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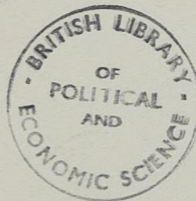
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# Business Monitor

## Report on the Census of Production

### Electrical machinery

MMSO



A publication of the Government Statistical Service

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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) or R (repetitive — i.e. at regular intervals of less than one year but not monthly or quarterly): 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).

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# Business Monitor

A publication of the Government Statistical Service

## Report on the Census of Production 1979

### Electrical machinery

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

List of Industry Reports, etc.

- PA1001 Introductory notes
- PA101 Coal mining
- PA102 Stone and slate quarrying and mining
- PA103 Chalk, clay, sand and gravel extraction
- PA104 Petroleum and natural gas
- PA109 Miscellaneous mining and quarrying
- PA211 Grain milling
- PA212 Bread and flour confectionery
- PA213 Biscuits
- PA214 Bacon curing, meat and fish products
- PA215 Milk and milk products
- PA216 Sugar
- PA217 Cocoa, chocolate and sugar confectionery
- PA218 Fruit and vegetable products
- PA219 Animal and poultry foods
- PA221 Vegetable and animal oils and fats
- PA229.1 Margarine
- PA229.2 Starch and miscellaneous foods
- PA231 Brewing and malting
- PA232 Soft drinks
- PA239.1 Spirit distilling and compounding
- PA239.2 British wines, cider and perry
- PA240 Tobacco
- PA261 Coke ovens and manufactured fuel
- PA262 Mineral oil refining
- PA263 Lubricating oils and greases
- PA271.1 Inorganic chemicals
- PA271.2 Organic chemicals
- PA271.3 Miscellaneous chemicals
- PA272 Pharmaceutical chemicals and preparations
- PA273 Toilet preparations
- PA274 Paint
- PA275 Soap and detergents
- PA276 Synthetic resins and plastics materials and synthetic rubber
- PA277 Dyestuffs and pigments
- PA278 Fertilizers
- PA279.1 Polishers
- PA279.2 Formulated adhesives, gelatine, etc.
- PA279.3 Explosives and fireworks
- PA279.4 Formulated pesticides, etc.
- PA279.5 Printing ink
- PA279.6 Surgical bandages, etc.
- PA279.7 Photographic chemical materials
- PA311 Iron and steel (general)
- PA312 Steel tubes
- PA313 Iron castings, etc.
- PA321 Aluminium and aluminium alloys
- PA322 Copper, brass and other copper alloys
- PA323 Miscellaneous base metals
- PA331 Agricultural machinery (except tractors)
- PA332 Metal-working machine tools
- PA333.1 Pumps
- PA333.2 Valves
- PA333.3 Compressors and fluid power equipment
- PA334 Industrial engines
- PA335 Textile machinery and accessories
- PA336 Construction and earth-moving equipment
- PA337 Mechanical handling equipment
- PA338 Office machinery
- PA339.1 Mining machinery
- PA339.2 Printing, bookbinding and paper goods machinery
- PA339.3 Refrigerating machinery, space-heating, ventilating and air-conditioning equipment
- PA339.5 Scales and weighing machinery and portable power tools
- PA339.7 Food and drink processing machinery and packaging and bottling machinery
- PA339.9 Miscellaneous (non-electrical) machinery
- PA341 Industrial (including process) plant and steelwork
- PA342 Ordnance and small arms
- PA349.1 Ball, roller, plain and other bearings
- PA349.2 Precision chains and other mechanical engineering
- PA351 Photographic and document copying equipment
- PA352 Watches and clocks
- PA353 Surgical instruments and appliances
- PA354 Scientific and industrial instruments and systems
- PA361 Electrical machinery
- PA362 Insulated wires and cables
- PA363 Telegraph and telephone apparatus and equipment
- PA364 Radio and electronic components
- PA365.1 Gramophone records and tape recordings
- PA365.2 Broadcast receiving and sound reproducing equipment
- PA366 Electronic computers
- PA367 Radio, radar and electronic capital goods
- PA368 Electrical appliances primarily for domestic use
- PA369.1 Electrical equipment for motor vehicles, cycles and aircraft
- PA369.2 Primary and secondary batteries
- PA369.4 Electric lamps, electric light fittings, wiring accessories, etc.
- PA370 Shipbuilding and marine engineering
- PA380 Wheeled tractor manufacturing
- PA381.1 Motor vehicle manufacturing
- PA381.2 Trailers, caravans and freight containers
- PA382 Motor cycle, tricycle and pedal cycle manufacturing
- PA383 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
- PA392 Cutlery, spoons, forks and plated tableware, etc.
- PA393 Bolts, nuts, screws, rivets, etc.
- PA394 Wire and wire manufactures
- PA395 Cans and metal boxes
- PA396 Jewellery and precious metals
- PA399.1 Metal furniture
- PA399.5 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
- PA413 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 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
- PA449.1 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
- PA473 Bedding, etc.
- PA474 Shop and office fitting
- PA475 Wooden containers and baskets
- PA479 Miscellaneous wood and cork manufactures
- PA481 Paper and board
- PA482.1 Cardboard boxes, cartons and fibre-board packing cases
- PA482.2 Packaging products of paper and associated materials
- PA483 Manufactured stationery
- PA484.1 Wallcoverings
- PA484.2 Miscellaneous manufactures of paper and board
- PA485 Printing, publishing of newspapers and periodicals
- PA489 General printing and publishing
- PA491 Rubber
- PA492 Linoleum, plastics floor-covering, leathercloth, etc.
- PA493 Brushes and brooms
- PA494.1 Toys, games and children's carriages
- PA494.3 Sports equipment
- PA495 Miscellaneous stationers' goods
- PA496 Plastics products
- PA499.1 Musical instruments
- PA499.2 Miscellaneous manufacturing industries
- PA500 Construction
- PA601 Gas
- PA602 Electricity
- PA603 Water supply
- PA1002 Summary tables

PA361 ELECTRICAL MACHINERY

PA361

The information in this report relates to establishments classified to the Electrical machinery industry, minimum list heading 361 in the Standard Industrial Classification (revised 1968). The activities of the industry include:—

Manufacturing machinery for generating, transmitting and distributing electric power including electricity generators, turbines for electricity generation and transformers; starting and controlling gear for electric motors, and switchgear; electric motors (including electric traction motors and transmission equipment and associated rectifiers), and electrical machinery not reported elsewhere. Electrical equipment for motor vehicles, cycles and aircraft is excluded.

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 expenditure, net output and gross value added at factor cost, 1979	6
6	Percentage analysis of twelve-month periods covered by returns received from United Kingdom establishments, 1979	7
7	Percentage analysis of employees, by full and part-time employment and sex, 1977	7
8	Operating ratios, 1978—1979	8

TABLE 1

PA361

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

	Unit	1975	1976	1977	1978	1979
Enterprises	Number	1,000	1,085	1,120	1,125	1,120
Establishments	"	1,150	1,257	1,289	1,298	1,289
Sales of goods produced	£ thousand	1,144,101(b)	1,327,732	1,596,805	1,712,242	1,754,905
Receipts for work done and industrial services rendered	"	(b)	85,105	100,046	128,573	126,459
Capital goods produced for establishments' own use	"	1,497	2,159	1,901	3,772	2,702
Non-industrial services rendered	"	8,354	9,904	11,467	15,174	17,069
Goods merchanted or factored	"	89,104	151,060	171,118	198,542	180,577
<b>Total sales and work done (c)</b>	"	<b>1,243,056</b>	<b>1,575,959</b>	<b>1,881,336</b>	<b>2,058,303</b>	<b>2,081,712</b>
Increase during the year, work in progress and goods on hand for sale	"	88,476	94,367	34,756	79,705	26,154
<b>Gross output</b>	"	<b>1,331,532</b>	<b>1,670,327</b>	<b>1,916,092</b>	<b>2,138,009</b>	<b>2,107,866</b>
Purchases of materials for use in production, and packaging and fuel	"	687,227	682,981	813,499	902,063	896,912
Purchases of goods for merchanding or factoring	"	(d)	131,918	139,242	157,476	133,549
Increase during the year, stocks of materials, stores and fuel	"	5,877	16,310	13,736	20,287	18,747
Cost of industrial services received	"	31,571	44,465	41,316	50,940	53,069
<b>Net output</b>	"	<b>618,610</b>	<b>827,273</b>	<b>935,771</b>	<b>1,047,817</b>	<b>1,043,083</b>
Total employment (d)	Thousands	142.9	143.2	140.9	139.6	139.0
<b>Net output per head</b>	£	<b>4,330</b>	<b>5,777</b>	<b>6,640</b>	<b>7,507</b>	<b>7,504</b>
Payments for non-industrial services						
Hire of vehicles, plant and machinery	£ thousand	5,546(e)	3,365	4,309	5,505	7,029
Rents of industrial and commercial buildings	"	(e)	4,260	5,593	7,415	9,448
Commercial insurance premiums	"	6,029	7,302	8,675	10,519	13,027
Bank charges	"	890	972	1,336	1,131	1,303
Other non-industrial services (f)	"	31,474	44,531	48,486	61,463	70,280
Licensing of motor vehicles	"	321	358	439	517	523
Rates, excluding water rates	"	8,451	9,626	10,461	11,468	13,154
<b>Gross value added at factor cost</b>	"	<b>565,899</b>	<b>756,860</b>	<b>856,472</b>	<b>949,800</b>	<b>928,320</b>
<b>Gross value added at factor cost per head</b>	£	<b>3,961</b>	<b>5,285</b>	<b>6,078</b>	<b>6,804</b>	<b>6,679</b>

(a) Including estimates for establishments not making satisfactory returns, non-response and establishments not selected for the Census. Satisfactory returns accounted for 80 per cent of employment within the industry.

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

(c) Details of manufacturers' quarterly sales of principal products are published regularly in Business Monitor PQ361.

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

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

(f) For 1975-1978 transport of goods by road (within the United Kingdom) was not recorded separately. For 1979 the amount payable was £11,784 thousand.

TABLE 2

PA361

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

	£ thousand				
	1975	1976	1977	1978	1979
Land and buildings					
New building work	5,608	7,689	7,377	8,488	9,256
Land and existing buildings					
Acquisitions	1,379	1,412	2,418	1,051	1,416
Disposals	366	968	1,290	759	746
Vehicles					
Acquisitions	2,972	4,840	7,097	7,977	8,804
Disposals	742	1,198	1,869	2,224	2,749
Plant and machinery					
Acquisitions	25,328	30,759	37,624	52,662	55,396
Disposals	805	1,041	1,084	1,917	2,972
<b>Total net capital expenditure</b>	<b>33,374</b>	<b>41,494</b>	<b>50,274</b>	<b>65,277</b>	<b>68,404</b>

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

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

TABLE 3

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

	£ thousand				
	1975	1976	1977	1978	1979
			Increase		Value at end of year
Materials, stores and fuel	5,877	16,310	13,736	20,287	193,101
Work in progress	80,255	88,174	24,599	70,508	560,176
Goods on hand for sale	8,221	6,193	10,157	9,198	63,840
<b>Total</b>	<b>94,353</b>	<b>110,677</b>	<b>48,492</b>	<b>99,992</b>	<b>817,117</b>

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

TABLE 4

PA361

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

Size group (b)	Estab-lish-ments	Enter-prises (c)	Employment			Wages and salaries (f)			
			Total (d)	Opera-tives	Others (e)	Operatives		Others (e)	
						Total	per head	Total	per head
Number	Number	Number	Number	Number	Number	£ thousand	£	£ thousand	£
1-10	609	588	2,965 )						
11-19	222	215	3,225 )	11,605	4,949	41,711	3,594	24,692	4,989
20-49	190	190	5,995 )						
50-99	71	66	5,045 )						
100-199	62	53	9,096	6,256	2,827	23,746	3,796	13,368	4,729
200-299	40	33	9,711	6,467	3,240	24,077	3,723	16,365	5,051
300-399	15	14	5,224	3,065	2,159	12,738	4,156	10,835	5,018
400-499	18	18	8,117	5,279	2,835	20,588	3,900	14,298	5,044
500-749	23	17	14,499	9,538	4,953	37,733	3,956	23,926	4,831
750-999	10	8	8,465	5,100	3,365	21,135	4,144	16,298	4,843
1,000-1,499	13	8	15,444	8,879	6,565	34,311	3,864	32,109	4,891
1,500-1,999	3	3	5,326	3,268	2,058	13,446	4,114	11,505	5,590
2,000-2,499	3	3	6,916	4,185	2,731	15,165	3,624	14,414	5,278
2,500-2,999	4	3	10,575	5,725	4,850	26,102	4,559	25,734	5,306
3,000 and over	6	3	28,393	16,327	12,066	73,142	4,480	62,866	5,210
<b>Total</b>	<b>1,289</b>	<b>1,120</b>	<b>138,996</b>	<b>85,694</b>	<b>52,598</b>	<b>343,894</b>	<b>4,013</b>	<b>266,409</b>	<b>5,065</b>

(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) 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.

(d) Including working proprietors.

(e) Administrative, technical and clerical employees.

PA361

Total sales and work done (g)	Gross output	Net output		Gross value added at factor cost		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
234,378	238,274	117,598	6,825	(j)	(j)	4,997	45,896
132,001	133,685	67,836	7,458	161,941(j)	6,151(j)	3,086	32,299
147,728	149,616	78,569	8,091	68,139	7,017	5,208	37,130
87,158	87,383	44,762	8,569	37,883	7,252	2,641	32,482
131,645	132,739	56,434	6,953	48,617	5,989	5,342	44,281
211,519	213,738	108,198	7,462	95,106	6,559	6,819	59,339
127,310	127,746	60,451	7,141	54,633	6,454	3,504	43,469
187,977	191,888	98,167	6,356	86,502	5,601	7,818	85,779
118,044	120,843	40,438	7,593	34,698	6,515	1,468	64,841
120,487	127,574	52,408	7,578	47,877	6,923	2,230	62,240
162,104	158,421	89,969	8,508	80,529	7,615	9,099	45,919
421,361	425,958	228,253	8,039	212,395	7,481	16,191	263,441
<b>2,081,712</b>	<b>2,107,866</b>	<b>1,043,083</b>	<b>7,504</b>	<b>928,320</b>	<b>6,679</b>	<b>68,404</b>	<b>817,117</b>

(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 £100,478 thousand. The remuneration of outworkers on returns received was £205 thousand.

(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.

(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 5

PA361

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 (d)	Gross value added at factor cost returned by establishments with 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	14.4	10.4	6,326	9.2	110,571	101,086	55.6
Yorkshire and Humberside	11.0	7.9	6,643	9.7	83,584	74,966	74.2
East Midlands	11.3	8.1	6,680	9.8	100,605	89,708	88.8
East Anglia	5.3	3.8	1,578	2.3	37,362	33,752	79.0
South East	23.8	17.1	9,297	13.6	165,796	141,864	54.9
South West	11.1	8.0	4,993	7.3	82,147	72,737	84.8
West Midlands	27.3	19.6	16,773	24.5	203,322	182,048	67.7
North West	20.2	14.6	11,439	16.7	165,888	150,855	48.8
England	124.4	89.5	63,729	93.2	949,275	847,017	
Wales	3.2	2.3	1,522	2.2	23,120	20,579	50.4
Scotland	9.6	6.9	2,015	3.0	62,271	53,251	87.1
Great Britain	137.2	98.7	67,266	98.3	1,034,666	920,847	
Northern Ireland	1.8	1.3	1,138	1.7	8,417	7,472	74.7
United Kingdom	139.0	100.0	68,404	100.0	1,043,083	928,320	

- (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.

TABLE 6

PA361

Percentage analysis of twelve-month periods covered by returns received from United Kingdom establishments, 1979

Accounting year ended		Percentage of total returns received	Percentage of total number employed	
		per cent	per cent	
1979	April (a)	1.7	0.5	
	May	1.7	0.2	
	June	3.0	1.4	
	July	2.2	0.6	
	August	0.4	—	
	September	8.7	7.3	
	October	2.6	0.8	
	November	2.2	1.5	
	December	45.4	43.5	
	1980	January	0.4	—
		February	1.3	0.8
		March (b)	30.3	43.5

(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)

Sex	Full-time	Part-time	All employees
	per cent	per cent	per cent
Male	74	1	75
Female	21	4	25

Source: Department of Employment

(a) The percentages relate to the numbers employed (excluding working proprietors) in the United Kingdom at mid-June, 1977, the latest date for which information is available.



TABLE 8

PA361

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

	Unit	1978	1979
Gross output per head	£	15,317	15,165
Net output per head	£	7,507	7,504
Gross value added per head	£	6,804	6,679
Gross value added as a percentage of gross output	%	44	44
Ratio of gross output to stocks (b)		2.8	2.6
Wages and salaries as a percentage of gross value added	%	56	66
Ratio of operatives to administrative, technical and clerical employees		1.7	1.6
Wages and salaries per administrative, technical and clerical employee	£	4,300	5,065
Wages and salaries per operative	£	3,545	4,013
Net capital expenditure per head	£	468	492
Net capital expenditure as a percentage of gross value added	%	7	7

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

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

## 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 merchandising, 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

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 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.

##### Purchases

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 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 basis.

The value shown for sales is 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 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 merchant or factored

Merchant 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 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 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.

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