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Business Statistics Office

Business Monitor

**Report on the
Census of Production**

**Metal-working machine
tools**



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. These Business Monitors have a code P (for production) followed first by A (indicating that it is an annual series) or Q (quarterly) or M (monthly): and then by a number indicating the minimum list heading, or sub-division of a minimum list heading, of the Standard Industrial Classification (revised 1968).

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

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PA332

Business Monitor

A publication of the Government Statistical Service

Report on the Census of Production 1977

Metal-working machine tools

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

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PA 332 METAL-WORKING MACHINE TOOLS

PA332

The information in this report relates to establishments classified to the Metal-working machine tools industry, minimum list heading 332 in the Standard Industrial Classification (revised 1968). The activities of the industry include:—

Manufacturing metal-cutting machine tools, boring, drilling, grinding and milling machines; lathes and other turning machines; machining centres; metal-forming machine tools, including forging machines and hammers, extrusion and other presses, wire-drawing machines and sheet metal-working machines; all types of electric and gas welding machinery and equipment, flame cutting machines and welding electrodes and rods, physio-chemical process cutting and forming machines including equipment for high energy rate forming, electro-chemical machinery, ultrasonic erosion, etc. Electron beams and laser machines for metal-working are included but rolling mills, portable power tools and metal manufacturing plant are excluded.

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

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TABLE 1

PA332

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

	Unit	1973	1974	1975	1976	1977
Enterprises	Number	775	880	956	994	991
Establishments	"	826	936	1,022	1,071	1,066
Sales of goods produced	£ thousand	304,747	364,801	472,658	522,270	617,447
Receipts for work done and industrial services rendered	"	(b)	(b)	(b)	9,715	11,111
Capital goods produced for establishments' own use	"	799	411	702	1,046	949
Non-industrial services rendered	"	1,324	3,254	1,936	1,705	1,956
Goods merchanted or factored	"	35,878	37,057	46,664	39,657	67,030
Total sales and work done (c)	"	342,746	405,523	521,960	574,394	698,492
Increase during the year, work in progress and goods on hand for sale	"	8,876	35,565	1,268	24,876	30,053
Gross output	"	351,622	441,088	523,228	599,271	728,545
Purchases of materials for use in production, and packaging and fuel	"	134,001	185,581	212,835	232,690	283,062
Purchases of goods for merchenting or factoring	"	28,042	27,116	34,206	31,732	48,926
Increase during the year, stocks of materials, stores and fuel	"	10,050	15,696	6,462	2,504	5,561
Cost of industrial services received	"	10,487	18,883	17,715	19,027	21,051
Net output	"	189,142	225,203	264,935	318,326	381,067
Total employment (d)	Thousands	58.8	61.1	62.0	60.2	59.6
Net output per head	£	3,218	3,684	4,271	5,284	6,391
Payments for non-industrial services						
Hire of vehicles, plant and machinery	£ thousand	2,219	3,181	3,204	1,347	2,078
Rents of industrial and commercial buildings	"	(e)	(e)	(e)	1,583	2,136
Commercial insurance premiums	"	1,905	2,191	2,720	3,444	3,888
Bank charges	"	302	369	553	621	611
Other non-industrial services	"	11,455	12,990	19,567	26,113	32,144
Licensing of motor vehicles	"	107	113	151	175	222
Rates, excluding water rates	"	2,642	3,714	4,725	5,530	5,927
Gross value added at factor cost	"	170,512	202,644	234,015	279,512	334,061
Gross value added at factor cost per head	£	2,901	3,315	3,773	4,640	5,603

(a) Including estimates for establishments not making satisfactory returns, non-response and establishments with fewer than 20 persons. Satisfactory returns accounted for 72 per cent of employment within the industry.

(b) Included in sales of goods produced.

(c) Details of manufacturers' quarterly sales of principal products are published regularly in Business Monitor PQ332.

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

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

TABLE 2

PA332

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

	£ thousand				
	1973	1974	1975	1976	1977
Land and buildings					
New building work	888	2,212	2,003	1,410	2,064
Land and existing buildings					
Acquisitions	372	308	179	1,196	459
Disposals	1,858	320	59	372	77
Vehicles					
Acquisitions	1,422	1,732	1,783	2,616	3,829
Disposals	495	472	575	774	1,008
Plant and machinery					
Acquisitions	8,166	11,439	9,795	14,497	23,387
Disposals	1,128	1,454	1,010	1,520	1,472
Total net capital expenditure	7,367	13,445	12,117	17,053	27,183

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

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

TABLE 3

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

	£ thousand				
	1973	1974	1975	1976	1977
			Increase		Value at end of year
Materials, stores and fuel	10,050	15,696	6,462	2,504	5,561
Work in progress	10,768	31,635	-2,437	19,165	25,724
Goods on hand for sale	-1,893	3,930	3,705	5,712	4,329
Total	18,926	51,261	7,730	27,380	35,614
					268,345

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

TABLE 4

PA332

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

Size group (b)	Establishments	Enterprises (c)	Employment			Wages and salaries (f)			
			Total (d)	Operatives	Others (e)	Operatives		Others (e)	
						Total	per head	Total	per head
1-10	570	567	2,756						
11-19	178	174	2,513						
20-49	128	126	3,917	8,896	4,300	28,844	3,242	15,934	3,706
50-99	63	62	4,463						
100-199	52	43	7,315	4,780	2,531	15,524	3,248	9,164	3,621
200-299	26	24	6,249	3,865	2,381	13,071	3,382	9,007	3,783
300-399	10	10	3,391	2,020	1,371	6,068	3,004	5,217	3,805
400-499	16	14	7,122	4,591	2,526	15,197	3,310	9,276	3,672
500-749	11	11	6,333	3,965	2,368	13,480	3,400	8,841	3,734
750-999	5	5	4,476	2,837	1,639	8,844	3,117	6,245	3,810
1,000 and over	7	7	11,089	6,916	4,173	25,361	3,667	15,693	3,761
Total	1,066	991	59,624	37,870	21,289	126,388	3,337	79,378	3,729

- (a) Including estimates for establishments not making satisfactory returns, non-response and establishments with fewer than 20 persons.
- (b) Average number employed, including full and part-time employees (see table 7) and working proprietors.
- (c) The sum of the figures for the size groups may exceed the total for the industry because some enterprises control establishments in more than one size group.
- (d) Including working proprietors.
- (e) Administrative, technical and clerical employees.

Handwritten calculation:

$$\frac{1591}{1066} = 1.502$$

PA332

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
157,963	164,706	90,345	6,619	(j)	(j)	5,626	45,499	
82,390	85,730	45,695	6,247	121,018(j)	5,773(j)	3,294	25,704	
78,816	84,575	41,925	6,709	37,394	5,984	2,534	31,261	
42,849	44,391	22,220	6,553	18,496	5,454	1,497	17,752	
82,682	86,027	47,530	6,674	41,747	5,862	3,083	30,757	
81,769	87,032	40,418	6,382	34,535	5,453	3,547	34,329	
59,796	62,199	32,719	7,310	28,554	6,379	3,117	22,153	
112,228	113,886	60,215	5,430	52,317	4,718	4,485	60,889	
698,492	728,545	381,067	6,391	334,061	5,603	27,183	268,345	

- (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 £29,226 thousand.
- (g) Sales of goods produced, capital goods manufactured, buildings constructed by establishments for their own use, work done, industrial and non-industrial services rendered and merchanted goods.
- (h) New building work plus acquisitions less disposals of land and existing buildings, vehicles and plant and machinery.
- (j) Gross value added data relate to establishments employing 1-199.

TABLE 5

PA332

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

Area	Total 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			
Standard regions of England							
North	3.5	5.8	1,506	5.5	17,073	14,991	82.1
Yorkshire and Humberside	8.0	13.4	4,416	16.2	52,684	46,792	64.0
East Midlands	6.1	10.2	3,252	12.0	37,064	32,876	54.0
East Anglia	1.5	2.6	709	2.6	10,372	9,128	74.6
South East	12.8	21.5	6,666	24.5	93,850	81,404	68.3
South West	2.4	4.0	1,282	4.7	17,061	15,404	77.0
West Midlands	17.4	29.1	5,657	20.8	100,621	87,696	68.6
North West	4.4	7.3	2,375	8.7	29,347	25,767	52.9
England	55.9	93.8	25,863	95.1	358,073	314,059	/
Wales	*	*	*	*	*	*	*
Scotland	3.2	5.4	1,181	4.3	19,695	17,032	71.5
Great Britain	*	*	*	*	*	*	/
Northern Ireland	*	*	*	*	*	*	*
United Kingdom	59.6	100.0	27,183	100.0	381,067	334,061	/

- (a) Including estimates for establishments not making satisfactory returns, non-response and establishments with fewer than 20 persons.
- (b) Average number employed, including full and part-time employees (see table 7) and working proprietors.
- (c) New building work plus acquisitions less disposals of land and existing buildings, vehicles and plant and machinery.
- (d) Where a census return covered addresses in two or more regions, an estimate of the net output attributable to each address was made by assuming that net output was proportionate to employment. An estimate for each region was obtained by aggregating estimates of net output for addresses located in that region. Gross value added at factor cost is treated similarly.

TABLE 6

PA332

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

Accounting year ended	Percentage of total returns received		Percentage of total number employed	
		per cent		per cent
1977	April (a)	2.4		0.6
	May	3.9		1.4
	June	6.3		3.0
	July	1.9		1.0
	August	2.4		0.5
	September	8.7		6.2
	October	4.9		5.5
	November	3.9		6.3
	December	38.8		50.3
1978	January	1.5		0.3
	February	1.0		0.2
	March (b)	24.3		24.7

(a) From 6th April.

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

TABLE 7

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

Sex	Full-time	Part-time	All employees
	per cent	per cent	
Male	85	1	86
Female	11	3	14

Source: Department of Employment

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

TABLE 8

PA332

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

	Unit	1977
Gross output per head	£	12,219
Net output per head	£	6,391
Gross value added per head	£	5,603
Gross value added as a percentage of gross output	%	46
Ratio of gross output to stocks		2.7
Wages and salaries as a percentage of gross value added	%	62
Ratio of operatives to administrative, technical and clerical employees		1.8
Wages and salaries per operative	£	3,337
Wages and salaries per administrative, technical and clerical employee	£	3,729
Net capital expenditure per head	£	456
Net capital expenditure as a percentage of gross value added	%	8

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

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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, 1977.

GENERAL INFORMATION

Changes made for 1977

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

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

Specific changes are explained in the introductions to the industry reports or by footnotes to the tables.

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 and 1968. It exists to promote uniformity and comparability in the official statistics of the United Kingdom. The general principles followed are those of the International Standard Industrial Classification of all Economic Activities of the United Nations Statistical Office but the United Kingdom SIC reflects the organisation and structure of industry and trade as it exists in the United Kingdom. The SIC is a classification by activity and is not a commodity classification. However, an index of all commodity headings for which sales data are provided in the Quarterly Business Monitors, is published in Business Monitor PQ 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 separate information in respect of each address, whether or not the activities are different. Their activities may, however, be integrated to such an extent that they constitute a single establishment. In the latter case the establishment is defined to cover the combined activities at these addresses (termed local units). Separate figures are obtained of employment and net capital expenditure at each unit in order to compile regional tables. Efforts are made by the Business Statistics Office (BSO) to ensure, by negotiating with respondents, that the return from an establishment does not cover local units or addresses in more than one of the countries of the United Kingdom.

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

Establishments are asked to exclude from their returns particulars relating to any department not engaged in production eg 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. For these purposes an enterprise group may be 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 Companies Registration Office and the Department of Employment. The 1973 Finance Act allows HM Customs and Excise to pass to the BSO lists of businesses registered for VAT. Information from all these sources is used to improve the register, and where necessary, details are sought directly from new businesses. Units which cease to trade are removed from the live register.

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

Coverage

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

Regions

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

TERMS USED IN THE CENSUS REPORT

Average number employed

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

- (a) administrative, technical and clerical employees
- (b) all other employees (operatives)

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

Working proprietors

These include all persons regarded as "self-employed" for national insurance purposes and members of their families who worked in the business without receiving a wage or salary; but such persons who worked less than half the normal number of working hours are excluded. Directors working in the business but not in receipt of a definite wage, salary or commission are included under this heading: directors paid by fee only are not included.

Employees

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

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

Capital expenditure

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

(a) New building work

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

(b) Land and existing buildings

The items shown are the capital cost of freeholds purchased and the capital cost or premium payable for leaseholds acquired (excluding the value of assets acquired in taking over an existing business), and the amounts receivable for freeholds or leaseholds disposed of. The value is that charged to capital account during the year of return.

(c) Plant, machinery and vehicles

The items shown are the value of plant and machinery and of vehicles acquired, both new and second-hand, and the amount received for items disposed of during the year. The value of plant and machinery acquired includes plant, etc which firms produced for their own use in connection with the business covered by the return. The value of plant, etc acquired is the expenditure charged to capital account during the year of return less any discounts received, but including the cost of transport and installation. Deductible value added tax is excluded but non-deductible value added tax on motor cars acquired is included. No deduction is made for depreciation, amortization or obsolescence. The proceeds of items disposed of during the year exclude amounts written-off for items scrapped.

Cost of industrial services

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

Cost of non-industrial services

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

Gross output

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

Net output

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

Net output per head

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

Gross value added at factor cost

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

Gross value added at factor cost per head

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

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

Receipts for work done and industrial services rendered

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

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

Capital goods produced for establishments' own use

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

Non-industrial services rendered

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

Goods 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, together with a margin of overhead costs and profits. Progress payments made to sub-contractors are excluded and progress payments received from other organisations are not deducted.

Wages and salaries

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

Remuneration paid to outworkers

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

Employers' insurance and welfare contributions

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

Operating ratios

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

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