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STATISTICS
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*The Report on the
Censuses of Production
for
1955, 1956 and 1957*

Introductory Notes



*Presented by the Board of Trade to Parliament in pursuance of the
Statistics of Trade Act, 1947 (10 & 11 Geo. 6 Ch. 39, Sec. 7)*

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INTRODUCTORY NOTES

INTRODUCTION

This report relates to the Censuses of Production for 1955, 1956 and 1957, which were sample enquiries of a simple character.

The last census of production in which detailed information was obtained about sales of particular products and purchases of materials and fuel related to 1954. Reports on this census for individual industries have been published in separate volumes, to be followed by three volumes of Summary Tables.

1. The Censuses of Production for 1955, 1956 and 1957 were sample enquiries generally similar in character to the censuses taken for 1952 and 1953. In Great Britain returns were obtained from about one in seven of all establishments in the field of the census for 1955, from about one in eight for 1956, and from about one in nine for 1957. Information collected separately in Northern Ireland, where sampling methods were not employed, is included in the report. The figures in Volumes 1 to 4 relate to the United Kingdom, and Volume 5 contains separate figures for Scotland and Wales. Comparable figures are included for 1951 and 1954, when all industrial establishments were covered.

2. The use of sampling methods inevitably means that precise figures cannot be obtained. The results for industry as a whole are accurate within very close limits, but a rather wider margin of uncertainty attaches to those for individual industries. In spite of this, it was considered that they should be published for those industries - principally the larger ones - where the margin of uncertainty is not too great; but that the results are based on sampling, and are not precisely accurate, should be borne in mind in any use that is made of them. An indication of the magnitude of the sampling errors is given in an appendix to Volume 4.

3. The figures in this report are estimates for all establishments in the United Kingdom, including those belonging to small firms with ten or fewer persons employed. In this respect, the report differs from previous census reports, in which a distinction between large and small firms has been made.

4. The censuses were taken in Great Britain under the Statistics of Trade Act, 1947, which provided for annual censuses of production beginning with the census for 1948. In Northern Ireland censuses have been taken for 1949 and each subsequent year under the Statistics of Trade (Northern Ireland) Act, 1949.

5. The subjects to be covered were decided after consultation with the Census of Production Advisory Committee, as provided for in the Act. This Committee, appointed by the President of the Board of Trade, included members representative of industry, organised labour, the accountancy profession, the universities and the public service.

SCOPE OF THE CENSUS

6. The censuses covered undertakings in the field of industrial production, including building and contracting, public utilities, and mines and quarries; private firms, nationalised undertakings, and government establishments were included. With the exception of the building and contracting industries, establishments mainly engaged in repairing were included if they worked mainly for the trade but were excluded if they worked mainly for the public; in the building and contracting industries all establishments mainly engaged in repair work were included.

7. This report does not cover the following sections of industry, which were included in the censuses taken for the years 1948 to 1953:

Wholesale slaughtering
Tea blending and coffee roasting
Laundries, dry cleaning, job dyeing and carpet beating

Boot and shoe repairs for the trade
Bread and flour confectionery
Railways (civil engineering)
Tram, trolley bus and omnibus undertakings (civil engineering)
Canal, dock and harbour undertakings (civil engineering)

Scrap metal processing
Milk bottling
Retail bespoke tailoring and dressmaking

The industries in the first group above were excluded from the censuses taken for 1954 to 1957 inclusive; those in the second group from 1955 to 1957; and those in the third group from 1956 and 1957 (information for these three sections for 1955 is available on application to the Census Office). The figures shown for earlier years

have been adjusted to correspond with the coverage for 1956 and 1957. Certain other exclusions were made from the censuses taken in Northern Ireland, where mines and quarries have been excluded from 1951, and flax processing from 1952. Because of the lapse of time, it has not been thought practicable to make estimates in respect of this production, and the figures shown are therefore deficient to this extent.

PERIOD COVERED

8. Firms were required to make returns in respect of the calendar year, but, if the calendar year was not their year of account, a return for a business year ending on any date from 6th April in the census year to 5th April in the following year was accepted. A similar concession was made for previous censuses.

SAMPLING PROCEDURE

9. Separate samples were drawn each year, but all the largest establishments in each industry were included. For the 1955 census these establishments accounted for about 70 per cent of net output but for 1956 and 1957 this proportion was slightly less. Other 'larger establishments', i.e. establishments of firms employing on average more than ten persons, were classified for the 1955 and 1956 censuses to strata according to their size as measured by the employment returned at the 1951 census, and for the 1957 census to strata based on the 1954 census results. For each stratum a sampling fraction was fixed (that is, the proportion of all the establishments in the stratum which was selected for inclusion in the sample). The sampling fractions varied with the size of establishments as measured by employment. In a few industries where the total number of larger establishments was small, all such establishments were included. Information was not collected for 'small firms', i.e. firms employing ten or fewer persons, except in the building industry, in which the output of small firms represents an exceptionally large proportion of the total.

10. Sampling within strata was random and all establishments in the same stratum had an equal chance of being selected, with the exception that the smaller establishments selected for 1955 were excluded for 1956, and those selected for 1956 were excluded for 1957.

11. Establishments which had not previously made returns because they were not operating were generally all required to make returns.

12. Sampling methods were not employed in the coal-mining, gas and electricity supply, and

mineral oil refining industries, for which returns were collected by the Ministry of Power, nor (as stated above) in Northern Ireland.

METHOD OF CANVASS

13. Firms whose establishments were to be included were given advance notice of the questions which would be asked, and at the same time similar information was supplied to trade associations.

14. Statutory forms for the 1955 census were sent to firms at the beginning of 1956 in respect of about 37,000 of the approximately 270,000 establishments on the census register. Three months were allowed for the completion and return of the forms. First reminders were sent to some 17,000 firms. Second reminders were required in about 9,000 cases. A final application was made by registered post to about 5,000 establishments whose returns were still outstanding. About 27,000 returns were received covering about 36,500 establishments.

15. The method of taking the censuses for 1956 and 1957 was similar to that for 1955. Forms for the 1956 census were sent to firms at the beginning of 1957 in respect of about 34,000 of the approximately 270,000 establishments on the register. First reminders were sent to approximately 20,000 firms, second reminders to 12,000 and final applications to 6,600, the reminders being despatched somewhat earlier than in the previous year. About 26,000 returns were received covering about 33,000 establishments. For 1957, forms were sent to firms at the beginning of 1958 in respect of about 28,000 of the approximately 260,000 establishments on the register. First reminders were sent to some 16,000 firms, second reminders to 9,000 and final applications to 6,000. About 23,000 returns were received covering about 27,000 establishments.

16. In 1955 and 1956 about two per cent and in 1957 about five per cent of the returns were queried with the firms concerned as the result of being found to be defective or inaccurate. The censuses were conducted by correspondence, no local staff or enumerators being employed by the Census Office.

17. In Northern Ireland about 1,500 returns were received each year from firms employing more than ten persons.

PRELIMINARY ESTIMATES

18. Preliminary estimates for the censuses for 1955, 1956 and 1957 were published in the Board of Trade Journal of December 22, 1956, December 20, 1957, and November 21, 1958 respectively.

This report incorporates revisions to the figures then published to take account of the more complete information now available. These revisions have been relatively slight for 1956 and 1957, when special efforts were made to obtain outstanding returns in time for inclusion in the preliminary estimates.

INDUSTRIAL CLASSIFICATION

19. Establishments were classified to industries according to the nature of their output and, as far as possible, in conformity with the Standard Industrial Classification published by the Central Statistical Office in 1948. In the detailed censuses taken for 1951 and 1954, certain products, called principal products, were identified as characteristic of the production of individual industries, the principal products for a given industry being of a similar nature or commonly associated in production. The principle of classification normally followed was that an establishment was classified to an industry if its output of the principal products of that industry accounted for a greater proportion of the value of its total output than did its output of principal products of any other industry. As firms were not required for 1955, 1956 and 1957 to return detailed information concerning their output, it was not possible to classify establishments to particular industries in this manner. In the main, therefore, establishments were classified to the same industries as for 1954; but firms were asked to state if there had been any substantial change in their output and, as a result, a small number of establishments were reclassified. The report indicates the minimum list headings of the Standard Industrial Classification covered by each industry.

THE ESTABLISHMENT

20. The basic unit for the collection of information was generally the 'establishment'. In the majority of cases an establishment comprises the whole of the premises under the same ownership or management at a particular address (e.g. a mine or factory). Offices, warehouses, laboratories and other ancillary places of business which were situated apart from the producing works were not regarded as separate establishments and were included in the return for the works. The activities of separate selling or transport organisations, for which separate accounts were kept, were, however, excluded from the return.

21. Undertakings with more than one establishment covered by the census of production were required

to make a return in respect of each establishment selected, and to include in each return an appropriate proportion of the employees, wages, salaries, materials purchased, etc. of any 'common service' departments such as head offices, research departments, etc. Where two or more distinct industries were carried on in separate departments of a single works, the firm was generally required to treat these as separate establishments and to make a separate return for each selected department, if included in the sample, on the appropriate form.

22. If, owing to the system of accounting, firms with more than one establishment were unable to make separate returns for each establishment, they generally made one return covering all establishments in one industry, but were required, in addition, to give certain summary information separately for each establishment. Separate returns were, however, required for England, Wales, Scotland and Northern Ireland where the establishments were located in more than one of these countries.

SUBJECTS ON WHICH INFORMATION WAS OBTAINED

23. The following sections were included:

1. Working proprietors
2. Employment
3. Wages and salaries
4. Expenditure on plant, machinery, vehicles and new building work
5. Amount paid for work given out
6. Stocks at the beginning and end of the year of return
7. Transport payments
8. Materials and fuel purchased in year of return
9. Sales and work done in year of return

The information collected was generally less detailed than that obtained for 1951 and 1954. Notes on the different sections are included in the following paragraphs.

INSTRUCTIONS FOR MAKING RETURNS

24. The following notes outline the general instructions given to firms as to the way in which returns were to be completed, and should be of use in interpreting the results published in the report. Any differences in the instructions given to firms in Northern Ireland are indicated.

25. In many industries it was found necessary to amend or supplement the general instructions in order to fit the special circumstances of the particular industry. Where these supplementary instructions affect the basis of the figures returned, a note of explanation is included in the report on the industry concerned.

WORKING PROPRIETORS

26. In Great Britain, firms other than limited companies were required to state the number of working proprietors engaged in the business. The figures shown were to include all persons regarded as 'self-employed' for National Insurance purposes and members of their families who worked in the business without receiving fixed wages or salaries; but persons working less than half the normal hours were to be excluded. In Northern Ireland the instructions were similar except that directors of limited companies, other than those paid by fee only, were included with working proprietors. In this report, separate figures are not given, but working proprietors are included with persons employed against the heading 'Total employment'.

PERSONS EMPLOYED

27. Firms were required to classify persons employed by them under the two headings of (i) administrative, technical and clerical employees and (ii) operatives.

28. 'Administrative, technical and clerical employees' included managers, superintendents, and works foremen; research, experimental, development, technical and design employees (other than operatives); draughtsmen and tracers; travellers; and office (including works office) employees. For Great Britain, but not for Northern Ireland, the figures included also directors (other than those paid by fee only).

29. 'Operatives' included all other classes of employees, that is, broadly speaking, all manual workers. The figures included those employed in or about the factory or works; inspectors, view-ers and similar workers; operatives employed in transport work, stores and warehouses (unless employed at a separate selling or transport organisation); and cleaners. Operatives engaged in outside work of erection, fitting, etc. were also included.

30. All these figures were to exclude canteen employees, outworkers, and persons engaged in merchanting or any other activities not covered by a firm's return.

31. The particulars required related to the persons on the pay-roll (i.e. whose National Insurance cards were held by employers), whether full-time or part-time employees.

32. Firms were required to state the average numbers of operatives and of administrative, technical and clerical employees on the pay-roll during the year of return; averages might be cal-

culated from figures relating to the last week of each calendar month.

WAGES AND SALARIES

33. Firms were asked to state the amounts paid during the year of return to operatives and to administrative, technical and clerical employees. Payments to working proprietors, whether called salaries or not, were to be excluded; in Northern Ireland this exclusion extended also to payments to directors of limited companies. The amounts returned were to include all overtime payments, bonuses and commissions and were to be stated before deductions for income tax, insurances, contributory pensions, etc. Payments in kind, travelling expenses, lodging allowances, etc. and employers' contributions to National Insurance schemes were to be ignored.

CAPITAL EXPENDITURE

(i) PLANT, MACHINERY AND VEHICLES

34. Firms were required to state the total value of plant and machinery and of vehicles acquired (both new and second-hand, whether acquired outright or by hire purchase) and the amounts received for items disposed of during the year. They were to include office machinery, renewals of plant, etc., and plant etc. which firms produced for their own use in connection with the business covered by the return. The value of plant, etc. acquired was to be the expenditure charged to capital account during the year of return less any discounts received, but including the cost of transport and installation. No deduction was to be made for depreciation, amortisation or obsolescence. The proceeds of items disposed of during the year were to be stated inclusive of the estimated proceeds of insurance claims for plant, etc. destroyed or damaged, but not of amounts written off for items scrapped.

(ii) NEW BUILDING WORK

35. Firms were required to state the cost incurred by them during the year on new building and other new constructional work (including office buildings, canteens and the like used in connection with their businesses but not dwelling houses for employees). The amount returned was to include expenditure on new buildings, including the extension or reconstruction of old buildings, the cost of replacing any buildings destroyed by fire or war damage, and the cost of any newly constructed buildings purchased. The cost of old buildings, and site values, development charges, legal charges, etc. were to be excluded.

The value was to be that charged to capital account during the year of return excluding all expenditure so charged before the beginning of the year. The figures shown include capital expenditure during the year in respect of establishments which had not begun production before the end of the year. This information was obtained by means of a supplementary enquiry.

WORK GIVEN OUT

36. Firms giving out materials for processing, etc. to other firms, or to any of their establishments for which separate returns were made, were required to state in one sum the amount paid for the work given out during the year. Payments made to individual outworkers in respect of work done by them were excluded.

STOCKS AND WORK IN PROGRESS

37. Firms were required to state separately, as for previous years, the income tax value of their stocks of products on hand for sale and of materials and fuel at the beginning and end of the year of return.

38. The value of work in progress at the two dates was also required. Firms were instructed not to include any progress payments made by them to sub-contractors working on their materials, nor to make any deductions on account of progress payments received from customers.

39. Differences arise between the values of stocks and work in progress shown for the end of one year and the beginning of the next, and in some industries they are substantial. These differences are due to various causes, e.g. starting up or closing down of establishments, changes in the industrial classification of establishments, changes in the periods covered by individual firms' returns, transfers by firms between materials and work in progress, and the replacement of provisional estimates by final figures taken from audited accounts. In addition most of the figures shown for 1955, 1956 and 1957 are estimated from samples, and are therefore subject to sampling errors.

TRANSPORT PAYMENTS

40. Firms were required to state the total amount paid (or credited) to other firms and undertakings, and to their own separate transport organisations, for transport during the year, whether for outwards transport of finished goods sold or inwards transport of materials and fuel purchased. The amount paid, which also covered payments for hired cartage, was to include payments for inwards and outwards carriage by all

forms of inland transport, that is, railways, road haulage, canals, coast-wise shipping, air, etc. Payments made for sea freight on goods sold to customers overseas and on materials and fuel purchased from overseas suppliers were excluded.

MATERIALS AND FUEL

41. Firms were required to state in one sum the cost of materials and fuel purchased during the year. To be included in the total cost were all purchases of materials for use in production, and of fuel (including oil, gas and electricity) for all purposes including heating, lighting, and transport (where carried out by firms' own staff included in the return); all packing materials, including the full cost of returnable cases and containers when first purchased; workshop materials; office materials; water charges; materials for repairs to firms' own buildings, plant and vehicles when carried out by their own workpeople included in the return; consumable tools; and parts for machinery purchased during the year as replacements. Materials, components, etc. which were purchased and re-sold without further processing (merchanted or factored goods), and materials supplied by customers for processing, were excluded.

42. Amounts paid to transport organisations, including firms' own separate transport organisations, for delivery of materials and fuel were excluded. For all years the cost of materials normally included any duty paid (less rebates, etc.). Materials and fuel transferred from other departments of the firm not covered by the same return were to be included at the value recorded as output by the other departments.

OUTPUT IN THE YEAR OF RETURN

43. For 1955, 1956 and 1957, firms were required to state, in one sum, the total value of goods and waste products of their own production sold together with the amount charged to customers for work done during the year. No detailed information was required of the value and quantity of particular items sold. To be included in the total value was the value of sales during the year of goods and waste products made in the establishment covered by the return, and also those made for it by outworkers or by other firms from materials given out to them, and the net amount charged for packing materials. The value of sales of merchanted goods was excluded. For industries such as building, shipbuilding, and cinematograph film production, in which the productive processes are complex and extend over long periods, a return of the value of work done during the year was required.

44. The value of sales required was the net selling value, defined as the amount charged to customers whether on an ex-works or delivered basis, net of any trade discounts, agents' commissions, allowances for returnable cases, purchase tax, etc. Where goods were charged on a delivered basis to customers overseas, firms were asked to give the f.o.b. value.

45. Where separate returns were made for different departments of the same firm, and goods produced in one department were used in another department, the value of the goods was required to be included in the output of the first (producing) department, and in the materials of the second (using) department, on the common basis of the charge that would have been made to an independent purchaser buying similar quantities, with due allowance for transport costs. Goods transferred to a separate selling organisation under the same control were to be valued on the same basis.

46. Firms working on commission or for the trade on materials given out to them by other firms were required to include the net amount charged by them to their customers.

CALCULATIONS MADE FROM CENSUS RETURNS

GROSS OUTPUT

47. The 'gross output' of an industry is the total value of goods made and other work done during the year by the establishments classified to the industry. In some industries intermediate products are sold between firms in the industry and the gross output will then include an element of duplication. Gross output is derived by subtracting from the value of sales and work done the value of stocks of finished goods and work in progress at the beginning of the year and adding the corresponding value at the end of the year. Gross output figures include payments for transport outwards.

NET OUTPUT

48. The net output of an industry is defined as the amount left after deducting from the value of gross output the aggregate of the cost of materials and fuel used, the amount paid for work given out and any transport payments made. This residual figure represents the value added to materials by the process of production, and constitutes the fund from which wages, salaries, rents, rates and taxes, advertising and other selling expenses, and all other similar charges have to be met, as well as depreciation and profits.

49. Normally any customs or excise duty on materials purchased was included in the cost of materials. Similarly, finished goods sold were valued as they were sold, duty-paid or duty-free. The amounts of duty, subsidies, allowances and levies receivable or payable on goods withdrawn from bond, produced or sold, where of substantial importance, were required to be stated separately and the net amount of duty paid was deducted in arriving at net output.

50. The figures for net output per person employed are derived by dividing the net output by the average number of persons employed (full-time and part-time) including operatives, administrative, technical and clerical employees and working proprietors, but excluding outworkers.

METHOD OF ESTIMATING

51. Except for the few industries where returns were required for all establishments, the figures shown in the tables were estimated from the information received for the establishments included in the samples. This was done by first multiplying the total of the figures for each item returned by the selected establishments in each sampled stratum of each industry by a 'grossing-up factor' and adding together the results for all the strata in each industry. The grossing-up factor used was the denominator of the fraction used in selecting the sample (e.g. 1, 2, 5, 10).

52. The figures obtained for each industry were then adjusted by multiplying the results by a correction factor. The correction factor employed was the ratio of total employment in establishments in the sampling field as recorded at an earlier full census to the estimate of employment in the earlier year obtained by grossing-up the figures for that year for establishments included in the sample. The 1955 estimates were corrected by reference to employment figures for 1951, and the 1956 and 1957 estimates by reference to those for 1954.

53. The estimates so obtained for larger establishments had to be supplemented by estimates for the small firms from whom returns were not required. These additional estimates were normally made by increasing the other items in the same proportion as total employment in 1951 or 1954.

54. It was not possible to make satisfactory estimates of the total number of establishments for 1955, 1956 or 1957 in the industries where sampling methods were used. The figures shown for the total number of establishments in 1951 and 1954 are approximate only, being the sum of

the numbers of larger establishments and of small firms covered by the returns made; no allowance has been included for the small number of firms from whom satisfactory returns were not received, because it is not known how many of them were in operation in particular industries.

CONTENTS OF THE REPORT

55. Each of the first four volumes of this report covers a group of industries. Separate information is given for each Standard Industrial Classification Order heading and for selected industries within each Order. For each S.I.C. Order and for each selected industry there is a table showing estimates of the United Kingdom totals for the items on which information was collected in the censuses for 1955, 1956 and 1957, together with gross and net output and net output per person employed. Comparable figures are shown for 1951 and 1954. Volume 4 also contains summary tables giving totals for all manufacturing industries, etc. In the fifth volume estimates are given for certain industries in Scotland and Wales. A list of the S.I.C. Orders included in each volume will be found in the Appendix to these notes.

56. In interpreting the data in the tables, it is important to bear in mind not only the quali-

fications mentioned in the tables but also the general explanations and qualifications in these notes.

DISCLOSURE OF INFORMATION

57. The report has been prepared in conformity with the disclosure provisions of the Statistics of Trade Act, 1947.

SYMBOLS USED

58. The following symbols are used throughout the reports:

- .. for not available
- for nil or negligible (less than half the final digit shown)

ROUNDING OF FIGURES

59. For the reasons given in paragraph 2 above, the figures in this report cannot be regarded as accurate to the last digit shown, though for convenience of presentation most of the values are given to the nearest £ thousand.

60. As the figures have been rounded to the nearest final digit, there may be in some tables apparent slight discrepancies between the sums of the constituent items and the totals shown.

APPENDIX
LIST OF STANDARD INDUSTRIAL CLASSIFICATION
ORDERS INCLUDED IN EACH VOLUME

VOLUME 1 ✓

- III. Treatment of Non-Metalliferous Mining Products other than Coal
- IV. Chemicals and Allied Trades
- V. Metal Manufacture

VOLUME 2 ✓

- VI. Engineering, Shipbuilding and Electrical Goods
- VII. Vehicles
- VIII. Metal Goods not elsewhere specified
- IX. Precision Instruments, Jewellery, etc.

VOLUME 3 ✓

- X. Textiles
- XI. Leather, Leather Goods and Fur
- XII. Clothing
- XIII. Food, Drink and Tobacco
- XX. Textile Converting
(Part)

VOLUME 4

- XIV. Manufactures of Wood and Cork
- XV. Paper and Printing
- XVI. Other Manufacturing Industries
- II. Mining and Quarrying
- XVII. Building and Contracting
- XVIII. Gas, Electricity and Water

Volume 4 also contains summary tables giving totals for all manufacturing industries, etc.

VOLUME 5

Selected industries in Scotland and Wales.

With Volume 5 will also be issued an index giving the volume, table and page reference for each Standard Industrial Classification Order and industry included in The Report on the Censuses of Production for 1955, 1956 and 1957.

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