

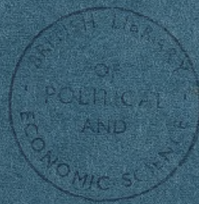


BOARD OF TRADE

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[HA 251]

# Report on the Census of Production 1963

61 Shipbuilding and marine engineering



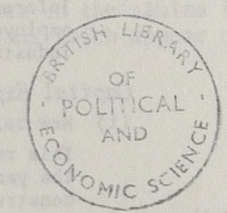
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BOARD OF TRADE

# Report on the Census of Production 1963

## 61 Shipbuilding and marine engineering

*Presented by the Board of Trade to Parliament in pursuance of the  
Statistics of Trade Act 1947 (10 & 11 Geo. 6 Cha. 39 Sec. 7)*



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## 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 1 of the Report on the Census of Production for 1963.)

### GENERAL INFORMATION

#### Changes in the 1963 census

There were few changes resulting from amendments to the Standard Industrial Classification and only minor changes in the scope of certain industry reports compared with 1958. Any such changes are explained in the introductions to the industry reports concerned or by footnotes to the tables.

#### Industrial Classification

Establishments were classified to industries on the basis of major activity in conformity with the second edition of the Standard Industrial Classification (Consolidated Edition 1963, incorporating Amendment 1). Each industry was basically defined in terms of its principal products, these being of a similar nature or commonly associated in production. Normally, an establishment was classified to an industry if its sales of the principal products of that industry accounted for a greater proportion of its total sales than did its sales of the principal products of any other industry. However, where the application of this rule would have resulted in a change of classification between 1958 and 1963, the establishment was reclassified only if the sales of principal products of the newly predominant industry was more than one third greater than the sales of principal products of the previously predominant industry. This modification of the general rule was introduced for 1958 to avoid discontinuities which would result from marginal changes in sales between successive censuses.

The principle of classification by major output was also normally followed in compiling the analysis by sub-divisions of an industry.

In certain industries, classification was dealt with in a different way. Details of any non-standard treatment are given in the introductions to the relevant industry reports.

### TERMS USED IN THE CENSUS REPORT

#### Average number employed

Firms 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) operatives (see below). Averages could be calculated from figures relating to the last week of each calendar month; figures shown in respect of the average number employed relate to the sum of these averages. Firms were also required to state the number of working proprietors (see below) where appropriate and these are included in total employment figures. Outworkers are excluded.

The figures include persons engaged in 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 fixed wage or salary; but persons who worked less than half the normal number of working hours are excluded. For Great Britain, directors working in the business but not in receipt of a definite wage, salary or commission are included under this heading for 1963, but are excluded for 1958. For Northern Ireland, directors of limited companies, other than those paid by fee only, are included for both years. (Directors paid by fee only are not included in any of the employment figures for either year.)

#### Employees

- (i) Administrative, technical and clerical employees include 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. For Great Britain, but not for Northern Ireland, they include also managing and other directors in receipt of a definite wage, salary or commission.
- (ii) Operatives include all other classes of employees, that is, broadly speaking, all manual wage earners. They include those employed in and about the factory or works; operatives employed in power houses, transport work, stores, warehouses, shops and canteens; inspectors, viewers and similar workers; maintenance workers; and cleaners. Operatives engaged in outside work of erection, fitting, etc. are also included, but outworkers (i.e. persons employed by the firm who worked in their own homes, etc. on materials supplied by the firm) are excluded. Information about the numbers of outworkers employed was collected only for the gloves industry.

#### Capital Expenditure

- (i) New building work.

This represents the cost incurred during the year of new building and other new construction 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 or reconstruction of old buildings, the value of work of a capital nature carried out by firms' own staff, and the cost of any newly constructed buildings purchased. The figures shown include any legal charges, stamp duties, agents' commissions, etc.

# 61 Shipbuilding and marine engineering

This Report on the Shipbuilding and Marine Engineering Industry relates to establishments engaged wholly or mainly in building and repairing ships (naval and merchant), boats, barges, lighters, etc., of all types and sizes, whether self-propelled or not; making oars, masts and spars, rigging and other tackle and ships' models; manufacturing and repairing main and auxiliary steam (reciprocating and turbine) engines for ships, and marine boilers. The manufacture or repair of internal combustion engines for ships and boats (including out-board motors) is included, as indicated below, if carried out at marine engineering establishments. The manufacture of ships' capstans and winches is excluded.

This industry corresponds to minimum list heading 370 in the Standard Industrial Classification (Consolidated edition, 1963).

### METHOD OF CLASSIFICATION

In classifying returns to this industry the standard procedure was modified so that when sales of marine internal combustion engines and marine gas turbine engines and parts were reported as the most important items of output and they were not accompanied by sales of any other principal products of this industry, the return was classified to the Industrial Engines Industry, unless the sales were 95 per cent. or more of total output.

In classifying returns to the seven sub-divisions of the industry shown in Table 2, returns showing ships as the most important items of output were classified to 'Shipbuilding in association with marine engineering' if they produced marine engines for installation in ships of their own construction and to 'Shipbuilding' if they did not. The classification rules were also modified for the sub-division 'Ship repairing'. Returns were classified to this sub-division only if (a) ship repairing and maintenance work as the predominant activity was carried on in conjunction with general engineering repair and jobbing work or (b) ship repairing and maintenance work, and any lesser amount of repair and jobbing work on marine engines, together accounted for 80 per cent. or more of total output. Otherwise returns that showed ship repairing or repair and jobbing work on marine engines as their main activity (although less than 80 per cent. of total output) were classified to the residual sub-division 'Ships' or boats' fittings, etc.'. The standard classification procedure was followed for the other sub-divisions.

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

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TABLE 1 Industry summary: United Kingdom

Estimates for all firms, 1958 and 1963 (a)

	Unit	1958	1963
Number of enterprises	No.	1,025	1,026
Number of establishments	"	1,255	1,282
Gross output	£'000	501,334	422,851
Net output	"	226,963	214,641
Net output per head	£	825	1,060
Sales and work done (b)	£'000	492,655	417,705(c)
		3,383	2,944
Purchases	"	217,003	162,495
	"		2,652
Payments to other organisations	"	53,259	40,805
	"	1,483	1,138
Stocks and work in progress	"	+ 2,671	+ 1,083
Total stocks and work in progress	"	101,849	79,042
Goods on hand for sale (d)	"	+ 329	- 300
	"	1,566	1,933
Work in progress (e)	"	+ 4,967	+ 2,503
	"	74,243	59,400
Materials, stores and fuel	"	- 2,625	- 1,120
	"	26,040	17,709
Average number employed	Th.	275.2	202.6
	"	238.7	169.2
	"	36.2	32.2
Wages and salaries	£'000	145,800	126,356
	"	27,877	30,267
Employers' contributions to National Insurance and private pension schemes, etc. (g)	"	..	9,305
Capital expenditure (h)	"	..	15,882
Total	"	10,441	5,596
New building work	"	..	- 55
Land and existing buildings (i)	"	10,882	9,729
Plant and machinery (i)	"	326	611
Vehicles (i)	"		

(a) For 1963, estimates for small firms and for firms not making satisfactory returns accounted for about 4 per cent. of the total figures in which they were incorporated. (For 1958 the comparable figure was 3 per cent.) A summary of the detailed returns received is given in Table 2.

(b) The total value of new ships, etc. sold is not included in these figures but only the value of work done during the year. For details of sales see Table 5.

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

(d) Excluding ships, etc. completed during the year.

(e) The figures relate in the main to work in progress on marine machinery: they do not include the values of work in progress on ships, etc. sub-contract work, repair work, etc. which are shown in Table 5, for firms employing 25 or more persons.

(f) Administrative, technical and clerical employees.

(g) Including pensions and gratuities paid other than from pension funds.

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

(i) Acquisitions less disposals.

TABLE 2 Analysis of larger firms by sub-divisions within the industry, 1958 and 1963

Firms employing 25 or more persons: United Kingdom (a)

	Unit	Sub-divisions of the industry (b)				
		Shipbuilding and marine engineering				
		Shipbuilding		Shipbuilding in association with marine engineering		
		1958	1963	1958	1963	
Number of enterprises (d)	No.	81	42	13	7	
Number of establishments	"	115	68	18	13	
Gross output	£'000	178,224	129,395	98,648	52,508	
Net output	"	57,888	47,775	47,448	27,362	
Net output per head	£	823	1,005	765	939	
Sales and work done (e)	goods produced and work done	£'000	177,716	128,445(f)	99,044	52,563(f)
	merchanted goods and canteen takings	"	651	186	209	67
Sales of characteristic products and characteristic work done	"	..	114,914	..	44,955	
Index of specialisation (h)	Per cent.	..	89	..	86	
Purchases	materials for processing and packaging, and fuel	£'000	83,681	59,572	45,231	20,954
	goods for merchanting and canteen purchases	"	..	210	..	72
Payments to other organisations	for work done	"	35,353	21,320	5,318	3,542
	for transport	"	196	138	294	146
Stocks and work in progress						
Goods on hand for sale (i)	change during year	"	+ 11	+ 5	+ 54	- 74
	at end of year	"	33	20	235	354
Work in progress (j)	change during year	"	- 154	+ 759	- 659	- 48
	at end of year	"	961	2,815	19,019	3,669
Materials, stores and fuel	change during year	"	- 1,107	- 380	- 356	- 432
	at end of year	"	6,585	3,197	5,414	2,190
Average number employed	total, including working proprietors operatives	No.	70,359	47,552	62,050	29,137
	mainly on marine engineering work	"	..	3,006	..	6,765
	other	"	61,542	36,514	52,733	17,084
	other employees (k)	"	..	495	..	1,633
Wages and salaries	of operatives	£'000	36,124	27,463	32,065	17,458
	of other employees (k)	"	6,867	7,346	6,999	5,079
Wages and salaries per head	operatives	£	587	695	608	732
	other employees (k)	"	780	916	752	963
Employers' contributions to National Insurance (l)	£'000	..	1,481	..	1,016	
Employers' contributions to private pension schemes, etc. (m)	"	..	695	..	423	
Capital expenditure (n)						
New building work	"	3,562	1,610	1,849	1,139	
Land and existing buildings	acquisitions	"	..	208	..	
	disposals	"	..	249	..	
Plant and machinery	acquisitions	"	3,725	2,121	2,499	2,033
	disposals	"	92	546	24	43
Vehicles	acquisitions	"	116	98	57	34
	disposals	"	29	25	6	10

		Sub-divisions of the industry (b)							
Shipbuilding and marine engineering (continued)		Boat building		Sub-contract work done on new ships under construction		Ship repairing			
Marine engineering									
1958	1963	1958	1963	1958	1963	1958	1963	1958	1963
54	54	54	48	22	19	174	108		
83	82	62	59	25	39	258	192		
84,703	95,425	5,840	7,754	5,817	7,254	110,201	108,903		
34,666	46,366	2,928	3,931	3,166	3,911	71,962	73,944		
934	1,197	702	954	999	1,013	816	1,077		
77,749	91,927(f)	5,538	7,381(f)	5,882	7,320(f)	109,303	108,875(f)		
887	1,349	149	358	88	261	885	393		
..	65,609	..	5,306	..	4,873	..	84,438		
..	71	..	72	..	67	..	78		
45,856	38,772	2,693	3,338	2,403	2,818	29,840	28,994		
..	1,078	..	294	..	294	..	416		
3,122	8,545	157	212	122	212	7,683	5,180		
465	437	53	49	30	35	349	248		
+ 199	- 180	+ 8	+ 27	-	- 30	- 2	- 41		
1,013	1,052	53	173	-	77	22	35		
+ 5,868	+ 2,328	+ 145	- 12	- 150	- 297	+ 15	- 325		
51,343	42,987	319	172	240	1,303	91	5,745		
- 594	- 227	- 8	+ 70	- 95	+ 16	- 366	- 121		
6,604	6,742	660	767	440	357	5,341	3,297		
37,125	38,750	4,173	4,120	3,170	3,862	88,212	68,628		
30,133	15,745	3,525	526	2,776	843	79,429	7,984		
..	14,362	..	2,901	..	2,505	..	53,014		
6,989	3,718	642	78	389	90	8,766	1,044		
18,379	4,903	..	572	..	417	..	6,540		
5,114	23,280	1,829	2,128	1,947	2,783	50,038	47,355		
610	8,047	466	561	301	456	7,135	7,351		
732	773	519	621	701	831	630	776		
..	933	726	863	774	900	814	969		
..	1,171	..	119	..	127	..	2,151		
..	788	..	29	..	34	..	828		
526	322	44	69	8	19	4,128	2,153		
..	220	..	110	..	3	..	128		
..	236	..	30	..	-	..	218		
1,719	2,726	21	71	36	32	3,270	3,708		
36	318	1	19	-	-	539	476		
52	84	15	30	23	42	158	524		
16	22	8	12	9	13	49	162		

Continued on next page

TABLE 2 (continued)

	Unit	Sub-divisions of the industry (b)		Total	
		Ships' or boats' fittings, etc. (c)		1958	1963
		1958	1963		
Number of enterprises (d)	No.	20	29	385	267
Number of establishments	"	33	34	594	487
Gross output	£'000	5,334	4,310	488,764	405,549
Net output	"	3,215	2,569	221,273	205,859
Net output per head	£	991	1,158	825	1,060
Sales and work done (e)	£'000	goods produced and work done	4,101(f)	480,303	400,613
		merchanted goods and canteen takings	433	3,298	2,823
Sales of characteristic products and characteristic work done	"	..	(g)	..	(g)
Index of specialisation (h)	Per cent.	..	..	97	92
Purchases	£'000	materials for processing and packaging, and fuel	1,400	211,562	155,846
		goods for merchandising and canteen purchases	180	2,544	
Payments to other organisations	"	for work done	124	51,924	39,136
		for transport	38	1,446	1,091
Stocks and work in progress	"				
Goods on hand for sale (i)	"	change during year	+ 5	+ 321	- 288
		at end of year	171	1,526	1,854
Work in progress (j)	"	change during year	- 5	+ 4,842	+ 2,400
		at end of year	278	72,382	56,969
Materials, stores and fuel	"	change during year	+ 1	- 2,559	- 1,074
		at end of year	434	25,387	16,984
Average number employed	No.	total, including working proprietors operatives	2,219	268,333	194,268
		mainly on marine engineering work	170	232,936	35,039
		other	1,658	128,038	
		other employees (k)	25	35,339	7,083
Wages and salaries	£'000	of operatives	1,304	142,250	121,771
		of other employees (k)	329	27,198	29,169
Wages and salaries per head	£	operatives	713	611	747
		other employees (k)	884	770	940
Employers' contributions to National Insurance (l)	£'000	..	72	..	6,139
Employers' contributions to private pension schemes, etc. (m)	"	..	30	..	2,828
Capital expenditure (n)	"				
New building work	"	62	55	10,179	5,367
Land and existing buildings	"	acquisitions	*	..	680
		disposals	-	..	732
Plant and machinery	"	acquisitions	42	11,301	10,735
		disposals	1	692	1,403
Vehicles	"	acquisitions	26	446	838
		disposals	8	128	252

For notes to this table - see page 61/8

TABLE 3 Analysis of larger firms by size of enterprise within the industry, 1963

(i) Output, employment, capital expenditure and stocks

Firms employing 25 or more persons: United Kingdom

Average number employed by the enterprise in the industry (a)	Enterprises	Establishments	Average number employed (a)	Gross output	Net output	Net output per head	Capital expenditure (b)	Total value of stocks and work in progress at end of year
25-49	61	64	2,210	3,907	2,288	1,035	113	617
50-99	69	89	4,723	8,384	4,969	1,052	37	1,786
100-199	47	69	6,651	13,270	7,048	1,060	323	2,214
200-299	18	29	4,462	8,154	4,799	1,075	123	1,747
300-399	9	15	3,086	5,699	2,981	966	87	911
400-499	8	13	3,597	8,087	4,573	1,271	84	765
500-749	14	47	8,978	17,888	10,190	1,135	389	2,649
750-999	10	32	9,009	19,496	9,094	1,009	299	3,795
1,000-1,499	7	12	8,223	19,803	7,170	872	543	3,143
1,500-1,999	6	23	10,110	22,613	11,108	1,099	1,021	4,523
2,000-2,499	5	14	11,528	25,030	14,993	1,301	1,101	5,479
2,500-3,999	3	11	9,203	21,728	10,010	1,088	456	8,260
4,000-4,999	3	17	14,071	27,373	15,159	1,077	118	3,782
5,000-9,999	3	21	20,891	48,492	18,809	900	3,133	7,734
10,000 and over	4	31	77,526	155,627	82,669	1,066	7,404	28,403
Total	267	487	194,268	405,549	205,859	1,060	15,232	75,808

(ii) Employees, wages and salaries, and employers' contributions

Firms employing 25 or more persons: United Kingdom

Average number employed by the enterprise in the industry (a)	Employees		Wages and salaries		Employers' contributions		Wages and salaries per head	
	Operatives	Others (c)	Operatives	Others (c)	National Insurance (d)	Private pension schemes, etc. (e)	Operatives	Others (c)
25-49	1,844	310	1,227	280	68	16	666	903
50-99	3,936	736	2,718	671	143	41	691	911
100-199	5,560	1,069	3,902	1,044	197	74	702	977
200-299	3,624	827	2,649	717	137	62	731	867
300-399	2,565	519	2,153	497	106	32	839	958
400-499	3,075	522	2,323	442	122	36	755	848
500-749	7,594	1,380	6,462	1,284	320	138	851	931
750-999	7,432	1,575	5,260	1,368	285	127	708	869
1,000-1,499	6,818	1,403	5,176	1,307	266	86	759	932
1,500-1,999	8,197	1,913	5,579	1,765	313	132	681	923
2,000-2,499	9,121	2,407	7,129	2,434	410	251	782	1,011
2,500-3,999	7,560	1,643	5,719	1,456	278	164	756	886
4,000-4,999	12,154	1,917	10,608	1,967	483	378	873	1,026
5,000-9,999	17,560	3,331	12,593	3,029	657	269	717	909
10,000 and over	66,037	11,478	48,274	10,908	2,355	1,023	731	950
Total	163,077	31,030	121,771	29,169	6,139	2,828	747	940

(a) Including working proprietors.

(b) Acquisitions less disposals.

(c) Administrative, technical and clerical employees.

(d) Including both flat rate and graduated contributions.

(e) Including pensions and gratuities paid other than from pension funds. These amounted in total to £678,000.

TABLE 4 Percentage analysis of employees, by age and sex, all firms, 1963: United Kingdom (a)

Ages	Males	Females	All employees
	Per cent.	Per cent.	Per cent.
Under 18	5	-	5
18 and over	90	5	95
All ages	95	5	100

Source: Ministry of Labour

(a) The percentages relate to the numbers employed (excluding working proprietors) at mid-June, 1963.

## Footnotes to Table 2.

(a) The following information relates to small firms (employing fewer than 25 persons) in this industry. It includes an estimate for small firms not making satisfactory returns, which account for 4 per cent. of the employment shown for 1963 and 6 per cent. for 1958.

	1958	1963
Number of firms	651	777
Average number employed:		
Working proprietors	6,579	978
Other persons employed		6,303

- (b) The method of classifying returns to sub-divisions of the industry is explained in the notes.
- (c) This sub-division was described as 'Other' in 1958.
- (d) The sum of the figures for the sub-divisions exceeds the total for the industry to the extent that enterprises made returns for more than one sub-division.
- (e) The total value of new ships, etc. sold is not included in these figures but only the value of work done during the year. For details of sales see Table 5.
- (f) Including services rendered to other organisations (amounts charged for hiring out plant, machinery and other goods, for providing transport, or for technical or other services rendered).
- (g) Characteristic products and characteristic work done relate only to specific sub-divisions of the industry.
- (h) For sub-divisions of the industry, this is the ratio of sales of characteristic products to total sales of goods produced and work done. For the industry as a whole, this is the ratio of total sales of principal products by the industry to total sales of goods produced and work done.
- (i) Excluding ships, etc. completed during the year.
- (j) The figures relate, in the main, to work in progress on marine machinery; they do not include the value of work in progress on ships etc., sub-contract work, repair work etc., which are shown in Table 5, for firms employing 25 or more persons.
- (k) Administrative, technical and clerical employees.
- (l) Including both flat rate and graduated contributions.
- (m) Including pensions and gratuities paid other than from pension funds.
- (n) Excluding expenditure for establishments not yet in production.

TABLE 5 Sales of principal products of the industry by larger firms, including sales by establishments classified to other industries, 1958 and 1963

Firms employing 25 or more persons: United Kingdom

	1958			1963				
	Quantity		Selling value	Quantity		Selling value	Enterprises	Entries
	Number	Displacement tonnage	£'000	Number	Displacement tonnage	£'000	Number	Number
I - SHIPS, BOATS, ETC., COMPLETED IN YEAR OF RETURN								
War vessels	50 14 ..	33,043 .. ..	23,361 2,221 737	{ 31 14	34,864 ..	41,731 43	14	15
Other than war vessels								
Steam vessels		Gross tonnage			Gross tonnage			
Of 100 gross tons and over		Th.tons			Th.tons			
Tankers	24	429	47,743	12	356	39,097	8	8
Others	46	187	32,680	2	3.8	3,204	*	*
Under 100 gross tons	4	0.2	37(a)	17	0.3	191	*	*
Motor vessels								
Of 100 gross tons and over								
Passenger and passenger-cargo ships designed to carry more than twelve passengers	4	6.2	1,899	6	26.9	6,925	5	5
Refrigerated cargo ships	3	23.2	4,246	6	58.0	8,729	*	*
Other cargo liners and cargo tramps	94	561	76,203	54	376	44,673	20	25
Tankers	22	134	17,208	{ 8 ..	120 ..	10,507 407	9	9
Fishing vessels	54	13.7	5,574	13	4.7	2,338	7	8
Other	63	76.7	14,209	{ 54 4	69.5 ..	11,579 850	26	28
Under 100 gross tons								
Lifeboats		Number	397		Number	596	9	10
Cargo-carrying (including passenger-cargo and fishing) vessels	{ 469 ..		2,429 298	{ 36 753		284 3,328 555	12 58	12 60
Other				{ ..				
Other vessels not self-propelled								
Lifeboats					387	261	10	10
Cargo-carrying	{ 2,800 ..		2,262 609	{ 22 678		159 393 1,105	5 38	5 38
Other				{ ..				
Other work of new construction, e.g. floating docks, pontoons, caissons, etc.			935			945	20	22
Total value of ships, boats, etc. completed in the year of return			233,048			177,900	..	..
Less work in progress at the beginning of the year								
On war vessels and other vessels of 100 gross tons and over and other work of new construction				{ 125,187		88,754	54	65
On vessels under 100 gross tons and other vessels not self-propelled						1,970	62	64
Total value of work done in the year of return on ships, boats, etc., completed in that year			107,861			87,176	..	..

Continued on next page

TABLE 5 (continued)

	1958			1963			Enter-prises	Entries
	Value of work done		£'000	Value of work done		£'000		
II - NEW CONSTRUCTION WORK DONE IN THE YEAR OF RETURN ON SHIPS, BOATS, ETC., BEGUN BEFORE OR DURING THAT YEAR BUT NOT COMPLETED AT THE END OF THE YEAR	£'000		£'000	£'000		Number	Number	
War vessels	28,441			27,679		17	19	
Ships other than war vessels of 100 gross tons and over	112,539			52,277		44	54	
Ships and boats, other than war vessels under 100 gross tons, and other vessels not self-propelled				3,497		72	74	
Other work of new construction, e.g. floating docks, pontoons, caissons, etc.	1,157			256		8	9	
Total value of new construction work done in the year on ships, boats, etc., begun before or during the year but not completed at the end of the year	142,137			83,709		..	..	
	Quantity		Net selling value	Quantity		Net selling value		
III - MARINE ENGINEERING (b)	No. of sets	Shaft h.p.	£'000	No. of sets	Shaft h.p.	£'000		
Marine machinery (excluding the value of installation work)								
Propelling machinery								
Steam turbine								
Complete machines	164	294,539	7,021	12	107,839	3,735	7	8
Parts	..	..	2,267	9	..	3,790	17	19
Internal combustion reciprocating engines								
Complete	Number	B.h.p.		Number	B.h.p.			
Compression ignition (all types)								
Not over 50 b.h.p.	1,721	30,173	602	2,807	53,595	836	19	20
Over 50 b.h.p. not over 100 b.h.p.	696	..	213	2,510	..	448	15	18
Over 100 b.h.p. not over 300 b.h.p.	316	21,795	371	463	34,561	507	18	20
Over 300 b.h.p. not over 1,500 b.h.p.	332	58,722	902	507	88,196	1,183	10	14
Over 1,500 b.h.p.	196	146,145	3,494	158	..	127	18	20
Unclassified	142	459,057	19,317	96	483,000	12,349	18	20
Other	648	54,208	678	3	..	1,076	..	..
Not over 10 b.h.p.	577	..	286	-	-	-	-	-
Over 10 b.h.p.	18,604	..	665	24,292	..	1,349	6	6
Parts	131	2,580	44	..	..	..	6	6
Gas turbine engines	38	..	7	..	..	..	37	42
Complete	..	..	7,922	..	..	7,028	*	*
Parts	6	..	581	..	..	1,804	*	*
	..	..	676	..	..	..	..	..

TABLE 5 (continued)

	1958		1963			
	Quantity	Net selling value	Quantity	Net selling value	Enter-prises	Entries
III - MARINE ENGINEERING (b) (continued)		£'000	No. of sets	£'000	Number	Number
Marine machinery (excluding the value of installation work) (continued)						
Auxiliary machinery						
Steam turbine engines						
Complete machines	..	.. (c)	73	506	6	6
Parts	..	..	..	390	5	5
Internal combustion engines						
Compression ignition	Number	B.h.p.	Number	B.h.p.		
Complete machines	258	..	2,295	194,407	13	16
Parts	..	..	..	2,469	..	..
Other						
Complete machines	17	12,529	..	1,365	6	6
Parts	..	..	..	58	..	..
Boilers						
Water tube			Number			
Complete machines	..	1,782	..	1,363	7	8
Parts	..	58	..	..	..	..
Scotch type						
Complete machines	93	957	13	119	*	*
Parts	..	43	..	16	*	*
Other						
Complete	212	637	..	402	7	7
Parts	..	346	..	933	8	8
Unclassified parts	-	-	..	..	..	..
Condensers						
Complete machines	66	173	108	194	11	12
Parts	..	259	..	28	9	11
Steering gear			No. of sets			
Complete machines	..	2,552	349	1,651	11	11
Parts	..	208	..	392	14	14
Reduction gears						
Complete	..	..	185	753	*	*
Parts	..	..	..	173	5	5
Other marine machinery						
Complete	..	13,227(d)	..	7,536	42	45
Parts	..	3,531(d)	..	4,260	69	70
Total value of marine machinery (b)		72,739		65,121	..	..

Continued on next page



TABLE 5 (continued)

	1958		1963	
	Value of work done	Value of work done	Enterprises	Entries
IV - OTHER WORK DONE	£'000	£'000	Number	Number
Sub-contract, etc., work done for others during the year on new ships, boats, floating docks, etc., under construction (e)				
Insulation (not electrical) and similar work	2,177	2,348	9	15
Painting	59	242	9	9
Heating, ventilating, etc. work	530	282	*	*
Electrical and like work	1,739	940	13	14
Deck and flooring work	350	405	*	*
Other (excluding marine engineering work)	1,777	1,611	19	21
Repair and jobbing work on marine engines	10,637	22,546	114	154
Work done on installation of marine machinery	18,373	16,146	67	74
Repair and maintenance work, etc., done in the year to ships, etc.				
War vessels	45,733	44,536	39	43
Other vessels and floating docks, pontoons, caissons, etc.	74,451	60,076	204	284
Other work done	6,947	3,847(f)	58	66
Total other work done	162,773	152,979	..	..
	Quantity	Net selling value	Quantity	Net selling value
V - OTHER GOODS SOLD	£'000	£'000		
Ships' or boats' fittings (blocks, masts, spars, oars, etc.) sold separately	..	1,904	..	2,484
Other products	..	2,630	..	1,839
Waste products				
Scrap metals	Tons			
Iron and steel	{ 145	{ 1,171	..	847
	..	172	..	142
Non-ferrous	..	386	..	389
Other waste products	..	76	..	30
Total		491,852		394,574
Sales in other industries (see Table 6)		25,602		26,820
Principal products of this industry sold by establishments in the industry		466,250	268	368(g)

(a) Excluding fishing vessels in 1958.

(b) For 1963 in addition to marine machinery sold a value of £8,970,000 of marine machinery was recorded as made by firms for installation in ships of their own construction. In 1958 the value was £19,500,000.

(c) Not recorded separately.

(d) Including steam reciprocating machinery in 1958.

(e) For 1958 sub-contract work, etc., on new ships only was specifically included.

(f) Including research and development work.

(g) This figure represents the total number of returns made by larger firms in this industry, which is less than the total number of establishments shown in Table 2 on account of combined returns covering more than one establishment.

TABLE 6 Sales of principal products of the industry by establishments classified to other industries, 1958 and 1963

Firms employing 25 or more persons: United Kingdom

	1958		1963			
	Quantity	Value	Quantity	Value	Entries	Principal industries in which produced (a)
		£'000	Number	£'000	Number	
Ships, boats, etc., including vessels not self-propelled and other work of new construction	..	781	{ 160	{ 48	{ 8	64,104,124,126
Marine machinery						
Propelling machinery						
Steam turbines complete and parts	..	420(b)	..	672	10	44,52,55
Internal combustion reciprocating engines						
Complete						
Compression ignition (all types)				B.h.p.		
Not over 50 b.h.p.	..	..	{ 2,635	{ 50,061	{ 746	{ 15
			{ 2,219	{ ..	{ 324	{ ..
Over 50 b.h.p. not over 100 b.h.p.	180	11,233	{ 672	{ 52,777	{ 458	{ 13
			{ 3,081	{ ..	{ 1,059	{ ..
Over 100 b.h.p. not over 300 b.h.p.	204	39,102	{ 405	{ 70,026	{ 858	{ 15
			{ 158	{ ..	{ 127	{ ..
Over 300 b.h.p. not over 1,500 b.h.p.	150	107,202	{ 238	{ 184,880	{ 2,630	{ 11
			{ ..	{ ..	{ ..	{ ..
Over 1,500 b.h.p.	..	..	..	..	..	..
Other	{ 648	{ 54,208	{ 678	{ ..	{ 3,600	{ 28
	{ 577	{ ..	{ 286	{ ..	{ ..	{ ..
Parts	..	3,201	..	..	..	..
Auxiliary machinery						
Steam turbine engines						
Complete	..	..	..	474	5	44,47,49,50
Parts	..	..	..	8	*	49
Internal combustion engines complete and parts	..	..	..	5,032	13	44,49,50,52
Boilers	Number					
Complete	{ 8	{ 55	{ ..	{ 1,648	{ ..	{ 1,928
	{ ..	{ ..	{ ..	{ ..	{ ..	{ 12
Parts	..	1,036	..	..	..	..
Condensers						
Complete and parts	..	243(c)	..	98	10	44,49
Steering gear	..	205(c)	..	137	9	51,126
Complete and parts	..	..	..	..	..	..
Other marine machinery						
Complete	..	11,688	..	3,326	68	44,45,50,64
Parts	..	1,049	..	1,697	..	..
Ships' or boats' fittings (blocks, masts, spars, oars, etc.) sold separately	..	714	..	715	13	40,50,52,74
Work done on installation of marine machinery		579		2,139	34	45,47,49,50
Repair and maintenance sub-contract work		141		527	10	52,126
Total		25,602		26,820	..	

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

(b) Described as steam reciprocating and steam turbine parts in 1958.

(c) Excluding parts in 1958.

TABLE 7 Sales of other than principal products by larger firms in the industry, 1958 and 1963

Firms employing 25 or more persons: United Kingdom

	1958		1963	
	Quantity	Value	Quantity	Value
	Th. tons	£'000	Th. tons	£'000
Iron and steel castings	6.2	523	5.3	552
	..	139	..	485
Manufactures of non-ferrous metals	..	279	..	243
Industrial engines	..	3,209	..	6,746
Mechanical handling equipment	..	88	..	337
Pumps, valves, compressors, etc.	..	922(a)	..	873
Other and unclassified machinery complete and parts	..	3,533	..	1,295
Industrial plant and steelwork				
Boilers and boilerhouse plant	..	158	..	1,137
Other	..	679	..	1,888
General mechanical engineering	..	3,432	..	5,695
Other goods	..	..	..	9,937
General engineering repair and jobbing work	..	..	..	..
Building and civil engineering work (b)	..	1,089	..	531
Work done as main-contractors	..	..	..	2,223
Work done as sub-contractors	..	..	..	918
Services rendered to other organisations (c)	..	..	..	918
Total value of goods sold without having been subjected to any manufacturing process (merchanted or factored)	..	3,031	..	2,504
Canteen takings	..	267	..	319
<b>Total</b>		<b>17,351(d)</b>		<b>35,682</b>

- (a) Excluding valves in 1958.
- (b) Described in 1958 as Work Done.
- (c) Including amounts charged for hiring out plant, machinery and other goods, for providing transport, or for technical or other services rendered to other organisations.
- (d) Excluding amounts charged for services rendered to other organisations.

TABLE 8 Production of certain principal products of the industry by larger firms, including production by establishments classified to other industries, 1958 and 1963

Firms employing 25 or more persons: United Kingdom

Particulars for this table cannot be given as the details of quantities recorded were incomplete.

TABLE 9 Purchases of selected principal products of the industry by larger firms, 1963

This table is not applicable to this industry.

TABLE 10 Purchases by larger firms in the industry, 1954 and 1963

Firms employing 25 or more persons: United Kingdom

	1954		1963	
	Quantity	Cost	Quantity	Cost
	Th.tons	£'000	Th.tons	£'000
Materials for processing				
Iron castings	40.2	3,352	23.1	2,748
Steel				
Bars and rods (including wire rods), angles, shapes and sections, girders, beams, joists and pillars rolled (not fabricated), including tube rounds and squares (a)	169	5,751	113	5,560
Plates, 3mm. thick and over	576	19,202(b)	396	18,412
Sheets under 3mm. thick (including electrical sheets)	5.0	263	5.2 ..	364 52
Forgings (except drop forgings)	29.5	4,609	11.9 ..	2,724 372
Castings	13.7	1,872	9.6	2,165
Drop forgings (c)	2.2 ..	341 38	1.0 ..	227 37
Iron and steel not elsewhere specified except finished parts, wire and scrap (d)				
Wrought tubes and fittings for wrought tubes (including welded, seamless, conduits, etc.)	29.4 ..	2,305 262	15.5 ..	1,867 253
Other	31.5	1,338	2.6 ..	227 212
Chains and chain cable of iron and steel excluding transmission, timing and conveyor chains	..	832	..	430
Steel wire (including cables and rope)	..	833	..	662
Light metals and non-ferrous metals in all forms except finished parts, wire and scrap (d)				
Aluminium and aluminium alloys	5.1 ..	1,758 235	3.8	1,775
Brass and other copper alloys (including nickel silver and cupro-nickel, but excluding all other nickel alloys)				
Castings in the rough	8.9	3,088	1.8	741
Other			4.4	1,728
Copper (excluding blister) (e)	6.2	2,170	1.8	722
Nickel and nickel alloys (excluding nickel silver and cupro-nickel)	..	(f)	0.1 ..	51 35
Tin	5.6 ..	196 81(g)	3.5 ..	152 19
Solder, soft	..	6(g)	..	28
Non-ferrous metal wire, not insulated	..	1(g)	..	33
Insulated wire and cables	..	74(g)	..	1,180
Flux covered electrodes for electric arc welding (including continuous electrodes)	..	(f)	..	995
Paint and varnish (including lacquers and stains)			Th.gal.	
Anti-fouling and anti-corrosive paints and compositions for use below the water line only	16.7 ..	127 33	115 Th.cwt. 10.0 ..	202 108 43

TABLE 10 (continued)

	1954		1963	
	Quantity	Cost	Quantity	Cost
	Th.cwt.	£'000	Th.gal.	£'000
Materials for processing (continued)				
Paint and varnish (including lacquers and stains) (continued)				
Other (including composition for deck sheathing)	149 ..	1,230 707	745 Th.cwt. 20.2	1,208 93
Gases, compressed	..	(f)	..	1,060
Rubber, including hard rubber, balata, gutta-percha and synthetic rubber in all forms including finished parts	..	63(g)	..	381
Glass in all forms, including finished parts	..	(f)	Th.tons	333
Asbestos				
Millboard	..	60(g)	..	84
All other kinds including finished parts	..		..	332
Timber	Th.stds.		Th.stds.	
Softwood, sawn or planed, but not further prepared or manufactured	25.9	2,787	11.6 ..	1,270 277
Hardwood, sawn or planed, but not further prepared or manufactured	1,345	2,042	520 ..	791 378
Plywood, including blockboard, laminboard and battenboard	10,967	1,298	7,608 ..	665 188
Chipboard	..	(f)	0.8 ..	91 178
Cork in all forms	..	195	..	225
Bolts, rivets, nuts and washers, screws, nails, tacks, etc.	..	2,025	..	1,611
Purchased components for incorporation in firms' finished products or for use in repair and maintenance work on customers' ships, etc.				
Propelling machinery complete				
Internal combustion engines (including engine and boiler room auxiliaries)				
1,500 b.h.p. and less	..	1,928	..	3,737
Exceeding 1,500 b.h.p.	..	18,890	..	13,996
Steam turbines (including engine and boiler room auxiliaries)	..	11,847	..	5,028
Marine boilers	..	1,956	..	830
Pumps	..	4,044	..	3,409
Propellers and propeller blades for ships	..	417	..	1,197
Industrial valves	..	1,794	..	1,881
Ball and roller bearings and parts thereof (h)	..	224	..	328
Ships' boats (lifeboats, etc.)	..	638	..	433
Radio communication and navigational aid (including radar) equipment	..	284	..	1,146
Electric motors	..	1,378(g)	..	1,507

Continued on next page

TABLE 10 (continued)

	1954		1963	
	Quantity	Cost	Quantity	Cost
		£'000		£'000
Materials for processing (continued)				
Purchased components for incorporation in firms' finished products or for use in repair and maintenance work on customers' ships, etc. (continued)				
Electrical machinery, appliances and fittings of all kinds not elsewhere specified	..	(f)	..	5,011
Gears and gear wheels of metal	..	381(g)	..	442
Measuring instruments and gauges and parts				
Electronic (including valves)			..	51
Other	..	442	..	662
Scientific instruments and parts other than measuring instruments			..	226
Plastic goods moulded and fabricated	..	272	..	377
Fittings of non-ferrous metals and non-ferrous metal alloys not elsewhere specified			..	532
Furniture and upholstery			..	838
All other purchased components, whether driven by electric motor, internal combustion engine or steam including auxiliary deck machinery not elsewhere specified (such as winches, windlasses, capstans and motor generators) and refrigerating machinery, ventilating and air conditioning machinery, bridge components, etc.	..	23,033	..	34,948
	Th.gal.		Th.gal.	
Lubricating oils and greases (including cutting oils and emulsions)	306	80	518	149
	..	60	Th.cwt.	30
			6.8	35
			..	
Replacement parts for firms' own machinery, plant and vehicles, and accessories and consumable tools bought as replacement	..	3,118	..	2,390
All other materials for processing	..	45,920	..	17,033
Packaging materials	..	145(g)	..	178
Fuel and electricity (i)	Th.tons		Th.tons	
Coal	230	968	70.8	492
			..	7
Coke (including screenings) and manufactured fuel	100	591	45.5	435
			..	56
	Th.gal.		Th.gal.	
Derv fuel and motor spirit for use in road vehicles	1,999	373	1,277	242
			..	60
Other liquid fuels (including creosote/pitch mixtures, etc. and liquefied petroleum gases)	18,502	821	16,488	816

TABLE 10 (continued)

	1954		1963	
	Quantity	Cost	Quantity	Cost
		£'000		£'000
Fuel and electricity (i) (continued)	Th.therms		Th.therms	
Gas	8,226	378	11,304	508
	..	43	..	119
	Th.kWh		Th.kWh	
Electricity	467,205	2,369	399,601	2,673
			..	756
Total cost of materials and fuel		181,572		155,846
Goods purchased for merchanting		..		2,128
Canteen purchases		..		416
Total cost of purchases		..		158,390

- (a) 'Pillars rolled (not fabricated), including tube rounds and squares' were not included in 1954.  
 (b) Includes 'Hoop and strip' (including tape of all thicknesses).  
 (c) Described in 1954 as 'Iron and steel'.  
 (d) 'Wire' was not specifically excluded in 1954.  
 (e) 'Blister' was not specifically excluded in 1954.  
 (f) Not recorded separately.  
 (g) So far as separately recorded in 1954.  
 (h) 'Parts' not specifically included in 1954.  
 (i) The total quantity of electricity generated in firms' own establishments in this industry was 45,101 Th.kWh in 1954 and 5,818 Th.kWh in 1963.

TABLE 11 Transport costs and employment of larger firms, 1963

Firms employing 25 or more persons: United Kingdom

	Unit	1963
Average number employed mainly on transport	No.	760
Transport costs		
Wages and salaries	£'000	551
Derv fuel and motor spirit	"	302
Payments to other organisations for transport	"	1,091
Costs of operating road goods vehicles		
Insurance	"	45
Vehicle licences	"	42
Depreciation	"	287
Payments to other organisations for repairs and maintenance	"	84
Total	"	2,402

TABLE 12 Payments for certain services, etc. by larger firms, 1963 (a)

Firms employing 25 or more persons:  
United Kingdom

	Amounts payable
Repairs and maintenance to	£'000
Buildings	2,144
Road goods vehicles	84
Plant, machinery, and other capital equipment	659
Insurance, licensing and depreciation of road goods vehicles (b)	374
Rates, excluding water rates	2,709
Hire of plant and machinery	534
Postage, telephone, telegrams and cables	667
<b>Total</b>	<b>7,172</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.

TABLE 13 Percentage analysis of twelve-month periods covered by returns from larger firms, 1963

Firms employing 25 or more persons:  
United Kingdom

Year ended	Percentage of total number employed	Year ended	Percentage of total number employed
1963	Per cent.	1963 (contd.)	Per cent.
April (a)	0.7	November	0.3
May	0.4	December	47.4
June	6.6	1964	
July	2.6	January	0.3
August	0.1	February	0.2
September	7.3	March	33.7
October	0.5	Total	100

(a) Including returns made for twelve-month periods ended 1st to 5th April, 1964.

TABLE 14 Sales of all parts of machinery and plant by larger firms, including sales by establishments classified to other industries, 1958 and 1963

This table is not applicable to this industry.

*Capital Expenditure (continued)*

## (ii) 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 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.

## (iii) 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. No deduction is made for depreciation, amortisation or obsolescence. The proceeds of items disposed of during the year exclude amounts written off for items scrapped.

Capital expenditure during the year in respect of manufacturing establishments where production had not started before the end of the year is excluded in this report for both 1958 and 1963.

*Characteristic Products*

The characteristic products of a sub-division are those in terms of which the sub-division is defined. They are products commonly associated in production and are usually similar in nature or manner of production. In most cases the characteristic products of each sub-division are indicated in Table 5 of the industry reports. For those industries for which an analysis by sub-divisions has been made, Table 2 shows the total sales of such characteristic products for each sub-division. The totals include, besides the products which define the sub-division, other items of output assumed to be closely related to them, e.g. waste products and work done.

*Enterprise*

The term enterprise is used in this report to mean one or more firms under common ownership or control. An enterprise normally consists either of a single firm, or of a parent company together with its subsidiary companies.

*Entries*

The number of entries shown in Tables 5, 6 and 8 against a particular output or production heading is the number of returns on which figures were recorded for that item.

*Establishment*

The census was based on the establishment, comprising in most cases the whole of the premises under the same ownership or management at a particular address (e.g. a factory or mine); but firms were asked to exclude from all sections of their returns particulars relating to any department not engaged in production for which they kept a separate set of accounts. Where separate accounts were not kept, they were asked to include merchanting or factoring, canteens operated by them and other

ancillary activities such as bottling, packing and the manufacture of containers for packing their own products, whether or not these activities are carried on at the same address as the works. Building and engineering maintenance departments and selling and transport departments were treated similarly.

*Gross Output*

The gross output of an industry is the aggregate value of goods made and other work done during the year by the establishments classified to the industry. It is derived by subtracting from the value of sales and work done, the value of stocks of goods on hand for sale and work in progress at the beginning of the year and adding the value at the end of the year.

*Larger Firms*

These are firms in which twenty-five or more persons were employed on the average during the year.

*Net Output*

The net output of an industry represents the value added to materials by the process of production. It includes the gross margin on any merchanted or factored goods sold; it constitutes the fund from which wages, salaries, insurance, pensions, hire of plant and machinery, payments for repairs and maintenance, costs of operating road vehicles, rents, rates and taxes, advertising and other selling expenses and all other similar charges have to be met, as well as depreciation and profits. There is no appreciable duplication in net output. Net output has been obtained by deducting from the gross output the cost of purchases adjusted for stock changes, payments for work given out to other firms, and payments for transport.

Normally any customs or excise duty on materials purchased is included in the cost of materials. Similarly, finished goods sold have been valued as they were sold, duty paid or duty free. The amounts of duty, subsidies, allowances and levies receivable or payable, where of substantial importance in the industry, were required to be stated separately, and these items were taken into account when calculating net output.

*Net output per person employed*

The figures for 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.

*Principal Products*

The principal products of an industry are those in terms of which the industry is defined. They are products commonly associated in production, and are usually similar in nature or manner of production.

*Production*

This means the total quantity of a product made during the year, whether sold in the year, added to stock, transferred to another department of the same firm, or used in the manufacture of other products within the business covered by the return. It includes goods produced from materials supplied by other firms.

### Purchases

Purchases include the cost of materials and components bought for use in production; of fuel and electricity for all purposes; of packing materials, including the full cost of returnable cases and containers when first purchased; of workshop materials, office materials and materials for repairs to firms' own buildings, plant and vehicles when carried out by their own workpeople included in the return; of consumable tools; and of parts for machinery purchased during the year as replacements. Water charges are also included. In general purchases of goods for merchandising or factoring and canteen supplies are included. Materials supplied by customers for processing are excluded.

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 firms' own separate transport organisations, for delivery of materials and fuel are, therefore, excluded. Materials purchased overseas are included at their 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 delivered cost if invoiced 'carriage paid home'. Materials and fuel transferred from another department of the firm not covered by the same return are included at the estimated selling value recorded by the other department.

### Sales

Sales are in respect of goods made by the business covered by the return, goods made for it by outworkers or by other firms 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 firm's capital asset account. Goods sold without being subjected to any manufacturing process (merchanted or factored) and canteen takings are included as in 1958.

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, net of any trade discounts, agents' commissions, allowances for returnable cases, purchase tax, etc.; the net amount charged for packing materials is included. Goods charged on a delivered basis to customers overseas are included at the f.o.b. value. For work done on commission or for the trade the value shown is the net amount charged.

Where goods produced in one department were transferred to another department of the same firm not covered by the return, these transfers were treated as sales by the producing department 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 basis. Estimations of a similar kind were also sometimes necessary in valuing transfers between different firms belonging to the same enterprise. To the extent that the sales of finished products of one establishment may constitute the materials purchased by another, total figures of the value of sales (and of materials and fuel purchased) include an element of duplication.

### 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. It includes amounts credited for similar services rendered to other departments of the same firm not covered by the return.

### Small Firms

These are firms in which fewer than twenty-five persons were employed on the average during the year.

### Stocks and Work in Progress

Values are given of stocks of goods on hand for sale, and of materials and fuel, at the beginning and end of the year of return, including any stocks of goods held for merchandising or factoring. The values include duty in the case of dutiable goods held out of bond. The value of work in progress at the two dates is also usually shown. This excludes any progress payments made to sub-contractors, and no deduction is 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 payments to other firms, and to any separate transport organisation of the same firm, not covered by the return, but exclude the value of transport services provided by 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, road haulage, canals, coast-wise shipping, air, etc. Payments made for sea freight on goods sold to customers overseas and on materials and fuel purchased from overseas suppliers are excluded.

### Wages and Salaries

These are the 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; in Northern Ireland this exclusion extends also to payments to directors of limited companies. The values shown include all overtime payments, bonuses and commissions, whether paid regularly or not, and no deduction is made for income tax, insurances, contributory pensions, etc. The value of any payments in kind, travelling expenses, lodging allowances, etc. and employers' contributions to National Insurance and pension schemes is excluded.

### Work given out

The figures shown represent the total amount paid for work done by other firms on materials supplied to them, and also by firms' own establishments for which separate returns were made. They do not include payments to individual outworkers or payments for business and other services.

### Symbols used

The following symbols are used throughout the report:

- .. Not available
- Nil or negligible (less than half the final digit shown)
- \* Figures cannot be shown owing to the risk of disclosing information about individual enterprises.

### Rounding of Figures

The figures in the tables have, where necessary, been rounded to the nearest final digit. There may, therefore, be apparent slight discrepancies between the sums of the constituent items and the totals shown.

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