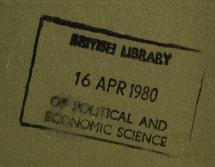
PA276

Business Statistics Office

Business Monitor

Report on the Census of Production

Synthetic resins and plastics materials and synthetic rubber





977

0/42(HA25)

Special Note for Purchasers

Commencing with the 1971 Census, the Census of Production reports are being numbered in a uniform series embracing all industrial inquiries in the Business Monitor series. These Business Monitors have a code P (for production) followed first by A (indicating that it is an annual series) or Q (quarterly) or M (monthly): and then by a number indicating the minimum list heading, or sub-division of a minimum list heading, of the Standard Industrial Classification (revised 1968).

The Census of Production (PA) reports are available on standing order (details on application to Her Majesty's Stationery Office, P.O. Box 569, London SE1 9NH. Telephone 01-928 6977), although they are not included in the global subscription arrangements for the Business Monitor series.

Government Statistical Service

A service of statistical information and advice is provided to the Government by specialist staffs employed in the statistics division of individual Departments. Statistics are made generally available through their publications and further information and advice on them can be obtained from the Departments concerned.

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PA276

Business Monitor

A publication of the Government Statistical Service

Report on the Census of Production 1977

Synthetic resins and plastics materials and synthetic rubber

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

London: Her Majesty's Stationery Office

Stone and slate quarrying and mining

Miscellaneous mining and quarrying

Bacon curing, meat and fish products

Cocoa, chocolate and sugar confectionery

Petroleum and natural gas

Milk and milk products

Bread and flour confectionery

Fruit and vegetable products

Starch and miscellaneous foods

British wines, cider and perry

Vegetable and animal oils and fats

Spirit distilling and compounding

Coke ovens and manufactured fuel

Pharmaceutical chemicals and preparations

Synthetic resins and plastics materials and

Formulated adhesives, gelatine, etc.

Photographic chemical materials

Aluminium and aluminium allovs

Copper, brass and other copper alloys

Agricultural machinery (except tractors)

Compressors and fluid power equipment

Construction and earth-moving equipment

ventilating and air-conditioning equipment

Scales and weighing machinery and portable

Food and drink processing machinery and

Miscellaneous (non-electrical) machinery

packaging and bottling machinery

Ball, roller, plain and other bearings

Surgical instruments and appliances

Radio and electronic components

Telegraph and telephone apparatus and

Gramophone records and tape recordings

Radio, radar and electronic capital goods

Electrical appliances primarily for domestic use

Broadcast receiving and sound reproducing

Printing, bookbinding and paper goods machinery

Industrial (including process) plant and steelwork

Precision chains and other mechanical engineering

Photographic and document copying equipment

Scientific and industrial instruments and systems

Textile machinery and accessories

Mechanical handling equipment

PA339.3 Refrigerating machinery, space-heating,

Ordnance and small arms

Watches and clocks

Electrical machinery

Electronic computers

equipment

equipment

Insulated wires and cables

Animal and poultry foods

Brewing and malting

Mineral oil refining Lubricating oils and greases

Inorganic chemicals

Miscellaneous chemicals

Organic chemicals

Toilet preparations

Soap and detergents

Dyestuffs and pigments

Explosives and fireworks

Surgical bandages, etc

Iron and steel (general)

Miscellaneous base metals

Metal-working machine tools

synthetic rubber

PA279 4 Formulated pesticides etc.

Steel tubes

Pumps

Valves

Iron castings, etc.

Industrial engines

Office machinery

Mining machinery

power tools

Fertilizers

Polishes

PA279.5 Printing ink

Chalk, clay, sand and gravel extraction

Coal mining

Grain milling

Biscuits

Sugar

Margarine

Tobacco

Paint

PA 1001

PA101

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PA109

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PA349.2

PA2712

PA271.3

PA239.2

PA229 2

PA369.1	Electrical equipment for motor vehicles, cycles
	and aircraft

	and aircraft	
PA369.2	Primary and secondary batteries	

PA369.4 Flectric lamps, electric light fittings, wiring accessories, etc.

Shipbuilding and marine engineering PA380 Wheeled tractor manufacturing

PA381 Motor vehicle manufacturing

Trailers, caravans and freight containers PA381.2 PA382

Motor cycle, tricycle and pedal cycle manufacturing Aerospace equipment manufacturing and repairing PA383 Locomotives, railway track equipment, railway carriages PA384

wagons and trams PA390 Engineers' small tools and gauges PA391

Hand tools and implements Cutlery, spoons, forks and plated tableware, etc. PA392

PA393 Bolts, nuts, screws, rivets, etc. PA394 Wire and wire manufactures

PA395 Cans and metal hoxes PA396 Jewellery and precious metals

PA399. Metal furniture PA 300 F Drop forgings, etc. PA399.6 Metal hollow-ware

PA399.8 Miscellaneous metal manufacture PA411 Production of man-made fibres

PA412 Spinning and doubling on the cotton and flax systems Weaving of cotton, linen and man-made fibres PA413

PA414 Woollen and worsted Jute Rope, twine and net PA415

PA416

PA417

Hosiery and other knitted goods PA417.2 Warp knitting

PA418 Lace

PA419 Carpets PA421 Narrow fabrics

PA422

Household textiles and handkerchiefs

PA422 2 Canvas goods and sacks and other made-up textiles

Textile finishing PA429.1 Asbestos

Miscellaneous textile industries PA429 2

PA431 Leather (tanning and dressing) and fellmongery

PA432 Leather goods

PA433 Fur

PA441 Weatherproof outerwear

PA442 Men's and boys' tailored outerwear PA443 Women's and girls' tailored outerwear

PA444 Overalls and men's shirts, underwear, etc. PA445 Dresses, lingerie, infants' wear, etc.

PA446 Hats, caps and millinery

PA449 Corsets and miscellaneous dress industries

PA449 2 Gloves

PA450 Footwear

PA461. Refractory goods Building bricks and non-refractory goods

PA461.2 PA462 Pottery

PA463 Glass

PA464

PA469 Abrasives

PA469 2

Miscellaneous building materials and mineral products

PA471 Timber

PA472 Furniture and upholstery

PA473 Bedding, etc. PA474

Shop and office fitting

Wooden containers and baskets PA479 Miscellaneous wood and cork manufactures

PA481 Paper and board Cardboard boxes, cartons and fibre-board packing cases PA482.

Packaging products of paper and associated materials PA483 Manufactured stationery PA484 Wallcoverings

PA484.2 Miscellaneous manufactures of paper and board

Printing, publishing of newspapers and periodicals General printing and publishing

PA489

PA491 Rubber

Linoleum, plastics floor-covering, leathercloth, etc.

PA493 Brushes and brooms

Toys, games and children's carriages PA494

PA494.3 Sports equipment

Miscellaneous stationers' goods

PA496 Plastics products

PA499 Musical instruments

PA499.2

Miscellaneous manufacturing industries

Construction PA500

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PA602 Flectricity Water supply PA603

Summary tables

PA276 SYNTHETIC RESINS AND PLASTICS MATERIALS AND SYNTHETIC RUBBER

The information in this report relates to establishments classified to the Synthetic resins and plastics materials and synthetic rubber industry, minimum list heading 276 in the Standard Industrial Classification (revised 1968). The activities of the industry include:—

Manufacturing synthetic resins and plastics materials in the form of solid and liquid resins, latices, solutions, dispersions and emulsions, moulding and extrusion compounds, foam, non-decorative sheet, laminated sheet (including decorative), film, rods and tubes and profile shapes. Glass fibre sheet and transparent regenerated cellulose film are included. Unformulated synthetic resin adhesives are included but formulated synthetic resin adhesives (i.e. containing additives such as solvents, plasticisers, etc.) are excluded. The production of textile fibres from plastics materials, plastics mouldings, castings or extrusions produced from these synthetic resins and plastics materials, articles cut from plastics sheet and plastics floor coverings and decorative plastics sheet (other than laminated thermosetting sheet) is also excluded.

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

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PA276

Output and costs, 1973–1977
All United Kingdom establishments classified to the industry (a)

	Unit	1973	1974	1975	1976	1977
Enterprises	Number	328	408	472	510	529
Establishments	979 ,, 56 000 00	359	444	516	555	575
Sales of goods produced	£ thousand	632,600	1,011,506	971,032	1,400,605	1,544,975
Receipts for work done and industrial services rendered	nery (edlo) 28	(b)	(b)	(b)	4,070	3,936
Capital goods produced for establishments' own use	" Hotoch tolk tolk	4,983	5,729	6,687	7,008	7,455
Non-industrial services rendered	Although the e	1,992	2,520	4,412	7,976	11,112
Goods merchanted or factored	"	33,974	62,020	62,896	87,046	130,620
Total sales and work done (c)	"	673,550	1,081,775	1,045,027	1,506,707	1,698,098
ncrease during the year, work in progress and goods on hand for sale	,,	-2,174	49,484	-2,396	40,998	21,370
Gross output		671,376	1,131,259	1,042,631	1,547,705	1,719,468
Purchases of materials for use in pro- duction, and packaging and fuel	,	341,782	647,305	596,710	930,703	1,030,540
furchases of goods for merchanting or actoring	"	28,451	57,912	47,296	72,893	111,280
ncrease during the year, stocks of naterials, stores and fuel		10,097	28,608	-10,079	16,893	2,451
Cost of industrial services received		13,821	18,235	21,677	31,537	38,356
Net output		297,419	436,415	366,870	529,466	541,743
otal employment (d)	Thousands	45.4	50.1	51.1	51.5	50.3
Net output per head	£	6,545	8,714	7,175	10,276	10,781
Payments for non-industrial services						
Hire of vehicles, plant and machinery	£ thousand	3,154	3,855	5,834	4,795	5,137
Rents of industrial and commercial buildings		(e)	(e)	(e)	2,223	3,181
Commercial insurance premiums		3,936	4,597	5,680	6,413	7,569
Bank charges		202	351	368	415	364
Other non-industrial services	,	21,687	33,780	38,902	58,295	67,280
icensing of motor vehicles		138	165	204	229	258
Rates, excluding water rates	"	3,112	4,553	6,528	7,207	7,772
Gross value added at factor cost		265,189	389,114	309,355	449,889	450,183
Gross value added at factor cost per head	£	5,836	7,769	6,050	8,731	8,959

⁽a) Including estimates for establishments not making satisfactory returns, non-response and establishments with fewer than 20 persons. Satisfactory returns accounted for 88 per cent of employment within the industry.

Capital expenditure, 1973–1977 All United Kingdom establishments classified to the industry (a)(b)

1,318

32,465

			and the second second second second second			£ thousand
	1973	1974	1975	1976	1977	Size
Land and buildings				(5)	20000 20000	(d)
New building work	2,421	6,093	7,454	5,510	13,886	
Land and existing buildings						
Acquisitions	774	1,782	2,611	722	971	
Disposals	226	450	881	28	674	
Vehicles						
Acquisitions	1,466	2,390	2,019	2,821	4,326	
Disposals	389	506	463	701	997	
Plant and machinery						
Acquisitions	29,738	49,311	62,222	62,970	75,085	

836

72,126

960

70,335

2,000

90,597

1,482

TABLE 3

Disposals

Total net capital expenditure

Stocks and work in progress, 1973—1977 All United Kingdom establishments classified to the industry (a)

		1973	1974	1975	1976	1	977
		.280 ava,est	(0,308.2)	Increase	res,de ^{yon}	975 **********	Value at end of year
Materials, stores and fuel		10,097	28,608	-10,079	16,893	2,451	83,983
Work in progress		481	2,873	2,573	4,086	4,257	21,866
Goods on hand for sale	al cultate.	-2,655	46,611	-4,969	36,912	17,112	149,028
Total		7,923	78,092	-12,475	57,891	23,821	254,877

⁽a) Including estimates for establishments not making satisfactory returns, non-response and establishments with fewer than 20 persons.

⁽b) Included in sales of goods produced.

⁽c) Details of manufacturers' quarterly sales of principal products are published regularly in Business Monitor PQ276

⁽d) Average number employed, including full and part-time employees (see table 7) and working proprietors.

⁽e) For 1973—1975 rents of industrial and commercial buildings were not recorded separately, but included in hire of vehicles, plant and machinery.

⁽a) Including estimates for establishments not making satisfactory returns, non-response and establishments with fewer than 20 persons.

⁽b) Capital expenditure in respect of manufacturing establishments where production had not commenced before the end of the year, is included.

Analysis of establishments by size, 1977
All United Kingdom establishments classified to the industry (a)

Size group	Estab- lish-	Enter- prises	Employmen	nt		Wages and sal	aries (f)			
(b)	ments	(c)								
			Total (d)	Opera- tives	Others (e)	Operatives		Others (e)		
			(4)	tives	(0)	Total	per head	Total	per head	
	Number	Number	Number	Number	Number	£ thousand	£	£ thousand	£	
1-10	316	312	1,512)							
11–19	84	82	1,215)							
11-19	04	02)	4,557	2,248	15,236	3,343	9,201	4,093	
20-49	73	71	2,295)							
50-99	28	27	2,025)							
100-199	26	26	3,737	2,460	1,277	8,318	3,381	5,351	4,191	
200-299	15	14	3,628	2,290	1,338	8,944	3,906	5,767	4,310	
300-399	6	5	2,095	1,366	729	5,938	4,347	3,229	4,429	
400-499	7	7	3,188	1,721	1,467	6,879	3,997	6,039	4,117	
500-749	5	5	3,223	1,934	1,289	7,306	3,778	5,731	4,446	
750-999	4	4	3,326	1,849	1,477	7,514	4,064	7,013	4,748	
1,000-1,499	6	5	7,570	5,502	2,068	21,208	3,855	9,340	4,516	
1,500 and over	5	5	16,437	10,025	6,412	42,473	4,237	36,552	5,701	

Total	575	529	50,251	31,704	18,305	123,816	3,905	88,223	4,820

⁽a) Including estimates for establishments not making satisfactory returns, non-response and establishments with fewer than 20 persons.

Total sales and work done (g)	Gross output	Net output	of sour retail	Gross value added at factor cost	Forestellige and Lone	Net capital expenditure (h)	Total stocks and work in progress at end of year
		Total	per head	Total	per head		
f thousand	£ thousand	£ thousand	£ to sness registration mobility	£ thousand	£	£ thousand	£ thousand
221,387	223,454	71,484	10,144	(j)	(j)	13,365	27,944
124,983	125,098	34,797	9,312	86,801(j)	8,049(j)	3,806	15,006
151,180	151,792	48,856	13,466	39,990	11,023	8,591	21,151
83,313	86,228	17,686	8,442	13,106	6,256	2,102	15,323
121,105	124,734	47,390	14,865	40,771	12,789	8,097	19,910
144,307	148,941	36,555	11,342	31,702	9,836	2,866	25,055
137,202	138,408	47,530	14,290	39,334	11,826	8,513	25,288
171,445	174,416	81,551	10,773	73,322	9,686	5,536	26,543
543,176	546,398	155,894	9,484	125,156	7,614	37,721	78,658

(f)	
	The cost of employers' contributions to national insurance, pensions and welfare schemes and the running costs of canteens, is
	estimated for the industry at £41,354 thousand. The remuneration of outworkers on returns received was £18 thousand.

450,183

8,959

90,597

254,877

10,781

541,743

1,719,468

1,698,098

⁽b) Average number employed, including full and part-time employees (see table 7) and working proprietors.

⁽c) The sum of the figures for the size groups may exceed the total for the industry because some enterprises control establishments in more than one size group.

⁽d) Including working proprietors.

⁽e) Administrative, technical and clerical employees.

⁽g) Sales of goods produced, capital goods manufactured, buildings constructed by establishments for their own use, work done, industrial and non-industrial services rendered and merchanted goods.

⁽h) New building work plus acquisitions less disposals of land and existing buildings, vehicles and plant and machinery.

⁽j) Gross value added data relate to establishments employing 1–199.

TABLE 6

PA276

Regional distribution of employment, net capital expenditure, net output and gross value added at factor cost, 1977 All United Kingdom establishments classified to the industry (a)

Area	Total employmen	t (b)	Net capital expenditure	(c)	Net output (d)	Gross value added at factor cost (d)	by establ 80 per ce of their e in the reg proportion	on of total
							factor corregion	ie added at st in the
	Thousands	per cent of United Kingdom	£ thousand	per cent of United Kingdom	£ thousand	£ thousand	percentag	ge
Standard regions of England								
North	8.1	16.1	14,736	16.3	88,182	72,078	26.1	
Yorkshire and Humberside	0.7	1.4	1,348	1.5	9,332	6,980	55.6	
East Midlands	2.2	4.3	2,354	2.6	24,452	19,853	41.5	
East Anglia	2.4	4.7	2,717	3.0	21,207	17,753	90.6	
South East	10.4	20.7	8,619	9.5	122,652	101,939	42.2	
South West	3.7	7.3	7,432	8.2	27,692	23,226	37.2	
West Midlands	4.6	9.2	3,220	3.6	35,055	27,467	75.8	
North West	*	*	*	*	*	*	*	- Marie Care
England	858 *	868*1	78*92	16.7735.6.6	*****	38955 * 8 mg	/	
Wales	cas *s	*	sa tant	9,484,8	40.473 * 408.8	* 8888	*	
Scotland	3.5	7.0	9,301	10.3	62,197	57,647	93.0	
Great Britain	*	*	*	*	*	*	/	
Northern Ireland	*	*	*	*	*	*	*	
United Kingdom	50.3	100.0	90,597	100.0	541,743	450,183	/	

(a) Including estimates for establishments not making satisfactory returns, non-response and establishments with fewer than 20 persons.

(b) Average number employed, including full and part-time employees (see table 7) and working proprietors.

(c) New building work plus acquisitions less disposals of land and existing buildings, vehicles and plant and machinery.

(d) Where a census return covered addresses in two or more regions, an estimate of the net output attributable to each address was made by assuming that net output was proportionate to employment. An estimate for each region was obtained by aggregating estimates of net output for addresses located in that region. Gross value added at factor cost is treated similarly.

percentage analysis of twelve-month periods covered by returns received from United Kingdom establishments employing 20 or more persons, 1977

Accoun	ting year ended	Percentage of total returns received	Percentage of	total number employed
	1121 110.6% AT \$ 20	per cent	per cent	bser rad bughed ston
1977	April (a)	0.0	0.0	
	May	3.1	1.8	
	June	3,1	1.3	
	July	3.9	0.6	
	August	2.3	1.2	
	September	4.6	0.8	
	October	2.3	50000 1.0 × 020 y	
	November	5.4	2.5	
	December	56.6	74.1	
1978	January	3.9	1.0	
	February	0.8	0.1	
	March (b)	14.0	15.7	

(a) From 6th April.

(b) Including returns made for twelve-month period ended 1st to 5th April 1978.

TABLE 7

Percentage analysis of employees, by full and part-time employment and sex, 1977(a)

Sex	Full-time	Part-time	All employees	
	per cent	per cent	per cent	
Male	83	1	84	
Female	12	4	16	

Source: Department of Employment

(a) The percentages relate to the numbers employed (excluding working proprietors) in the United Kingdom at mid-June, 1976, because 1977 information is not yet available.

PA276

Operating ratios, 1977
All United Kingdom establishments classified to the industry (a)

	Commence of the second Unit	1977	
Gross output per head	£	34,218	
Net output per head	0 0 £	10.701	
Net output per rieau	1.8	10,781	
Gross value added per head	£	8,959	
Gross value added as a percentage of gross output	%	26	
Ratio of gross output to stocks		6.7	
/ages and salaries as a percentage of gross value added	%	47 Wildred	
latio of operatives to administrative, technical and clerica mployees	il	1.7	
ages and salaries per operative	£	3,905	
lages and salaries per administrative, technical and clerica mployee	£	4,820	
et capital expenditure per head	£	1,803	
et capital expenditure as a percentage of gross value adde	8783 that distributes barrens thorse evided . %	20	

⁽a) Including estimates for establishments not making satisfactory returns, non-response and establishments employing fewer than 20 persons.

Produced in Wales by Her Majesty's Stationery Office Reprographic Unit, Cardiff Dd. 597332 K6 Cdf 268 1/80 These notes give the main information needed for interpreting the figures in the industry Business Monitors: more detailed information about the census is given in a separate Business Monitor - PA 1001 (Introductory Notes) of the Report on the possus of Production, 1977.

ENERAL INFORMATION

hanges made for 1977

he Census for 1977 is in line with similar inquiries being nducted in other member countries of the European Economic mmunities. There was a small number of changes in the scope the industry reports compared with 1976.

or the first time in the industry monitors a table has been cluded on operating ratios, calculated from census measures of the first investment, manpower and labour costs.

pecific changes are explained in the introductions to the industry enorts or by footnotes to the tables.

ssion of information relating to individual undertakings n 9(5)(b) of the Statistics of Trade Act 1947 states following provisions shall have effect with respect to any rt, summary or other communication to the public of nation obtained under the foregoing provisions of this Act compiling any such report, summary or communication the mnetent authority shall so arrange it as to prevent any articulars published therein from being identified as being articulars relating to any individual person or undertaking copt with the previous consent in writing of that person or the son carrying on that undertaking, as the case may be; but is provision shall not prevent the disclosure of the total uantity or value of any articles produced, sold or delivered; so, wever, that before disclosing any such total the competent thority shall have regard to any representations made to em by any person who alleges that the disclosure thereof ould enable particulars relating to him or to an undertaking carried on by him to be deduced from the total disclosed". figure involved disclosure the contributor concerned was imes asked to give permission for its publication. In the ity of cases permission was given. When it was refused and ere contributors were not approached the figure has been essed, either by combining it with other figures, or as in the al tables, by omitting the figure altogether.

vmhols used

The following symbols are used throughout the PA series of siness Monitors:

not available

il or less than half the final digit shown

figures cannot be shown owing to the risk of disclosing information about individual enterprises.

ounding of figures

gures in the tables have, where necessary, been rounded to the larest final digit. Where figures have been so rounded, the sum the constituent items may not always agree exactly with the tall shown.

ndustrial classification

The United Kingdom Standard Industrial Classification (SIC) was staissed in 1948 and was subsequently revised in 1958 and 1968. It exists to promote uniformity and comparability in the ficial statistics of the United Kingdom. The general principles assification of all Economic Activities of the United Nations attistical Office but the United Kingdom SIC reflects the ganisation and structure of industry and trade as it exists in the inited Kingdom. The SIC is a classification by activity and is at a commodity classification. However, an index of all commodity addings for which sales data are provided in the Quarterly Business onlitors, is published in Business Monitor PQ 1000.

Statistical units

hestatistical unit for the purpose of the Census is the establishment which is defined in the SIC as the smallest unit which can provide information normally required for an economic census, for

example, employment, expenses, turnover, capital formation. Usually the principal activities carried on in an establishment fall within a single heading of the classification (eg steel making or sugar refining). Typically the establishment embraces all the activities carried on at a single address eg a mine or a factory, including those which are ancillary to the principal activities. Frequently distinct activities characteristic of different industries are carried on at one address, but normally these are not classified separately and the whole establishment is classified according to the main activity. If, however, the required range of data can be provided for each activity, each is taken to constitute a separate establishment. Sometimes activities which are conducted as a single business are carried on at a number of addresses. Where this is so, businesses are asked to provide the full range of separate information in respect of each address, whether or not the activities are different. Their activities may, however, be integrated to such an extent that they constitute a single establishment. In the latter case the establishment is defined to cover the combined activities at these addresses (termed local units). Separate figures are obtained of employment and net capital expenditure at each unit in order to compile regional tables Efforts are made by the Business Statistics Office (BSO) to ensure, by negotiating with respondents, that the return from an establishment does not cover local units or addresses in more than one of the countries of the United Kingdom.

Further information about the statistical unit appeared in an article "The statistical unit in business inquiries" in Statistical News No 13 May 1971.

Establishments are asked to exclude from their returns particulars relating to any department not engaged in production eg merchanting, transport, warehousing, for which they keep a separate set of accounts. Transfers of goods produced to such departments are treated as sales and respondents are asked to value them as far as possible as if sold to an independent purchaser. Where separate accounts are not kept they are asked to include details of all these activities in their return.

Particulars relating to head offices mainly engaged in the administration of the production units within the scope of the census were included. Where more than one return was made the information in respect of the head office was apportioned among them.

For certain purposes in the annual censuses of production (especially the enterprise analyses of Business Monitor PA 1002) related establishments are combined. For these purposes an enterprise group may be defined as a business consisting of either single establishment or two or more establishments under common ownership or control. Bringing together establishments into enterprise groups is also necessary for the purpose of ensuring that there will be no disclosure of the activities of any one enterprise group. Information about the relationship of establishments, the changing structure of groups of companies and about common ownership links is obtained from many sources, including the Stock Exchange Year Book, company reports, press reports and information supplied by individual establishments.

THE REGISTER

The register permits a questionnaire to be sent direct to the reporting establishment on which the latter can include information relating to all the manufacturing (or local) units which it comprises. The inquiries provide a major source of information for keeping the register continuously up-to-date and act as a check on its detail and structure. For the establishments on the register making returns to the quarterly inquiries, the industrial classification is derived from an analysis of their sales of commodities and is reviewed annually. Employment data are entered on the register from returns to the annual census of production. In cases where an establishment does not make a return to these inquiries the employment data are based on information provided by the Department of Employment from the annual censuses of employment. New additions to the register are obtained from various sources including Companies Registration Office and the Department of Employment, The 1973 Finance Act allows HM Customs and Excise to pass to the BSO lists of businesses registered for VAT. Information from all these sources is used to improve the register, and where necessary, details are sought directly from new businesses. Units which cease to trade are removed from the live register.

Increasing use of the information obtained from the Department of Employment, HM Customs and Excise and BSO inquiries has led to improvements on the register, which in turn enabled the BSO to produce better estimates, particularly of numbers of smaller establishments and enterprises.

Coverage

A return was required in the 1977 Census from each establishment with 20 or more employees. Each establishment is classified to an industry, as defined in the SIC, whose principal products form the major part of the establishment's sales.

Regions

The regions defined in Table 5 take account of the boundary changes arising out of the Local Government Act 1972 and the Local Government Act (Scotland) 1973. These changes came into effect in April 1974 in England and Wales and May 1975 in Scotland.

TERMS USED IN THE CENSUS REPORT

Average number employed

Establishments were required to state the number of persons on the payroll on average during the year of return, whether full-time or part-time employees. Separate figures were required for:

(a) administrative, technical and clerical employees

(b) all other employees (operatives)

Averages could be calculated from the figures relating to the last week of each calendar month. Establishments were also required to state the number of working proprietors where appropriate and these are included in total employment figures. Outworkers (ie persons employed by establishments who worked in their own homes etc on materials supplied by the establishment) are excluded. The figures include persons engaged on merchanting or factoring and canteen workers where particulars in respect of these activities could not be excluded from the return.

Working proprietors

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 wage or salary; but such persons who worked less than half the normal number of working hours are excluded. Directors working in the business but not in receipt of a definite wage, salary or commission are included under this heading: directors paid by fee only are not included.

Employees

Administrative, technical and clerical employees include directors in receipt of a definite wage, salary or commission, managers and works foremen; research and design employees (other than operatives); draughtsmen, editorial staff, advertising staff, travellers and all office employees.

Operatives include all other classes of employees, that is, broadly speaking, all manual wage earners. They include operatives employed in power stations, transport (including roundsmen), warehouses, stores, shops and canteens, inspectors, maintenance workers and cleaners. Operatives engaged in outside work of erecting, fitting etc are also included, but outworkers are excluded.

Capital expenditure

Capital expenditure during the year in respect of manufacturing units where production had not started before the end of the year is included. Establishments were asked not to deduct from the value of capital expenditure amounts received or expected to be received in grants or allowances from the Government or any statutory body or local authority. Establishments with 100 or more employees were asked to include a total net capital expenditure figure for each calendar year.

(a) New building work

This represents the cost incurred during the year of new building and other constructional work to be used in connection with the business covered by the return. The value is that charged to capital account during the year of return; it includes expenditure on new buildings and on the extension or reconstruction of old buildings, the value of works of a capital nature carried out by the establishment's own staff and the cost of any newly constructed buildings purchased. Figures shown include legal charges, stamp duties, agents' commissions, etc.

(b) Land and existing buildings

The items shown are the capital cost of freeholds purchased and the capital cost or premium payable for leaseholds acquired (excluding the value of assets acquired in taking over an existing business), and the amounts receivable for freeholds or leaseholds disposed of. The value is that charged to capital 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 the year. The value of plant and machinery acquired includes plant, etc which firms produced for their own use in connection with the business covered by the return. The value of plant, etc acquired is the expenditure charged to capital account during the year of return less any discounts received, but including the cost of transport and installation. Deductible value added tax is excluded but non-deductible value added tax on motor cars acquired is included. No deduction is made for depreciation, amortization or obsolescence. The proceeds of items disposed of during the year exclude amounts written-off for items scrapped.

Cost of industrial services

This includes amounts payable to other firms for work done on materials supplied by the establishment, payments for repairs and maintenance (including those in respect of rented buildings) and amounts paid to other firms for contracts which have been sublet. Payments to outworkers are excluded.

Cost of non-industrial services

This includes rents of industrial and commercial buildings, hire of plant, machinery and vehicles (excluding vehicles hired with drivers), commercial insurance premiums, bank charges and amounts paid for professional services, post office services, transport (within the United Kingdom), advertising etc. Amounts payable on royalties for the right to use patents, trademarks, copyrights etc, manufacturing and quarrying rights and technical "know-how" are also included.

Gross output

In the calculation of gross output the value of total sales and work done is increased by the rise (or reduced by the fall) during the year in the value of work in progress and goods on hand for sale.

Net output

Net output, a customary census measure, is calculated by deducting from gross output the cost of purchases (reduced by the rise, or increased by the fall, during the year of stocks of materials etc) and the cost of industrial services received, and where applicable, duties etc.

Net output per head

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

Gross value added at factor cost

Gross value added at factor cost is calculated by deducting from net output the cost of non-industrial services eg rent of buildings, hire of plant, machinery and vehicles (excluding vehicles hired with drivers), commercial insurance premiums, bank charges and amounts paid for professional services, post office services, transport (within the United Kingdom) and advertising, rates (excluding water rates) and the cost of licensing motor vehicles. This estimate of gross value added approaches more closely than census net output to the definition of net output or value added in national accounts statistics.

Gross value added at factor cost per head

The figures of gross value added at factor cost per head are derived by dividing the gross value added by the average number of persons employed (full and part-time) on all activities covered by the returns, including operatives, administrative, technical and clerical employees and working proprietors, but excluding outworkers,

Purchase

Purchases include the cost of raw materials, components, semi-manufactured goods and workshop materials; of replacement parts and consumable tools not charged to capital account; of packaging materials of all types; of stationery and printed matter; of fuel, electricity and water; of materials to be used by the establishment or given out to other establishments for the production of machinery or other capital items for the establishment's own use; of materials for use by the establishment when working on goods supplied by

ostomers; and of food, etc for any canteen covered by the establishment's return. Transfers of goods to the establishment om another department of the same firm not covered by the stablishment's return are included at a cost corresponding to the etimated selling value recorded by the other department. Amounts avable to transport firms or credited to the firm's own transport partment for delivery of materials are excluded, as are all rchases of machinery and plant charged to capital account. rchases of goods for merchanting or factoring have been lected separately since 1973. The values shown exclude VAT. hey include, in addition to the actual purchase price, the value packaging material charged to the establishment. The value of rned goods or packaging material returned to suppliers and any ade discounts are excluded. Materials purchased duty-paid are studed at their duty-paid value, less any drawback, rebate, etc. ne cost of transport is included only if it is included with the chase price in the firm's accounts. Imported goods are included their full delivered cost. If in the firm's accounts the transport mdocks or airport is not included in the cost of goods purchased. he cost is entered at cif plus duty (if applicable). Leasing, nting and hire purchase charges are excluded.

Sales of goods produced

ales for the purposes of the annual censuses means deliveries on ale of goods made by establishments in the United Kingdom pered by the inquiry. Sales of goods made for these establishments outworkers or by other establishments from materials given out them and sales of waste products are included. New building ork and machinery or other capital items produced by establishents for hiring out or leasing are regarded as sales, the value bluded in the return being that adopted in the establishments' nital asset accounts. Forward sales and canteen takings are excluded. All sales in the period of the inquiry are included irrespective of en the goods were manufactured. Goods produced in one ablishment and transferred either to ancillary departments not paged in production for which there are separate accounts, or to ther establishment of the same firm not covered by the return, treated as sales by the producing establishment and valued as as possible as if they had been sold to an independent purchaser. ds transferred to wholesale or retail selling organisations, for ich separate accounts are kept are valued on the same basis.

The value shown for sales in the "net selling value" defined as the amount (excluding VAT) charged to customers whether on an ex-works or delivered basis, after any trade discounts and agents' commissions have been deducted. The cost of packing materials less allowance for returnable cases is included. In industries where products attract Excise Duty the value stated is usually inclusive of duty if sold duty-paid and exclusive of duty if sold in bond or exported.

Receipts for work done and industrial services rendered

Figures for work done represent the amount charged for work carried out on materials supplied by a customer and include repair work. Within certain industries this heading covers a wide variety of activities, for example, within the food sector - butter packed on commission; within the textile industries - making up of garments, fur dressing and textile finishing; within printing and publishing preparatory work on type-setting, block making and binding. Work done is also significant in the electrical machinery and heavy engineering industries, covering erection, installation and repair and jobbing work. Other activities within this heading include exploration work, research and development, glass cutting and dressing and planing of timber.

Industrial services rendered include repairs and maintenance, installation work, and technical research and studies for other organisations

Capital goods produced for establishments' own use

This includes all work of a capital nature carried out during the year by the establishments' own staff for their own use.

Non-industrial services rendered

This includes rents received for commercial and industrial buildings, amounts charged for hiring out plant, machinery and vehicles and other goods and amounts charged to other organisations for the provision of transport. It also includes amounts received for the right to use patents, trademarks, copyrights etc, manufacturing and quarrying rights and technical "know-how" and revenue from such staff facilities as canteens.

Goods merchanted or factored

Merchanted goods are those (excluding canteen sales) sold without

having been subjected to any manufacturing process by the seller.

Stocks and work in progress

Values are given of stocks of goods on hand for sale and of materials, stores and fuel, at the end of the year of return and of the change during the year, including any stocks of goods held for merchanting or factoring. Work in progress is defined as materials which have been partially processed by the establishment but which are not usually sold or transferred to another establishment without further processing. The values include the cost of materials consumed and labour used, together with a margin of overhead costs and profits. Progress payments made to sub-contractors are excluded and progress payments received from other organisations are not deducted.

Wages and salaries

These are amounts paid during the year to operatives and to administrative, technical and clerical employees. Payments to working proprietors, whether called salaries or not, are excluded. The values shown include all overtime payments, bonuses, commissions and holiday pay, whether paid regularly or not, and no deduction is made for income tax, insurances, contributory pensions etc. The value of redundancy payments less any amounts reimbursed from Government sources is included. The value of any payments in kind, travelling expenses etc is excluded.

Remuneration paid to outworkers

The remuneration paid to outworkers (ie persons employed by the establishment who do their work in their own homes) is generally on a piece-work basis. Only amounts paid to outworkers whose names appear on the establishment's payroll are included. Amounts paid to outworkers by sub-contractors are excluded.

Employers' insurance and welfare contributions

This item includes employers' contributions to national insurance (and/or earnings related basic contributions under the Social Security Pensions Act, 1975) and commercial insurance premiums to provide pensions, superannuation or other retirement benefits, sickness benefits, personal accident benefits, disability or death benefits for employees or former employees or their dependants. Contributions to the running costs of canteens, social centres, children's and holiday homes, etc for employees, former employees and their dependants are also included.

Operating ratios

The operating ratios shown were obtained by dividing the estimate of the industry total for the quantity shown in the numerator by the corresponding estimate for the quantity shown in the denominator. These estimates cover all establishments classified to the industry, including exempted establishments and non-respondents. Within an industry, it is possible to compare ratios for an individual firm with the ratios shown for the relevant industry. However, it is important to bear in mind that various factors may affect the results - for example, differences in definitions, treatment of depreciation (which is not identified in the census data) and varying practise with regard to stock valuation, may affect comparability in some respects.

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