## Business Monitor

A publication of the Government Statistical Service

# Report on the <br> Census of Production <br> Paper and board 

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## Report on the Census of Production 1971

## Paper and board

Presented by the Secretary of State for Industry to Parliament in pursuance of the Statistics of Trade Act 1947 ( $10 \& 11$ Geo. 6 Cha. 39 sec 7 )

## Department of Industry

Business Statistics Office

| PA1001 PA101 | 01 Introductory |
| :---: | :---: |
| PA102 | 2 Stone and slate quarrying and mining |
| PA103 | 3 Chalk, clay, sand and gravel extraction |
| PA104 | 4 Petroleum and natural gas |
| PA109. | 9.1 Metalliferous mining and quarrying |
| PA109.3 | 9.3 Salt and miscellaneous non-metalliferous mining and quarrying |
| PA211 | 1 Grain milling |
| PA212 | 2 Bread and flour confectionery |
| PA213 | 3 Biscuits |
| PA214 | 4 Bacon curing, meat and fish products |
| PA215 | 5 Milk and milk products |
| PA216 | Sugar |
| PA217 | 7 Cocoa, chocolate and sugar confectionery |
| PA218 | 8 Fruit and vegetable products |
| PA219 | Animal and poultry foods |
| PA221 | 1 Vegetable and animal oils and fats |
| PA229.1 | 9.1 Margarine |
| PA229.2 | 9.2 Starch and miscellaneous foods |
| PA231 | Brewing and malting |
| PA232 | Soft drinks |
| PA239.1 | . 1 Spirit distilling and compounding |
| PA239.2 | 相 ${ }^{\text {British wines, cider and perry }}$ |
| PA240 |  |
| PA261 | Coke ovens and manufactured fuel |
| PA262 | Mineral oil refining |
| PA263 | Lubricating oils and greases |
| PA271.1 | 11 General chemicals (inorganic) |
| PA271.2 | General chemicals (organic) |
| PA271.3 | . 3 Miscellaneous general chemica |
| PA272 | Pharmaceutical chemicals and preparations |
| PA273 | Toilet preparations |
| PA274 | Paint |
| PA275 | Soap and detergents |
| PA276 | Synthetic resins and plastics materials and |
|  | Synheric rubber |
| PA278 | Dertilizers |
| PA279.1 | . 1 Polishes |
| PA279.2 | . 2 Formulated adhesives, gelatine es |
| PA279 | Explosives, fireworks and matches |
| PA279 | Formulated pesticides and disinfectants |
| ${ }^{\text {PA2 } 279.5}$ | 5 Printing ink |
| ${ }^{\text {PA2279.6 }}$ | 6 Surgical bandages etc. |
| PA279.7 | 7 Photographic chemical materials |
| PA311 | Iron and steel (general) |
| PA312 | Steel tubes |
| PA313 | Iron castings |
| PA321 | Aluminium and aluminium alloys |
| PA322 | Copper, brass and other copper alloys |
| ${ }_{\text {PA }}$ | Other base non-ferrous metals |
| PA331 | Agricultural machinery (other than tractors) |
| PA332 | Metal-working machine tools |
| PA333 | Pumps, valves and compressors |
| PA334 | Industrial engines |
| PA335 | Textile machinery and accessories |
| PA336 | Construction and earth moving equipment |
| PA337 PA338 | Mechanical handling equipment |
| ${ }_{\text {PA }}$ | Office machinery |
| ${ }_{\text {PA }}$ P43939.1 | Mining machinery |
| ${ }_{\text {PA }}$ P439.2 P | 2 Printing and bookbinding machinery |
| PA339.3 R | Refrigerating machinery |
| PA339.4 | Space heating, ventilating and air-conditioning |
|  |  |
| PA339.9 | Food and drink processing machinery |
| PA341 In | Industrial (including |
| PA342 | Ordnance and small arms |
| PA349 B | Ball and roller bearing |
|  | Precision chains and other mechanical en |
|  | Photographic and do |
|  | Surchical and clocks |
|  | Surgical instruments and appliances |
| PA334 | Scientific and industrial instrumen |
| PA362 In | Electrical machinery |
| PA363 | Insulated wires and cab |
|  | Telegraph and telephone apparatus and equi |
|  | Broadcast receiving componen |
|  | and sound reproducing equipment |
|  | Radio, radar and electronic capital |



The information in this report relates to establishments classified to the Paper and board industry, minimum The infoading 481 in the Standard Industrial Classification (revised 1968). The activities of the industry
list heal incl lude:-

Manufacturing all types of paper and board, including newsprint, printing and writing paper, wrapp Manufacturing all types, cardboard and building board; and paper coat ing
paper, cigarette paper
excluded and is classified to minimum list heading 297.7 (part Pa297.7).
excluded and is classified to minimum list heading 297.7 (part PA297.7). Aaper sensitizing is

In interpreting the data in the tables it is essential to bear in mind the notes and definitions which commence on page (iii)

| Table <br> No | Title |
| :--- | :--- |

Section I - Estimates for all United Kingdom establishments in the industry Input and output, 1970 and 1971 - Establishments classified to the industry
2 Capital expenditure and stocks, 1970 and 1971 - Establishments classified to the industry
Analysis of establishments by size, 1971 - Establishments classified to the
industry industry

Percentage analysis of employees by full and part time employment and sex, 1971 Establishments classified to the industry
Regional distribution of employment, net capital expenditure and net output, 1971 Establishments classified to the industry
Section II - Analysis of returns received
Percentage analysis of twelve-month periods covered by returns from establishments employing 25 or more persons, 1971

TABLE 1
Input and output, 1970 and 1971
United Kingdom establishments classified to the industry (a)

|  | Unit | 1970 | 1971 |
| :---: | :---: | :---: | :---: |
|  | Number | 175 | 170 |
| Enterprises | " | 263 | 258 |
| Establ ishments |  |  |  |
|  | £'000 | 533,959 | 516,112 |
| Sales of goods produced and work done <br> Sevices rendered to other organisations (b) | 200 | 4,317 | 2,214 |
| Services rendered to <br> Gods merchanted or factored | 1 | 6,409 | 9,525 |
| Coods meer takings | " | 822 | 631 |
| Total sales and work done | " | 545,508 | 528,482 |
| Increase during the year, goods on hand for sale | " | 4,050 | $\begin{array}{r} 1,357 \\ 365 \end{array}$ |
| Increase during the year, work in progress | " | 569 |  |
|  | " | 550,128 | 530,204 |
|  | " | 359,304 | 326,485 |
| Cost of purchases |  |  |  |
| Increase during the year, stocks of materials, stores and fuel | " | 11,956 | 4,538 |
| Payments to other organisations for work done on materials given out | " | 589 | 803 |
| for transport by road | " | 12,818 | 12,604 |
| for transport by rail, water, air and Post Office parcel services | " | 1,356 | 1,167 |
| Total costs | " | 362,112 | 345,597 |
| Net output | " | 188,016 | 184,607 |
| Total employment (including working | Thousands | 76.3 | 69.1 |
|  | £ | 2,464 | 2,672 |

(a) For 1971, estimates for establishments not making satisfactory returns and for establishments employing less than 25 persons, accounted for 13 per cent of the total figures in which they were incorporated: of this unsatisfactory returns accounted for 12 per cent were incorporated: of this unsatisfactory returns accounted
comparable figures were 5 per cent and 4 per cent respectively
解
(b) Amounts charged for hiring out alander
(c) Average number of persons employed during the year

TABLE 2
Capital expenditure and stocks, 1970 and 1971
All United Kingdom establishments classified to the industry (a)

|  | 1970 | 1971 |
| :---: | :---: | :---: |
| Capital expenditure (b) | £'000 | $£^{\prime} 000$ |
| New building work | 5,525 | 3,181 |
| Land and existing buildings |  |  |
| Acquisitions | 554 | 504 |
| Disposals | 640 | 1,418 |
| Plant and machinery |  |  |
| Acquisitions | 26,698 | 21,046 |
| Disposals | 598 | 988 |
| Vehicles |  |  |
| Acquisitions | 1,179 | 1,106 |
| Disposals |  | 406 |
| Total net capital expenditure (c) | 32,344 | 23,024 |
| Stocks and work in progress at end of year (d) |  |  |
| Materials, stores and fuel | 55,545 | 52,765 |
| Work in progress | 7,864 | 9,283 |
| Goods on hand for sale | 27,402 | 29,724 |
| Total stocks | 90,811 | 91,771 |

(a) Including estimates for establishments not making satisfactory returns and for establishments employing less than 25 persons
(b) Capital expenditure in respect of manufacturing establishments where production had not commenced before the end of the year, is included.
(c) Acquisitions less disposals.
(d) The stock changes in Table 1, based on opening and closing values returned by firms, may be different from those obtained from end-year values. The differences are attributable to variation in valuation by firms between the years and to differences in respondents, and in total employment.

TABLE 3
Analysis of establishments by size, 1971
All United Kingdom establishments classified to the industry (a)

(a) Including estimates for establishments not making satisfactory returns and for establishments employing less than 25 persons.
(b) Average number employed during the year (including working proprietors) by the establishment
(c) Some enterprises control establishments in more than one size group: the sum of the figures for the size groups will therefore exceed the total for the industry.
(d) Administrative, technical and clerical employees
(e) Including sales of goods merchanted or factored, canteen takings and services rendered to other organisations (amounts takings and services rendered to machinery or other goods, for charged for hiring out plant, machinery or other goods, for providing transport, or for any technical or other services rendered).
(f) Acquisitions less disposals.

Percentage analysis of employees, by full and part time employment and sex, 1971 (a) All United Kingdom establishments classified to the industry

| Sex | Full time | Part time | All employees |
| :---: | :---: | :---: | :---: |
| Male | per cent | per cent | per cent |
|  | 81 | 1 | 82 |
|  | 15 | 3 | 18 |

Source: Department of Employment

The percentages relate to the numbers employed (excluding working proprietors) at mid-June, 1971

TABLE 5
Pional distribution of employment, net capital expenditure and net output, 1971
111 United Kingdom establishments classified to the industry

(a) Including working proprietors
(b) New building work plus acquisitions less disposals of land and existing buildings, plant and machinery and vehicles.
c) Where a census return covered addresses in two or more regions an estimate was made of the net output attributable to the region only where more than 80 per cent of the establishment's employees were located
in the region. in the region. The estimate was made by assuming that net output at each address covered in a red in unallocated net output.
d) Includes estimates of net out making satisfactory returns and establishments employing less than 25 employees, and unallocated net output of establishments covering addresses in two or more regions.
table 6
Percentage analysis of twelve-month periods covered by returns received from United Kingdom establishments

| Accounting year ended | Percentage of total returns received | Percentage of total number employed |
| :---: | :---: | :---: |
|  | per cent | per cent |
| 1971 April (a) | 1.1 | 1.4 |
| May | 0.6 | 0.3 |
| June | 1.1 | 0.4 |
| July | 1.1 | 0.5 |
| August | 0.6 | 0.3 |
| September | 8.1 | 11.3 |
| October | 11.6 | 11.8 |
| November | 0.0 | 0.0 |
| December | 46.2 | 46.0 |
| 1972 January | 6.4 | 4.0 |
| February | 1.2 | 0.8 |
| March (b) | 22.0 | 23.2 |
|  | 100.0 | 100.0 |

(a) From 6th April
(b) Including returns made for twelve-month period ended 1st to 5th April 1972.

Notes
hese notes give the main information needed for interpreting he figures in the industry reports, (more detailed information bout the census is given in a separate booklet- "Introductory
Notes", Part PA1001 of the Report on the Census of Production for 1971).
eneral information
Changes compared with 1970 The questions asked it the main exception: for 1971 establishments were asked to include in capital expenditure, expenditure on units that were not in production in the year of return, for
1970 this expenditure was collected in a separate inquiry. This change of method of collection does not affect the results for 1977 and 1971 because capital expenditure for units
production is included in the aggregates for both years.
Industrial classification
The Annual Censuses of Production are conducted on the usiness Statistics Office's Production Register. Normally stablishments on the Register are classified to industries on the basis of major activity in conformity with the third edition of he Standard Industrial Classification (Revised 1968). Normally principal products of that industry accounted for a greater proportion of its total sales than in its sales of the principa products of any other industry; classification is generally based on an establishment's returns to the quarterly production
inquiry. Where this was not possible-for example where a quarterly production inquiry had not then been introducedthe classification of an establishment reflects its return to the

Census of Production, 1968. Establishments for which informaCensus of Production, either from the quarterly inquiries or the | tion was |
| :--- |
| 1968 Census were classified on the basis of the description | of the business given by we ithe course of registration.

Coverage
Detailed census returns were generally sought only from establishments employing on average 25 or more persons, but in some industries where firms empoying less total employment and output the exemption limit was lowered to 11. Censu returns were also sent to estabistics
not known to the Business Statistics Office at the time of dispatch.
terms used in the census report
Average number employed
Establishments were required to state the number of persons on the payroll (i.e. whose national insurance cards were held by
them) on the average during the year of return, or part time employees. Separate figures were required for (a) Iministrative, technical and clerical employees and (b) all other employees (operatives). Averages could be calculated from figures relating to the last week of each calendar month. Establishments were also required to state the number of working proprietors where appropriate and (i.e. persons employed by employment figures. Outworkers (h.e. perses etc. on materials supplied by the establishments) are excluded.
The figures include persons engaged on merchanting or factoring
and canteen workers where particulars in respect of these and canteen workers where particulars in res
activities could not be excluded from the return.

Working Proprietors
Working Proprietors These include all persons regarded as "self employed" for These include all persons regarded as "self employed for
national insurance purposes and members of their families who worked in the business without receiving a fixed wage or salary but such persons who worked less than half the normal number of vorking hours are excluded. Directors working in the business
but not in receipt of a definite wage, salary or commission are ut not in receipt of a deinite wase, salated under this heading: directors paid by fee only are no included.

Employees
Administrative, technical and clerical employees include managing and other directors in receipt of a definite wage, salar or commission, managers, superintendents and works foremen
employees (other than operatives); draughtsmen and tracers editorial staff, staff reporters, canvassers, competition and
advertising staff; travellers; and office (including works office) employees.
Operatives
Operatives include all other classes of employes, that is,
broadly speaking broadly speaking, all manual wage earners. They include those
employed in and employed in and about the factory or works; operaws
employed in power houses, transport work (including rounds men), stores, warehousses, shops and canteens; inspectors, Operators engaged in outside work of erecting, fitting etc. ar also included, but out-workers are excluded.

Capital expenditure
Capital expenditure during the year in respect of manufacturing units where production had not started before the end of year is included in the figures for both 1970 and 1971.
(2) New building work

This represents the cost incurred during the year of new building this represents other constructional work (including office buildings, canteens and the like used in connection with the business covered by the return, but not dwelling houses for thloyees). he value is that charged exapital acount buildings or on the exturn; it includes expendion of old buildings, the value of works of a capital nature carried out by the estabishment's own staff nd the cost of any newly constructed buidings purcs, agents' commissions, etc.
b) Land and existing buil

The items shown are the capital cost of freeholds purchased and he capital cost of premium payable for leaseholds acquired (excluding the value of any assets acquired in taking over an r account during the year of return
(c) Plant, machinery and vehicles
The items shown are the value of plant and machinery and of vehicles acquired, both new and second-hand, and the amount
received for items disposed of during year. The value of plan received for items disposed of during year. .etc., which firm
and machinery acquired includes plant, eecer produced for their own use in connection with the business covered by the return. The value of plant, etc.,. acquired in expenditure charged to capital accounl
less any discounts received, but including the cost of transpo less any discounts received, but including the cost or depreciation
and installation. No deduction is made for amortization or obsolescence. during the year exclude amounts written off for items scrapped.

Enterprise establishments under common ownership or control. An enterprise normally consists of a single establishment, more than one establishment owned by the same firm, or a number of establishments owned by a parent company and its subsidiary companies. constituent companies of enterprises was Exchange Year Book
published sources such as the Stock En supplemented by information from company reports and information supplied by establishments. The inform most available is not complede
important groups of industrial establishments and is believed sufficient to provide a worthwhile basis for analysis.

Establishment
The definition of an establishment in 1970 and 1971 was that of he Standard Industrial Classification (Revised 1968): "the mallest unit which can provide the information normally required for an economic census, for example, employment, expenses, turnover, cap a single business are carried on at a number of addresses, termed local units. Where the activities of such a business are closely integrated, and detailed census information is not available for each unit, it is treated as a nulti-unit establishment and a single return actepted.
figures are obaciained, however, of employment and net expenditure at each unit.

Gross output
Gross output measures the total value of production (including
work done) by establishments during the year. It is calculated as follows:-

Value of sales and work done
Plus/Less: Increase/decrease in value of stocks of goods on hand
Plus/Less: Increase/decrease in value of work in progress
Gross output.
Net output
Net output represents the value added to materials by the process of production (including the margin on selling any merchanted factored goods). It is calculated as follows:-
Gross output
Less: Purchases adju
Less. Purchases adjusted
and raw materials
Less: Payments for work given to other establishments
Less: Payments for transport
yy duties, subsidies, allowances and levies payable
Net output.

Net output per person employed
The figures of net output per person employed are derived by dividing the net output by the average number of persons
employed (full time and part time) on all activities covered by the returns, including operatives, administrative, technical and clerical employees and working proprietors, but excluding Purchases

## Purchases Purchases

Purchases include the cost of materials and components bough
for use in production: of fuel and electricity for for use in production; of fuel and electricity for anll purposes; of
packaging materials including the cost of return containers when first purchased; of workshop materials, office materials and materials for repairs to to establishment's own
buildings, plants and vehicles buildings, plants and vehicles when carried out by their own
work people included in the returns; of consumable tools and of parts for machinery purchased during the year as replace-
ments. Water charges and ments. Water Charges are also included. In general, purchases of
goods for merchanting or factoring and canteen supplies are goods for merchanting or factoring and canteen supplies are
included. Materials supplied by customers for processing are excluded, as are all purchases charged to capital account.
The values shown include any duty paid The values shown include any duty paid (less rebate, etc.) but
exclude trade discounts allowed. The cost of transpart is include exclude trade discounts allowed. The cost of transport is included
only if included in the cost of materials as invoiced; amounts paid to transport organisations, including an establishment's own separate transport organisations for delivery of materia
and fuel are, therefore, excluded. Materials purchased oversea are included at the c.i.f. cost plus any duty payable if the cost of transport from the docks was not included in the invoiced price,
but at their full delivery cost if invoiced "carriag but at their full delivery cost if invoiced "carriage paid home"
Materials and fuel transferred from another department of the establishment not covered by the same return are included at the estimated selling value recorded by the other department.

Sales
Sales a
She return, goods made for it by outworkers or or by othe
the rest establishments from materials given out to them (sometimes described as goods made on commission) and waste products. Any machinery or other capital items produced for use in the business covered by the return are included, the value being that
adopted in the establishment's asset accounts adopted in the establishment's asset accounts. Goods sold
without being subjected to any manufacturing process (i.e. merchanted or factored) and canteen takingacturing procecess The value shown for sales is the net selling value, defined as the
amount charged to customers whether amount charged to customers whether on an ex-works or
delivered basis excluding any trade discounts, agents' commissions, allowances for returnable cases, purchase tax, etc.; ; the
net amount charged for por net amount charged for packaging materials is included. Goods
charged on a delivered basis to customers overseas are included
at the f.o.b. value.
Goods produced in one establishment and transferred to another establishment of the same firm not covered by the return were
treated as sales by the producing establishment and valued as far treated as sales by the producing establishment and valued as far
as possible as if they had been sold to an independent purchaser. Goods transferred to wholesale or retail selling organisations
for which separate accounts were kept were valued on the same for which separate accounts were kept were valued on the same
basis.

To the extent that sales of finished product of one establish constitute the materials purchased by another, total figures of
the value of sales (and of the valement sales (and of materials and fuel purchased) includ manufacturing, and woollen and worsted, this. motor vehicle substantial; and aggregates of the figures for a number substantial; and aggregates of the e tigures for a number o
industries contain significantly greater amounts of duplication For work done on commission, sub-contract work, etc., the value shown is the total amount charged for the work, including

Services rendered
This represents the amounts charged for hiring out plant technical or other services rendered tor transport, or for any includes amounts credited for similar services rendered to the establishments of the same enterprise not covered by the return.
Standard Industrial Classification
Industry classification is based on the Standard Industrial
Classification Revised Classification (Revised 1968). It is published by HM Stationery betical list of industries.

Stocks and work in progress
Values are given of stocks of goods on hand for sale, and of stocks of ads held for end of the year of return, including any change during the year are also shown Tactoring. Values of the in the case of dutiable goods held out of bond. The value of work in progress at the end of, and the change
during, the year are also usually shown. during, the year are also usually shown. This excludes any progress payments made to sub-contractors, and no deduction is
made on account of progress payments received.

Transport payments
These represent the total amount paid or credited during the year for both outwards transport of finished goods sold and
nwards transport of materials and fuel porchased They inclu payment to other establishments, and to any separate tranclude organisation of the same establishment not covered by the return, but exclude the value of transport services provided by payments for hired by the return. The items included are payments for hired cartage and for inwards and outwards carriage by all forms of inland transport, i.e. railways, road
haulage, canals, coastwise shipping, air, etc. Payments made for sea and air freight on goods sold to customers overseas and on materials and fuel purchased from overseas suppliers are
ages and salaries
These are amounts paid during the year to operatives and to dministrative, technical and clerical employees. Paymients to The values shown include all overtime payments, bonuses and commissions, whether paid regularly or not, and no deduction is made for income tax, insurances, contributory pensions, etc. The alue of any payments in kind, travelling expenses, lodging
llowances, etc. and employers' contributions to national insurances and pension schemes is excluded.

## Work given out

The figures shown represent the total amount paid for work done by other establishments (whether part of the same enterprise or not) on materials supplied to them. They do not include payments to individual outworkers or payments for business and other services.
sMMBOLS USED
The following symbols are used throughout the report
not available

* nil or less than half the final digit shown
ingres cannot be shown owing to the risk of disclosing
information about individual enterprises ${ }^{\mathrm{R}}$ revised


## rounding of figures

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between the sum of the constituent items and the total shown.
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