

## 59 Printing, bookbinding and paper goods making machinery

This Report on the Printing, Bookbinding and Paper Goods Making Machinery Industry relates to establishments engaged wholly or mainly in manufacturing printing and bookbinding machinery and parts thereof including typesetting and composing room equipment, printing presses, ruling machines, bookbinding machinery (including bookbinders' sewing machines), cardboard box, paper bag, envelope and paper goods making machinery.

This industry corresponds to minimum list heading 339(2) in the Standard Industrial Classification (Revised 1968) which has been used for the first time as a basis of classification in the 1968 Census.

The industry formed part of the Miscellaneous (Non-electrical) Machinery Industry (Part 49) in the Reports on the last detailed Census of Production for 1963, but the treatment of parts has been altered considerably for 1968 for this and other mechanical engineering industries. The distinction made in the 1963 reports between parts sold in association with the sale of complete machines, and other parts sold, has been discontinued for 1968 and all parts are now treated in the same way as the complete machines for classification ie as principal products of their respective mechanical engineering industries and shown in Table 5.

Throughout this Report, the figures given for 1963 have been reclassified, as far as possible, according to the Standard Industrial Classification (Revised 1968) and to take account of the different treatment of parts adopted for 1968, so that data for 1963 and 1968 are on the same industrial basis. However the reclassification of small firms, which provided limited information only, has been arbitrary.

### METHOD OF CLASSIFICATION

In classifying returns to this industry the value of unspecified work done (other than structural and installation work), including repair work, was not taken into account unless it amounted to 80 per cent. or more of the total output of the return in which case the return was classified to General Mechanical Engineering (Part 66). The amount charged for erecting and installing machinery and plant (other than air conditioning, heating and ventilating plant) was treated as part of the selling value of these items in determining the industrial classification of returns. The standard classification procedure as outlined in the notes on page (1) was further modified where a return would have been classified to one of the mechanical engineering industries relating to a specific class of machinery (viz, Parts 50 to 66) but where the sales of the principal products of the industry concerned (including parts) accounted for less than 20 per cent. of the total output: in such cases the return was classified to the residual subdivision of the General Mechanical Engineering Industry (Part 66).

In interpreting the data in the tables it is essential to bear in mind the notes and definitions which appear on pages (i) to (iv).

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(c) Including services rendered to other organisations (amounts charged for hiring out plant, machinery or other goods, for providing transport, or for technical or other services rendered).

(d) Administrative, technical and clerical employees.

(e) Excluding expenditure for establishments not yet in production.

(f) Acquisitions less disposals.TABLE 1 Industry summary, 1963 and 1968  
United Kingdom (a) (b)

	Unit	All establishments		
		1963	1968	
Number of enterprises	No.	157	190	
Number of establishments	"	184	231	
Gross output	£'000	39,037	68,980	
Net output	"	25,803	38,424	
Net output per head	£	1,405	1,755	
Sales and work done	{ goods produced and work done (c)	£'000	34,631	60,415
	{ merchanted goods and canteen takings	"	2,875	7,245
Purchases	{ materials for use in production and packaging and fuel	"	9,556	22,603
	{ goods for merchenting and canteen purchases	"	2,437	5,828
Payments to other organisations	{ for work done on materials given out	"	1,153	1,897
	{ for transport	"	195	292
	{ by road	"		
	{ by rail and other means excluding postal services	"		73
Stocks and work in progress	"	+ 1,639	+ 1,458	
Total stocks and work in progress	{ change during year	"	17,884	28,242
	{ at end of year	"		
Goods on hand for sale	{ change during year	"	+ 507	+ 75
	{ at end of year	"	3,587	6,326
Work in progress	{ change during year	"	+ 1,023	+ 1,246
	{ at end of year	"	10,127	13,332
Materials, stores and fuel	{ change during year	"	+ 108	+ 138
	{ at end of year	"	4,170	8,583
Number employed on average during the year	Th. total, including working proprietors	"	18.4	21.9
	operatives	"	13.0	14.2
	other employees (d)	"	5.3	7.5
Wages and salaries	{ of operatives	£'000	9,509	13,925
	{ of other employees (d)	"	5,027	9,204
Capital expenditure (e)	"			
Total	"	2,166	3,062	
New building work	"	429	431	
Land and existing buildings (f)	"	117	211	
Plant and machinery (f)	"	1,518	2,240	
Vehicles (f)	"	102	180	

(a) For 1968, estimates for establishments not making satisfactory returns and for small establishments, from which only employment data were collected, accounted for 6 per cent. of the total figures in which they were incorporated: of this, unsatisfactory returns accounted for less than 1 per cent. For 1963 the comparable figures were 6 per cent. and 2 per cent. respectively.

(b) The following information relates to small establishments (employing fewer than 25 persons) in this industry. It includes an estimate for small establishments not making satisfactory returns.

	1963	1968
Number of establishments	93	133
Average number employed:		
Working proprietors	121	148
Other persons employed	799	1,187

Footnotes continued on page 59/2.

TABLE 2 Analysis by size of establishment within the industry, 1968

(i) Output and employment

All establishments: United Kingdom

Number employed on average during the year by the establishment (a)	Estab-lish-ments	Enter-prises (b)	Total number employed on average during the year (a)	Gross output	Net output	Net output per head
	Number	Number	Number	£'000	£'000	£
1-5	37	37	137	..	..	..
6-10	38	37	311	..	..	..
11-24	50	48	852	..	..	..
25-49	35	34	1,337	4,200	2,355	1,761
50-99	18	17	1,288	4,336	2,422	1,880
100-199	20	18	3,014	9,165	5,320	1,765
200-399	9	9	2,603	10,418	5,302	2,037
400-749	9	8	4,462	14,021	7,711	1,728
750 and over	5	5	7,749	22,129	12,720	1,641
Unsatisfactory returns	10	9	145	..	..	..
Total	231	190	21,898	68,980(c)	38,424(c)	1,755(c)

(ii) Employees, wages and salaries

All establishments: United Kingdom

Number employed on average during the year by the establishment (a)	Employees		Wages and salaries		Wages and salaries per head	
	Oper-atives	Others (d)	Oper-atives	Others (d)	Oper-atives	Others (d)
	Number	Number	£'000	£'000	£	£
1-5	..	..	..	..	..	..
6-10	..	..	..	..	..	..
11-24	..	..	..	..	..	..
25-49	989	336	989	493	1,000	1,468
50-99	863	415	842	535	976	1,290
100-199	2,028	977	1,991	1,282	982	1,312
200-399	1,872	728	1,956	922	1,045	1,267
400-749	2,873	1,589	2,866	1,942	998	1,222
750 and over	4,748	3,000	4,448	3,476	937	1,159
Unsatisfactory returns	..	..	..	..	..	..
Total	14,226(c)	7,488(c)	13,925(c)	9,204(c)	979(c)	1,229(c)

(a) Including working proprietors.

(b) The sum of the figures for the size groups exceeds the total for the industry to the extent that enterprises made returns for establishments in more than one size group.

(c) Including estimates for establishments employing fewer than 25 persons and for establishments not making satisfactory returns.

(d) Administrative, technical and clerical employees.

TABLE 3 Percentage analysis of employees, by age and sex, 1969 (a)

All establishments: United Kingdom

Ages	Males	Females	All employees
	Per cent.	Per cent.	Per cent.
Under 18	3	1	4
18 and over	80	16	96
All ages	83	17	100

Source: Department of Employment

(a) The percentages relate to the numbers employed (excluding working proprietors) at June 1969, the earliest date for which the information is available on the basis of the Standard Industrial Classification, (Revised 1968).

## Footnotes to Table 4.

- (a) Some establishments employing fewer than 25 persons were included in returns for larger establishments. These amounted to 7 establishments in 1968 and 6 in 1963.
- (b) Including services rendered to other organisations (amounts charged for hiring out plant, machinery or other goods, for providing transport, or for technical or other services rendered).
- (c) Direct sales of goods (excluding canteen takings) made to and work done for, the general public by larger establishments are included. These amounted to £7,000 in 1968. Similar information is not available for 1963.
- (d) This is the ratio of total sales of principal products by the industry to total sales of goods produced and work done.
- (e) Progress payments received for work in progress in 1968 from U.K. customers were recorded as £3,542,000 at beginning of year and £5,137,000 at end of year; and from overseas customers £2,037,000 at beginning of year and £2,573,000 at end of year. Similar information is not available for 1963.
- (f) Administrative, technical and clerical employees.
- (g) Excluding expenditure for establishments not yet in production.

TABLE 4 Analysis of larger establishments, 1963 and 1968  
Establishments employing 25 or more persons: Analysis of returns received, United Kingdom (a)

	Unit	1963	1968	
Number of enterprises	No.	66	71	
Number of establishments	"	93	103	
Gross output	£'000	36,685	64,646	
Net output	"	24,249	36,010	
Net output per head	£	1,405	1,755	
Sales and work done	{ goods produced and work done (b) (c)	£'000	32,545	56,516
	{ merchanted goods and canteen takings	"	2,702	6,893
Index of specialisation (d)	Per cent.	92	82	
Purchases	{ materials for processing and packaging, and fuel	£'000	8,981	21,080
	{ goods for merchenting and canteen purchases	"	2,290	5,565
Payments to other organisations	{ for work done on materials given out	"	1,084	1,778
	{ for transport	"	183	274
	{ by road	"		
	{ by rail and other means excluding postal services	"		69
Stocks and work in progress				
Goods on hand for sale	{ change during year	"	+ 477	+ 70
	{ at end of year	"	3,371	5,928
Work in progress (e)	{ change during year	"	+ 962	+ 1,168
	{ at end of year	"	9,517	12,495
Materials, stores and fuel	{ change during year	"	+ 101	+ 129
	{ at end of year	"	3,919	8,044
Number employed on average during the year	{ total, including working proprietors	No.	17,255	20,522
	{ operatives	"	12,254	13,422
	{ other employees (f)	"	4,969	7,064
Wages and salaries	{ of operatives	£'000	8,992	13,138
	{ of other employees (f)	"	4,755	8,683
Wages and salaries per head	{ operatives	£	734	979
	{ other employees (f)	"	957	1,229
Capital expenditure (g)				
New building work	£'000	403	404	
Land and existing buildings	{ acquisitions	"	450	356
	{ disposals	"	340	158
Plant and machinery	{ acquisitions	"	1,474	2,196
	{ disposals	"	48	97
Vehicles	{ acquisitions	"	146	288
	{ disposals	"	51	120

For notes to this table - see page 59/5.

TABLE 5 Sales of principal products of the industry by larger establishments, including sales by establishments classified to other industries, 1963 and 1968

Establishments employing 25 or more persons:  
Analysis of returns received, United Kingdom

	1963		1968			
	Quantity	Value	Quantity	Value	Enterprises	Entries
Printing, bookbinding, paper-working, etc machines, new	Number	£'000	Number	£'000	Number	Number
Typesetting (including keyboard and typesetting), complete	1,719	4,264	1,195	4,229	*	*
Stereotyping and electrotyping, including photo-engraving, complete	..	1,147	..	1,072	7	7
Parts of typesetting, stereotyping, electrotyping and photo-engraving machines	..	3,422	..	4,858	15	16
Printing						
Newspaper rotary						
Complete	..	4,720	196	6,368	*	6
Parts	..	625	..	1,311	9	11
Other reel-fed						
Complete	218	2,258	203	4,081	12	14
Parts	..	855	..	1,146	19	21
Sheet-fed						
Letterpress						
Complete	310	1,071	3,429	525	8	8
Parts	..	241	..	450	12	13
Litho and litho-offset, weighing 2,000 lb. or more						
Complete	216	2,114	171	2,749	5	7
Parts	..	535	..	300	10	12
Other (except litho-offset weighing less than 2,000 lb.) (a)						
Complete	1,022	733	996	1,266	13	15
Parts	..	237	..	402	17	18
Other printing machinery (other than textile printing machinery)						
Complete	..	1,201	..	2,462	18	18
Parts	..	1,756	..	1,413	20	20
Total printing machinery new, complete and parts		16,632		22,472	..	..
Bookbinding (including blocking, embossing, stitching, ruling and cutting, folding, etc)						
Complete	1,144	743	2,341	1,641	13	16
Parts	..	214	..	317	16	17

Continued on next page.

TABLE 5 (continued)

	1963		1968			
	Quantity	Value	Quantity	Value	Enter-prises	Entries
Printing, bookbinding, paper-working, etc machines, new (continued)	Number	£'000	Number	£'000	Number	Number
Paper-working, etc						
Bag and envelope making, complete	120	561	154	1,198	5	6
	..	63				
Cardboard box and carton making, complete	1,137	2,004	687	5,105	15	15
	..	278				
Guillotines, complete	238	307	685	563	12	14
	..	109				
Other, complete	1,545	1,287	2,326	1,681	27	28
	..	1,159				
Parts for paper-working, etc machines	..	1,422	..	2,498	61	65
Printing, bookbinding, paper-working, etc machines, reconditioned, complete and parts	..	450	..	227	16	17
Printers' accessories (eg wood and metal furniture) (b)	..	1,063	..	4,804	17	18
Other products	..	46	..	18	*	*
Waste products						
Scrap metals	Th.tons		Th.tons			
Iron and steel	4.9	22	4.6	36	24	30
Brass	0.2	29	0.1	31	13	17
Other scrap metals	..	5	..	42	16	23
Other waste products	..	5	..	120	9	11
Printing, bookbinding and paper goods making machinery erected and installed	..	244	..	496	9	9
Total		35,795		52,032	..	..
Sales in other industries (see Table 6)		5,940		5,490	..	..
Principal products of this industry sold by establishments in the industry		29,854		46,542	71	84(c)

(a) Litho and litho-offset machines weighing less than 2,000 lb. are included in the report on the Office Machinery Industry (Part 57).

(b) For 1968 includes 'Lithographic plates, so far as separately recorded', which were included for 1963 under 'Photo-litho offset plates' in the report on the 'General Printing, Publishing, Bookbinding, Engraving, etc Industry (Part 118).

(c) This figure represents the total number of returns made for larger establishments in this industry which is less than the total number of establishments shown in Table 4 on account of combined returns covering more than one establishment.

TABLE 6 Sales of principal products of the industry by larger establishments classified to other industries, 1963 and 1968

Establishments employing 25 or more persons:  
Analysis of returns received, United Kingdom

	1963	1968		
	Value	Value	Entries	Principal industries in which produced (a)
Printing, bookbinding, paper-working etc machines, new	£'000	£'000	Number	
Printing				
Newspaper rotary and other reel-fed, complete and parts	655	1,832	17	57,62,63
Sheet-fed machines, complete and parts	564	242	26	51,54,63
Other printing machinery, complete and parts	1,254	907	29	52,63,70,71
Total printing machinery new, complete and parts	2,473	2,981	..	
Paper-working, etc				
Guillotines	2,805	217	6	51,52,53,82
Other		871	16	62,63,64,66
Parts for paper-working etc		889	39	51,54,63,64
Other printing, bookbinding, paper-working etc, machines new and reconditioned, printers' accessories and erecting and installing printing, etc machinery	662	531	23	57,63,64,143
Total	5,940	5,490	..	

(a) The references given are to the list of industries at the front of this report.

TABLE 7 Sales of other than principal products by larger establishments in the industry, 1963 and 1968

Establishments employing 25 or more persons:  
Analysis of returns received, United Kingdom

	1963	1968
	Value	Value
	£'000	£'000
Mechanical engineering		
Mechanical handling equipment, complete and parts	68	251
Office machinery, complete and parts	213	184
Other mechanical engineering products, complete and parts	824	5,323
Electrical manufactures, complete and parts	-	301
Engineers' small tools and gauges	299	224
Other products	312	1,189
Work done		
Machinery and plant erected and installed, other than printing, etc machinery	89	1,282
Repair and jobbing work	605	517
Other work done on commission	172	523
Services rendered to other organisations and research and development work (a)	109	179
Total value of goods sold without having been subjected to any manufacturing process (merchanted or factored)	2,589	6,739
Canteen takings	112	154
<b>Total</b>	<b>5,392</b>	<b>16,867</b>

(a) Services rendered comprises amounts charged for hiring out plant, machinery or other goods, for providing transport, or for technical or other services rendered to other organisations.

TABLE 8 Production of certain principal products of the industry by larger establishments, 1963 and 1968

This table is not applicable to this industry.

TABLE 9 Purchases by larger establishments of selected principal products of the industry, 1968

This table is not applicable to this industry.

TABLE 10 Purchases by larger establishments in the industry, 1963 and 1968  
Establishments employing 25 or more persons: Analysis of returns received, United Kingdom

	1963		1968	
	Quantity	Cost	Quantity	Cost
	Th.tons	£'000	Th.tons	£'000
Materials for use in production				
Iron				
Pig iron, including refined pig iron and other irons for re-melting	1.3	29	2.3	61
Castings	10.0	1,057	12.2	1,488
	..	137		
Steel				
Bars and rods (including wire rods), angles, shapes and sections, girders, beams, joists and pillars rolled (not fabricated), including tube rounds and squares	8.8	511	11.6	934
Plates, 3 mm. thick and over	0.6	37	1.5	114
Sheets under 3 mm. thick (including electrical sheets)	1.0	61	1.0	82
Hoop and strip (including tape of all thicknesses)	0.2	27	0.6	86
Forgings (except drop forgings)	1.9	237	1.7	298
Castings	1.5	132	1.0	143
Drop forgings	..	20	..	27
Iron and steel not elsewhere specified except finished parts, wire and scrap				
Wrought tubes and fittings for wrought tubes (including welded, seamless, conduits, etc)	1.2	157	0.9	151
	..	25	..	17
Other	..	56	..	119
Precision chain (eg transmission and timing)	..	48	..	136
Springs, laminated and other types	..	31	..	42
Light metals and non-ferrous metals in all forms except finished parts, wire and scrap				
Aluminium and aluminium alloys	..	228	4.2	1,892
Brass and other copper alloys (including nickel silver and cupro nickel, but excluding all other nickel alloys and cadmium copper) (a)	0.5	165	0.4	258
	..	19	..	69
General chemicals, including inorganic, organic and other (eg mixtures of inorganic and organic chemicals) (b)	..	8	..	305
	Th.gal.		Th.gal.	
Paint and varnish (including lacquers and stains)	27.9	48	27.4	56
Manufactures wholly or mainly of rubber (including synthetic rubber), balata and gutta-percha, including sheeting, but excluding replacement parts for firms' own machinery, plant, vehicles, etc	..	89	..	240
Timber	..	74	..	60
Insulated wires, cables, strips and strands	..	31	..	108
Bolts, rivets, nuts and washers, screws, nails, tacks, etc	..	177	..	261
Machinery and plant bought for installation and erection	..	108	..	863

Continued on next page.

TABLE 10 (continued)

	1963		1968	
	Quantity	Cost	Quantity	Cost
		£'000		£'000
Materials for use in production (continued)				
Purchased components for incorporation in firms' own products				
Ball and roller bearings and parts thereof	..	238	..	413
Electric motors				
Of less than 1 hp.	..	84	..	200
Of 1 hp. and over	..	222	..	593
Gears and gear wheels of metal	..	210	..	134
Pumps	..	73	..	69
Measuring instruments and gauges and parts				
Industrial process measuring and control instruments and equipment	..	124	..	171
Other	..	52	..	215
Other components not elsewhere specified (excluding those of rubber and asbestos)	..	2,002	..	6,772
Purchased second-hand machinery for reconditioning	..	88	..	67
	Th.gal.		Th.gal.	
Lubricating oils and greases (including cutting oils and emulsions)	47.9	16	94.4	33
	..	13	..	7
Replacement parts for firms' own machinery, plant and vehicles, and accessories and consumable tools bought as replacement				
Tyres and other spare parts for firms' own road goods vehicles	..	369	..	28
Other	..	..	..	458
All other materials for use in production	..	1,274	..	2,770
Packaging materials				
Paper and board	..	52	..	121
Timber				
Containers wholly or mainly of wood (including plywood boxes and drums), baskets and wickerwork crates	..	91	..	149
Timber (sawn or planed) for manufacture into packing cases, etc	16.8	10	74.7	53
All other packaging materials	..	13	..	8
	..	9	..	89
	Th.cu.ft.		Th.cu.ft.	
Fuel and electricity (c)				
Coal	10.2	57	..	18
Coke (including screenings) and manufactured fuel	1.9	19	1.4	21
	Th.gal.		Th.gal.	
Derv fuel and motor spirit for use in road vehicles	211	45	300	83
Other liquid fuels (including creosote/pitch mixtures, etc and liquefied petroleum gases)	1,956	87	2,383	139
			..	56(d)

TABLE 10 (continued)

	1963		1968	
	Quantity	Cost	Quantity	Cost
	Th.therms	£'000	Th.therms	£'000
Fuel and electricity (c) (continued)				
Gas	562	44	609	55
	..	17	..	46
Electricity	..	260	49,632	405
			..	96
Total cost of materials and fuel		8,961		21,080
Goods purchased for merchanting		2,183		5,389
Canteen purchases		107		176
Total cost of purchases		11,271		26,644

(a) Cadmium copper was not specifically excluded for 1963.

(b) For 1963 described as 'Heavy chemicals (acids, alkalis, alcohols, other inorganic and organic chemicals, compressed gases etc)'.

(c) The total quantity of electricity generated in establishments employing 25 or more persons in this industry was 2,447 Th.kWh in 1963. Owing to the risk of disclosure of information relating to individual firms the quantity for 1968 cannot be shown.

(d) For 1968 may include a small amount of fuels not covered by specific headings.

TABLE 11 Transport costs and employment of larger establishments, 1963 and 1968

Establishments employing 25 or more persons:  
Analysis of returns received, United Kingdom

	Unit	1963	1968
Average number mainly employed on transport	No.	112	193
Transport costs			
Wages and salaries	£'000	78	191
Derv fuel and motor spirit	"	45	83
Tyres and other spare parts for road goods vehicles	"	..	28
Payments to other organisations for transport	"	183	274
			69
Costs of operating road goods vehicles	"	8	17
Insurance	"	6	17
Vehicle licences	"	39	86
Depreciation	"	19	43
Payments to other organisations for repairs and maintenance	"		
Total	"	379(a)	807

(a) Excluding tyres and other spare parts for road goods vehicles, not collected separately for 1963.

TABLE 12 Payments for certain services, etc by larger establishments, 1963 and 1968 (a)

Establishments employing 25 or more persons:  
Analysis of returns received, United Kingdom

	Amounts payable	
	1963	1968
Repairs and maintenance to		
Buildings	£'000	£'000
Road goods vehicles	78	107
Plant, machinery and other capital equipment	19	43
Insurance, licensing and depreciation of road goods vehicles (b)	134	172
Rates, excluding water rates	53	120
Hire of plant and machinery	273	584
Postage, telephone, telegrams, cables and telex (c)	21	59
	185	397
<b>Total</b>	<b>764</b>	<b>1,481</b>

(a) No deduction is made for these payments to arrive at the figures of net output given in this report.

(b) For details see Table 11.

(c) Excluding telex for 1963.

TABLE 13 Percentage analysis of twelve-month periods covered by returns from larger establishments, 1968

Establishments employing 25 or more persons:  
Analysis of returns received, United Kingdom

Year ended	Percentage of total returns received	Percentage of total number employed
1968	Per cent.	Per cent.
April (a)	1.2	0.2
May	1.2	0.5
June	8.2	5.5
July	1.2	0.9
August	1.2	2.0
September	15.3	24.9
October	3.5	7.8
November	1.2	0.7
December	45.9	47.9
1969		
January	1.2	0.7
February	0.0	0.0
March	18.8	8.6
April (b)	1.2	0.2
	100	100

(a) From 6 April.

(b) To 5 April.