads to improvement in conventional forecasting methods. Parts of the model are also increasingly being used in economic assessments, though it will be quite a time before the whole is regarded as completely validated and cross-checks by other methods cease to be necessary.

Iron and steel statistics and forecasting branch – ES(I)3
This branch has a similar function to ES(I)1, but in the iron and steel field. Again it is responsible for forecasts and econometric studies of availability and demand for iron and steel and of the industry's inputs, including labour, and the efficiency of their use, which are the statistical basis for co-ordination of policy by the Ministry's administrative division responsible for the industry and for decisions on policy generally, especially in connection with proposals by the British Steel Corporation for capital investment in the nationalised sector. The branch works in close collaboration with the industry division and maintains liaison with the British Steel Corporation and the Iron and Steel Joint Statistical Bureau, which is the agent for the collection and processing of statistical data for the whole industry covering both the public and private sectors.

In addition to the statistics collected by the JISSB, the branch carries out a quarterly census of steel users and merchants from which detailed statistics, which are widely circulated, of steel consumption and stocks are obtained. It also collects statistical returns from iron foundries which form the basis of most of the statistics at present published about the iron castings industry.

The main publications devoted to iron and steel statistics covering the whole industry (public and private sectors) are the monthly and annual volumes published by BSC on behalf of the Iron and Steel Statistics Bureau. In addition BSC publishes a volume *Annual Statistics for the Corporation*, the first issue of which covering 1968 was reviewed in *Statistical News*, 6.23. The statistics in this volume are in a form prescribed in detail by the Minister in a direction made under the Iron and Steel Act. One of the functions of the branch is to determine the form of statistics to be prescribed in such Orders.

Survey of road goods transport 1967/68

T. F. J. Hobson, *Statistician, Ministry of Transport*

Introduction

This is the second of the larger scale sample surveys of freight movements by road undertaken by the Ministry of Transport. The first was in 1962 which was preceded by two smaller surveys in 1952 and 1958. Full details of these two earlier surveys were published in the *Journal of the Royal Statistical Society* (1), (2).

A report on the 1958 survey was published by HMSO (3). Results from the 1962 survey were published in a series of reports (4), (5), (6), (7). All of the surveys cover Great Britain and exclude Northern Ireland.

The survey was designed to obtain reliable national estimates of the work done by this sector of the economy with more limited information about vehicles garaged in each of the standard regions as well as of flows in traffic between standard regions. It was designed in such a way as to establish the changes in the main features which had taken place since the previous survey. The survey period was from June 1967 to May 1968.

To supplement these approximately quinquennial surveys the Ministry of Transport have initiated a very much smaller survey of road transport on a continuous basis. The survey reported here will act as a benchmark for the continuous survey which is designed to give reasonably reliable quarterly changes of broad categories of road freight transport.

Preparation for survey

Publicity

Wide co-operation was received from the road transport industry in previous surveys. In order to maintain the goodwill of the industry the trade associations were consulted during the preparatory stages of the survey particularly on the content, style and format of the questionnaire form. The associations welcomed the survey and announced it in their journals. A special letter was sent to operators owning many large vehicles explaining the need for the higher selection frequency of these vehicles.

Sampling frame

The main sampling frame used in the survey was a central register of all public haulage vehicles and of the larger vehicles over 3 tons unladen weight used on Own account. This register known as the Goods Vehicle Index (GVI) was brought together from the Traffic Area Offices' records for the previous 1962 survey. It had been regularly maintained but it was nevertheless thought to contain some out-of-date entries. For the smaller vehicles used on Own account the files kept in the Traffic Area Offices were used. Since the population of vehicles is constantly changing advantage was taken of the information that the Traffic Area Offices routinely supplied to keep up to date the GVI to take a supplementary sample from this source.

Sampling design

Twelve weeks were chosen during the period of the survey (June 1967 to May 1968) and for each week the operators of a sample of vehicles were asked for details of journeys undertaken by their vehicle during the week together with information about the vehicle. A different sample of vehicles was chosen in each survey week. The weeks were not chosen at random but were the first week in each calendar month except where this contained a Bank holiday when the second week was chosen. In order to obtain more precise estimates the sample was stratified according to the licence class and unladen weights of the vehicles. This is because the intensity of vehicle use differs widely depending on the size of the vehicle and on the nature of the work. The GVI contains information about the unladen weight and the licence class of each vehicle (8). Partly for administrative reasons and partly as a proxy for geographical differences the Traffic Area was used as an additional factor in the stratification (9). Similar unladen weight classes to those used in the previous survey were employed except that a division was made at 1½ tons unladen weight and the 1962 survey highest open ended class was sub-divided so as to allow a better estimate to be made of these larger vehicles in the number of which there has been a higher growth rate than in the number of the smaller vehicles. The sampling fractions used were calculated by using the 1962 survey results. The optimum sampling scheme to achieve a total ton mileage with the minimum variance was first produced. Checks were made to ensure that each unladen weight-licence class had an acceptable expected sampling error and modifications made where necessary. Sampling fractions were then rounded to one of five levels to facilitate the actual sampling. Finally an adjustment was made to accommodate possible deficiencies in the main sampling frame. The larger vehicles were sampled at about 1/100 vehicle-week frequency while the small Own account vehicles, mainly delivery vans, were sampled at 1/26000 vehicle-week frequency. A complete census of vehicles was not practicable because of the large number of vehicles licensed as goods vehicles (about $1\frac{1}{2}$ million in 1967). Even for the goods vehicles selected the operators could not be expected to keep records for the whole year of the survey since a vehicle may undertake 500 or more journeys in the course of a year.

Questionnaire form

Two types of forms were used, one for the public haulage vehicles and one for vehicles operated on Own account. Both forms asked for details of the selected vehicle as follows:

1. Unladen weight
2. Carrying capacity
3. Plated weight (if available)
4. Year in which the vehicle was registered for the first time
5. Type of fuel
6. If articulated whether the tractive unit weighs more than 2 tons
7. Type of body and whether a demountable container or tank is normally carried

The operators of public haulage vehicles were asked under which type of carrier's licence they operated and what other business they were engaged in besides haulage. For 'B' licensed operators they were asked whether in the survey week the selected vehicle was used mainly for Own account work or mainly for hire and reward. Own account operators were asked the nature of their business and the type of work the selected vehicle mainly undertook during the survey week.

The other part of the form was common to all operators and covered the record of the week's work by the selected vehicle. For each journey or journey leg the operator was asked for the origin, destination, the weight and type of goods carried and the loaded and empty mileage run. In addition where the terminal was rail or dock this was to be indicated. This information is not normally kept by the operator of the vehicle although much of the detail can be found on the log sheet that the driver had to carry.

Journeys can be divided into two broad (partly overlapping) groups. One is typified by the long haul journey in which a load is picked up and all carried to a distant place at which it is all unloaded. This is known as the 'end to end' journey. The other extreme is a 'milkman type' journey in which frequent stops are made at each of which a delivery or collection may be made. These are known as 'intermediate' journeys. There is an indefinite graduation from one extreme to the other. The operators of the selected vehicles who had detailed knowledge of the journeys undertaken were asked to classify each journey into one of the two groups.

In addition some driver-scheduling information on overnight driving, intermediate changeover of drivers and the use of shunt drivers at terminals, was asked for on each journey.

A point of topical interest was that the operator was asked whether or not the vehicle carried a container. If a container was carried information about the cross-section and length of the container was requested.

Various persons and organisations were consulted during the design of the form and their help is gratefully acknowledged.

Selection of sample

The GVI from which the main sample was to be drawn was kept on about $\frac{1}{2}$ million punched cards. It was found that it was not possible because of the size of the GVI file both to update and draw the sample at regular intervals during the period of the survey. This was because cards were needed in different order for the drawing of the sample and for the updating procedure. The sample of vehicles for the whole survey period was taken a few months before the survey started. One effect of taking the whole sample prior to the survey period was to render parts of the sample out of date in the interval between the selection and the actual use of the vehicle record. In order to compensate for the out-of-dateness of the selected sample an additional sample was drawn of vehicles which were newly licensed or which changed hands during the survey period. Sampling fractions were the same as in the main sample (except of course the allowances made for the deficiencies in the main sampling frame were not applicable to this additional sampling frame.)

The selected additional sample of vehicles was divided into twelve parts and each twelfth allocated to one of the survey weeks except that retrospective allocation was not possible.

The GVI did not include the small 'C' licence vehicles and a sample of these vehicles was obtained by clerical staff at the Traffic Area Offices who examined files and extracted vehicle details with the name and address of the operator until their quota was filled. Separate quotas were taken for newly held carriers' licences, carriers' licences held a long time and an intermediate class. The amount of work done by the very large number of these vehicles accounted for only about 1/10 of the total road ton mileage in 1962 and it is expected that this non-random selection will not introduce serious bias.

Clerical processing

Despatch and return of forms

The forms were despatched about a fortnight before the start of the survey week. Operators no longer having the selected vehicle in their possession were asked to return the form without answering the questions and not to substitute another vehicle. The despatch and receipt of the completed forms were recorded in specially constructed registers. These recorded the reason for an incomplete return when this occurred. Nearly 79,000 forms were despatched during the course of the survey.

Response rate

Operators who failed to return the form within ten days of the end of the survey were sent a reminder letter. If this failed a further final reminder letter outlining the possible penalty for non-compliance was sent. Most of the non-response was due to deficiencies in the operators' clerical system or because the operators had gone out of business rather than a refusal to co-operate. In the most blatant cases papers were passed to the Director of Public Prosecutions. Fortunately this was extremely rare. During the course of the survey the response rate of currently licensed vehicles was estimated to be about 94 per cent. This excellent response confirms the co-operative attitude of the transport industry to the Ministry's surveys particularly since some legislative proposals were made during the survey period which may have been unpopular with certain sections of the industry.

Scrutiny

Because of the magnitude of the survey most of the checking was done by computer but it was necessary very soon after the receipt of the form to check by clerical scrutiny for completeness and obvious anomalies so that the form could be easily corrected whilst the contents of the form was still fresh in the operator's mind. Most of the reference back was by telephone.

A space had been provided on the form for the operator's telephone number to facilitate this. Once the form was accepted a serial number was stamped on the form and thereafter the return was identified by this number and not by name and address of the operator or the registration mark of the vehicle.

Coding

After the form had been accepted the coding stage was started. Only the name and address of the operator and the registration mark of the vehicle were omitted from the coding sheet. Some loss of detail was due to coding but for all practical purposes no reference back to the original form is intended and once the data is on a suitable medium the questionnaire form will be destroyed. The specialised geographical, industry and commodity coding was carried out on the form. The origin and destination of each journey was geographically coded as well as the usual place of garaging the vehicle. The nature of business (other than haulage) of the operator was industry coded. The goods carried on each journey were commodity coded. The Ministry of Transport standard three-digit zone scheme was employed for the geographical coding. This has occasional sub-zones (i.e. partly four-digit zones). The nature of business of the Own account operators and of the hauliers with other businesses was coded using the *Standard Industrial Classification, 1958.* Commodities were coded into about 170 classes using the transport commodity classification of the Economic Commission for Europe. After the special coding was finished and checked all the relevant information on the form was transcribed on to special coding sheets.

Computer processing

Data checks

The information on the coding sheets was punched on to cards and read to magnetic tape. Once on tape various data checks were carried out. Range and validity of each field was tested. Credibility checks were made on:

Nature of business and type of work
Nature of business and type of body
Type of work and type of body
Nature of business and type of goods carried
Type of body and type of goods carried
Type of work and type of goods carried.

Only a limited number of questionnaires could be checked by the clerical staff available and the computer checks were modified in the light of experience to reach a reasonable level of checking. By their very nature the computer checks indicate lack of credibility rather than impossibility, and although a large number of errors were discovered and corrected by this approach most questionnaires thrown up by these checks were found to be correct even if unexpected.

Tabulations and special calculations

In order to obtain the maximum benefit from the survey results it was decided that the tabulations should be both extensive and detailed. This decision threw up many problems not the least of which was the necessity to devise a method of expressing a multi-dimensional table on the two-dimensional page of a line printer. This particular problem was largely solved by dividing the output into Chapters each of which had a special characteristic. Most tables in the Chapters became three-dimensional which are relatively easy to accommodate.

In addition to the Great Britain tabulations there are corresponding tabulations for each standard region where the vehicle is normally garaged. Flows of traffic are recorded in origin and destination tables both at the one-digit level (equivalent to standard regions with a sub-division of the S.E. region) and at a two-digit level (equivalent to counties and large cities). Flows (one digit) are available for a small range of commodity classes.

In order to specify this wealth of information a shorthand notation was adopted both to enable computer tabulations to be precisely stated and to explain to interested persons within the department what tabulations were expected.

Upper case letters (sometimes with subscripts) were used to indicate the factor structure of the table. Lower case levels were employed for the variable in the table. For example:

Factors *LWF* Variable *nv* indicated that the table was of the estimated number of vehicles analysed by licence class, unladen weight and type of fuel.

Tables with totals and sub-totals were required since the computer can produce these very much more economically than by hand and some, at least, were wanted for publication and use.

Grossing-up

With a non-static population it is conceptually difficult to define the population the characteristics of which one wishes to estimate. Calendar year figures for the main variables of work, tonnage and ton miles will be given but the extensive and detailed nature of the tabulations and the lack of suitable factors meant that this was not possible for the whole range of tables. The report is therefore for the period from 1 June 1967 to 31 May 1968.

The population used to gross-up both the vehicle and operation sample results was an interpolated value between the published vehicle numbers in 1967 and 1968. This is equivalent to the practice of the previous surveys. There are many practical and conceptual difficulties which were considered before using the method adopted.

In addition to the vehicle grossing, time expansion of the survey results to the full period of the survey is necessary. A natural step is to consider a particular day's journeys as representing the journeys on the corresponding day in the other weeks during the month of the survey. This would give arbitrary weights to the week's survey data depending on the number of the particular days within the calendar month. Instead each week's data was expanded to a standard month (equivalent to one twelfth of the survey period) about the survey week. Due to the non-random selection of the weeks within the calendar months no Bank Holidays occurred within a survey week and the simple expansion just outlined could overstate the position. In the 1962 survey Bank Holidays had been considered as equivalent to Sunday but there is some evidence that the effect of a Bank Holiday is quite complex. The number of Bank Holidays is small so that whatever assumption is made it will only have a slight effect on the estimate of work carried out during the survey period. Some information was available from recent traffic count data and in the light of this evidence Christmas Day and Boxing Day were each taken as equivalent to one quarter of a December Sunday, Good Friday and Easter Monday as equivalent to two Sundays in the month and the August Bank Holiday as one Sunday. During the period of the survey there was no Whitsun. Scottish based vehicles were similarly treated for Scottish Bank Holidays.

Sampling errors

Since the survey was a sample and not a census the results are subject to sampling errors. In view of the detail found in the tables it is important to estimate the magnitude of the sampling error of the table values so that only reasonably reliable results are published or used for policy decisions. The basic composition of the error formula is relatively simple but it needs to be built-up from the disaggregated data and for this reason is calculated during the compilation of the tables. Tables with cells of an unacceptable degree of error were automatically collapsed in the course of computer processing until a satisfactory level of sampling error resulted.

There are various theoretical and conceptual problems in the estimation of the sampling errors. First although the sample was selected on a limited number of unladen weight classes population numbers were known for a larger number of classes. The use of the more detailed population figures gives a more precise estimate and those were therefore used in the production of the table. Modification to the simple variance formula is needed to allow for the greater precision. Secondly non-response due to out-of-dateness was not insignificant and the appropriate adjustment also affects the variance formula. The third difference from the simple variance is that domains of interest cut across strata necessitating a ratio estimate to be made. Fortunately both of the last points can be dealt with simultaneously. A modification of the usual variance formula was developed to account both for post-stratification and the ratio adjustment. These formulae only allowed for vehicle variability and not for time variability.

Due to the lack of data on the effect of time on the same vehicle no evidence was available to make any estimate of time variability, so this was assumed to be zero. It does however appear plausible that the sampling error should be of the form

$$\sigma^2=\sigma_v^2+\sigma_t^2$$

with a variance due to the vehicle and the time. It is not impossible that an interaction term should also be added.

Confidentiality

The return was collected under section 1 of the Statistics of Trade Act 1947 which provides for the security of an individual return. As reported earlier once the data was transcribed on to the coding sheets no information about the name and address of the operator or of the registration mark of the vehicle was kept in the data. In general because of the grossing up both of vehicles and over time the chance of disclosure was not very high but so as to avoid even the remote possibility special checks were built into the computer processing. Tables in which these criteria were not satisfied were automatically collapsed in the course of computer processing until the criteria were satisfied.

Making the results available

Publication

The results of the survey are expected to be presented in different ways so as to meet the requirement of different users. First it is proposed to have a short summary document in which the main results will be presented in an informal style. A second publication will consist of detailed tables for Great Britain with a full description of the methodology and analyses employed in the presentation of the results. This is intended for serious analysis of the survey results. A possible third group for publication would be tables similar to the Great Britain volume but for vehicles garaged in a particular region. Whether this will materialise depends on the possible demand; other forms of publication may be more suitable for this detail of data.

Magnetic tape

Although the tables produced are very extensive certain organisations may prefer a special analysis of the original data. It will usually be possible to do this at cost provided the computer capacity is available. Another method of achieving the same end for organisations with computer facilities would be to make the original data tape available. The strict disclosure rules imposed by the Statistics of Trade Act 1947 would not allow this even though the records do not contain operator or vehicle details because it might still be possible to infer the details of the work carried out by an individual firm. It may however be possible to produce a 'doctored' tape in which part of the information has been censored. One possible format is that of all the journey records in which the tonnage carried has been grossed-up on a vehicle basis. The journey records would then be shuffled so that journeys by the same vehicle would no longer be adjacent in the file.

Microfilm

Consideration is being given as to whether the extensive tables being produced by computer would be better on stored microfilm cassettes rather than as an output from the line-printer. This would considerably reduce the bulk of the output as well as making retrieval simpler. In particular this may be most suitable for the regional tables. If this approach is adopted it would be possible to supply at cost a copy of the microfilmed tables and eliminate the need for regional volumes.

References

(1) Glover, K. F. and Miller, D. N. (1954). *The outline of the Road Goods Transport Industry*. J. Roy. Statist. Soc. A *117*.

(2) Glover, K. F. (1960). *The Transport of Goods by Road*. J. Roy. Statist. Soc. A *123*.

(3) *The Transport of Goods by Road* (HMSO) 55–383.

(4) *Survey of Road Goods Transport 1962. Final Results* Part 1 (HMSO) 1964.

(5) *Survey of Road Goods Transport 1962. Final Results Commodity Analysis* (HMSO) 1964.

(6) *Survey of Road Goods Transport 1962. Final Results Geographical Analysis* (HMSO) 1966.

(7) *Survey of Road Goods Transport 1962. Methodological Report* (HMSO) 1966.

(8) Carriers' Licences are of four types:
'A' Licence vehicles may be used for the carriage of goods for hire or reward, and for carriage in connection with the operators' business as a carrier of goods, but, in general, for no other purpose connected with the carriage of goods.
'Contract A' Licence vehicles may be used only under a contract, extending over a continuous period of not less than one year, made by the holder with some person other than a carrier, for the exclusive carriage of that person's goods. The goods must however be connected with the person's trade or business.
'B' Licence vehicles may be used for the carriage of goods either in connection with the trade or business of the licensee, or (subject to any special conditions attached to the licence) for hire or reward.
'C' Licence vehicles may be used only for the carriage of goods in connection with the trade or business of the licensee. The term 'public haulage' is generally used to denote the transport operation of 'A' and 'Contract A' vehicles, while the 'C' Licence vehicles category is often called 'transport on own account'; the 'B' Licence vehicles fall between the two categories but since the major part of their work is for hire they are often included in 'public haulage'.

(9) Carriers' licences are issued from the Traffic Area Office in which the operator's depot is situated. Including a sub-office there are twelve such offices.

Tenure of agricultural holdings in England and Wales

C. R. Orton, *Assistant Statistician, Ministry of Agriculture, Fisheries and Food*

In an earlier article in *Statistical News*, [1] it was stated that questions on the tenure of agricultural land would be asked in the June 1970 agricultural census to meet the needs of the FAO's decennial World Census of Agriculture, and would then become a permanent feature of the annual returns. In fact such questions were also asked in the June 1969 agricultural census, partly to enable farmers to become accustomed to the new questions before the World Census year (it is found that a new question generally takes a year or two to 'settle down') and partly to gain advance information on this subject.

This caution was clearly justified, as rather less than half the occupiers answered these questions, and those who did were biased towards (*a*) the larger holdings and (*b*) part-owned/part-rented holdings, as opposed to those either wholly owned or wholly rented. The same enquiries on tenure were therefore put to those occupiers in the September 1969 sample census who had not answered them in June. This met with about a 70 per cent response, giving an overall response rate (for the September sample) of some 85 per cent, which was considered to be usable.

Raising the results presented some problems, as the 85 per cent of replies could not be considered as a random sub-sample from the whole September sample. To overcome this difficulty it was decided that agricultural holdings could be divided into two groups – those for which the tenure questions had been answered at June, and those for which they had not – and that the holdings for which these questions had been answered at September should be treated as a random sample from the latter group. The results were raised on this basis, and became available just in time to be included, together with comparable figures for Scotland and Northern Ireland, in the latest volume on the structure of agriculture in the United Kingdom [2].

The results showed that the percentage of acreage rented had fallen to 46 per cent, the lowest percentage yet recorded for England and Wales, thus continuing a trend that has existed for over half a century. Before 1914 some 88–89 per cent of the crops and grass acreage was rented, but after the First World War many farms were sold to sitting tenants and the proportion of acreage tenanted fell to 80 per cent in 1921. In the National Farm Survey of 1941/43, which related to holdings of 5 acres or more, the corresponding figure was 67 per cent. In 1950, the World Census of Agriculture indicated that 62 per cent of the total acreage of crops, grass and rough grazing was still tenanted. The trend towards owner-occupation became more marked in the next decade, and by the next World Census in 1960 only 51 per cent of the total area of agricultural holdings was tenanted. In the sixties the trend slackened to about half this rate. Details for 1950, 1960 and 1969 are given in the following table.

TABLE 1

Numbers and acreage of holdings rented or owned in England and Wales, 1950, 1960 and 1969

	1950 (*a*)	1960 (*b*)	1960 (*c*)	1969 (*d*)
Holdings owned or mainly owned	—	188,870	166,430	149,790
Holdings rented or mainly rented	—	144,310	132,750	96,420
Percentage of holdings rented or mainly rented	—	43·3	44·4	39·2
Acreage owner-occupied (000's)	10,810	14,032	13,929	14,686
Acreage rented (000's)	17,604	14,500	14,443	12,716
Percentage of acreage rented	62·0	50·9	50·9	46·4

(*a*) Acreage of crops and grass and rough grazing.
(*b*) Total area of holdings, including crops, grass and rough grazing, and also woodlands, farm roads, land under buildings, waste ground etc. forming part of agricultural holdings. This excludes 17,751 statistically insignificant holdings.
(*c*) Some 34,000 holdings with under 10 acres of crops and grass and a negligible agricultural output were included in the 1960 returns but not in the 1969 figures. This column estimates the position in 1960 had these holdings been excluded in that year.
(*d*) Crops, grass and rough grazing, woodlands and other land on agricultural holdings, excluding commercial and amenity woodland, private gardens and waste land.

Compared with a small percentage decrease (just over 3 per cent) in total agricultural area, there was a large decrease (about 18 per cent) in the number of holdings, implying a substantial increase in the average size of holding. In 1960, the average size of an owned (or mainly owned) holding, excluding those with negligible output, was about 85 acres, about four-fifths of the size of the average rented (or mainly rented) holding, which was about 107 acres. By 1969 the average size of both had increased, the owner-occupied holdings by 18 per cent to 100 acres and the rented holdings by 22 per cent to 130 acres.

The percentages in the last line of the table are considered comparable, but not the total acreages, because of the changes in coverage. The figures of acreages owned and rented suggest a fall of 1 million acres of agricultural land between 1960 and 1969. This is partly accounted for by the transfer of some ½ million acres of crops, grass and rough grazing to other uses, but the remainder is mainly due to a more restricted definition of 'total acreage'. In 1960 the term 'total area' meant the acreage of all land on agricultural holdings, but in 1969 the definition was narrowed to mean all land used for agricultural purposes on agricultural holdings, i.e. including land under farm buildings, roads, ponds, etc., and shelter belts, but excluding commercial and amenity woodland, private gardens and waste land. After 1970 it will be possible to examine the changes from year to year, but a comparison of the 1969 and 1970 results will be difficult because of the possibility of errors in the assumption about non-response in the former, as well as sampling errors.

The tenure of land has, of course, a geographical as well as an historical aspect, and the 1960 and 1969 results showed marked variations between agricultural regions in the percentage of agricultural land owner-occupied. A remarkably consistent pattern of owner-occupation emerges from the two sets of results. In both years the percentage of land owner-occupied was considerably higher in Wales than in England: in England the percentage was above average in the South and East, near the national average in the West Midlands, and below average in the East Midland, Yorkshire/Lancashire and Northern Regions (see table below). In all regions, this percentage has increased over the period of nine years: the increases have been least in the East and South East (less than 3 per cent) and greatest in Wales, the North and the South West (greater than 5 per cent).

TABLE 2

Percentage of agricultural land in England and Wales owner-occupied 1960 and 1969

	1960(*a*)	1969(*b*)	change
Agricultural region			
Eastern	53·2	56·0	+2·8
South Eastern	54·4	56·3	+1·9
East Midland	42·2	45·8	+3·6
West Midland	48·6	53·5	+4·9
South Western	52·7	58·3	+5·6
Northern	38·5	44·7	+6·2
Yorks/Lancs	40·6	44·1	+3·5
England	47·8	51·9	+4·1
Wales	57·6	64·3	+6·7
England and Wales	49·1	53·6	+4·7

(*a*) See footnote (*b*) to Table 1
(*b*) See footnote (*d*) to Table 1

In addition to providing this information, these questions have illustrated the dangers of bias due to a low response rate. If the original response of 50 per cent had been taken at its face value, the estimated percentage of owner-occupied land would have been just under 50 (as against 53·6 as shown above), while if both sets of returns had been raised uncritically, the result would have been about one per cent lower than that given. It is not often that the theoretical dangers of low response are so clearly exposed in practice.

As a trial run for the World Census the questions also demonstrated that further publicity would be needed in June 1970 if a good response were to be achieved. To this end a leaflet is being sent to every farmer with his June census form explaining the importance of the new tenure questions.

References

(1) 'Changes envisaged in the agricultural census for England and Wales', P. G. Horscroft, *Statistical News* No. 6, 1969. (HMSO).

(2) *The Changing Structure of Agriculture*, (HMSO) (in the press).

The officers' resettlement survey

P. W. Brierley, *Statistician, Ministry of Defence*

Introduction

The resettlement of officers in civilian life on the completion of their Service careers has long been the concern of the Armed Forces. Aid in this direction is provided by the Forces Resettlement Service, which combines the efforts of the Ministry of Defence, the Department of Employment and Productivity, the Department of Education and Science and voluntary organisations such as the Officers' Association and the Regular Forces Employment Association.

This service provides advice on the choice of a second career, the training which should be undertaken in preparation for that career, and assistance in finding a suitable job. Resettlement is the responsibility of the Director of Education of each Service.

One of the consequences of the redundancy now taking place as a result of the rundown in the Services is the larger numbers of personnel entering the employment field. In order to assist these officers as much as possible it was decided about two years ago to conduct a comprehensive survey of the working of the Resettlement Service in order to highlight any improvements which might be made.

The points to be covered included the ease or otherwise of getting employment, how it was obtained, salary levels, job satisfaction, the courses officers had had prior to leaving, problems associated with house removals, and so on. The Survey was conducted amongst officers who had left all three Services in the years 1965, 1966 and 1967, and was carried out by the Defence Statistical organisation.

The response

The response was excellent. 80 per cent replied of the 5,400 officers approached. Officers who had served in the professional branches (lawyers, doctors, dentists and chaplains) were not asked to complete a questionnaire since it was known that few employment difficulties faced them. Some other categories were also excluded, e.g. female officers and those living overseas.

A few of the returned questionnaires were unusable, but in all 4,076 completed questionnaires were analysed by computer. The main findings are contained in a *Report of the Officers' Resettlement Survey*, produced last year, and further supplementary analyses have since been made. These may be obtained from the Ministry of Defence, Room 109 Ripley Block, Old Admiralty Building, Whitehall SW1. Interest in the findings was shown by some newspapers and subsequently by several universities. The following summarizes the main and supplementary results.

Facts about the sample

Of the 4,076 replies, 895 were from the Royal Navy, 1,510 from the Army and 1,671 from the Royal Air Force. 1,094 were under 40, 1,330 were in their forties, and 1,652 were 50 or over. 80 per cent of the officers had served for at least sixteen years. Most had retired either voluntarily or because they had reached the age limit of their rank. Less than 10 per cent of the officers were single. There were no significant differences between the resettlement experiences of those who left in 1965 as compared with those who left in 1966 or 1967.

On average, officers had served for 25 years in the Armed Forces before they left – a period of time long enough for most to become thoroughly unfamiliar with the general climate of civilian life.

Seeking employment

92 per cent of officers wanted employment on leaving the Services and an additional 2 per cent came to a similar decision subsequently.

Officers began looking for jobs on average about six months before they left. 17 per cent started their search more than a year before leaving, and 16 per cent waited till they had actually left. An officer's age was the best guide to when he would start looking – in general older officers tended to leave it longer than others, as the following figures show:

per cent

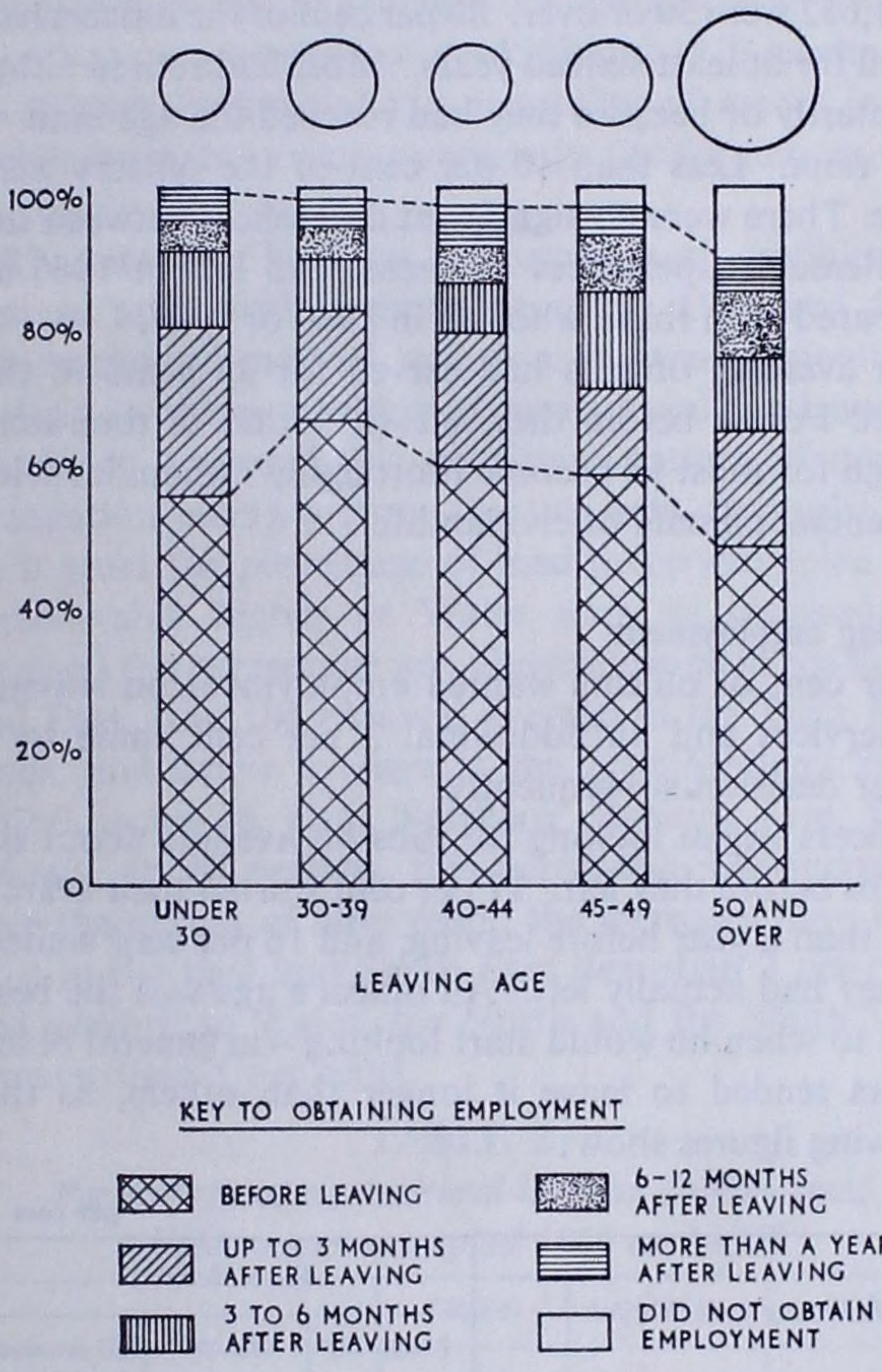
Time of starting to seek a job	*Age on leaving*		
	Under 40	*40–49*	*50 or over*
More than a year before leaving	19	19	14
Less than a year before leaving	68	68	66
After leaving	13	13	20
Number	1,026	1,244	1,536

Two-thirds registered with some employment agency – and of these 80 per cent registered with the DEP Professional and Executive Register, and 51 per cent with the Officers' Association. In terms of securing employment, one in seven who registered with the OA found a job through them, and one in thirteen with the DEP – the lower number probably being due to the larger number of 'non-serious' registrations, that is, officers registering but then actively seeking employment in their own way, only relying on their registrations as a fall back.

Obtaining employment

Over half (56 per cent) the officers obtained employment before they left; the remainder took an average of five months to get a job. The diagram shows clearly the increasing difficulty of getting any suitable employment with advancing age.

FIG. I PROPORTIONS OF OFFICERS GETTING JOBS BY AGE OF LEAVING



THE SIZE OF THE CIRCLES ABOVE EACH COLUMN INDICATES THE RELATIVE NUMBERS LEAVING IN THAT AGE GROUP

One reason however why some found it more difficult to get jobs than others was the relatively large numbers who wished to settle down in the South West (Cornwall, Devonshire, Dorset, Gloucestershire, Somerset and Wiltshire). One-third of those who didn't get a job at all were living in this area.

Married officers in the Services usually live either in married quarters (and hence may move from station to station) or in their own house (and the family may be left behind when an officer is appointed far away). Because of the nature of their Service, Naval officers tend to buy their own house much earlier than those in the Army or Air Force; and they tend to buy a house near to where they hope to be appointed. Hence a relatively large number of Naval officers have houses in the Devonport area. About half the officers in the survey who wished to live in the South-West were those Naval officers whose roots were already in this area. This poses a real problem for resettlement, and this survey highlighted it.

How did officers get employment? Most relied on their own initiative – either using or making their own contacts or replying to newspaper advertisements. It was noticeable that in a deeper analysis those who relied on others to get jobs for them were often those who failed to get employment at all.

What type of employment was obtained

Although the occupations obtained by retired officers were analysed into some 27 different groups (following the General Register Office's classification), most officers (93 per cent) fell into six groups:

Transport (8 per cent), Clerical (33 per cent), Sales (12 per cent), Social (3 per cent), Administration (10 per cent) and Professional (27 per cent).

The questionnaire asked for job title, type of organisation and position held. On the basis of the answers given, an officer's responsibility was assessed. This was done subjectively and was rather unsatisfactory as a consequence. Further surveys have used the Hall-Jones Scale of Occupational Prestige (as given in *Questionnaire Design and Attitude Measurement* by A. W. Oppenheim (Heinemann) 1966, 18s.). However, on the subjective scale used, it was apparent that posts of top responsibility were taken initially almost only by those with professional qualifications, and that most others obtained posts with reasonable responsibility, except those in clerical occupations whose responsibilities were less than average.

The type of job obtained varied considerably with age as Fig. 2 shows.

Fewer men go into transport when they are over 40 – this is mainly because of the strict health requirements needed for RAF officers seeking employment in civilian air lines. Older men tend to take clerical jobs more; this includes a number of more senior officers who did not desire too strenuous a job, merely something to occupy their time or help their pension – this point is illustrated in Fig. 3. Salesmen tended to be the younger retired officer.

FIG 2 PROPORTIONS BY AGE OF LEAVING OF INITIAL OCCUPATION ENTERED

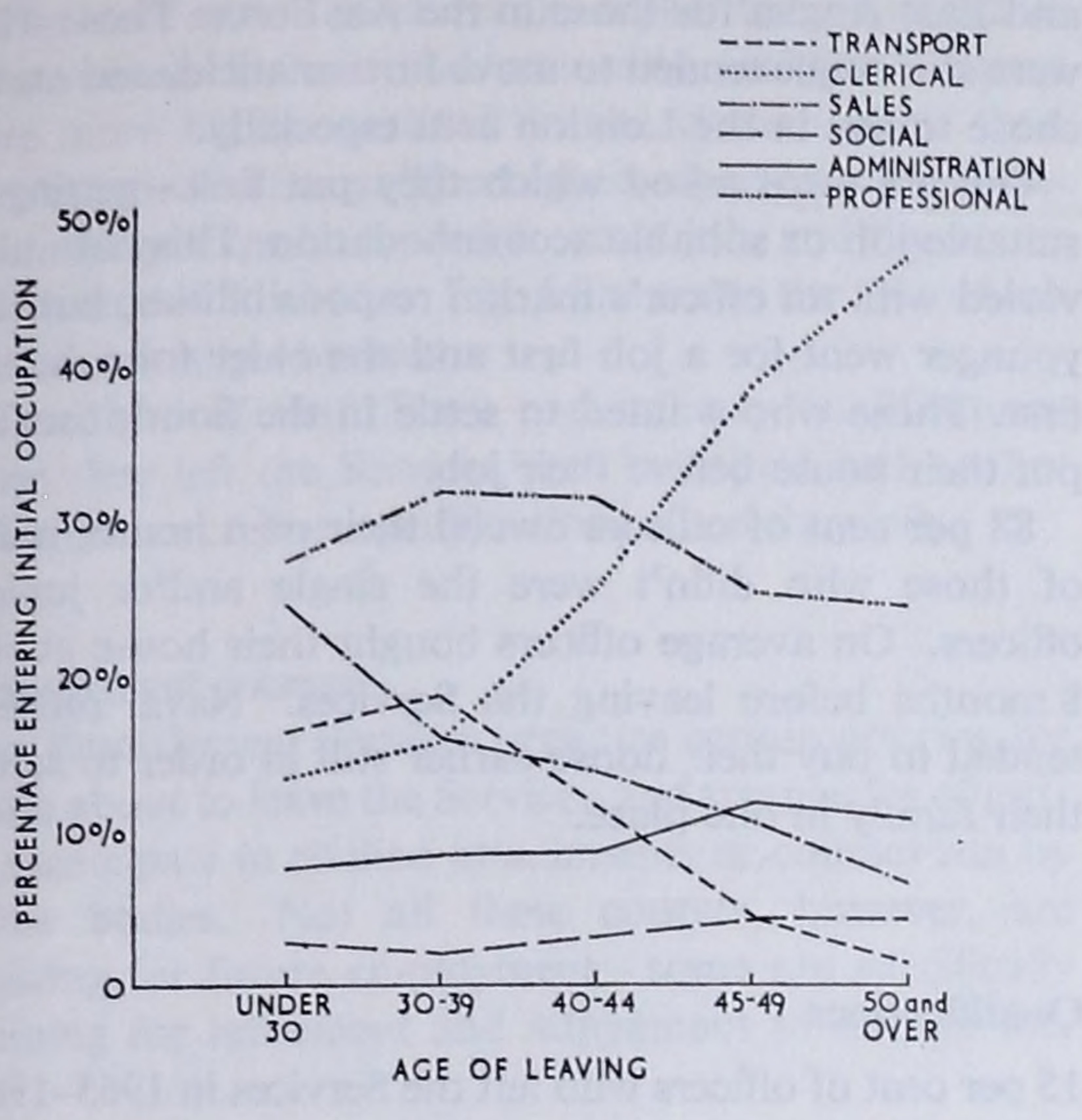
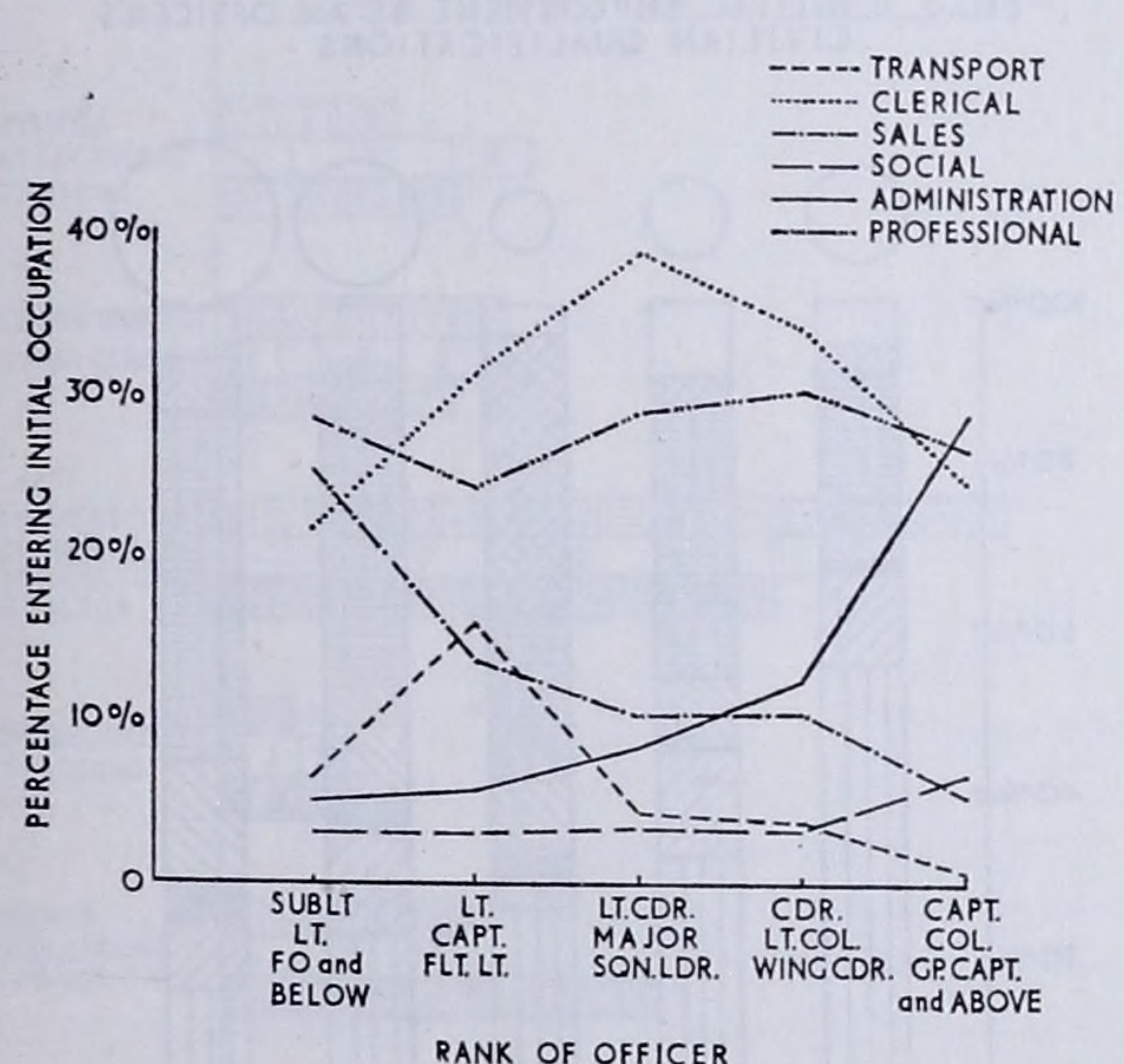


FIG.3 PROPORTIONS BY RANK OF INITIAL OCCUPATION ENTERED



A retired officer's salary

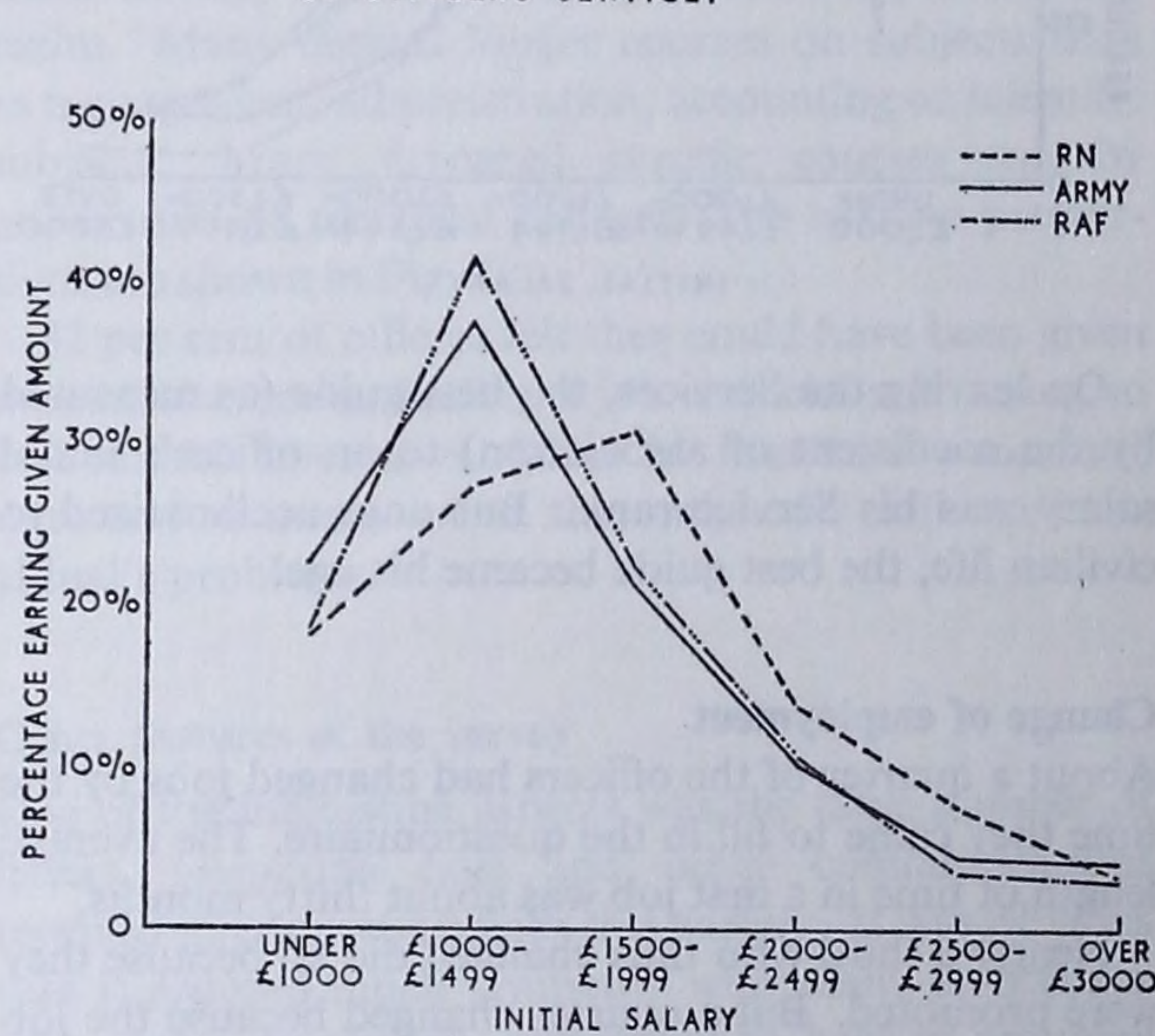
In the comments which many officers gave at the end of the questionnaire, some mentioned that employers deliberately offered less because they knew that retired officers were already in receipt of a pension. It is difficult to judge how universal this tendency might be. The average initial salary received by an officer was £1,500 per annum. The higher rank the higher the starting salary, thus:

Average starting salary of—

Sub. Lt., Lt., F.O. and below was	£1,200
Lt., Capt., Flt. Lt. was	£1,400
Lt. Cdr., Major, Sqn Ldr. was	£1,500
Cdr., Lt. Col., Wing Cdr. was	£1,800
Capt., Col., Gp. Capt. and above was	£2,100

The starting salary varied significantly by Service, as Fig. 4 below shows. The main reason why ex-Naval officers are better off is the higher educational standards which are required of them. An analysis of an officer's qualifications supported this.

FIG.4 INITIAL SALARY IN CIVILIAN EMPLOYMENT BY OFFICER'S SERVICE.



The average initial salary of officers by type of job was:

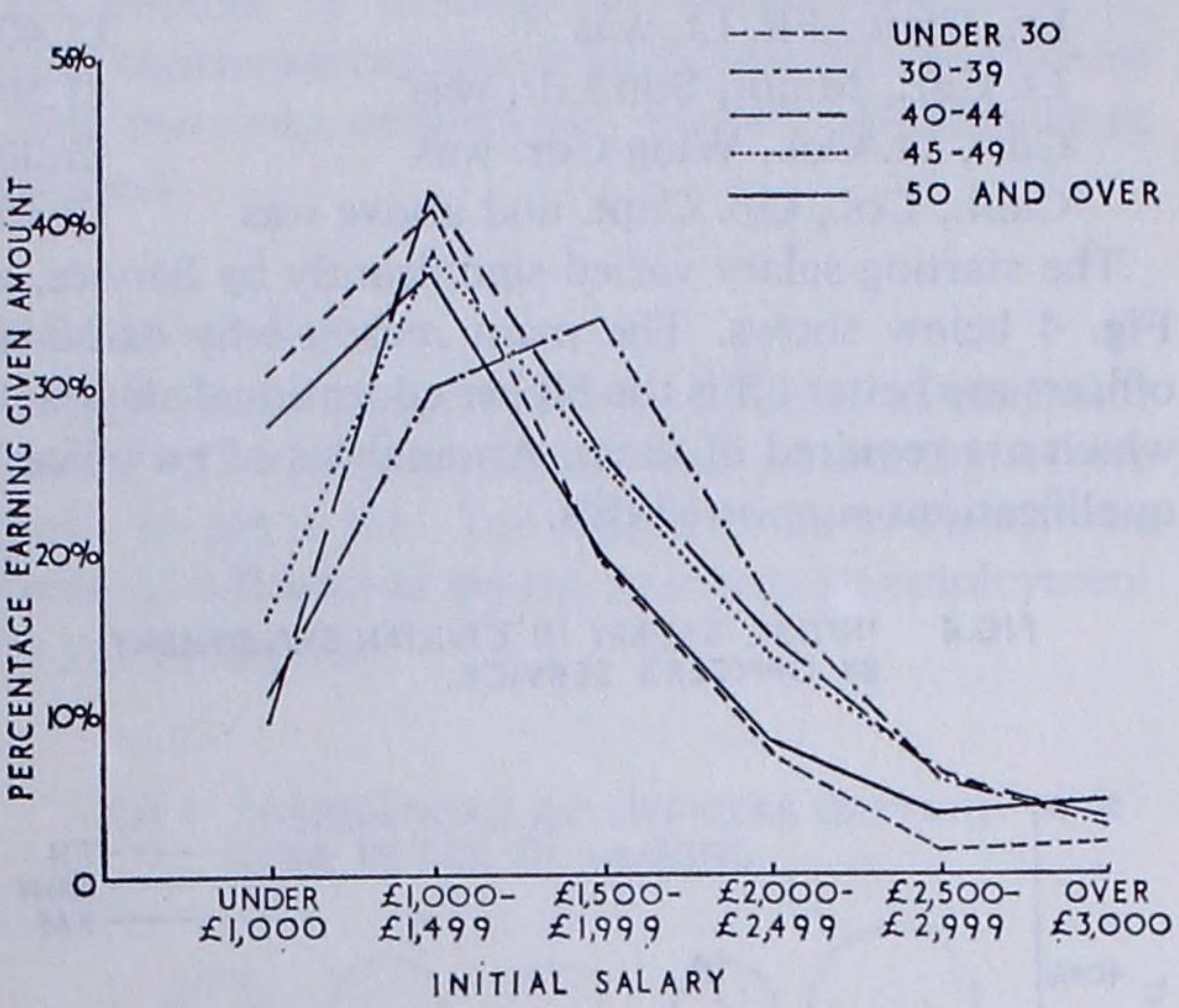
Transport	£2,000 per annum
Clerical	£1,200 „ „
Sales	£1,400 „ „
Social	£1,500 „ „
Administration	£2,000 „ „
Professional	£1,600 „ „
Others	£1,500 „ „

Those in transport contain a high proportion of ex-RAF pilots and the administrative class tends to be joined by officers of high rank; these factors probably account for the higher average salaries in these groups.

Salary also varied by age, as would have been expected. It is interesting from Fig. 5 however to see the similarities between (*a*) the under 30's and over 50's and (*b*) the younger and older forties. Those in their thirties clearly did better on average than others.

In the years since employment was first obtained, an officer's salary naturally increased. Allowance was made for the different lengths of time in employment, and it was found that the average increment was about £160–£180 a year.

FIG.5 INITIAL SALARY IN CIVILIAN EMPLOYMENT BY AGE OF LEAVING OFFICER



On leaving the Services, the best guide (as measured by the coefficient of association) to an officer's initial salary was his Service rank. But once acclimatized to civilian life, the best guide became his age.

Change of employment

About a quarter of the officers had changed jobs by the time they came to fill in the questionnaire. The average length of time in a first job was about thirty months.

Nearly a third who thus changed did so because they were promoted. But a quarter changed because the job was unsatisfactory or inadequately paid. Apart from the minority who became redundant the rest changed jobs because of personal or domestic reasons.

Most who changed tended to stay in the same broad type of employment, except for those in clerical work who sought other occupations. An officer's second job had often a higher level of responsibility than his first job.

A question also probed how satisfactory a job was. Whilst satisfaction is a subjective judgement bearing on a variety of factors, seven-eighths of officers were satisfied with their current job. Again one cause of dissatisfaction in the remainder was low salaries.

Accommodation

The majority of officers desired to settle down in Southern England. Where no suitable job was found and a move proved necessary, such moves were usually in a northerly direction and to urban areas rather than rural ones. The consequences to those who wished to remain in the South West have been mentioned above.

There was a tendency for officers to settle in that part of the country in which they had been in the Services – the South for those in the Navy, counties just north of those touching the South Coast for those in the Army and East Anglia for those in the Air Force. Those who were still single tended to move further afield, and many chose to live in the London area especially.

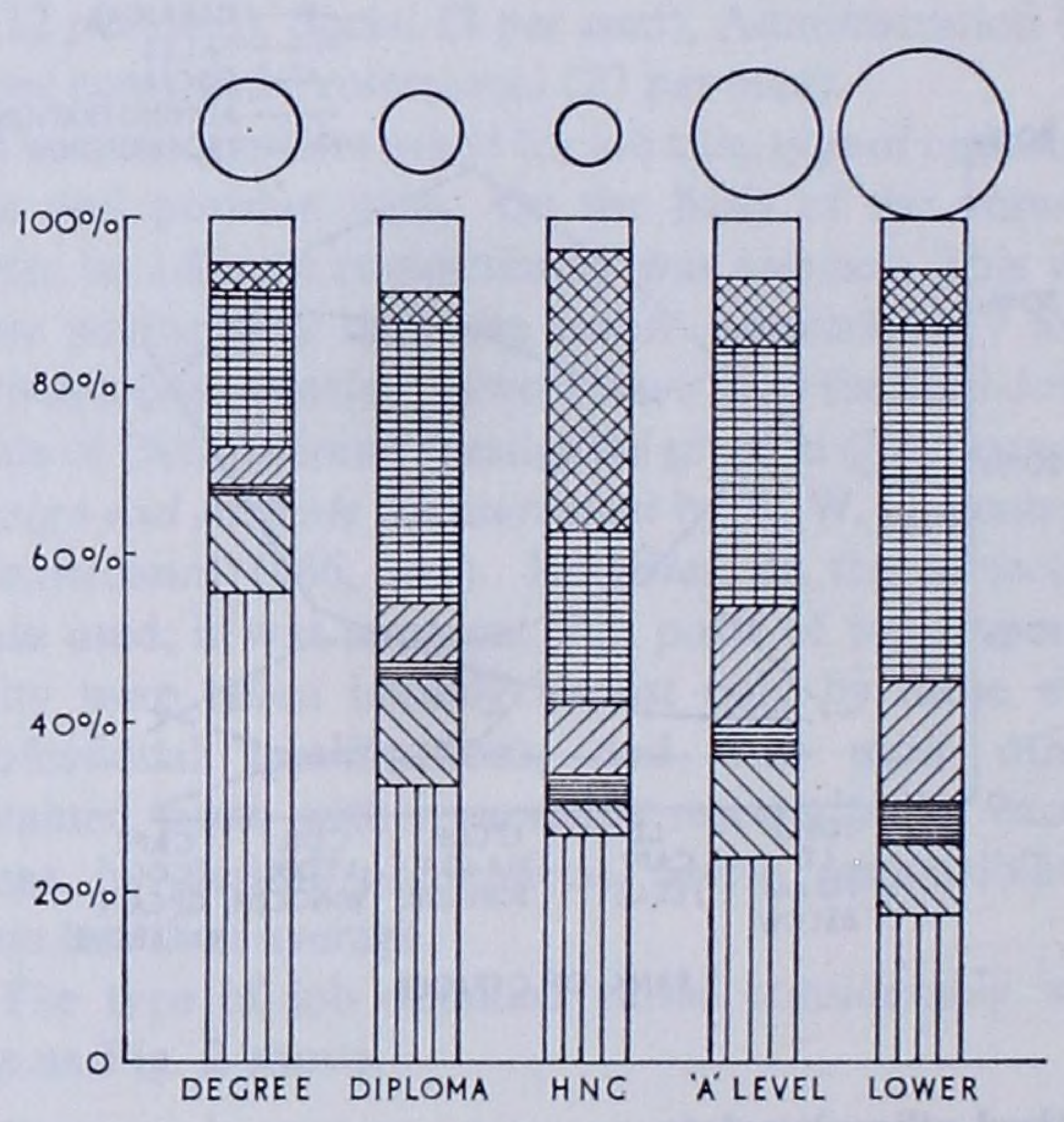
Officers were asked which they put first – getting a suitable job or suitable accommodation. This naturally varied with an officer's marital responsibilities, but the younger went for a job first and the older for a house first. Those who wanted to settle in the South usually put their house before their job.

88 per cent of officers owned their own house; most of those who didn't were the single and/or junior officers. On average officers bought their house about 8 months before leaving the Services. Naval officers tended to buy their house earlier still in order to settle their family in one place.

Qualifications

15 per cent of officers who left the Services in 1965–1967 had a degree or accepted equivalent, 17 per cent had a qualification less than a degree but above 'A' level,

FIG.6 INITIAL EMPLOYMENT BY AN OFFICER'S CIVILIAN QUALIFICATIONS



THE SIZE OF THE CIRCLE ABOVE EACH COLUMN INDICATES THE RELATIVE NUMBER IN THAT CATEGORY

TRANSPORT
CLERICAL
SALES
SOCIAL
ADMINISTRATION
PROFESSIONAL
OTHERS

24 per cent had just 'A' level, and 44 per cent something less than 'A' level.

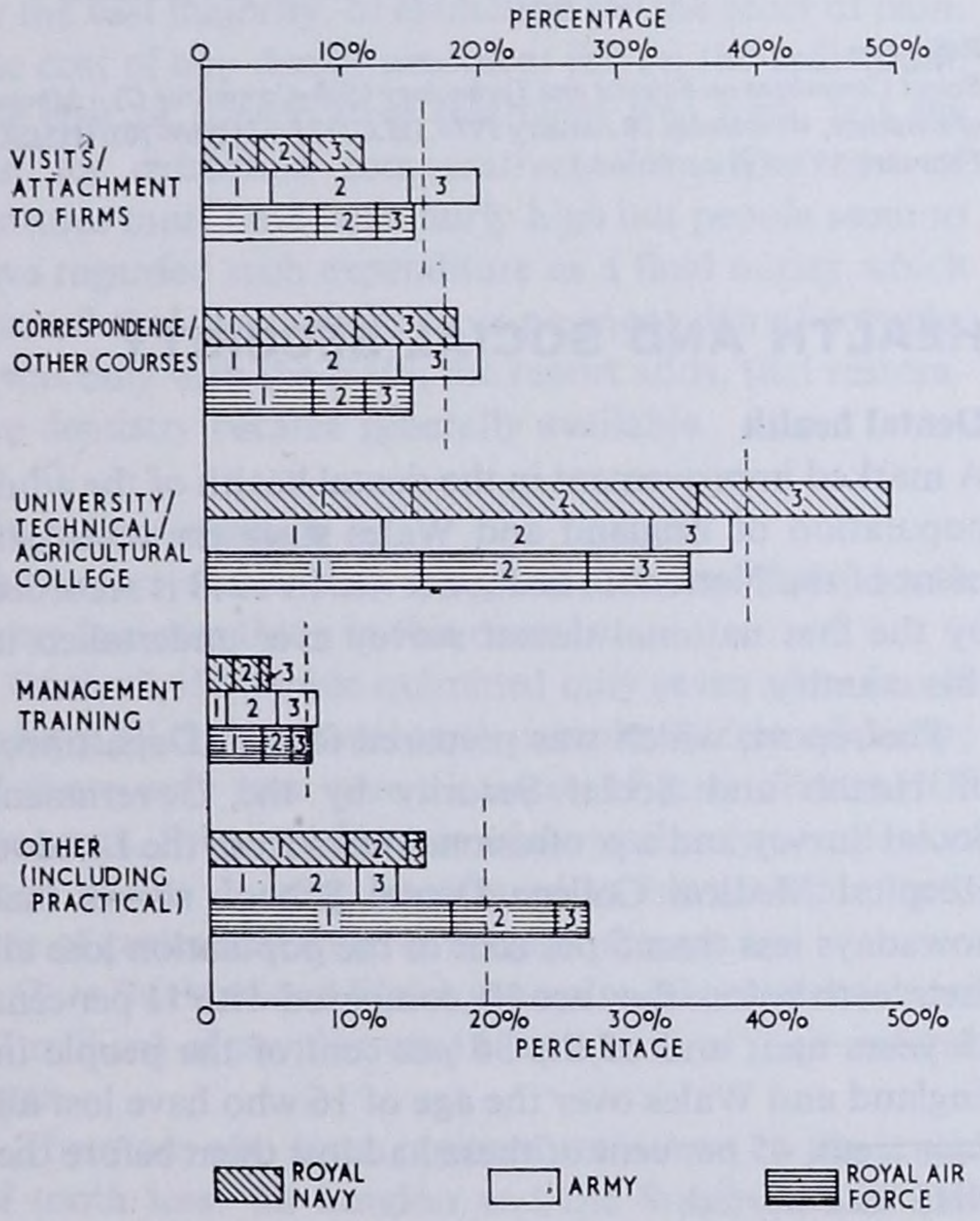
The more senior an officer the higher the qualification he was likely to have and, naturally, technical officers were more highly qualified in the civilian sense than non-technical officers. The higher a person's qualifications the quicker he tended to get a job, and the better job he tended to obtain. Fig. 6 illustrates the type of job officers initially obtained.

One-third of the officers had military qualifications when they left the Services, and one-third had neither military nor civilian qualifications when they left.

Resettlement courses

The Resettlement Services organize certain courses for those about to leave the Services, and arrange for officers to participate in civilian attachments or courses run by other bodies. Not all these courses, however, are training for future employment – some are specifically training for retirement and adjustment to civilian life.

FIG.7 PROPORTIONS DESIRING CERTAIN TYPES OF FULLTIME RESETTLEMENT BY RANK AND SERVICE.



NUMBERS REFER TO RANKS:
1 = LT, CAPT., FLT. LT. and BELOW
2 = LT. CDR., MAJOR, SQN. LDR.
3 = CDR., LT. COL., WING CDR., and ABOVE

THE VERTICAL DOTTED LINE DENOTES THE OVERALL AVERAGE FOR THAT CATEGORY OF TRAINING.

They also give a lot of general advice.

About a third of the officers attended some kind of resettlement course (more in the RAF, less in the RN). Of this third, 44 per cent of officers went on a business course and 22 per cent were attached to a civilian firm for a short period, the remainder attending a course at one of the Service Resettlement Centres.

44 per cent of officers asked for resettlement advice before leaving the Service – more if they were older. Most found the advice helpful in putting them in touch with employment agencies, or in giving guidance on pre-release training.

41 per cent of officers felt they could usefully have had more advice, usually in the practical or professional realm. Many desired longer courses on subjects such as management, administration, accounting or scientific subjects. Many favoured specific courses run by universities or technical colleges. The relative proportions are shown in Fig. 7.

32 per cent of officers felt they could have been given more assistance in finding a job, especially in trying to find suitable interviews. Some felt that those concerned were not as interested as they might be with an individual's problems.

Other features of the survey

One of the interesting aspects was the large number of letters, telephone calls and other communications received in connection with this survey. It was obvious that it aroused much sympathy with many ex-officers, who gladly responded with offers to help in any way they could – such as coming to speak to officers about to leave, offering possible employment, willing to give further details of their own experience if such might aid the overall enquiry. Such enthusiasm for a survey is rare, but it underlines the need felt by officers to make adjustments for the difficulties faced in living in the civilian world again.

This survey showed various areas where such help could be given, mostly in adjustments to the methods of the Resettlement Services and other organizations dealing with officers about to leave the Armed Forces. It also showed the need for some employers to realise the potential management capabilities often inherent in Service officers, their ability to carry out specific duties precisely, and their willingness to work as well as the next man. But such officers do expect adequate compensation though it is true that some expectations are far too optimistic. Not all officers find it easy to assess the civilian market value for their military expertise.

The survey has proved valuable in providing a factual basis for further consideration of the officer resettlement arrangements: a similar survey of Servicemen is in progress.

Notes on current developments

POPULATION AND VITAL STATISTICS

Population projections

Published in the *Registrar General's Quarterly Return for the 4th Quarter 1969, No. 484* are population projections detailed by sex and broad age groups for Hospital Regions at 1971 and 1981 and for regional sub-divisions of England and Wales at 1981 and 1991. (Also shown in this Return are population change analyses for the Standard Regions, their Conurbations and Remainders as at 1969).

For the first time the population projections for the sub-divisions of Economic Planning Regions have been published. They have been prepared primarily as an aid to local and regional planners but are published in the hope that they may also be of value to other users in, for example, industry and commerce. The definitions of the sub-divisions were given in the *Registrar General's Quarterly Return 4th Quarter 1968* Appendix I and in the *Abstract of Regional Statistics 1969*. The projections are made for the years 1981 and 1991 and are classified by sex and three broad-age groups viz. (0–14) (15–64) for males and (15–59) for females, (65+) for males and (60+) for females. Based on the mid-1968 estimates of the home population, the sub-divisional forecasts are consistent with those for the Standard Regions of England and Wales published in the *Registrar General's Quarterly Return 1st Quarter 1969* Appendix K. These projections are subject to all the qualifications of long-range forecasts. In particular, the underlying migration assumptions which nevertheless take account of past trends since 1951 will be affected by changes and developments in regional policies and in policies on planned overspill, new towns and to land-use-planning decisions of all sorts. The projections must therefore be regarded as essentially tentative and subject to substantial revision.

Reference

The Registrar General's Quarterly Return for England and Wales No. 484. Quarter ended 31st December 1969 (HMSO), May 1970 (Price 3s. 6d.)

Scottish statistics

The fourth Quarterly Return for 1969 of the Registrar General for Scotland will be published shortly. It contains provisional tables for 1969 and estimated migration for the first half of 1969 in addition to the usual quarterly tables.

Tables of occupational mortality based on the 1961 census and deaths in 1959–63 are due for publication in May.

Population growth in the United Kingdom

The Select Committee on Science and Technology has appointed a Sub-Committee C to conduct an inquiry into the consequences of population growth in the United Kingdom. A memorandum was submitted by the Government Actuary's Department and the General Register Office for England and Wales and the Government Actuary and the Registrar General gave oral evidence to the Sub-Committee on 28 January 1970.

The memorandum was arranged in four parts, as follows:

- Part I. A short account of changes in population size so far this century, with special reference to fertility
- Part II. Variations in recent population projections
- Part III. Some implications of the currently projected growth in population
- Part IV. The principal findings of recent demographic research, and the main general theories which influence population projections

Reference

Select Committee on Science and Technology (Sub-Committee C) – Minutes of Evidence, Wednesday 28 January 1970, (H.C. 121 – i (1969–70)) (HMSO) February 1970 (Price 5s. 6d.)

HEALTH AND SOCIAL SECURITY

Dental health

A marked improvement in the dental health of the adult population of England and Wales since the establishment of the National Health Service in 1948 is recorded by the first national dental survey ever undertaken in this country.

The report, which was prepared for the Department of Health and Social Security by the Government Social Survey and a professional team from the London Hospital Medical College Dental School, shows that nowadays less than 5 per cent of the population lose all their teeth before they are 30, compared with 11 per cent 25 years ago; and of the 36 per cent of the people in England and Wales over the age of 16 who have lost all their teeth, 45 per cent of these had lost them before the NHS was started.

The report shows that the backlog of dental neglect is not so great as had been supposed and it suggests that as long as services are maintained at their present level the dental health of the population will continue to improve just as dramatically in the next as in the last 20 years.

As the first dental epidemiological survey on a national scale, the report is of great importance to the dental profession for the light it sheds on many aspects of dentistry about which there has previously been a dearth of factual information. Much of the report concentrates on the age group 16–34 because the younger members of this group are 'the first generation who have had the opportunity of conservative treatment without economic barriers, for most of their lives'. The report establishes a clear relationship between standards of treatment (including regularity of attendance for dental check-ups) and dental health.

The report points out that the state of dental health largely depends on the treatment an individual receives throughout his life. If certain forms of dental treatment such as extractions are carried out for young people, the situation is irrevocable, whatever changes in dental policy or advances are made in the knowledge of dental disease. Statistically, the national level of tooth loss improves very slowly because any person who loses all his teeth before the age of 30 may well figure in the statistics for 40 or even more years.

Consequently for the population as a whole the level of total tooth loss improves very slowly indeed. Before 1948 it would seem that adult dental health consisted for the vast majority, of extraction for the relief of pain. The cost of any dental treatment fell on the individual. The cost of conservative treatment was high, but the cost for extraction comparatively low. The cost of dentures must have been fairly high but people seem to have regarded such expenditure as a final outlay which ensured that they would have no more dental trouble. It was only with the NHS, the report adds, that restorative dentistry became generally available.

The present situation

The report shows that complete freedom from tooth decay is a rare thing in this country.

Of the 2,658 people examined only seven were found to have all their natural teeth completely free of decay; of those only two were also free of gum disease. Of the seven, five were born overseas and only one person born in this country was found to have all his teeth free of caries and to have no gum disease.

Over England and Wales generally, 37 per cent (about 13 million) of people over 16 have none of their natural teeth.

There are also large regional variations in the levels of tooth loss. In London and the South-East 72 per cent of the population over 16 have some of their natural teeth, compared with 66 per cent in the Midlands and East Anglia, 57 per cent in Wales and the South-West and 54 per cent in the North. Much of the report is devoted to identifying possible causes for these regional variations. It concludes that they are due to differences in the attitudes of patients to dental health and treatment, differences in the treatment given by the dentists, and the influence each of these factors has on the other.

On average, the 23 million people in England and Wales over the age of 16 who have retained some of their natural teeth have 13 sound and untreated, 7 that have been satisfactorily filled, 2 that are decayed and need attention and 10 that are missing. This suggests that at the time the survey took place some 41 million teeth needed to be filled and 9 million to be extracted. (In 1968 dentists in England and Wales filled 27 million and extracted 6 million teeth for general dental service patients over the age of 16).

The report identifies no basic difference in the occurrence of decay from one part of the country to another, but establishes a clear relationship between treatment standards and dental health. About 45 per cent in the 16–34 age group attend the dentist for a regular check-up. Attendance patterns are changing but there is no way of telling from just one survey the *rate* at which the change is taking place, though the report is satisfied that, but for the National Health Service, it is unlikely that so high a proportion of the adult population in this age group would be attending the dentist regularly for a check-up.

The report draws attention to the effect on the attitude of adults to regular attendance of the shortage of staff in the School Dental Service in the 40's and 50's. Evidence has been found to show that this has resulted in a failure to educate a substantial proportion of those in the 16–34 age group in the importance of regular attendance.

The report implies that unless a patient is educated while still a child to appreciate the importance of regular check-ups he is less likely to be converted if he lives in the provinces where there are many fewer dentists per head of population than in London and the Home Counties.

Variations

People in the South-East keep their teeth longer than people in the North.

The number of adults without any remaining natural teeth varied from 45 per cent in the North of England to 28 per cent in the South-East, where there are many more dentists in relation to the size of the population.

The report concludes that if total tooth loss could be reduced in the North of England to the level in London and the South-East the level of tooth loss in England and Wales over the next 20 years could be more than halved. It further concludes that since the proportion of regular attenders and the amount and character of treatment provided for irregular attenders is related to the dentist/population ratio, so long as the distribution of dentists remains uneven as between London and elsewhere there is likely to remain a regional difference in dental health. The problem for the future is how best to increase the efficient use and supply of dental manpower and how dental resources can best be distributed.

Reference
Adult Dental Health in England and Wales in 1968, (HMSO), March 1970 (Price £2 5s. 0d.)

Disabled people (survey)

The following information was given by the Minister of State, Department of Health and Social Security in reply to a question in the House on 9 March 1970.

SEVERELY DISABLED ADULTS LIVING AT HOME WHOSE ATTENDANCE NEEDS WERE BROADLY THOSE COVERED BY THE DEFINITION IN CLAUSE 17 OF THE NATIONAL SUPERANNUATION AND SOCIAL INSURANCE BILL

Total Number: 25,000; of whom 20,000 were women and 5,000 were men. (About 70 per cent of the men and 85 per cent of the women were aged 65 or over).

Marital Status	*Men (percentage)*	*Women (percentage)*
Married	60	38
Single	20	17
Widowed	20	45

Proportion (per 1,000) of men and women in different age groups.

Age	*Men*	*Women*	*Men and Women*
16–29	0·1	0·1	0·1
30–49	0·1	0·1	0·1
50–64	0·1	0·3	0·2
65–74	0·7	1·9	1·4
75 and over ...	2·6	8·0	6·2
All ages	0·3	0·9	0·6

MAIN DISABILITY GROUPS (BASED ON INFORMATION ABOUT THE CONDITION FROM WHICH THEY SUFFERED SUPPLIED BY THE DISABLED PEOPLE THEMSELVES OR THOSE LOOKING AFTER THEM)

Disability Group	*Number of Conditions in this Group as a percentage of Total Number of Conditions Recorded*
Diseases of Central Nervous System ...	43
Diseases of Circulatory System	14
Diseases of Digestive System	4
Diseases of Bones and Organs of Movement	26
Senility and Ill-defined Conditions ...	16

Note: Some people were suffering from two disabling conditions which they rated as being of equal importance.

BROAD DEPARTMENTAL ESTIMATE OF THE NUMBER OF PEOPLE LIKELY TO QUALIFY FOR ATTENDANCE ALLOWANCE

Adults living at home	25,000
Adults in residential care*	15,000
Children*	10,000

*There is no firm basis for these estimates.

Reference
Hansard, 9 March 1970, Cols. 882–884.

Population forecasts

The Secretary of State for Social Services was asked on 9 March 1970 'what percentage of the total population of Great Britain forecast in 1980 he estimates to be unproductive; what proportion of this unproductive sector will be retirement pensioners; what percentage of the total working population will be aged 16 to 25, 26 to 35, 36 to 45, 46 to 55 and 56 to 65 years, respectively . . . '

The reply states that in 1980 between 55 per cent and 60 per cent of the total population of Great Britain are currently expected to have no earnings, or earnings of not more than about £2 a week. About one quarter of these will be retirement pensioners. Among those with earnings it is estimated that the percentages for the age groups mentioned will be about 22 per cent, 22 per cent, 20 per cent, 20 per cent, and 15 per cent, respectively.

Reference
Hansard, 9 March 1970, Cols. 887 and 888.

EDUCATION

Education Statistics for the United Kingdom, 1967

This new annual publication has been produced jointly by the Department of Education and Science, the Scottish Education Department, the Northern Ireland Ministry of Education and the University Grants Committee. The differences of structures between the education systems in the different parts of the UK have made amalgamation of the statistics difficult in some cases and considerably delayed the production of this first issue. It is hoped that the 1968 edition will be published later in the year.

Most of the main stages of education, including Higher Education (as defined in the Robbins Committee report), are covered by tables in the new volume. For school-leavers' qualifications, however, the differences between the GCE 'A' level and the Scottish 'H' grade examinations have inhibited any detailed analysis. It is expected that the material published will be of particular interest in an international context and for economists and others not intimately concerned with the specific details of the separate education systems. To assist such users there is an eight-page outline of the United Kingdom systems of education.

An appendix gives details of the Subject Classification for Education statistics, which is already widely used in compiling statistics of education and of qualified manpower. A guide to sources of education statistics also appears.

Reference

Education Statistics for the United Kingdom, 1967, (HMSO) May 1970 (Price £1 5s.)

First Employment of University Graduates 1967–68

This volume of annual statistics, which was first produced in 1961–62, was published in a new format in February 1970 (price 10s. 0d.) The statistics are based on information collected from graduates by their University Appointments Officers. Although some of the information on first employment is obtained by personal interview, a good deal has to be sought by means of postal enquiries, and for this purpose each Appointments Officer has designed his own questionnaire. This system catered well for the diverse needs of the appointments officers in the past (one questionnaire is in Welsh), but their increasing familiarity with, and usage of, the statistical tables in the publication has led to an acceptance of common standards of definition and classification to the point where it is hoped that a single questionnaire can be centrally designed which will serve the needs of all. Eventually this questionnaire would be linked with the individualised data system being set up for universities by the Universities Central Council on Admissions.

UCCA Report on 1969 Admissions

The Seventh Report, 1968–69, of the Universities Central Council on Admissions was published in January 1970 (8s. 0d.). It gives statistics of those who sought and gained entry to universities in the United Kingdom in October 1969. Total applications through UCCA, at 114 thousand, were 3·5 per cent higher than in the previous year, despite the continued decline in numbers in the relevant age-groups. Total university admissions, whether or not through UCCA, rose by 3·1 per cent to 60,285. Acceptances through UCCA now represent some 95 per cent of all admissions to universities in the United Kingdom.

For the first time a marginal fall was recorded in the number of applicants for admission to the social studies field, notably in sociology and in economics, but all other major groups except Education showed increases.

Survey of In-Service Training of Teachers 1967

The second of the special statistical reports by the Department of Education and Science, *Statistics of Education, Special Series No. 2, Survey of In-Service Training of Teachers, 1967* is due to be published in May. The first part of the volume reports on in-service training courses provided for teachers in the academic year 1966–67. The second and third parts report on surveys of teachers in primary and secondary schools and in colleges of education, describing their in-service training over a period of 3 years and their attitudes towards future development of such training.

The survey in the first part of the volume was undertaken by the Statistics Division of the Department of Education and Science. The surveys in the second and third parts of the volume were undertaken by Mr. H. E. R. Townsend at the Manchester University School of Education on research grants awarded by the Department.

Planning – Programming – Budgeting (PPB) Report

The report of a feasibility study for an output budgeting system in the Department of Education and Science is presented in the first of a new series of *Education Planning Papers* published in April 1970. These papers will form an occasional series concerned particularly with projections of the future size and cost of various sections of the education service.

Output budgeting, or planning-programming-budgeting (PPB), to use the term now coming into wider use, is a planning and management tool enabling expenditure, both present and future, to be analysed by the purposes which it serves rather than by the institutions through which it is channelled. It is intended to aid systematic assessment of resource utilisation and to illuminate policy choices.

The present report, the work of a small team of DES and Treasury officials, is aimed at the development of methods for the improved control and greater effectiveness of public expenditure. The report examines the feasibility of introducing a PPB system in the DES, and covers the whole field of expenditure for which the Department is responsible, whether directly, or indirectly through its assistance to local authorities, the UGC and research councils. Some of the general problems discussed are: the allocation of expenditure which contributes to multiple objectives, the assessment of output, the concept of cost, and the practical difficulties of data availability. The general conclusion is that while some of these problems will need further study they would not stand in the way of making immediate and useful progress with PPB.

The report suggests a programme structure for the analysis of expenditure and objectives consisting of three main programme blocks: education; research; and cultural and recreational activities. The education block, which receives the fullest treatment, is divided into seven major programmes, ranging from nursery schooling to post-graduate education. Within each major programme there is a common analytical structure of determinants of educational spending, designed to distinguish exogenous factors such as population growth from those linked with policy decisions by Ministers.

A decision on whether or not to adopt a PPB system for the DES will be taken in the light of further evaluation of an operational PPB system for the education block.

Reference
Output Budgeting for the Department of Education and Science: Education Planning Paper No. 1, (HMSO). (Price £1 10s. 0d.)

Educational planning

This book, the first in a new series *L.S.E. Studies on Education*, describes a project partly carried out within the London School of Economics and partly within the Department of Education and Science and financed by the DES. The first four chapters place the emphasis upon the descriptive aspects of educational models, and provide an exposition and critical review of their use in making projections. This leads to speculation on the nature of the demand and supply mechanisms which govern the flows of students and teachers through the system and how these mechanisms may be built into the models. The final chapters are concerned with the development and use of these models for analytical purposes so that they become more relevant to making policy decisions. An illustrative example is built around the raising of the school leaving age. The conclusion stresses the central role of decision models in planning the development of the educational system.

Reference
Peter Armitage, Cyril Smith and Paul Alper, *Decision Models for Educational Planning*, published by Allen Lane at the Penguin Press, (Price £3 15s. 0d.)

MANPOWER AND EARNINGS

Employment census

The recent small pilot survey of methods for use in an annual census of employment by the Department of Employment and Productivity (*Statistical News*, 5.24 and 6.22) confirmed the feasibility of the proposed procedures. Virtually complete response was achieved. Accordingly the Department has arranged for a full census to be carried out this summer covering the whole of Great Britain, under the Statistics of Trade Act, 1947. This is regarded as a full-scale national trial to ensure that satisfactory arrangements exist for obtaining basic employment statistics after national insurance contribution cards are abolished.

If successful, a further census in 1971 will establish links with the present system of obtaining such statistics, based mainly on counts of national insurance cards exchanged, and also with the census of population being held in that year. From 1972 the present statistics based on national insurance cards will be discontinued.

For the purpose of the employment census, Inland Revenue tax offices are supplying the Department, under Section 58 of the Finance Act 1969, with the addresses of all pay-points from which employers send PAYE payments; the census forms are being despatched to these pay-points by the Department. The census form is a very simple one on which the employer reports the number of employees; distinguishing full-time and part-time employees of each sex. In the census, the term 'employees' is not limited to those for whom PAYE payments are actually made.

Since a pay-point may hold records of employees employed at several addresses possibly in different areas of the country, separate information is to be provided for each such address. This will make possible the compilation of local and regional statistics of employment, analysed according to the Standard Industrial Classification, as well as national aggregations. In order to avoid duplication of enquiries, there are special arrangements for farms which are already covered by the censuses conducted by the Ministry of Agriculture, Fisheries and Food and, in Scotland, the Department of Agriculture and Fisheries.

The details obtained in the census about addresses at which employees are employed will form an important source of information for the compilation by the Business Statistics Office of a comprehensive classified central register of businesses (*Statistical News*, 4.5).

Revised seasonally adjusted unemployment series

A new method of seasonally adjusting the unemployment series has been devised by the CSO Research Division in consultation with other Government Departments. This new method was introduced in a special article in the April issue of the *Employment and Productivity Gazette*. A more technical explanation is to be published by the CSO Research Division. The new method has been applied initially to the national unemployment series for males and females combined. Its possible application to other unemployment series and to the series of notified unfilled vacancies is being investigated.

Manpower Planning Study Groups

The Manpower Planning Study Group (see *Statistical News*, 7.32) became The Manpower Society on 1 April. The Manpower Society is jointly supported by the Operational Research Society and the Institute of Personnel Management. Several other Societies and Institutes are considering the possibility of forming associations with the Manpower Society for the mutual benefit of members. The Long Range Planning Society will be holding a joint seminar with the Manpower Society on 'Corporate Strategy and Manpower Planning' on 29/30 April 1970.

A Scottish Manpower Planning Group has now been formed. Further information may be obtained from Mr. R. C. J. Taylor, University of Strathclyde. A French Manpower Planning Study Group has also been formed. It is Le Groupe de Gestion prévisionelle du personnel, which had its first meeting in Paris on January 29. Further information may be obtained from M. Benayoun, SEMA, 35 boulevard Brune, Paris 14e.

New earnings survey

A sample of one per cent of all employees in employment in Great Britain is being used as the basis for the survey of earnings in April 1970 by the Department of Employment and Productivity (*Statistical News*, 8.13). Much the same range of information is being sought as in the first survey of this new type in September 1968. Two new questions ask whether the employee is a member of an occupational pension scheme and whether he is covered by any arrangement for pay from the employer when he is sick. In general however the questionnaire has been shortened and also revised and rearranged following experience gained in the first survey. The information will relate to the pay period including 15 April 1970.

PRODUCTION AND DISTRIBUTION

Alcoholic drinks

Probably the best indicator of United Kingdom consumption of potable spirits is provided by the figures collected by HM Customs and Excise of the quantities which have paid duty though even these need to be interpreted with some caution as the size of duty-paid stocks, while unknown in magnitude, can undoubtedly fluctuate considerably.

Certain information on the quantities of home-produced and imported spirits paying duty is included in the *Monthly Digest of Statistics*. Following discussions with trade associations, HM Customs and Excise have now introduced regular monthly returns in considerably greater detail. These new returns complement the existing monthly returns of quantities of wine and British wine paying duty.

The first return in the new series was issued at the end of March and related to production of potable spirits and quantities paying duty in January 1970; the return also contains summarised monthly figures from January 1969 onwards. Comparable summarised monthly figures from October 1967 to December 1968 are available on request.

The new returns are being sent to subscribers about 2 months after the end of the month to which the latest figures relate. Subscribers are also provided with explanatory notes to the returns. The subscription fee is £1 per annum.

Two other new series of returns are being issued by HM Customs and Excise. The first shows the quantities of materials used each quarter in distilleries which use malt only or malt and other materials. The second shows the quantities of materials used each quarter in brewing beer. Annual figures of materials used in distilleries and in brewing are already published in the *Annual Reports of the Commissioners of HM Customs and Excise*. The subscription fees for these new quarterly returns are £1 per quarter for the returns on distilleries and £1 per quarter for those on brewing.

Subscriptions for any of the returns described in this note should be sent to: Bill of Entry Section, HM Customs and Excise, Portcullis House, 27 Victoria Avenue, Southend-on-Sea, Essex SS2 6AL.

Chemicals industry

On January 28, 1970 the first of a new series of quarterly articles on statistics of the Chemicals industry appeared in the *Board of Trade Journal*, replacing the half-yearly articles commencing in March 1962. Quarterly data are given instead of half-yearly, and additional sector detail. Figures relate to Order V (Chemicals and Allied Industries) of the 1968 Standard Industrial Classification (SIC) and its sectors, except when not yet available.

Using this definition, the first article presented indices of production, rebased on 1968, with seasonally adjusted sector details for the first time, and wholesale price indices by sectors rebased on 1968. Employment was shown by sectors of the 1958 SIC, but will soon go on to the new basis and similarly with the capital expenditure figures shown of the industry as a whole. Estimates of imports and exports on an SIC basis were made and, in future articles, sector details will be shown.

A brief note appended to the first article described the new definition of the industry and its sectors.

Reorganisation of industrial statistics

The new system of quarterly sales enquiries, conducted on an industry basis, which has been fully reported in earlier issues of *Statistical News*, will be extended to cover a further 9 industries in the 2nd quarter 1970. (An industry is defined as covering all establishments classified to a minimum list heading, (MLH), or an official sub-division of a MLH, of the Standard Industrial Classification).

The 9 industries are:

Rubber – MLH 491
Musical Instruments – MLH 499/1

Toys, Games and Children's Carriages – MLH 494/1 and /2

Sports Equipment – MLH 494/3

Cardboard boxes, Cartons and Fibreboard Packing Cases – MLH 482/1

Packaging products of Paper and Associated Materials – MLH 482/2

Manufactured Stationery – MLH 483

Wallpaper – MLH 484/1

Manufactures of Paper and Board n.e.s. – MLH 484/2

In each of the above industries the Business Statistics Office will begin a comprehensive sales enquiry covering all establishments with 25 employees or more, except for Musical Instruments and Toys, Games and Children's Carriages, where the coverage is 11 employees or more.

The results of the enquiries will, in due course, be published on a regular basis in the *Business Monitor* series.

Together with the new quarterly enquiries the industries will also be covered by the following short-period enquiries:

Rubber – MLH 491

Monthly total turnover enquiry covering a sample of establishments in the general rubber goods sector of the industry.

Monthly, Quarterly, 6-monthly } enquiries into rubber consumption covering a sample of establishments.

Monthly enquiry into reclaimed rubber covering a small number of establishments.

Monthly enquiry, sponsored by the British Rubber Manufacturers' Association into production, imports and sales of rubber tyres and tubes.

Musical Instruments – MLH 499/1

Monthly enquiry, sponsored by the Pianoforte Manufacturers' Association, into the home and export sales of pianos.

Toys, Games and Children's Carriages – MLH 494/1 and /2

Monthly enquiry sponsored by the British Baby Carriage Manufacturers' Association, into the sales of children's carriages.

Sports Equipment – MLH 494/3

6-monthly enquiry, sponsored by the Federation of British Manufacturers of Sports and Games, into the sales of sports equipment.

Cardboard Boxes, Cartons and Fibreboard Packing Cases – MLH 482/1

Monthly total turnover enquiry to large firms (establishments with 100 or more employees), in the industry.

Monthly enquiry, sponsored by the British Carton Association, into consumption and stocks of cartonboard.

Packaging Products of Paper and Associated Materials – MLH 482/2

Monthly total turnover enquiry to large firms, (establishments with 100 or more employees), in the industry.

Monthly enquiry, sponsored by the Paper Sack Development Association, into the sales of multi-wall sacks and consumption of paper.

Manufactured Stationery – MLH 483

Monthly total turnover enquiry to all firms classified to the industry with 25 or more employees.

Further information on the Government enquiries described above can be obtained from the Ministry of Technology, Economic and Statistics (B) Division, 1, Victoria Street, London SW1.

As a result of the reorganisation in the industries listed the following enquiries have been discontinued:

Monthly product enquiry into general rubber goods

Quarterly product enquiry into general rubber goods

Eight short period enquiries sponsored by the BRMA into general rubber goods

6-monthly enquiry sponsored by the BRMA into sales of tyres and tubes

Quarterly product enquiry into musical instruments

Quarterly product enquiry into toys, games and sports equipment

Two-monthly product enquiries into packaging products of paper and board

Quarterly product enquiry into manufactured stationery

Monthly enquiry into total sales of manufactured stationery

The following industries can now be added to those reported earlier, where discussions between Government statisticians and industry interests, on the reorganisation of industrial statistics, have already started:

Grain Milling – MLH 211

Animal and Poultry Foods – MLH 219

Toilet Preparations – MLH 273

Soap and Detergents – MLH 275

Dyestuffs and Pigments – MLH 277

Production of Man-Made Fibres – MLH 411

Household Textiles and Handkerchiefs – MLH 422/1

Textile Finishing – MLH 423

Leather Goods – MLH 432

Footwear – MLH 450

Census of Distribution for 1966

The first of two volumes comprising the *Report on the Census of Distribution and Other Services for 1966* was published by HMSO on 16 March 1970. The census was the fourth to have been taken in Great Britain and covered the retail and related service trade on a sample basis. The tables published in Volume 1 are grouped in three main sections.

The first section provides information on retail establishments and gives estimates of the number of establishments in the 22 kinds of business distinguished, the total turnover in each kind of business and the number of persons engaged. Analyses are presented in which establishments are classified by form of organisation (co-operative, multiple and independent) and by area on the basis of the ten standard regions of Great Britain as well as by size of turnover.

The second section presents information for retail organisations as a whole by classifying them into three groups namely, co-operative socities, multiple organisations with 10 or more branches and a residual category termed independent organisations. Organisation data are presented in a series of tabulations which give the number of organisations, establishments, turnover, stock turn, gross margin and instalment credit sales by form of organisation for each of 24 kinds of business. Further tabulations give detailed analyses of capital expenditure, book debts, wages and salaries and persons engaged. An analysis of the sales of 31 commodity groups of each kind of business is provided and instalment credit sales are also analysed within kinds of business according to 4 groupings of commodity sold. A table giving organisation data for large enterprises is included as is a table on membership of voluntary groups among independents.

The third section relates to some service trades closely associated with retailing i.e. hairdressing, boot and shoe repairing and laundering. The tables of this section show capital expenditure and give limited analyses of goods or services sold as well as counts of establishments (organisations for the laundries group) persons engaged, turnover and a size analysis by amount of turnover.

A second volume of results giving tables on transport costs and floor space data for retail trade together with tables on special forms of trading and sampling errors for some of the main estimates will be published later this year.

The scope and nature of the census and the processes involved in conducting it were described in *Statistical News*, 7.10.

Reference

Report on the Census of Distribution and Other Services 1966 (Volume 1) (HMSO) 1970 (Price 18s. 0d.)

Retail trade (Business Monitors)

Starting with the figures for January 1970, issued on March 11, the detailed index numbers of retail sales compiled by the Board of Trade are being published each month in the *Business Monitor* series. Four *Business Monitors* have been introduced for retail trade, each one relating to a group of shops:

SD1 Food shops
SD2 Clothing and footwear shops
SD3 Durable goods shops
SD4 Miscellaneous non-food shops

Each of these *Monitors* contains monthly and quarterly index numbers covering at least 2 years and percentage changes on a year earlier for the different kinds of business and forms of organisation within the appropriate group of shops, together with totals for the other three groups, and for mail order businesses and department stores. A brief commentary is also included. *Business Monitors* may be obtained from HM Stationery Office, PO Box 569, London, SE1. The annual subscription for each of these *Monitors* is £2.

Seasonally adjusted index numbers of retail trade for broad groups of shops will continue to appear in the *Board of Trade Journal*.

FOOD AND AGRICULTURE

Food consumption levels

Estimates of food consumption in the United Kingdom are prepared annually by the Ministry of Agriculture, Fisheries and Food and are published in June or July of each year. In order to meet requests for more up-to-date statistics a shortened version giving preliminary estimates for 1969 and revised estimates for 1968 has been prepared and published in the *Board of Trade Journal* (Vol. 198. No. 3805, page 443) on 18 February 1970. It is proposed to continue these early estimates as a regular series. Revised figures with more detailed nutritional analyses will be published in June.

Home produced edible meat offal

Official statistics of the production in the United Kingdom of edible meat offals are obtained by applying standard percentages to the quantity of meat obtained from the slaughter of cattle, sheep and pigs. An article published in the *Meat Trade Journal*, No. 4266, dated 5 March 1970, describes the results of a field study undertaken by the MAFF Statistics Divisions in collaboration with the Ministry's Fatstock Officers and the Royal Army Ordnance Corps Fatstock Training Centre, Aldershot, in order to review these percentages, and gives details of some of the results obtained.

Prices of agricultural land in England and Wales

The Ministry of Agriculture, Fisheries and Food has arranged with the Inland Revenue to publish a regular half-yearly series of statistics on the sales and average prices of agricultural land in England and Wales, starting with the six months ended 30 September 1969 (1). The figures are derived from returns of sales to local Valuation Offices of the Inland Revenue under the authority of the 1931 Finance Act and subsequent legislation.

The information is analysed into five acreage size groups and distinguishes between land with and without vacant possession and between land with and without farm buildings and dwellings. It is also analysed by 16 type-of-farming regions based on the Ministry's classification of farm types [2].

The Inland Revenue have also made available data collected between October 1944 and April 1969. For much of this period only broad averages for all sizes are available, and the geographical breakdown is restricted to a split between England and Wales; but for the period from October 1964 to April 1969 additional analyses by four acreage size groups and by 21 Valuation Office districts are available. None of this information, however, distinguishes between sales with and without vacant possession, or between land with and without buildings. It does however provide a broad indication of the trend in land prices since the war and shows in particular the sharp rise since the late 1950's. The transactions recorded in this series exclude gifts, compulsory purchases and as far as possible sales of land for development and other non-agricultural use.

Similar material is available for Scotland in *Scottish Agricultural Economics* and for Northern Ireland in *Sales of Agricultural Land in Northern Ireland.*

(1) Single copies available free from the Ministry's Publication Branch, Government Buildings, Tolcarne Drive, Pinner, Middlesex.

(2) Details of the method of classification are given in *Farm Classification in England and Wales 1968* (HMSO, 1970).

Annual Review of the agricultural industry

Each year, in March, the Government's conclusions on the general economic condition and prospects of the agricultural industry and the levels of price guarantees and production grants which have been determined for the coming year are published in a White Paper. Appendices to this White Paper contain the economic and financial data which form the background to the Annual Review, and represent a useful summary of the significant agricultural statistics over recent years, including where appropriate a forecast for the current farm or crop year (June—May or July—June).

The Appendices cover a wide range of agricultural statistics. Appendix I presents, in both tabular and diagrammatic form, basic data on crop acreages and livestock numbers, home production and imports of milk, butter, cheese, cream, meat, eggs, grain, potatoes, sugar beet and feedingstuffs. Two final tables in this Appendix illustrate the decline in the agricultural labour force since 1946, and the growth of agricultural net output as measured by an 'old series' index using constant prices averaged over the three year period 1954/55 to 1956/57 and a rebased series with 1964/65 to 1966/67=100. Other Appendices show estimates of aggregate farming net income (and its composition), specimen net incomes for different types of farming and the annual cost of Exchequer support to agriculture.

Reference

Annual Review and Determination of Guarantees 1970, Cmnd. 4321 (HMSO), March 1970 (Price 5s. 0d.)

Size structure of Scottish agriculture

The latest volume of *Scottish Agricultural Economics* contains an article which draws on a wide range of statistics of the size structure of Scottish agriculture, including a few which have not previously been published. The primary source is the agricultural census. Several aspects of the whole farm size structure are looked at including numbers of farms and the distribution of land and labour among them; this is followed by an examination of the structure of the main farm enterprises. Differences between the Scottish regions are considered, and comparisons are made over the decade of the 1960s during which the number of large-scale businesses has been growing and many smaller businesses have disappeared.

Reference

'The Size Structure of Scottish Agriculture' by T. P. J. Russell, *Scottish Agricultural Economics, Volume XX* (HMSO), April 1970 (Price 9s. 0d.)

Scottish farm classification

From time to time over the past 40 years Scottish farms have been classified into economic types on the basis of agricultural census data. It has now become possible to carry out classification annually, and particulars are being published every year in *Agricultural Statistics, Scotland* commencing with the volume for 1968.

The classification is based primarily on the relative importance of the various enterprises on each farm, their size being measured in hypothetical labour requirements, but to a certain extent land type is also taken into account. In the full-time sector, dairy and intensive types are identified, and the remainder divided into a sequence running from hill farms through four intermediate types to cropping farms. Each full-time type is divided into three size groups. Certain particulars are given by region as well as for Scotland.

A map showing the primary and secondary distributions of the types accompanies the statistics.

Reference

Agricultural Statistics, Scotland, 1968 (HMSO), April 1970 (Price 14s. 0d.)

HOME FINANCE

Public expenditure

The customary Memorandum on the Supply Estimates has been issued this year under the name of the Chief Secretary to the Treasury as the Minister with general responsibility for public expenditure.

Compared with its predecessor of previous years, the *Financial Secretary's Memorandum*, it gives greater prominence to the public expenditure content of the Estimates. This reflects the emphasis now given to the outlays of the entire public sector following the publication last December of the first of the annual White Papers on public expenditure.

The analysis by programme of the total Estimates, which has for some years been a feature of the Financial Secretary's Memorandum, is retained in summary form, but the summary analysis of the public expenditure element, introduced for the first time in last year's Memorandum, has been extended to show the components of the main programmes in a form corresponding closely to the functional detail presented in the Treasury analysis of public expenditure in the 1969 *National Income Blue Book*. Further tables provided an analysis by programme and Class and Vote of the public expenditure and non-public expenditure elements within the Estimates. The latter consists of transfers to local authorities and public corporations, items treated as part of revenue and net borrowing and various transfers of a book-keeping nature within the central government. Another new table demonstrates the compatibility of the 1970–71 Estimates, and of the public expenditure element within them, with the relevant components of the estimates for that year as set out in Cmnd. 4234.

These changes in the content of the Memorandum have been accompanied by similar changes in the supporting detail given in the Estimates themselves. In the national accounts classification of each individual Vote the public expenditure element is now separately distinguished and analysed by the various programmes to which such expenditure contributes.

It is hoped that these changes will help to place the Estimates in their traditional form, on which Parliamentary control will continue to rest, in the proper context of total public expenditure; and make possible a greater understanding of the way in which those outlays which Parliament is asked to vote annually derive from and are consistent with the government's plans for the public sector as presented in the annual White Papers.

Reference
Public Expenditure, 1968–69 to 1973–74 Cmnd. 4234 (HMSO), December 1969 (Price 8s. 6d.)

NATIONAL BOARD FOR PRICES AND INCOMES

Beer prices
In November 1969 the NBPI reported on the costs, profits and general financial situation of major brewing companies and the costs, prices and margins of brewers' retail outlets. Accounting data in respect of brewing companies was obtained from the Brewers' Society and from a sample of 7 brewing companies whose total annual output amounts to approximately half the total UK production of beer. From these analyses were made of costs, sales and profits. In the retail trade a survey was made of a sample of about 1 per cent of all managed and tenanted houses in England and Wales and of managed houses in Scotland, stratified by size and area from the records of 6 major brewers and several smaller ones. Brewers supplied all data in respect of their managed houses and responded fully to the 150 questionnaires which were issued. The survey of tenanted houses was conducted by interview and yielded 313 usable returns – a response of 87 per cent. In addition to beer costs and prices, the tenanted house survey provided general background information on the type of trade, the importance of the public bar, off-sales competition, staff employed and hours worked.

Reference
Beer Prices, National Board for Prices and Incomes, Report No. 136, Cmnd. 4227 (HMSO), November 1969 (Price 5s. 6d.)

Milk industry
A report by the NBPI on *Pay and Conditions of Workers in the Milk Industry* was published in January 1970. The report gives the results of a survey of pay and conditions of employment for a week in September 1969 of a sample of workers in 282 firms (a response of 71 per cent) engaged in milk transport, products manufacture, processing and retail distribution. Analyses for organisations are shown by size, location and activity. Results of a special analysis of data from the DEP's New Earnings Survey of September 1968 for certain parts of the industry are also published elsewhere in the Report.

Reference
Pay and Conditions of Workers in the Milk Industry, National Board for Prices and Incomes, Report No. 140, Cmnd. 4267 (HMSO), January 1970 (Price 9s. 6d.)

National newspapers
A report by the NBPI on *Costs and Revenue of National Newspapers* was published in February 1970. For this report the NBPI conducted a financial survey of national daily and Sunday newspapers with a circulation of over 200,000 copies per publication day. The report contains analyses comparing the breakdown of costs and revenue of popular and quality, Sunday and daily newspapers, and showing trends in newspaper paging.

Reference
Costs and Revenue of National Newspapers, National Board for Prices and Incomes, Report No. 141, Cmnd. 4277 (HMSO), February 1970 (Price 4s. 6d.)

London clearing banks
A Report on London clearing bank hours and overtime was published in February 1970. It contains the result of a special survey of hours and earnings in November 1969.

Reference
Hours and Overtime in the London Clearing Banks, National Board for Prices and Incomes, Report No. 143, Cmnd. 4301 (HMSO), February 1970 (Price 2s. 3d.)

Armed Forces

The third report of the NBPI, which was published in February, gives effect to the principles of a new Service pay system which were set down in the Board's second report (*Statistical News*, 7.36, November 1969). The new pay scales based on the military salary, which eliminates the pay differential between single and married men and requires them to pay for their food and accommodation in the same way as civilians, were derived from a job evaluation of 155 Service trades (mostly in the rank of corporal) covering over 80 per cent of the total manpower in the Services and 728 civilian analogues in 321 different organisations. The rents to be charged for married quarters were related initially to rents charged for local authority houses and charges for single quarters were then scaled in proportion to the married quarter charges.

Reference

Standing Reference on the Pay of the Armed Forces: Third Report, National Board for Prices and Incomes, Report No. 142, Cmnd. 4291 (HMSO), February 1970 (Price 10s. 6d.)

INTERNATIONAL

Statistical models for education and training

A NATO-sponsored Advanced Study Institute (i.e. a high-level residential course) is to be held at the Civil Service College, Sunningdale Park, from August 31 to September 11, 1970. It will be devoted to statistical models for education and training, and will be under the direction of Professor D. J. Bartholomew (University of Kent). The Advisory Committee includes Professor C. A. Moser (Head of the UK Government Statistical Service) and Mr E. Grebenik (Principal of the Civil Service College). Lecturers, in addition to Professor Bartholomew, will include Professor Robert Oliver (University of California – Berkeley), Professor Arne Jensen (University of Denmark – Copenhagen) and Mr Colin Leicester (University of Cambridge). Administrative and technical support will be provided jointly by the University of Kent and the Statistics Division of the CSD. (Enquiries: Mr A. R. Smith, Civil Service Department, Whitehall, London SW1.)

***Institute of Management Sciences**

So many papers have been offered for the manpower session of the 17th International Conference of the Institute of Management Sciences (see *Statistical News* 6.28, 7.32) that it has been decided to increase the number of manpower sessions from one to three. One session will be devoted to organisational and behavioural aspects; a second will be devoted to statistical and macro-economic aspects. Papers dealing with Education and Public Service fields have been separated out to form a third session. Papers from the UK Government Statistical Service will include ones offered by the Central Statistical Office, the Civil Service Department and the Ministry of Technology.

***OECD International Management Seminar**

An OECD International Management Seminar on 'Enterprise Manpower Planning for Change' was held in Lisbon from 13–16 January 1970, under the chairmanship of Dr Martin Kluge (Federal Republic of Germany). There were thirteen papers, presented by participants from Germany, Norway, the USA, the Netherlands, Japan, France, Italy, Sweden, Switzerland and the UK. All reported a remarkable growth in manpower planning activity during the past five years, and acceptance of the need to engage in systematic planning activity as a means of coping with the rate of technological, social and educational change. The Rapporteur Général was Mr J. E. Bayhylle (UK Engineering Employers' Federation). British papers were presented by Mr E. S. M. Chadwick (BP) and Mr K. McCulloch (Consultant, DEP). Observers included Mr B. R. Morris and Mr A. R. Smith (CSD Statistics Division). The proceedings will be published by the Manpower and Social Affairs Directorate of OECD.

PUBLICATIONS

Family Expenditure Survey 1969

Analyses of the weekly income and expenditure in 1969 of households in the United Kingdom are being published in the June issue of the *Employment and Productivity Gazette*. They show averages based on information provided by the households which co-operated in the Family Expenditure Survey during the year, together with corresponding 1967 and 1968 results. The full annual report of the Survey will be published later, probably in September.

Household projections

A revised set of household projections for England and Wales and for the Revised Standard Regions has now been published in issue 16 of *Housing Statistics, Great Britain*. These projections, which supersede those for the same areas which appeared in issue 14, were calculated by the Ministry of Housing and Local Government using the 1968-based population projections published in the *Registrar General's Quarterly Return No. 481*, and the Government Actuary's projections of marital condition.

For the first time, an analysis of households according to the age of head is included, and an additional table

*Indicates that the contribution refers to work outside the Government service but is included because of its relevance to Government statistical work.

shows the distribution of potential households by type and the relative increase of each type between 1968 and 1981.

Reference
Housing Statistics, Great Britain (Quarterly) No. 16 (HMSO) March 1970 (Price 15s. 0d.)

Financial Statistics: Notes and Definitions

A revised and expanded supplement of notes and definitions to *Financial Statistics* was published in April. Contents include explanation of the terminology and concepts used in the compilation of financial flow accounts and money supply aggregates. In addition, there is an extended description of the concept of domestic credit expansion and full notes on all the supporting tables to the accounts.

Reference
Financial Statistics: Notes and Definitions (HMSO) (Price 7s. 6d.)

Business Statistics Office

A booklet has been prepared which gives a general account of the background and activities of the Business Statistics Office. Copies can be obtained from the Business Statistics Office, Lime Grove, Ruislip, Middlesex, HA4 8RS. (Tel. 01-866 8771, Ext. 17 or 123).

Census of Production for 1963

Part 133 of the Report on the Census of Production for 1963, containing analyses of census data by country, region and conurbation is now awaiting publication. The provisional date for publication is 1 June 1970.

Publication of this Part will complete the Report on the Census of Production for 1963.

Northern Ireland education

Education Statistics, Volume 9 (HMSO) 1970 (Price 17s. 6d.) contains details of schools, pupils, teachers, scholarships, meals and milk.

Research Reviews

Two new publications are to be added to the SSRC series of Research Reviews:

Comparability in social research
edited by Margaret Stacey.
The purpose of this book is to meet that essential precondition for the development of sociology and sociological theory as a scientific discipline – comparability of the data assembled by those engaged in research. It deals with four of the most commonly used variables (education, family and household, income and occupations) in which a movement to agreed practice in the presentation of data seems most feasible. The result is an important first step towards the ready comparison of social data, which will be of value to a wide range of social scientists.

Comparability in social research was prepared jointly by the SSRC and the British Sociological Association. It is published for them by Heinemann Educational Books Ltd. at 10s.

Population census
by Dr Bernard Benjamin
This account of the practices and problems of the population census differs from other SSRC Research Reviews in that it is a description of the structure of a source of information important for many social scientists, rather than a review of current research developments.

For the most part, the review is a factual statement of the technical and administrative aspects of the population census as normally conducted in Britain, with some reference to international comparability. The planning, conduct and analysis of the modern census requires sophisticated statistical thinking, and a concentration on the specific uses to which the data are to be put. Dr Benjamin spells this out in detail by reference to recent British experience.

Dr Benjamin was Chief Statistician at the General Register Office from 1954 to 1963.

Population census is published for the SSRC by Heinemann Educational Books Ltd., at 10s. 6d.

Statistical sources – where to consult them

Last year a Joint Working Party of the Royal Statistical Society and the Library Association prepared a list of the principal sources of United Kingdom economic statistics; 58 titles appeared on the list. The Joint Working Party has conducted a survey of the public reference libraries in 91 main provincial centres to discover which of the recommended titles were held by the libraries concerned. In 15 provincial centres – Belfast, Birmingham, Cambridge, Canterbury, Coventry, Dundee, Edinburgh, Glasgow, Kingston-upon-Hull, Leeds, Liverpool, Manchester, Newcastle-upon-Tyne, Nottingham, Sheffield – all 58 titles are available for public use, and Aberystwyth, Bradford and Oxford lack only one title each. The survey did not extend to London where all the titles are held in a number of libraries. Among these are Barnet, Camden, Merton and Westminster, and the British Library of Political and Economic Science.

A table showing which of the titles were available in each of the 91 towns was published on page 380 of the *Board of Trade Journal* of 11 February 1970.

Distributive Trades Statistics – a guide to official sources

A guide to all sources of government statistics on the distributive trades, prepared by the Distributive Trades EDC, was published in April (HMSO 13s.). It provides a complete description of the data contained in recent Censuses of Distribution and details of all relevant statistical series.

GOVERNMENT STATISTICAL SERVICE

Appointments

BUSINESS STATISTICS OFFICE

Mr. J. A. Tiffin, a Senior Chief Executive Officer in the Civil Service Department, has been promoted Principal Executive Officer in charge of the new Computer and Management Services Branch at the Business Statistics Office.

Liaison with industry

**Business Statistics Office – Industrial Marketing Research Association Seminar on Business Statistics*

A seminar organised jointly by the Business Statistics Office (BSO) and the London Section and Techniques Committee of the Industrial Marketing Research Association (IMRA) was held on 31 October 1969 at the Board of Trade, Victoria Street, London, S.W.1, to discuss 'Business Statistics and Information for the Manufacturing and Construction Industries'. In the morning session, chaired by Professor C. A. Moser, Director of the Central Statistical Office and Head of the Government Statistical Service, an opening paper by Mr. D. M. Swan of ICI Fibres Ltd. outlined the statistics needed in industry and the gaps which exist in the present framework of official statistics from the point of view of a market researcher. In reply, Mr. H. E. Browning, Deputy Director of the BSO, outlined the new system of industrial statistics and the underlying thoughts behind it, at the same time illustrating how these developments are designed to overcome some of the deficiencies which Mr. Swan found in current industrial statistics.

The Chairman for the afternoon session was Dr. E. R. Wallsgrove, Vice-Chairman of Midland-Yorkshire Tar Distillers Ltd. Mr. M. C. Fessey, Director of the BSO, presented a paper dealing mainly with the longer term plans of the BSO and discussing some of the problems which will be met. Dr F. T. Pearce of IMRA Techniques Committee replied by discussing the extent to which these projected changes would be in the direction that market researchers would wish them to be, particularly with regard to control data.

The proceedings of the seminar were recorded and are being published by IMRA(1). An article appeared in the 1 April issue of the *Board of Trade Journal* summarising the main papers and the points made in discussion.

(1) Available from: The Director, IMRA, Leomansley House, Lichfield, Staffs. (Tel. 054-32-3575) Price 10s. 0d.

**Packaging Statistics: Symposium*

A Symposium on 'Collection of Packaging Statistics' was held under the auspices of PIRA (the research association for the paper and board, printing and packaging industries) at the Royal Festival Hall on 28 January 1970. Mr. A. A. Sorrell, Chief Statistician, Ministry of Technology, spoke to the conference about the Government's plans for recasting the whole range of its industrial statistics and, in particular, how such plans would affect the statistics of the packaging industries.

The major topic of discussion at the Conference was the need for end-use statistics. Mr. Sorrell pointed out that a good deal of detail of the end-use of packaging items could be obtained from the purchases tables in the quinquennial Censuses of Production. More frequent information was desirable about end-uses of packaging products, but there were a number of problems inherent in collecting it. A major one was whether firms were able to provide the figures readily from their records, or were willing to organise them so that they could do so. Agreement was also essential within the industry on the end-use classifications to be adopted; categories suitable for one type of packaging product were unlikely to be of interest to manufacturers of other types. He suggested, therefore, that investigatory work into these two major problems should be done. The resources of the Government Statistical Service would, however, be severely strained for some time in the large scale reorganization of industrial statistics and it would not be possible for the Business Statistics Office to undertake very much in the way of additional inquiries. But Mintech would be glad to join with PIRA in giving advice and help, as far as they could to any effort that the packaging industry decide to make in this field. Some representatives of trade associations were doubtful as to whether their members would be willing or able to provide such information and it was agreed that they would consult with their members and advise PIRA.

**Conference on Statistical Computing*

As a result of the successful meeting on statistical programming held by the Science Research Council at the Atlas Computer Laboratory in 1966, a working party under the chairmanship of Dr. J. A. Nelder and comprising representatives from government departments, the research councils and industry was set up to look in to the possibilities of standardising data structures. This Working Party is organising a second meeting, entitled Statistical Computing 1970, to be held at Imperial College London University on July 16th, 17th 1970 to consider the general problems of statistical computing but with special emphasis on input and output operations, internal data structures and backing store problems.

Full details and application forms can be obtained from B. E. Cooper, Atlas Computing Laboratory, Chilton, Didcot, Berks.

*Indicates that the contribution refers to work outside the Government service but is included because of its relevance to Government statistical work.

Alphabetical Index

The index to *Statistical News* is cumulative. Page numbers are prefixed by the issue number e.g. 1.23 signifies issue number 1, page 23.

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

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

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Studies in Official Statistics

This collection forms a useful set of reference papers on a variety of statistical sources and methods. The list below gives a selection of the titles still in print and available from Her Majesty's Stationery Office.

No. 6 Method of Construction and Calculation of the Index of Retail Prices (February 1967) Price 4s. (4s. 4d.)

No. 11 List of Principal Statistical Series Available (1965: Reprinted 1969) Price 6s. (6s. 8d.)

No. 13 National Accounts Statistics: Sources and Methods (September 1968) Price £2 5s. (£2 9s. 6d.)

No. 14 Agricultural and Food Statistics: A Guide to Official Sources (July 1969) Price 12s. 6d. (13s. 2d.)

No. 15 New Contributions to Economic Statistics (Fifth Series) (Reprinted from *Economic Trends*, May 1967 – August 1969) (January 1970) Price 15s. (16s.)

No. 16 Input-Output Tables for the United Kingdom 1963 (March 1970) Price £2 15s. (£2 16s.)

No. 17 The Index of Industrial Production and other Output Measures (later this year)

A separate **Research Series** was introduced in 1968. The titles published so far are:

No. 1 Duration of unemployment on the register of wholly unemployed (R. F. Fowler) (September 1968) Price 6s. (6s. 6d.)

No. 2 The numbers of coins in circulation in the United Kingdom (R. G. de Glanville) (January 1970) Price 4s. (4s 4d.)

No. 3 Some problems of index number construction (R. F. Fowler) (March 1970) Price 10s. (10s. 6d.)

Prices in brackets include postage

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Note by the Editor

R. E. Beales

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

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

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

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

Enquiries about this publication should be addressed to:
The Information Officer,
Central Statistical Office,
Great George Street,
London, S.W.1.

Subscriptions and sales enquiries should be addressed to Her Majesty's Stationery Office at P.O. Box 569, London S.E.1 or any of the addresses listed on back page of cover