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# **Business Monitor**

A publication of the Government Statistical Service

Report on the Census of Production

Precision chains and other mechanical engineering



Department of Industry
Business Statistics Office

**HMSO** 

## PA349.2 Business Monitor

A publication of the Government Statistical Service

Report on the **Census of Production** 1972

## **Precision chains and other** mechanical engineering

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 1975

### PA349.2 PRECISION CHAINS AND OTHER MECHANICAL ENGINEERING

The information in this report relates to establishments classified to the Precision chains and other mechanical engineering industry, minimum list heading 349.2 and 3 in the Standard Industrial Classification (revised 1968). The activities of the industry include:-

Manufacturing transmission and other precision chains including transmission chains for motor vehicles and cycles. The undertaking by establishments of general sub-contract or repair work and establishments whose mechanical engineering products (including machinery parts) are of such a mixed character that they cannot be allocated elsewhere among the mechanical engineering group of industries - Order VII.

Prior to 1971, for census purposes, the manufacture of precision chains and other mechanical engineering formed part of the General mechanical engineering industry and separate figures are not available. Aggregate results for the whole of MLH 349 are shown in tables 1a and 2a; the remaining tables relate only to MLH 349.2 and 3.

> 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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PA274	Paint	PA422.1	Household textiles and handkerchiefs
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PA276	Synthetic resins and plastics materials and	DA 122	textiles Toutile finishing
	synthetic rubber		Textile finishing Asbestos
	Dyestuffs and pigments		Miscellaneous textiles
	Fertilizers	PA431	
PA279.1	Formulated adhesives, gelatine, etc.	PA432	
PA279.2	Explosives and fireworks	PA433	Fur
	Formulated pesticides, etc.	PA441	Weatherproof outerwear
	Printing ink	PA442	Men's and boys' tailored outerwear
PA279.6	Surgical bandages, etc.	PA443	Women's and girls' tailored outerwear
PA279.7	Photographic chemical materials	PA444	
PA311	Iron and steel (general)		Dresses, lingerie, infants' wear, etc. Hats, caps and millinery
PA312	Steel tubes	PA440	1 Corsets and miscellaneous dress industries
PA313	Iron castings, etc. Aluminium and aluminium alloys		2 Gloves
PA321	Copper, brass and other copper alloys	PA450	Footwear
PA 323	Miscellaneous base metals	PA461.1	1 Refractory goods
PA331	Agricultural machinery (except tractors)		2 Building bricks and non-refractory goods
PA332	Metal-working machine tools		Pottery
	Pumps, valves and compressors	PA463	Cement
PA334	Industrial engines		1 Abrasives
PA335	Textile machinery and accessories Construction and earth-moving equipment	PA469	2 Miscellaneous building materials and mineral
PA336 PA337	Mechanical handling equipment	1711071	products
PA337	Office machinery	PA471	Timber
PA 339 1	Mining machinery	PA472	
PA 339 2	Printing, book binding and paper goods machinery	PA473	Bedding, etc.
PA339.3	Refrigerating machinery, space heating,	PA474	Shop and office fittings Wooden containers and baskets
	ventilating and air-conditioning equipment	PA475 PA479	Miscellaneous wood and cork manufactures
PA339.7	Food and drink processing machinery and	PA479	
D 4 220 0	packaging and bottling machinery	PA487	1 Cardboard boxes, cartons and fibre-board
PA339.9	Miscellaneous (non-electrical) machinery Scales and weighing machinery and portable		nacking cases
	power tools	PA482.	2 Packaging products of paper and associated
PA341	Industrial (including process) plant and steelwork		materials
	Process plant engineering contractors	PA483	Manufactured stationery
PA342	Ordnance and small arms	PA484.	1 Wallcovering
DA 3/10 1	Rall and roller hearings		2 Miscellaneous manufactures of paper and board Printing and publishing of newspapers and
PA349.2	Precision chains and other mechanical engineering	PA485	periodicals
PA351	Photographic and document copying equipment	PA489	
PA352	Watches and clocks Surgical instruments and appliances	PA491	Rubber
PA353	Scientific and industrial instruments and systems	PA492	Linoleum, plastics floor-covering,
PA354 PA361	Electrical machinery		leathercloth, etc.
PA 362	Insulated wires and cables	PA493	Brushes and brooms
PA363	Telegraph and telephone apparatus and equipment	PA494.	1 Toys, games and children's carriages
PA364	Radio and electronic components	PA494.	3 Sports equipment Miscellaneous stationers' goods
PA365	Gramophone records and tape recordings		Miscellaneous stationers' goods
	Broadcast receiving and sound reproducing	PA490	Plastics products  1 Musical instruments
DA 200	equipment .	PA499.	2 Miscellaneous manufacturing industries
PA366	Electronic computers Radio, radar and electronic capital goods	PA601	
PA367 PA368	Electrical appliances primarily for domestic use	PA602	
PA369	Electrical equipment for motor vehicles, cycles	PA603	Water supply
111307	and aircraft	PA1002	2 Summary tables
	Primary and secondary batteries		

PA370 Shipbuilding and marine engineering

accessories, etc.

Primary and secondary batteries
Electric lamps, electric light fittings, wiring

London: Her Majesty's Stationery Office 1975

Input and output, 1970, 1971 and 1972

All United Kingdom establishments classified to the General mechanical engineering industry (a)

		1		
which cromestoons themselve makes were insi- seb-contract or repair more and et all tokenus	Unit	1970	1971	1972
Enterprises	Number	5,128	5,321	4,585
Establishments	i ex see II e de la	5,222	5,469	4,801
	ters of the bold and	regulating that an	he Genelet meg	To Jung Bom
Sales of goods produced and work done	£,000	698,718	747,912	637,593
Services rendered to other organisations (b)	11	8,110	6,727	7,928
Goods merchanted or factored	11	33,360	50,523	41,779
Canteen takings	al di antologia	1,381	1,412	1,229
TOTAL STREET OF STREET STREET STREET	stants its later [186]	Lift feet fand wein	THE STATE OF THE S	De Shren
Total sales and work done	П	741,569	806,574	688,527
		Transport of the	set sented goods	
Increase during the year, work in progress and goods on hand for sale	11	12,831	906	2,051
Gross output	п	754,400	807,481	690,578
Cost of purchases	11	310,049	317,973	269,797
Increase during the year, stocks of materials, stores and fuel	11	7,457	-604	2,661
Payments to other organisations for work done on materials given out	Car es Hou bala	18,731	19,146	16,707
for transport by road	11	4,074	4,445	3,599
for transport by rail, water, air and Post Office parcel services	II COME	1,661	1,903	1,209
Total costs	II Z	327,058	344,070	288,652
Net output	. II TALL	427,342	463,410	401,926
Total employment (including working proprietors) (c)	Thousands	205.1	197.2	165.0
Net output per head	£	2,084	2,350	2,436

<sup>(</sup>a) For 1972, estimates for establishments not making satisfactory returns and for establishments employing less than 25 persons, accounted for 32 per cent of the total figures in which they were incorporated: of this unsatisfactory returns accounted for 7 per cent.

Input and output, 1970, 1971 and 1972

All United Kingdom establishments classified to the Precision chains and other mechanical engineering industries (a)

Illuustiit		1		
2,561	ivo:	Unit	1971	1972 (b)
Enterprises		Number	5,292	4,540
Establishments		п	5,430	4,735
		800.5	15.466	New building work
Sales of goods produced and wor	k done	£'000	613,964	503,192
Services rendered to other orga	inisations (c)	11	6,519	7,928
Goods merchanted or factored		Sit in	36,512	29,559
Canteen takings		11	1,063	784
Total sales and work done		11	658,058	541,462
		28,862	28,378	Acquisitions Acquisitions
Increase during the year, work	in progress	250,1	44.88	alawogat@ .
and goods on hand for sale		11	-501	Vehicles 008
Gross output		ess, an	657,556	542,262
2,29		658.1	2.69C	Oispossis 23,23
Cost of purchases		11	261,557	211,378
Increase during the year, stock materials, stores and fuel	s of	II II	493	2,322
Payments to other organisations for work done on materials gi		п	18,513	15,898
for transport by road		lacrease	3,859	3,010
for transport by rail, water,			2707 To	970, 1971 and 1972 and very
and Post Office parcel servic	es	II	1,659	1,009
Total costs		п	285,094	228,973
The State of the S	-604	7,457		Materials, stores and teel
Net output		804, JI	372,461	313,289
THE BAN DONE TOURSELS.	7,151	324,8	30.303	Coods on hand for sale
Total employment (including wor proprietors) (d)	king	Thousands	159.9	120.0
proprietors, (a)		Thousands	159.9	129.9
Net output per head		£	2,329	2,412

<sup>(</sup>a) For 1972, estimates for establishments not making satisfactory returns and for establishments employing less than 25 persons, accounted for 41 per cent of the total figures in which they were incorporated: of this unsatisfactory returns accounted for 9 per cent.

<sup>(</sup>b) Amounts charged for hiring out plant, machinery or other goods, for providing transport, or for any technical or other services rendered.

<sup>(</sup>c) Average number employed (full and part time; see table 6) during the year (including working proprietors) by the establishment.

<sup>(</sup>b) The fall between 1971 and 1972 in employment and associated variables (e.g. gross output) is attributable to the reclassification to other industries of establishments previously classified to this industry.

<sup>(</sup>c) Amounts charged for hiring out plant, machinery or other goods, for providing transport, or for any technical or other services rendered.

<sup>(</sup>d) Average number employed (full and part time; see table 6) during the year (including working proprietors) by the establishment.

TABLE 2 b

Capital expenditure and stocks, 1970, 1971 and 1972

All United Kingdom establishments classified to the General mechanical engineering industry (a)

		1970	1971	19'	72
A SAME A	208,8	stantanii l		1 19 32 E	ROBBERGIA)
Capital expenditure (b)			8,800	1,480	
New building work		6,908	5,956	2,	984
STATE OF STREET		50003.	William Search An	or Asaubiosbot	
Land and existing buildings			(50 anditest)o	nico tedde of h	
Acquisitions		1,712	2,845	b restept to	hotnadotta era
Disposals		844	4,425	} -	823 (c)
Plant and machinery			711.00	ones Tree bas	
Acquisitions		28,867	30,089	28,	983
Disposals		1,649	2,863	Now , same al.	938
Vehicles			10.40	elian vol b	
Acquisitions		4,329	4,518	4,	981
Disposals		1,530	1,831	2,	297
Total net capital expendi	iture (c)	37,793	34,290	31,	890
				4 out bus 5	note, spains
				sacilesiusyro p	ments to other
Increase in stocks and work in	progress,	Increase	Increase	Increase	Value at end
1970, 1971 and 1972 and value of and work in progress at end of	1972		1/87	pardl wist	or transport b
				341,000	Folgets could
Materials, stores and fuel		7,457	-604	2,661	52,316
Work in progress		6,406	-6,245	4,483	66,308
Goods on hand for sale		6,425	7,151	-2,432	46,773
Total		20,288	302	4,711	165,398

<sup>(</sup>a) Including estimates for establishments not making satisfactory returns and for establishments employing less than 25 persons.

Capital expenditure and stocks, 1971 and 1972

All United Kingdom establishments classified to the Precision chains and other mechanical engineering industries (a)

£'000 1971 1972 Capital expenditure (b) New building work 5,456 2,301 Land and existing buildings Acquisitions 2,751 3,210 Disposals 4,189 3,964 Plant and machinery 23,013 Acquisitions 23,538 Disposals 2,459 1,565 Vehicles 4,629 Acquisitions 4,188 Disposals 1,690 2,149 Total net capital expenditure (c) 27,595 25,475 Value at end Increase Increase in stocks and work in progress, Increase 1970, 1971 and 1972 and value of stocks of year and work in progress at end of 1972 Materials, stores and fuel 493 2,322 40,640 3,806 47,623 Work in progress -4,403 Goods on hand for sale 3,902 -3,00626,567 Total -8 3,122 114,830

<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>c) Acquisitions less disposals.

<sup>(</sup>a) Including estimates for establishments not making satisfactory returns and for establishments employing less than 25 persons.

<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>c) Acquisitions less disposals.

TABLE 3
Analysis of establishments by size, 1972

All United Kingdom establishments classified to the Precision chains and other mechanical engineering industries (a)

	Fatal		Topic State	Emplo	yees	Wages and	salaries	Wages and per					Net	Capital	Total stocks and
Size group (b)	Estab- lish- ments	Enter- prises (c)	Total employment (b)	Operatives	Others (d)	Operatives	Others (d)	Operatives	Others (d)	Total sales and work done (e)	Gross output	Net output	output per head	expen- diture (net) (f)	work in progress at end of year
	Number	Number	Number	Number	Number	£'000	£,000	£	£	£'000	£'000	£'000	£	£'000	£'000
1-10	2,511	2,485	12,949												
11-24	1,615	1,589	27,621				7								
25-49	261	258	9,475	44,078	12,214	61,841	22,498	1,403	1,842	249,883	250,799	151,545	2,432	16,206	37,247
50-99	182	180	12,279			1		1 2		2 6					
100-199	94	91	12,187	9,120	3,023	12,595	5,425	1,381	1,795	56,752	57,244	30,573	2,509	3,012	10,615
200-299	28	27	7,576	5,488	2,079	7,888	3,432	1,437	1,651	34,262	35,080	18,619	2,458	1,328	7,589
300-499	15	13	5,907	4,467	1,440	6,534	2,500	1,463	1,736	30,588	30,172	16,028	2,713	877	7,310
500-749	12	11	7,039	4,734	2,303	7,381	4,261	1,559	1,850	33,058	33,326	18,963	2,694	1,123	10,354
750-999	5	4	4,095	2,550	1,538	3,167	2,304	1,242	1,498	17,850	17,560	10,361	2,530	403	5,263
1,000-1,499	3	3	3,701	2,582	1,119	3,843	1,867	1,488	1,669	17,288	17,238	8,899	2,404	1,190	4,857
1,500-1,999	3	3	5,604	3,715	1,889	4,843	3,003	1,304	1,590	22,218	22,661	11,874	2,119	860	5,512
2,000 and over	6 4,735	4 4,540	21,467 129,900	15,789 92,523	5,678 31,283	21,652	9,734 55,024	1,371 1,402	1,714 1,758	79,563 541,462	78,182 542,262	46,427 313,289	2,163 2,412	475 25,475	26,084 114,830

- (a) Including estimates for establishments not making satisfactory returns and for establishments employing less than 25 persons.
- (b) Average number employed (full and part time; see table 6) during the year (including working proprietors) by the establishment.
- (c) Some enterprises control establishments in more than one size group: the sum of the figures for the size groups will therefore exceed the total for the industry.

- (d) Administrative, technical and clerical employees.
- (e) Including sales of goods merchanted or factored, canteen takings and services rendered to other organisations (amounts charged for hiring out plant, machinery or other goods, for providing transport, or for any technical or other services rendered).
- (f) Acquisitions less disposals.

Regional distribution of employment, net capital expenditure and net output, 1972

All United Kingdom establishments classified to the Precision chains and other mechanical engineering industries

Area	Average number employed (a)			apital ture (b)	Net output and employment in the region of establishments with more than 80 per cent of their employment in the region (c)				
STATES CHAINS OTHER	THAN TRAI	884185108	2.3 4.6 4.6 7.7		Estimated net output	Average number employed as a percentage of total average number employed in the industry in the region	Net output as percentage of total of the industry in the United Kingdom		
Standard regions of	Thousands	per cent of United Kingdom	£'000	per cent of United Kingdom	£,000		September Sovenbert December		
England	1 4 7 4 7 5 7 4 5								
North	7.7	5.9	1,629	6.4	9,783	58.1	3.1		
Yorkshire and Humberside	18.0	13.8	4,313	16.9	25,894	60.7	8.3		
East Midlands	6.2	4.8	1,475	5.8	5,332	32.6	1.7		
East Anglia	1.8	1.4	476	1.9	1,109	22.6	0.4		
South East	42.6	32.8	7,380	29.0	46,347	40.3	14.8		
South West	10.3	8.0	876	3.4	10,650	41.6	3.4		
West Midlands	19.1	14.7	3,011	11.8	17,883	40.4	5.7		
North West	16.2	12.5	3,000	11.8	14,952	42.6	4.8		
Engl and	121.8	93.8	22,159	87.0	131,950	44.2	42.1		
Wales	*	*	*	*	*	*	*		
Scotland	4.2	3.3	1,333	5.2	5,430	44.6	1.7		
Great Britain	*	*	*	*	*	*	*		
Northern Ireland	*	*	*	*	*	*	*		
Unallocated (d)	roj uma	BEARS 1	-	-	171,899	-	54.9		
United Kingdom	129.9	100.0	25,475	100.0	313,289		100.0		

- (a) Average number employed (full and part-time; see table 6) during the year (including working proprietors) by the establishment.
- (b) New building work plus acquisitions less disposals of land and existing buildings, plant and machinery and vehicles.
- (c) Where a census return covered addresses in two or more regions an estimate was made of the net output attributable to the region only where more than 80 per cent of the establishment's employees were located in the region. The estimate was made by assuming that net output at each address covered by a return was proportionate to employment at the address. The establishment's residual net output was included in unallocated net output.
- (d) Includes estimates of net output for establishments not making satisfactory returns and establishments employing less than 25 employees, and unallocated net output of establishments covering addresses in two or more regions.

TABLE 7

Percentage analysis of twelve-month periods covered by returns received from United Kingdom establishments employing 25 or more persons, 1972

	Accounting year ended	Perce	entage of total re received	eturns	Percents	age of tota employed	l number
	and company of the landstrop	and reside	per cent			per cent	
1972	April (a)		3.9			3.4	
	May	Hamble St.	2.3			1.2	
	June	1000000	4.6			1.8	
	July		3.7			1.8	
	August		3.7			3.4	
	September		7.2			20.8	
		0.00		4500 1			
	October		3.7	derin		7.2	
	November		3.7			1.6	
	December		36.6			27.5	
1973	January		3.0	2 10		1.3	
	February		2.3			1.0	
	March(b)	ans. and	25.3			29.0	95 4g adaoi
			100.0			100.0	

(a) From 6th April

(b) Including returns made for twelve-month period ended 1st to 5th April 1973

TABLE 6

Percentage analysis of employees, by full and part time employment and sex, 1972 (a) General Mechanical Engineering industries, minimum list heading 349

Sex	Full time	Part time	All employees
	per cent	per cent	per cent
	903.100		
	888,516 0,000	873,72 3 0.001 % (Det	
Male	79	1	80
Female	16	· 图 · 图 · 图 · 图 · 图 · 图 · 图 · 图	20
	ntankles on another eres to Sicales all is they ver of done to sulput attends in an a small share of	n covered addresses in two he region only where more insert a cast by seems to employment at the address.	Where so centure to the state of the state o
	95	5	100

Source: Department of Employment

(a) The percentages relate to the numbers employed (excluding working proprietors) in the United Kingdom in minimum list heading 349.2 at mid-June, 1972. In the 1972 Census of Production the employment of the 'Precision chains and other mechanical engineering' industry represented 79 per cent of the employment of minimum list heading 349 as a whole.

Sales of principal products of the Precision chains and other mechanical engineering industries by establishments employing 25 or more persons, including sales by establishments classified to other industries, 1972 (a)

5793	1972
TRANSMISSION CHAINS:	£ THOUS
OF STEEL	ALISHWA YALLOO GWA EYALLOO
OF IRON	12,999
PRECISION CHAINS OTHER THAN TRANSMISSION CHAINS	3,134 408 40 23.103
CYLINDER LINERS AND INSERTS	4,421
FILTERS (EXCLUDING AIR FILTERS FOR AIR	
CONDITIONING EQUIPMENT, WATER FILTERS AND FILTER PRESSES):	
OIL, OTHER THAN FOR MOTOR VEHICLES	3,177
OTHER	13,740
GASKETS AND JOINTINGS (INCLUDING METALLIC	
PACKINGS)	14,119
GEARS (OTHER THAN FOR MOTOR VEHICLES INCLUDING CYCLES AND TRACTORS) AND PARTS:	
HELICAL, SPUR AND BEVEL GEARS	THAT THE PART AND ATT COMMENT ON THE PLANT
WORM GEARS OTHER GEARS	2,816 3,689
6,243	
GEAR BOXES, NEW AND RECONDITIONED (OTHER THAN FOR MOTOR VEHICLES INCLUDING CYCLE AND TRACTORS):	
HELICAL, SPUR AND BEVEL GEAR BOXES:	
INDUSTRIAL	10,225
MARINE	851
WORM GEAR BOXES	8,431
GEARED MOTOR UNITS	3,222
OTHER	4,016
PARTS OF GEAR BOXES (EXCLUDING GEARS)	2,036
LUBRICATORS AND PARTS (OTHER THAN FOR RAILWAY WAGON, ETC. AXLE BOXES)	3,321
MECHANICAL POWER TRANSMISSION PLANT:	
COMPLETE	6,540
PARTS Description of the part	3,837
MOULDING BOXES AND PARTS THEREOF	54
OIL FUEL BURNERS:	
DOMESTIC, UP TO AND INCLUDING 150,000 BTU/H	2,406
INDUSTRIAL, OVER 150,000 BTU/H	10,865
OTHER BURNERS (OTHER THAN OIL FUEL)	4,442
OIL SEALS	9,694
PISTONS	23,066
PISTON RINGS PACKING PINGS FTC	A self vd soleW at beauthors
Minus, PACKING RINGS, EIC.	9,219

		1972 £ THOUS
DIVIDUO AND DULLEY WHEELS		2,106
PULLEYS AND PULLEY WHEELS		Addition to the Co.
CYLINDER LINERS AND INSERTS		4,421
ROLLS OF IRON OR STEEL:		
FOR METAL ROLLING MILLS:		
OF CAST IRON		5,971
OF CAST STEEL		6,099
OF FORGED STEEL		112
FOR MACHINERY OTHER THAN METAL WORKING		1,586
WASTE PRODUCTS		2,098
WORK DONE:		
MACHINERY, EQUIPMENT AND PLANT (OTHER THAN MARINE MACHINERY, COMPLETE PROCESS PLANT, CONSTRUCTIONAL STEELWORK AND HEATING,		
VENTILATING AND AIR-CONDITIONING PLANT) ERECTED AND INSTALLED:		
MECHANICAL ENGINEERING		8,243
OTHER		2,156
REPAIRS AND JOBBING WORK		54,839
OTHER WORK DONE (INCLUDING JACQUARD CARD DESIGNING AND CUTTING)		3,137 LANGUSTRIAL 781,8
UNCLASSIFIED SALES		61,150
TOTAL SALES OF PRINCIPAL PRODUCTS OF MLH 349.3 AND 349.3 (PRECISION CHAINS AND OTHER MECHANIC ENGINEERING PRODUCTS) AND WORK DONE	2 CAL	323,736

Source: Business Monitor (PQ349.2) - Quarterly Statistics

(a) Sales are deliveries on sale for home or abroad. Forward sales are excluded. Values are net selling values; purchase tax, trade discounts and commissions are excluded.

#### Notes

These notes give the main information needed for interpreting the figures in the industry reports, (more detailed information about the census is given in a separate booklet—"Introductory Notes", Part PA 1001 of the Report on the Census of Production for 1972).

#### GENERAL INFORMATION

#### Changes made for 1972

There were only minor changes in the scope of certain industry reports compared with 1971. Any such changes are explained in the introductions to the industry reports concerned or by footnotes to the tables.

#### Industrial classification

The Annual Censuses of Production are conducted on the Business Statistics Office's Production Register. Normally establishments on the Register are classified to industries on the basis of major activity in conformity with the Standard Industrial Classification (revised 1968). Generally an establishment is classified to an industry if its sales of the principal products of that industry accounts for a greater proportion of its total sales than its sales of the principal products of any other industry; classification is generally based on an establishment's returns to the quarterly production inquiry. Where this is not possible—for example where a quarterly production inquiry has not been introduced-the classification of an establishment reflects its return to the Census of Production, 1968. Establishments for which information is not available either from the quarterly inquiries or the 1968 Census are classified on the basis of the description of the business given by the establishments to the Business Statistics Office, for instance, in the course of registration.

#### Coverage

Detailed census returns were generally sought only from establishments employing on average 25 or more persons, but in some industries where firms employing less than 25 persons account for a relatively high proportion of total employment and output the exemption limit was lowered to 11. Census returns were also sent to establishments whose employment was not known to the Business Statistics Office at the time of dispatch.

#### TERMS USED IN THE CENSUS REPORT

#### Average number employed

Establishments were required to state the number of persons on the payroll (i.e. whose national insurance cards were held by them) on the average during the year of return, whether full-time or part time employees. Separate figures were required for (a) administrative, technical and clerical employees and (b) all other employees (operatives). Averages could be calculated from figures relating to the last week of each calendar month. Establishments were also required to state the number of working proprietors where appropriate and these are included in total employment figures. Outworkers (i.e. persons employed by establishments who worked in their own homes etc. on materials supplied by the establishments) are excluded.

The figures include persons engaged on merchanting or factoring and canteen workers where particulars in respect of these 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 managing and other directors in receipt of a definite wage, salary or commission, managers, superintendents and works foremen; research, experimental development, technical and design employees (other than operatives); draughtsmen and tracers; editorial staff, staff reporters, canvassers, competition and advertising staff; travellers; and office (including works office) employees.

Operatives include all other classes of employees, that is, breadly speaking, all manual wage earners. They include those employed in and about the factory or works; operatives employed in power houses, transport work (including roundsmen), stores, warehouses, shops and canteens; inspectors, viewers and similar workers; maintenance workers and cleaners. Operatives engaged in outside work of erecting, fitting etc. are also included, but out-workers are excluded.

#### Capital expenditure

Capital expenditure during the year in respect of manufacturing units where production had not started before the end of the year is included in the figures for both 1970, 1971 and 1972. Establishments were asked to include in the value of capital expenditure, amounts received under the Local Employment Acts, 1960 to 1971 and any investment grants received under the Industrial Development Act, 1966 or regional development grants under the Industry Act, 1972.

#### (a) New building work

This represents the cost incurred during the year of new building and other constructional work (including office buildings, canteens and the like used in connection with the business covered by the return, but not dwelling houses for employees). The value is that charged to capital account during the year of return; it includes expenditure on new buildings or on the extension of 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 any 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 of premium payable for leaseholds acquired (excluding the value of any assets acquired in taking over an existing business), and the amounts receivable for any 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 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. 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.

#### Enterprise

The term enterprise is used in this report to mean one or more establishments under common ownership or control (as defined in the Companies Act 1948) making returns to the census. An enterprise may consist of a single establishment, or of more than one establishment owned by one legal unit, usually a company, or of a number of establishments owned by a parent company and subsidiary company or companies. Information about the relationship between constituent companies of enterprises was obtained mainly from published sources such as the Stock Exchange Year Book supplemented by information from company reports and information supplied by establishments. The information available is not complete but covers the largest and most important groups of industrial establishments and is believed sufficient to provide a worthwhile basis for analysis.

#### Establishment

The definition of an establishment in 1970, 1971 and 1972 was that of the Standard Industrial Classification (revised 1968): "the smallest unit which can provide the information normally required for an economic census, for example, employment, expenses, turnover, capital formation". Sometimes activities which are conducted as a single business are carried on at a number of addresses, termed local units. Where the activities of such a business are closely integrated, and detailed census information is not available for each unit, it is treated as a multi-unit establishment and a single return accepted. Separate figures are obtained, however, of employment and net capital expenditure at each unit.

#### Gross output

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

Value of sales and work done

Plus/Less: Increase/decrease in value of stocks of goods on hand for sale

Plus/Less: Increase/decrease in value of work in progress Gross output.

Net output represents the value added to materials by the process of production (including the margin on selling any merchanted or factored goods). It is calculated as follows:-

Gross output

Less: Purchases adjusted for change in value of stocks of fuel and raw materials

Less: Payments for work given to other establishments

Less: Payments for transport

Less: Net amount of any duties, subsidies, allowances and levies payable

Net output.

### Net output per person employed

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

#### Purchases

Purchases include the cost of materials and components bought for use in production; of fuel and electricity for all purposes; of packaging materials including the cost of returnable cases and containers when first purchased; of workshop materials, office materials and materials for repairs to establishment's own buildings, plants and vehicles when carried out by their own work people included in the returns; of consumable tools; and of parts for machninery purchased during the year as replacements. Water charges are also included. In general, purchases of goods for merchanting or factoring and canteen supplies are included. Materials supplied by customers for processing are excluded, as are all purchases charged to capital account.

The values shown include any duty paid (less rebate, etc.) but exclude trade discounts allowed. The cost of transport is included only if included in the cost of materials as invoiced: amounts paid to transport organisations, including an establishment's own separate transport organisations for delivery of materials and fuel are, therefore, excluded. Materials purchased overseas are included at the c.i.f. cost plus any duty payable if the cost of transport from the docks was not included in the invoiced price, but at their full delivery cost if invoiced "carriage paid home" Materials and fuel transferred from another department of the establishment not covered by the same return are included at the estimated selling value recorded by the other department

Sales are in respect of goods made by the business covered by the return, goods made for it by outworkers or by other establishments from materials given out to them (sometimes described as goods made on commission) and waste products. Any machinery or other capital items produced for use in the business covered by the return are included, the value being that adopted in the establishment's asset accounts. Goods sold without being subjected to any manufacturing process (i.e. merchanted or factored) and canteen takings are included.

The value shown for sales is the net selling value, defined as the amount charged to customers whether on an ex-works or delivered basis excluding any trade discounts, agents' commissions, allowances for returnable cases, purchase tax, etc.; the net amount charged for packaging materials is included. Goods charged on a delivered basis to customers overseas are included at the f.o.b. value.

Goods produced in one establishment and transferred to another establishment of the same firm not covered by the return were treated as sales by the producing establishment and valued as far as possible as if they had been sold to an independent purchaser. Goods transferred to wholesale or retail selling organisations for which separate accounts were kept were valued on the same

To the extent that sales of finished products of one establishment constitute the materials purchased by another, total figures of the value of sales (and of materials and fuel purchased) include an element of duplication. In some industries, e.g. motor vehicle manufacturing, and woollen and worsted, this duplication substantial; and aggregates for a number of industries contain significant amounts of duplication. For work done on commis sion, sub-contract work, etc., the value shown is the total amount charged for the work, including the value of an materials bought and used in such work.

#### Services rendered

This represents the amounts charged for hiring out plant, machinery and other goods, providing transport, or for any technical or other services rendered to other organisations includes amounts credited for similar services rendered to other establishments of the same enterprise not covered by the return

#### Standard Industrial Classification

Industry classification is based on the Standard Industrial Classification (revised 1968). It is published by HM Stationery Office together with a separate index in the form of an alphabetical list of industries.

#### Stocks and work in progress

Values are given of stocks of goods on hand for sale, and o materials and fuel, at the end of the year of return, including any stocks of goods held for merchanting or factoring. Values of the change during the year are also shown. The values include duty in the case of dutiable goods held out of bond.

The value of work in progress at the end of, and the change during the year are also usually shown. This excludes an progress payments made to sub-contractors, and no deduction made on account of progress payments received.

#### Transport payments

These represent the total amount paid or credited during the year for both outwards transport of finished goods sold and inwards transport of materials and fuel purchased. They include payment to other establishments, and to any separate transpor organisation of the same establishment not covered by the return, but exclude the value of transport services provided b the business covered by the return. The items included are payments for hired cartage and for inwards and outwards carriage by all forms of inland transport, i.e. railways, roa haulage, canals, coastwise shipping, air, etc. Payments made for sea and air freight on goods sold to customers overseas and o materials and fuel purchased from overseas suppliers ar

#### Wages and salaries

These are amounts paid during the year to operatives and to administrative, technical and clerical employees. Payments working proprietors, whether called salaries or not, are exclude The values shown include all overtime payments, bonuses an commissions, whether paid regularly or not, and no deduction made for income tax, insurances, contributory pensions, etc. The value of any payments in kind, travelling expenses, lodging allowances, etc. and employers' contributions to natio insurances and pension schemes is excluded.

The figures shown represent the total amount paid for work done by other establishments (whether part of the same enterprise of not) on materials supplied to them. They do not include page ments to individual outworkers or payments for business and

The following symbols are used throughout the report:

- 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

#### ROUNDING OF FIGURES

Figures in the tables have, where necessary, been rounded to the nearest final digit; there may be an apparent slight discrepant between the sum of the constituent items and the total shown.

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