PA482.1

05/42(HA251) 0 42 R834

1979

2 OMAR 1981 OF POLITICAL AND ECONOMIC SCIENCE **Business Statistics Office** 

## **Business Monitor**

Report on the Census of Production

Cardboard boxes, cartons and fibre-board packing cases



## 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. Business Monitors have a code P (for production) followed first by A (indicating that it is an annual series) or O (occasional) 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.

Enquiries:
Business Statistics Office
Newport, Gwent
NPT 1XG
Newport 56111 (STD code 0633) ext 2455
Telex 497121
Answer Back BSONPT G

# PA482.1 Business Monitor

A publication of the Government Statistical Service

Report on the Census of Production 1979

Cardboard boxes, cartons and fibre-board packing cases

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

Introductory notes

Grain milling

Biscuits

Margarine

Tobacco

PA271.2 Organic chemicals

Paint

PA278 Fertilizers PA279.1 Polishes Fertilizers

PA279.5 Printing ink

PA271.3 Miscellaneous chemicals

Sugar

Petroleum and natural gas

Milk and milk products

Bread and flour confectionery

Fruit and vegetable products

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

Mineral oil refining Lubricating oils and greases

Animal and poultry foods

PA229.2 Starch and miscellaneous foods

Brewing and malting Soft drinks

PA239.2 British wines, cider and perry

Inorganic chemicals

Toilet preparations

Soap and detergents

Dyestuffs and pigments

PA279.2 Formulated adhesives, gelatine, etc.

PA279.7 Photographic chemical materials

Iron and steel (general)

Miscellaneous base metals

Metal-working machine tools

PA333.3 Compressors and fluid power equipment

Textile machinery and accessories

Mechanical handling equipment

PA339.3 Refrigerating machinery, space-heating, ventilating and air-conditioning equipment

Ordnance and small arms Ball, roller, plain and other bearings

Watches and clocks

Electrical machinery

Electronic computers

equipment

Insulated wires and cables

PA339.5 Scales and weighing machinery and portable

Aluminium and aluminium alloys

Copper, brass and other copper alloys

Agricultural machinery (except tractors)

Construction and earth-moving equipment

PA339.2 Printing, bookbinding and paper goods machinery

PA349.2 Precision chains and other mechanical engineering

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

Surgical instruments and appliances

Radio and electronic components

Industrial (including process) plant and steelwork

Photographic and document copying equipment

Scientific and industrial instruments and systems

synthetic rubber

PA279.3 Explosives and fireworks PA279.4 Formulated pesticides, etc.

PA279.6 Surgical bandages, etc.

Steel tubes

Iron castings, etc.

Industrial engines

Office machinery

Mining machinery

Stone and slate quarrying and mining

Miscellaneous mining and quarrying

Bacon curing, meat and fish products

Cocoa, chocolate and sugar confectionery

Chalk, clay, sand and gravel extraction

PA1001

PA102

PA103

PA109

PA211

PA213

PA214

PA216

PA217

PA218

PA219

PA221

PA231

PA232

PA240

PA261

PA262

PA263

PA273

PA274

PA276

PA312 PA313

PA323

PA332

PA334

PA335

PA337

PA338

PA353

PA354

PA361

PA363

PA365.2

PA368

PA333.1 Pumps

PA333.2 Valves

PA229.1

and aircraft
PA369.2 Primary and secondary batteries

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

Shipbuilding and marine engineering Wheeled tractor manufacturing

Motor vehicle manufacturing

PA381.2 Trailers, caravans and freight containers
PA382 Motor cycle, tricycle and pedal cycle manufacturing

Aerospace equipment manufacturing and repairing PA384 Locomotives, railway track equipment, railway carriages,

wagons and trams PA390 Engineers' small tools and gauges

PA391 Hand tools and implements

Cutlery, spoons, forks and plated tableware, etc. Bolts, nuts, screws, rivets, etc. PA392 PA393

PA394 Wire and wire manufactures

PA305 Cans and metal boxes PA396 Jewellery and precious metals

Metal furniture

PA399.5 Drop forgings, etc. PA399.6 Metal hollow ware

PA399.8 Miscellaneous metal manufacture PA411

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

PA414 Woollen and worsted

PA415 Jute

PA416 Rope, twine and net

PA417.1 Hosiery and other knitted goods

PA417.2 Warp knitting

PA418 Lace PA419 Carpets

PA421 Narrow fabrics

PA422.1 Household textiles and handkerchiefs

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

PA423 Textile finishing

PA429.1 Asbestos

PA429.2 Miscellaneous textile industries

PA431 Leather (tanning and dressing) and fellmongery

PA432 Leather goods

PA433

PA441

Weatherproof outerwear Men's and boys' tailored outerwear PA442 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 1

Corsets and miscellaneous dress industries PA449.2 Gloves

PA450 Footwear

PA461.1 Refractory goods

PA461.2 Building bricks and non-refractory goods

PA462 Pottery PA463 Glass

PA464 Cement

PA469.1 Abrasives

PA469.2 Miscellaneous building materials and mineral products

PA471 Timber

PA472 Furniture and upholstery

Bedding, etc. PA474

Shop and office fitting
Wooden containers and baskets PA475

Miscellaneous wood and cork manufactures

PA481 Paper and board

power tools
Food and drink processing machinery and Cardboard boxes, cartons and fibre-board packing cases PA482. packaging and bottling machinery
PA339.9 Miscellaneous (non-electrical) machinery

Packaging products of paper and associated materials PA483 Manufactured stationery

PA484.1 Wallcoverings PA484.2 Miscellaneous manufactures of paper and board

Printing, publishing of newspapers and periodicals **PA485** PA489 General printing and publishing

PA491 Rubber

PA492 Linoleum, plastics floor-covering, leathercloth, etc.

Brushes and brooms
Toys, games and children's carriages PA493

PA494.1 PA494.3 Sports equipment

**PA495** Miscellaneous stationers' goods

PA496 Plastics products

Musical instruments

PA499.2 Miscellaneous manufacturing industries

PA500 Construction PA601

PA602 Electricity PA603

Water supply Summary tables

## PA482.1 CARDBOARD BOXES, CARTONS AND FIBRE-BOARD PACKING CASES

The information in this report relates to establishments classified to the Cardboard boxes, cartons and fibre-board packing cases industry, minimum list heading 482.1 in the Standard Industrial Classification (revised 1968). The activities of the industry include:-

Manufacturing all types (whether printed or not) of rigid or folding cardboard and paper boxes, canisters and other containers (including composite containers of board and metal) except paper bags, fibre card and sliver cans.

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

## LIST OF CONTENTS

Table No	Title			Page
1	Output and costs, 1975–1979			2
2	Capital expenditure, 1975—1979			3
3	Stocks and work in progress, 1975-1979			3
4	Analysis of establishments by size, 1979			4–5
5	Regional distribution of employment, net capital es at factor cost, 1979	kpenditure, net output and	gross value added	6
6	Percentage analysis of twelve-month periods covere Kingdom establishments, 1979	d by returns received from	United	7
7	Percentage analysis of employees, by full and part-t	ime employment and sex,	1977	7
8	Operating ratios, 1978—1979			8

PA482.1

TABLE 2

Capital expenditure, 1975—1979
All United Kingdom establishments classified to the industry (a)(b)

PA482.1

					£ thousa
The second secon	1975	1976	1977	1978	1979
Land and buildings				SEL AFRICAN	
New building work	2,588	1,648	2,845	3,919 .	4,747
Land and existing buildings					
Acquisitions	580	1,127	1,595	3,806	1,434
Disposals	105	345	440	922	671
Vehicles					
Acquisitions	2,299	3,147	4,953	6,439	6,978
Disposals	599	1,007	1,349	1,899	2,383
Plant and machinery					
Acquisitions	16,936	23,717	29,613	41,043	46,470
Disposals	652	1,124	1,713	1,803	2,479
Total net capital expenditure	21,048	27,162	35,504	50,581	54,097

a) Including estimates for establishments not making satisfactory returns, non-response and establishments not selected for the Census.

TABLE 3

Stocks and work in progress, 1975–1979
All United Kingdom establishments classified to the industry (a)

£	th	ou	sar	nd

	1975	1976	1977	1978		1979
	SOUGHAST.	\$60,85	Increase	a . F808 188	24.00	Value at end of year
Materials, stores and fuel	-17,129	12,059	4,155	7,127	14,599	93,424
Work in progress	-3,959	8,312	2,227	2,920	4,326	37,900
Goods on hand for sale	1,259	1,400	6,327	2,545	6,316	38,483
Total	-19,828	21,771	12,709	12,592	25,242	169,807

<sup>(</sup>a) Including estimates for establishments not making satisfactory returns, non-response and establishments not selected for the Census.

Output and costs, 1975–1979
All United Kingdom establishments classified to the industry (a)

	Unit	1975	1976	1977	1978	1979
Enterprises	Number	518	533	523	539	537
Establishments	and attended to the second	640	656	646	664	664
Sales of goods produced	£ thousand	698,309(b)	880,426	1,031,643	1,104,009	1,258,334
Receipts for work done and industrial services rendered		(b)	2,108	3,433	3,116	1,754
Capital goods produced for establishments' own use		410	370	295	304	221
Non-industrial services rendered	"	3,221	2,870	3,582	5,192	5,525
Goods merchanted or factored		20,166	19,691	25,404	41,650	44,497
Total sales and work done (c)		722,106	905,466	1,064,356	1,154,270	1,310,332
ncrease during the year, work in progress and goods on hand for sale	,,	-2,699	9,712	8,554	5,465	10,643
Gross output		719,407	915,178	1,072,910	1,159,736	1,320,975
Purchases of materials for use in production, and packaging and fuel		382,858	501,508	590,522	606,642	684,478
Purchases of goods for merchanting or actoring	"	17,081	17,176	21,938	34,687	37,229
ncrease during the year, stocks of materials, stores and fuel		-17,129	12,059	4,155	7,127	14,599
Cost of industrial services received		13,444	18,197	23,027	26,782	32,295
Net output		288,894	390,355	441,578	498,752	581,572
Total employment (d)	Thousands	64.6	63.6	64.9	63.6	63.2
Net output per head	£	4,473	6,141	6,809	7,847	9,200
Payments for non-industrial services						
Hire of vehicles, plant and machinery	£ thousand	5,096(e)	2,315	4,064	4,831	5,972
Rents of industrial and commercial buildings	"	(e)	3,837	5,201	5,683	6,829
Commercial insurance premiums	"	3,496	4,303	4,888	5,311	5,805
Bank charges	"	305	353	297	295	336
Other non-industrial services (f)		20,105	27,913	34,586	40,876	51,222
icensing of motor vehicles	"	360	459	521	617	644
Rates, excluding water rates	<i>"</i> ·	7,131	8,008	9,004	9,802	10,787
Gross value added at factor cost		252,401	343,167	383,016	431,337	499,978
Gross value added at factor cost per head	£	3,908	5,399	5,906	6,786	7,909

<sup>(</sup>a) Including estimates for establishments not making satisfactory returns, non-response and establishments not selected for the Census. Satisfactory returns accounted for 86 per cent of employment within the industry.

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

<sup>(</sup>b) Receipts for work done and industrial services rendered included in sales of goods produced.

<sup>(</sup>c) Details of manufacturers' quarterly sales of principal products are published regularly in Business Monitor PQ482.1.

<sup>(</sup>d) Average number employed during the year, including full and part-time employees (see table 7) and working proprietors.

<sup>(</sup>e) Rents of industrial and commercial buildings (not recorded separately) included in hire of vehicles, plant and machinery.

<sup>(</sup>f) For 1975—1978 transport of goods by road (within the United Kingdom) was not recorded separately. For 1979 the amount payable was £27,614 thousand.

Analysis of establishments by size, 1979
All United Kingdom establishments classified to the industry (a)

Size group (b)	Estab- lish- ments	Enter- prises (c)	Employme	ent		Wages and sa	laries (f)		
			Total (d)	Opera- tives	Others (e)	Operatives		Others (e)	
			(4,		10,	Total	per head	Total	per head
marining -emiliaris	Number	Number	Number	Number	Number	£ thousand	£	£ thousand	£
1-10	180	179	1,087)						
11-19	128	125	) 1,875)						
20-49	118	113	3,848)	8,814	2,561	27,589	3,130	13,205	5,156
50-99	68	63	4,930)						
100-199	75	62	10,385	7,857	2,506	29,962	3,813	13,031	5,200
200-299	32	28	7,609	5,985	1,624	25,205	4,211	8,818	5,430
300-399	26	15	9,137	6,997	2,140	33,867	4,840	11,270	5,266
400-499	15	8	6,421	4,792	1,629	22,008	4,593	8,551	5,249
500–999	16	9	9,927	7,658	2,269	39,388	5,143	12,612	5,558
1,000 and over	6	5	7,996	6,263	1,733	28,366	4,529	9,715	5,606

Total	664	537	63,215	48,366	14,462	206,384	4,267	77,202	5,338

<sup>(</sup>a) Including estimates for establishments not making satisfactory returns, non-response and establishments not selected for the Census.

Total sales and work done (g)	Gross output	Net output		Gross value added at factor cost	G19 (1986)	Net capital expenditure (h)	Total stocks and work in progress at end of year
		Total	per head	Total	per head		
£ thousand	£ thousand	£ thousand	£	£ thousand	£	£ thousand	£ thousand
	-						
196,907	198,157	84,807	7,224	(j)	<b>(j)</b>	8,881	20,086
208,462	210,345	93,081	8,963	150,308(j)	6,794(j)	9,997	31,836
160,685	162,643	70,601	9,279	60,906	8,005	6,099	22,546
211,546	212,535	92,215	10,092	79,894	8,744	12,263	23,533
135,976	137,592	59,159	9,213	48,610	7,570	6,323	20,724
233,703	234,995	105,451	10,623	92,522	9,320	6,731	26,056
163,053	164,707	76,257	9,537	67,738	8,471	3,802	25,026

1,310,332	1,320,975	581,572	9,200	499,978	7,909	54,097	169,807

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

The cost of employers' contributions to national insurance, pensions and welfare schemes and the running costs of canteens, is estimated for the industry at £ 51,507 thousand. The remuneration of outworkers on returns received was £340 thousand.

<sup>(</sup>b) Average number employed, during the year, including full and part-time employees (see table 7) and working proprietors.

<sup>(</sup>c) The count of enterprises shown in each row represents the number of enterprises, irrespective of size, owning the establishments shown in the previous column, i.e. the number of enterprises owning the establishments within the size group indicated by the row heading. It should be noted that because an enterprise may own establishments in more than one size group, the sum of the individual enterprise counts may exceed the total for the industry.

<sup>(</sup>d) Including working proprietors.

<sup>(</sup>e) Administrative, technical and clerical employees.

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

<sup>(</sup>j) Gross value added data relate to establishments employing 1–199.

TABLE 6

Regional distribution of employment, net capital expenditure, net output and gross value added at factor cost, 1979 All United Kingdom establishments classified to the industry (a)

Area	Total employment	(b)	Net capital expenditure	(c)	Net output (d)	Gross value added at factor cost	Gross value added at factor cost returned by establishments with
AS SEE SEE SEE SEE SEE SEE SEE SEE SEE S						(d)	80 per cent or more of their employment in the region as a proportion of total gross value added at factor cost in the region
	Thousands	per cent of United Kingdom	£ thousand	per cent of United Kingdom	£ thousand	£ thousand	percentage
Standard regions of England							
North	2.4	3.8	2,324	4.3	24,916	22,048	84.3
Yorkshire and Humberside	4.2	6.7	3,720	6.9	36,732	31,773	78.1
East Midlands	7.1	11.2	5,798	10.7	63,033	53,378	74.0
East Anglia	1.7	2.7	2,840	5.2	17,395	14,410	87.3
South East	16.7	26.4	15,332	28.3	163,378	138,602	75.0
South West	6.1	9.7	4,734	8.8	62,209	55,082	87.1
West Midlands	4.6	7.2	4,040	7.5	34,421	30,414	77.4
North West	11.2	17.7	7,600	14.0	97,202	83,105	92.5
England	54.0	85.4	46,388	85.8	499,285	428,813	
Wales	1.8	2.9	812	1.5	17,227	14,090	85.8
Scotland	6.0	9.5	6,108	11.3	54,202	47,616	86.8
Great Britain	61.8	97.8	53,308	98.5	570,715	490,519	
Northern Ireland	1.4	2.2	789	1.5	10,857	9,459	60.0
United Kingdom	63.2	100.0	54,097	100.0	581,572	499,978	

(a) Including estimates for establishments not making satisfactory returns, non-response and establishments not selected for the Census.

(b) Average number employed during the year, 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, 1979

Account	ting year ended	Percentage of total returns received	Percentage of	total number employed
		per cent	per cent	part suggestion and
1979	April (a)	0.8	0.3	
	May	0.8	0.4	
	June	4.5	3.1	HOME PLEASURE SATER CONT.
	July	1.6	0.8	
	August	1.6	0.4	
	September	8.2	11.6	
	October	0.8	0.4	
	November	0.8	0.2	
	December	46.9	52.2	
1980	January	5.3	5.0	
	February	2.4	1.3	
	March (b)	26.1	24.2	

(a) From 6th April.

(b) Including returns made for twelve-month period ended 1st to 5th April 1980.

## TABLE 7

Percentage analysis of employees, by full and part-time employment and sex, 1977(a)
Packaging products of paper, board and associated materials industries, minimum list heading 482,

Sex	Full-time	Part-time	All employees
	per cent	per cent	per cent
Male	62	1	63
Female	28	9	37

Source: Department of Employment

<sup>(</sup>a) The percentages relate to the numbers employed (excluding working proprietors) in the United Kingdom in minimum list heading 482 at mid-June, 1977, the latest date for which information is available. In the 1977 Census of Production the employment of the Cardboard boxes, cartons and fibre-board packing cases industry represented 74 per cent of the employment of minimum list heading 482 as a whole.

TABLE 8

.E 8 PA482.1

Operating ratios, 1978–1979
All United Kingdom establishments classified to the industry (a)

	Unit	1978	1979
Gross output per head	fraction £	18,245	20,897
Net output per head	£	7,847	9,200
Gross value added per head	£	6,786	7,909
Gross value added as a percentage of gross output	%	37	38
Ratio of gross output to stocks (b)		7.9	7.8
Vages and salaries as a percentage of gross value added	%	56	57
Ratio of operatives to administrative, technical and clerical mployees		3.4	3.3
Vages and salaries per administrative, technical and clerical mployee	£	4,626	5,338
Vages and salaries per operative	£	3,617	4,267
Net capital expenditure per head	£	796	856
Net capital expenditure as a percentage of gross value added	%	12	11

<sup>(</sup>a) Including estimates for establishments not making satisfactory returns, non-response and establishments not selected for the Census.

Produced in Wales by Her Majesty's Stationery Office Reprographic Unit, Cardiff Dd. 699517 K6 Cdf 6 1/81

#### NOTES

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 Census of Production, 1979.

## GENERAL INFORMATION

Changes made for 1979

The Census for 1979 is in line with similar inquiries being conducted in other member countries of the European Community.

The census differed from the 1978 census in three respects. A question on the leasing of capital assets was removed from the form and a question on road transport costs was added. The sample of units in the 10 to 19 employment size band included for the 1978 census was not repeated.

Suppression of information relating to individual undertakings Section 9(5) (b) of the Statistics of Trade Act 1947 states - "The following provisions shall have effect with respect to any report, summary or other communication to the public of information obtained under the foregoing provisions of this Act—

in compiling any such report, summary or communication the competent authority shall so arrange it as to prevent any particulars published therein from being identified as being particulars relating to any individual person or undertaking except with the previous consent in writing of that person or the person carrying on that undertaking, as the case may be; but this provision shall not prevent the disclosure of the total quantity or value of any articles produced, sold or delivered; so, however, that before disclosing any such total the competent authority shall have regard to any representations made to them by any person who alleges that the disclosure thereof would enable particulars relating to him or to an undertaking carried on by him to be deduced from the total disclosed."

If a figure involved disclosure the contributor concerned was sometimes asked to give permission for its publication. In the majority of cases permission was given. When it was refused and where contributors were not approached the figure has been suppressed, either by combining it with other figures, or as in the regional tables, by omitting the figure altogether.

#### Symbols used

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

- not available
- nil or less than half the final digit shown
- figures cannot be shown owing to the risk of disclosing information about individual enterprises.
- R revised

## Rounding of figures

Figures in the tables have, where necessary, been rounded to the nearest final digit. Where figures have been so rounded, the sum of the constituent items may not always agree exactly with the total shown.

#### Industrial classification

The United Kingdom Standard Industrial Classification (SIC) was first issued in 1948 and was subsequently revised in 1958, 1968 and 1980. It exists to promote uniformity and comparability in the official statistics of the United Kingdom.

Prior to the 1980 revision the general principles followed were those of the International Standard Industrial Classification of all Economic Activities of the United Nations Statistical Office but the United Kingdom SIC has reflected the organisation and structure of industry and trade as it existed in the United Kingdom. For the 1980 revision an attempt was made to align the United Kingdom classification as closely as practicable with NACE, the classification in use by the Statistical Office of the European Community. The SIC is a classification by activity and is not a commodity classification. An index, based on the 1968 SIC for all commodity headings for which sales data are provided in the Quarterly Business Monitors is published in Business Monitor PO 1000.

#### Statistical units

The statistical unit for the purpose of the Census is the establishment which is defined in the SIC as the smallest unit which can provide the 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 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 in more than one of the countries of the United Kingdom.

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. An enterprise group is defined as a business consisting of either a 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 the Department of Employment and HM Customs and Excise. The 1973 Finance Act allows the latter to pass lists of businesses registered for VAT to the BSO. Where necessary details are sought directly from new businesses. Units which cease to trade are removed from the live register.

#### Coverage

In recent censuses returns have been required from all establishments employing 20 or more. For the 1979 Census in 68 selected manufacturing industries coverage of establishments in the 20 to 49

<sup>(</sup>b) Stocks include materials, stores and fuel, work in progress and goods on hand for sale at the end of the business year.

employment size band has been reduced to a 1 in 2 sample. This change has relieved some 5,800 firms of the need to complete a census return.

#### 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 average number of persons on the payroll during the year of return. 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. Full-time and part-time employees are included but 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 parttime) 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.

#### Purchases

Purchases include the cost of raw materials, components, semimanufactured 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 customers; and of food, etc for any canteen covered by the establishment's return. Transfers of goods to the establishment from another department of the same firm not covered by the est-

ablishment's return are included at a cost corresponding to the estimated selling value recorded by the other department. Amounts payable to transport firms or credited to the firm's own transport department for delivery of materials are excluded, as are all purchases of machinery and plant charged to capital account. Purchases of goods for merchanting or factoring have been collected separately since 1973. The values shown exclude VAT. They include, in addition to the actual purchase price, the value of packaging material charged to the establishment. The value of returned goods or packaging material returned to suppliers and any trade discounts are excluded. Materials purchased duty-paid are included at their duty-paid value, less any drawback, rebate, etc. The cost of transport is included only if it is included with the purchase price in the firm's accounts. Imported goods are included at their full delivered cost. If in the firm's accounts the transport from docks or airport is not included in the cost of goods purchased, the cost is entered at cif plus duty (if applicable). Leasing, renting and hire purchase charges are excluded.

#### Sales of goods produced

Sales for the purposes of the annual censuses means deliveries on sale of goods made by establishments in the United Kingdom covered by the inquiry. Sales of goods made for these establishments by outworkers or by other establishments from materials given out to them and sales of waste products are included. New building work and machinery or other capital items produced by establishments for hiring out or leasing are regarded as sales, the value included in the return being that adopted in the establishments' capital asset accounts. Forward sales and canteen takings are excluded. All sales in the period of the inquiry are included irrespective of when the goods were manufactured. Goods produced in one establishment and transferred either to ancillary departments not engaged in production for which there are separate accounts, or to another establishment of the same firm not covered by the return, are 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 are kept are valued on the same

The value shown for sales is the "net selling value" defined as the amount (excluding VAT) charged to customers whether on an exworks 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 establishment's 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. Progress payments made to subcontractors 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 and commissions, 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 under the Social Security Pensions Act, 1975 as well as 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 each industry, including not selected 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 practice with regard to stock valuation, may affect comparability in some respects.

## © Crown copyright 1981

## Her Majesty's Stationery Office

Government Bookshops

49 High Holborn, London WC1¼6HB
13a Castle Street, Edinburgh EH2 3AR
41 The Hayes, Cardiff CF1 1JW
Brazennose Street, Manchester M60 8AS
Southey House, Wine Street, Bristol BS1 2BQ
258 Broad Street, Birmingham B1 2HE
80 Chichester Street, Belfast BT1 4JY

Government publications are also available through booksellers

'Brief extracts from this publication may be reproduced provided the source is fully acknowledged. Proposals for reproduction of larger extracts should be addressed to the Librarian, Business Statistics Office, Newport, Gwent NPT 1XG.'