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ANNUAL



IRON AND STEEL MILLS

1962

ANNUAL CENSUS
OF MANUFACTURES

DOMINION BUREAU
OF STATISTICS

OCT 23 1965

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Published by Authority of

The Minister of Trade and Commerce

DOMINION BUREAU OF STATISTICS

Industry Division

October 1965
6521-800

Price: 50 cents

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IRON AND STEEL MILLS

1962

Data presented in this report under the heading of Iron and Steel Mills reflect implementation of the revised Standard Industrial Classification (S.I.C.) and the New Establishment Concept which are being used by the Dominion Bureau of Statistics in its compilations of industry statistics—see items "Standard Industrial Classification" and "Establishment" in the Explanatory Notes section of this report.

For statistical purposes the industry titled Iron and Steel Mills in the revised Standard Industrial Classification covers four main types of establishments:

- (1) Establishments primarily engaged in manufacturing pig iron and ferro-alloys.
- (2) Steel plants primarily engaged in manufacturing ingots and steel castings and continuous castings of steel.
- (3) Rolling mills primarily engaged in hot and cold rolling of steel into primary shapes.
- (4) Coke ovens operated in connection with blast furnaces. In some instances, the blast furnace, steel mill, rolling mill and coke oven or some combination of two or more of them are carried on as one integrated operation and the manufacturing processes may be carried on beyond the rolling mill stage.

The combination of improvements in internal procedures with the introduction of the final stage of the establishment concept has produced changes which, for some industries have required adjustments to industry statistical data. (See Explanatory Notes section for further details.) In the case of this industry changes affecting manufacturing activity were relatively minor. However, the 1961 figures in Table 1A do reflect a correction in original data (of approximately \$14 million).

TABLE 1. Principal Statistics - Manufacturing Activity,¹ 1957-61
Basis: Revised Standard Industrial Classification and New Establishment Concept²

Year	Estab- lish- ments	Employees						Cost of fuel and elec- tricity ⁴	Cost of materials and supplies used ⁴	Value of shipments of goods of own manu- facture ⁴	Value added ⁴
		Production and related workers ⁴		Administrative and office employees ¹		Total ⁴					
		Number	Wages	Number	Salaries	Number	Salaries and wages				
	No.		\$'000		\$'000				\$'000		
1957	42	30,613	141,113	5,391	30,880	36,004	171,993	28,053	332,794	711,116	..
1958	42	25,281	117,620	5,289	32,154	30,570	149,773	21,408	256,481	594,796	311,394
1959	40	29,629	149,961	5,691	35,313	35,320	185,274	26,440	361,948	789,811	403,392
1960	39	29,172	149,716	6,192	38,866	35,364	188,582	28,339	346,040	734,483	367,994
1961	42	28,519	152,942	6,027	40,170	34,546	193,112	29,734	351,346	789,271	411,494

See footnotes following Table 3 A.

TABLE 1 A. Principal Statistics - Manufacturing Activity and Total Activity,¹ 1961 and 1962
Basis: Revised Standard Industrial Classification and New Establishment Concept²

Year and province	Establishments	Manufacturing activity							Total activity				
		Production and related workers ⁴			Cost of fuel and electricity ⁴	Cost of materials and supplies used ⁴	Value of shipments of goods of own manufacture ⁴	Value added ⁴	Working owners and partners ⁶		Total employees ⁷		Total value added ⁴
		Number	Man-hours paid	Wages					Number	With-drawals	Number	Salaries and wages	
	No.		'000			\$'000				\$'000		\$'000	
1961													
Nova Scotia	12	4,885	10,182	23,487	5,326	43,167	89,881	43,133	-	-	5,999	29,721	44,358
Quebec	17	21,623	45,466	120,297	21,759	285,549	646,570	339,162	-	-	26,739	153,463	346,181
Ontario	6	1,227	2,697	6,150	1,790	12,092	22,391	9,714	-	-	1,439	7,339	9,368
Manitoba	6	473	991	2,595	795	10,247	15,906	5,322	-	-	572	3,190	5,279
Saskatchewan	6	473	991	2,595	795	10,247	15,906	5,322	-	-	572	3,190	5,279
Alberta	6	473	991	2,595	795	10,247	15,906	5,322	-	-	572	3,190	5,279
British Columbia	6	473	991	2,595	795	10,247	15,906	5,322	-	-	572	3,190	5,279
Totals	41	28,408	59,336	152,529	29,670	351,055	774,748	397,331	-	-	34,749	193,712	405,187
1962													
Nova Scotia	2	5,072	10,794	25,372	5,760	52,696	108,548	51,324	-	-	6,208	31,688	51,803
Quebec	10	23,395	49,111	132,136	23,982	319,544	713,517	376,451	-	-	28,475	167,635	382,110
Ontario	18	23,395	49,111	132,136	23,982	319,544	713,517	376,451	-	-	28,475	167,635	382,110
Manitoba	2	1,147	2,416	5,396	1,089	9,212	21,761	11,653	-	-	1,312	6,475	11,572
Alberta	3	487	998	2,651	807	10,414	16,927	6,073	-	-	598	3,373	6,064
British Columbia	6	487	998	2,651	807	10,414	16,927	6,073	-	-	598	3,373	6,064
Totals	41	30,101	63,319	165,556	31,639	391,866	860,755	445,501	-	-	36,593	209,171	451,549

See Table 2 and footnotes following Table 3 A.

TABLE 1 B. Principal Statistics classified by Size Groups based on Shipments of Goods of Own Manufacture, 1961 and 1962
Basis: Revised Standard Industrial Classification and New Establishment Concept²

Size group	Establishments	Manufacturing activity							Total activity				
		Production and related workers ⁴			Cost of fuel and electricity ⁴	Cost of materials and supplies used ⁴	Value of shipments of goods of own manufacture ⁴	Value added ⁴	Working owners and partners ⁶		Total employees ⁷		Total value added ⁴
		Number	Man-hours paid	Wages					Number	With-drawals	Number	Salaries and wages	
	No.		'000			\$'000				\$'000		\$'000	
1961													
Under \$10,000	-	-	-	-	-	-	-	-	-	-	-	-	-
\$ 10,000 to \$ 24,999	-	-	-	-	-	-	-	-	-	-	-	-	-
25,000 " 49,999	-	-	-	-	-	-	-	-	-	-	-	-	-
50,000 " 99,999	-	-	-	-	-	-	-	-	-	-	-	-	-
100,000 " 199,999	4	106	231	471	70	353	1,298	869	-	-	129	622	860
200,000 " 499,999	7	425	887	1,848	344	1,606	5,566	4,055	-	-	535	2,485	4,082
500,000 " 999,999	16	1,932	3,995	8,328	2,822	26,795	47,975	21,074	-	-	2,464	11,267	20,794
1,000,000 " 4,999,999	14	25,995	54,222	141,882	26,434	322,301	719,909	371,333	-	-	31,555	178,893	379,479
5,000,000 and over .....	...	...	...	...	...	...	...	...	...	...	66	445	(26)
Head offices, sales offices and auxiliary units ¹⁰ .....	...	...	...	...	...	...	...	...	...	...	66	445	(26)
Totals	41	28,408	59,336	152,529	29,670	351,055	774,748	397,331	-	-	34,749	193,712	405,187

See footnote following table 3 A.

TABLE 1 B. Principal Statistics classified by Size Groups based on Shipments of Goods of Own Manufacture, 1961 and 1962

Size group	Estab- lish- ments	Manufacturing activity							Total activity				
		Production and related workers ⁴			Cost of fuel and elec- tricity ⁵	Cost of materials and supplies used ⁶	Value of shipments of goods of own manu- facture ⁴	Value added ⁴	Working owners and partners ⁸		Total employees ⁷		Total value added ⁶
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages	
	No.		'000			\$'000				\$'000		\$'000	
1962													
Under \$10,000.....	-	-	-	-	-	-	-	-	-	-	-	-	-
\$ 10,000 to \$ 24,999	-	-	-	-	-	-	-	-	-	-	-	-	-
25,000 " 49,999	-	-	-	-	-	-	-	-	-	-	-	-	-
50,000 " 99,999	-	-	-	-	-	-	-	-	-	-	-	-	-
100,000 " 199,999	3	79	164	351	53	207	826	561	-	-	91	448	563
200,000 " 499,999													
500,000 " 999,999	5	273	582	1,219	196	1,172	3,646	2,299	-	-	359	1,613	2,284
1,000,000 " 4,999,999	14	1,508	3,231	6,606	1,732	11,836	30,028	16,768	-	-	1,875	6,677	16,916
5,000,000 and over.....	19	28,241	59,342	157,380	29,659	378,649	826,254	425,875	-	-	34,198	197,954	431,606
Head offices, sales offices and auxiliary units ¹⁰ .....	...	...	...	...	...	...	...	...	...	...	70	478	(19)
Totals	41	30,101	63,319	165,556	31,639	391,866	860,755	445,501	-	-	36,593	209,171	451,549

See footnotes following Table 3 A.

TABLE 1 C. Principal Statistics classified by Size Groups based on Manufacturing Value Added, 1961 and 1962

Basis: Revised Standard Industrial Classification and New Establishment Concept²

Size group	Estab- lish- ments	Manufacturing activity							Total activity				
		Production and related workers ⁴			Cost of fuel and elec- tricity ⁵	Cost of materials and supplies used ⁶	Value of shipments of goods of own manu- facture ⁴	Value added ⁴	Working owners and partners ⁸		Total employees ⁷		Total value added ⁶
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages	
	No.		'000			\$'000				\$'000		\$'000	
1961													
Under \$10,000.....	-	-	-	-	-	-	-	-	-	-	-	-	-
\$ 10,000 to \$ 24,999	-	-	-	-	-	-	-	-	-	-	-	-	-
25,000 " 49,999	-	-	-	-	-	-	-	-	-	-	-	-	-
50,000 " 99,999	7	250	537	1,128	189	1,064	3,278	2,029	-	-	307	1,470	2,020
100,000 " 199,999													
200,000 " 499,999	10	881	1,843	3,974	1,475	12,693	19,937	7,371	-	-	1,073	5,097	7,036
500,000 " 999,999	16	3,050	6,418	14,731	3,979	37,104	74,839	35,088	-	-	3,896	19,587	35,345
1,000,000 " 4,999,999	8	24,227	50,538	132,697	24,027	300,194	678,694	352,841	-	-	29,407	187,113	360,612
5,000,000 and over.....	...	...	...	...	...	...	...	...	...	...	66	445	(26)
Head offices, sales offices and auxiliary units ¹⁰ .....	...	...	...	...	...	...	...	...	...	...	66	445	(26)
Totals	41	28,408	59,336	152,529	29,670	351,055	774,748	397,331	-	-	34,749	193,712	405,187
1962													
Under \$10,000.....	-	-	-	-	-	-	-	-	-	-	-	-	-
\$ 10,000 to \$ 24,999	-	-	-	-	-	-	-	-	-	-	-	-	-
25,000 " 49,999	-	-	-	-	-	-	-	-	-	-	-	-	-
50,000 " 99,999	6	348	747	1,643	445	1,991	4,805	2,544	-	-	458	2,239	2,670
100,000 " 199,999													
200,000 " 499,999	8	738	1,625	3,330	774	7,907	14,987	6,327	-	-	880	4,140	6,426
500,000 " 999,999	15	2,328	4,915	10,944	3,421	37,267	74,338	34,337	-	-	2,909	14,406	34,358
1,000,000 " 4,999,999	10	26,687	56,032	149,639	27,000	344,701	766,625	402,293	-	-	32,276	187,908	408,115
5,000,000 and over.....	...	...	...	...	...	...	...	...	...	...	70	478	(19)
Head offices, sales offices and auxiliary units ¹⁰ .....	...	...	...	...	...	...	...	...	...	...	70	478	(19)
Totals	41	30,101	63,319	165,556	31,639	391,866	860,755	445,501	-	-	36,593	209,171	451,549

See footnotes following Table 3 A.

TABLE 1 D. Principal Statistics classified by Size Groups based on Total Value Added, 1961 and 1962

Basis: Revised Standard Industrial Classification and New Establishment Concept²

Size group	Estab- lish- ments	Manufacturing activity							Total activity				
		Production and related workers ⁴			Cost of fuel and elec- tricity ⁵	Cost of materials and supplies used ⁴	Value of shipments of goods of own manu- facture ⁴	Value added ⁴	Working owners and partners ⁶		Total employees ⁷		Total value added ⁸
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages	
	No.		'000			\$'000				\$'000		\$'000	
1961													
Under \$10,000	—	—	—	—	—	—	—	—	—	—	—	—	—
\$ 10,000 to \$ 24,999	—	—	—	—	—	—	—	—	—	—	—	—	—
25,000 " 49,999	—	—	—	—	—	—	—	—	—	—	—	—	—
50,000 " 99,999	—	—	—	—	—	—	—	—	—	—	—	—	—
100,000 " 199,999	8	440	1,000	2,055	946	5,410	7,981	2,790	—	—	547	2,648	2,449
200,000 " 499,999													
500,000 " 999,999	9	691	1,380	3,047	719	8,347	15,233	6,611	—	—	833	3,920	6,607
1,000,000 " 4,999,999	16	3,050	6,418	14,731	3,979	37,104	74,839	35,088	—	—	3,696	19,587	35,345
5,000,000 and over	8	24,227	50,538	132,697	24,027	300,194	676,694	352,841	—	—	29,407	167,113	360,812
Head offices, sales offices and auxiliary units ¹⁰ .....	...	...	...	...	...	...	...	...	...	...	66	445	(26)
Totals	41	28,408	59,336	152,529	29,670	351,055	774,748	397,331	—	—	34,749	193,712	405,187
1962													
Under \$10,000	—	—	—	—	—	—	—	—	—	—	—	—	—
\$ 10,000 to \$ 24,999	—	—	—	—	—	—	—	—	—	—	—	—	—
25,000 " 49,999	—	—	—	—	—	—	—	—	—	—	—	—	—
50,000 " 99,999	8	348	747	1,643	445	1,991	4,805	2,544	—	—	458	2,239	2,670
100,000 " 199,999													
200,000 " 499,999	8	738	1,625	3,330	774	7,907	14,987	6,327	—	—	880	4,140	6,426
500,000 " 999,999	15	2,328	4,915	10,944	3,421	37,267	74,338	34,337	—	—	2,909	14,406	34,358
1,000,000 " 4,999,999	10	26,687	56,032	149,639	27,000	344,701	766,625	402,293	—	—	32,276	187,908	408,113
5,000,000 and over .....	...	...	...	...	...	...	...	...	...	...	70	478	(19)
Head offices, sales offices and auxiliary units ¹⁰ .....	...	...	...	...	...	...	...	...	...	...	70	478	(19)
Totals	41	30,101	63,319	165,556	31,639	391,866	860,755	445,501	—	—	36,593	209,171	451,549

See footnotes following Table 3 A.

TABLE 1 E. Principal Statistics classified by Size Groups based on Total Employed,¹¹ 1961 and 1962

Basis: Revised Standard Industrial Classification and New Establishment Concept²

Size group	Estab- lish- ments	Manufacturing activity							Total activity				
		Production and related workers ⁴			Cost of fuel and elec- tricity ⁵	Cost of materials and supplies used ⁴	Value of shipments of goods of own manu- facture ⁴	Value added ⁴	Working owners and partners ⁶		Total employees ⁷		Total value added ⁸
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages	
	No.		'000			\$'000				\$'000			\$'000
1961													
Under 5 employees	—	—	—	—	—	—	—	—	—	—	—	—	—
5- 14 employees	4	100	222	458	83	527	1,497	881	—	—	118	561	874
15- 49 "													
50- 99 "	8	400	833	1,782	360	3,883	8,529	4,748	—	—	515	2,521	4,718
100-199 "	11	1,104	2,255	5,078	1,299	21,459	35,427	12,853	—	—	1,415	6,792	12,826
200-499 "	10	2,384	5,184	12,431	3,884	33,816	62,141	26,906	—	—	2,895	15,370	26,686
500 employees and over	8	24,420	50,641	132,781	24,045	291,370	667,154	351,943	—	—	29,740	168,023	360,109
Head offices, sales offices and auxiliary units ¹⁰ .....	...	...	...	...	...	...	...	...	...	...	66	445	(26)
Totals	41	28,408	59,336	152,529	29,670	351,055	774,748	397,331	—	—	34,749	193,712	405,187
1962													
Under 5 employees	—	—	—	—	—	—	—	—	—	—	—	—	—
5- 14 employees	3	69	150	298	63	386	1,004	577	—	—	76	347	570
15- 49 "													
50- 99 "	9	455	1,009	2,283	591	5,379	11,451	5,657	—	—	604	3,199	5,825
100-199 "	12	1,271	2,763	5,886	1,506	22,841	38,892	13,745	—	—	1,598	7,648	13,742
200-499 "	8	2,031	4,359	10,227	3,002	29,323	59,364	28,264	—	—	2,427	12,664	28,331
500 employees and over	9	26,269	55,038	146,862	26,477	333,936	750,044	397,258	—	—	31,818	184,834	403,100
Head offices, sales offices and auxiliary units ¹⁰ .....	...	...	...	...	...	...	...	...	...	...	70	478	(19)
Totals	41	30,101	63,319	165,556	31,639	391,866	860,755	445,501	—	—	36,593	209,171	451,549

See footnotes following Table 3 A.

TABLE 1F. Principal Statistics classified by Type of Organization, 1961 and 1962

Basis: Revised Standard Industrial Classification and New Establishment Concept¹

Type of organization	Establishments	Manufacturing activity							Total activity				
		Production and related workers ⁴			Cost of fuel and electricity ⁵	Cost of materials and supplies used ⁴	Value of shipments of goods of own manufacture ⁴	Value added ⁴	Working owners and partners ⁶		Total employees ⁷		Total value added ⁸
		Number	Man-hours paid	Wages					Number	Withdrawals	Number	Salaries and wages	
	No.		'000			'000				'000		'000	
1961													
Individual ownerships	—	—	—	—	—	—	—	—	—	—	—	—	—
Partnerships	—	—	—	—	—	—	—	—	—	—	—	—	—
Incorporated companies	41	28,408	59,336	152,529	29,670	351,055	774,748	397,331	—	—	34,683	193,267	405,213
Cooperatives	—	—	—	—	—	—	—	—	—	—	—	—	—
Head offices, sales offices and auxiliary units ¹⁰ .....	...	...	...	...	...	...	...	...	...	...	66	445	(26)
Totals	41	28,408	59,336	152,529	29,670	351,055	774,748	397,331	—	—	34,749	193,712	405,187
1962													
Individual ownerships	—	—	—	—	—	—	—	—	—	—	—	—	—
Partnerships	—	—	—	—	—	—	—	—	—	—	—	—	—
Incorporated companies	41	30,101	63,319	165,556	31,639	391,866	860,755	445,501	—	—	36,523	208,693	451,569
Cooperatives	—	—	—	—	—	—	—	—	—	—	—	—	—
Head offices, sales offices and auxiliary units ¹⁰ .....	...	...	...	...	...	...	...	...	...	...	70	478	(19)
Totals	41	30,101	63,319	165,556	31,639	391,866	860,755	445,501	—	—	36,593	209,171	451,549

See footnotes following Table 3 A.

TABLE 2. Industry Outputs, Inputs and Value Added, 1961 and 1962

Basis: Revised Standard Industrial Classification and New Establishment Concept¹

Item	1961	1962
	\$'000	
Manufacturing activity:		
Value of shipments—Goods of own manufacture	774,748	860,755
Add: Closing inventory—Goods in process	34,183	38,517
Finished goods	39,057	40,248
Deduct: Opening inventory—Goods in process	31,414	33,178
Finished goods	38,517	37,335
Gross output—Manufacturing activity	778,057	869,007
Deduct: Cost of materials and supplies used in manufacturing activity	351,055	391,866
Cost of fuel and electricity used	29,670	31,639
Value added—Manufacturing activity	397,331	445,501
Non-manufacturing activities:		
Value of shipments—Goods not of own manufacture .....	..	9,725
Add: All other revenue .....	..	5,927
Closing inventory—Goods purchased for resale	570	605
Deduct: Purchases of goods for resale as such .....	..	7,458
Opening inventory—Goods not of own manufacture	624	570
Cost of all other materials and supplies used .....	..	2,180
Value added—Non-manufacturing activities	7,856	6,049
Total value added	405,187	451,549

See footnote following Table 3 A.

TABLE 3. Employment and Payroll, 1961 and 1962
Basis: Revised Standard Industrial Classification and New Establishment Concept²

Year and province	Employees										Salaries and wages				
	Production and related workers				Adminis- trative and office ^{6,*}		Sales, and distribution ⁹		Total employees ^{7,*}		Production and related workers		Adminis- trative and office	Sales, and distribution	Total salaries and wages
	Manufacturing ⁴		Other ⁵								Manufacturing	Other			
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female					
	number										\$'000				
1961															
Nova Scotia	} 4,885	—	..	..	..	..	..	..	5,863	136	23,487	..	..	..	29,721
Quebec		21,648	175	..	..	..	..	..	25,705	1,034	120,297	..	..	..	153,463
Ontario	} 1,227	—	..	..	..	..	..	..	1,413	26	6,150	..	..	..	7,339
Manitoba		Saskatchewan	473	—	564	8	2,595
Alberta															
British Columbia															
Totals	28,223	175	..	..	..	..	..	..	33,545	1,204	152,529	..	..	..	193,712
1962															
Nova Scotia	} 5,063	9	22	—	964	115	29	6	6,078	130	25,372	108	5,998	210	31,688
Quebec		23,206	189	418	8	3,486	759	288	121	27,398	1,077	132,136	2,711	30,214	2,573	167,635
Ontario	} 1,147	—	3	—	127	26	8	1	1,285	27	5,396	10	990	79	6,475
Manitoba		Alberta	487	—	—	93	12	6	—	586	12	2,652	—	683	38	3,373
British Columbia															
Totals	29,903	198	443	8	4,670	912	331	128	35,347	1,246	165,536	2,829	37,884	2,901	209,171

See footnotes following Table 3 A.

TABLE 3 A. Production and Related Workers,⁴ — Manufacturing Activity, by Months, 1962
Basis: Revised Standard Industrial Classification and New Establishment Concept²

Month	Establishments reporting monthly detail	
	Male	Female
	number	
January	27,506	195
February	28,125	189
March	28,592	190
April	29,261	184
May	30,329	197
June	30,913	199
July	31,179	207
August	31,504	218
September	31,327	218
October	30,339	213
November	30,136	180
December	29,591	188
Monthly averages	29,903	198

¹ See Table 2 and Explanatory Notes concerning manufacturing and non-manufacturing activities.

² See Explanatory Notes.

³ This category, in this table only, includes working owners and partners. Since administrative and office employees are engaged in a variety of activities they have been excluded from manufacturing activity beginning with the revised 1961 series shown in the following tables. They are included here for purposes of comparison with the tabulations of previous years.

⁴ Conceptually identical to previous years. See Explanatory Notes.

⁵ Cannot be reported separately for manufacturing and non-manufacturing activities but related substantially to manufacturing activity. Identical concept to previous years.

⁶ Working owners and partners were included with administrative and office employees in the "Manufacturing series" published in former years. See Explanatory Notes.

⁷ Includes production and related workers, administrative and office employees, sales distribution and other employees. See Explanatory Notes for the treatment of head office employees and those employed in auxiliary units.

⁸ Value of total shipments and other operational revenue less total cost of materials, supplies, fuels used and purchases of products and materials for re-sale in the same condition; all adjusted for inventory changes where required. See Table 2 and Explanatory Notes.

⁹ Sales and distribution workers and production workers (non-manufacturing) are included for the first time as a result of the full implementation of the new definition of the establishment. The figures for production workers (non-manufacturing), administrative and office employees and sales and distribution workers are not yet available for 1961 but form part of total employees. Sales and distribution workers may include some employees that are reported as part of a manufacturing establishment but are not working at the establishment's location. Head offices, sales offices, etc., which report separately are included in the figures for the province in which they are located.

¹⁰ These data cover the activities reported by separately located units such as head offices, sales offices, administrative offices, laboratories, warehouses, etc. Such units do not usually constitute separate "establishments" as they do not normally generate all the necessary elements of input and output statistics. However, they are treated as extensions of manufacturing establishments and, in the case of individual industries, may be located in provinces where no processing plants are situated. For the most part, these units contribute only to costs of operations (mainly salaries and wages) and they are included here to provide completeness and consistency of the statistics. See Explanatory Notes which deal with Single and Multi establishments for a complete explanation of procedures.

¹¹ Includes paid employees and working owners but excludes unpaid family workers.

Note: Figures may not add due to rounding.

TABLE 4. Materials and Supplies Used in Manufacturing Activity, 1962

Basis: Revised Standard Industrial Classification and New Establishment Concept¹

Description	Quantity	Cost
		\$'000
1. Materials used:		
Coke, gas and by-products section		
Bituminous coal carbonized in ovens or retorts:		
From Canadian mines	ton	400,613
Imported	"	4,538,280
Absorbing and wash oil	Imp. gal.	394,382
Caustic soda	lb.	2,487,740
Sodium nitrate	"	130,408
Sulphur	ton	1,184
Sulphuric acid, 100%:		
Purchased	"	18,358
Own make	"	2,649
Sinter plant and blast furnace section		
Sinter plant:		
Crude iron ore:		
From Canadian mines	"	464,897
Imported	"	1,071,069
Pyrite cinder	"	15,574
Millcinder, scale, fluedust, etc. (not sintered, pelletized, etc.):		
Purchased	"	1,219
Own make	"	410,424
Scrap iron and steel (own make)	"	16,079
Limestone (including fines)	"	73,208
Dolomite (including fines)	"	149,967
Coke (including breeze):		
Purchased	"	14,816
Own make	"	91,939
Blast furnace:		
Crude iron ore:		
From Canadian mines	"	915,080
Imported	"	1,815,257
Iron ore (sintered, pelletized, etc.):		
From Canadian mines	"	1,482,514
Imported	"	2,419,695
From own processing (does not include mine sinter plant)	"	1,878,810
Mill cinder, roll scale, slag and flue dust (not sintered, pelletized, etc.):		
Purchased	"	29,829
Own make	"	187,009
Scrap iron and steel:		
Purchased	"	79,895
Own make	"	14,065
Limestone:		
From Canadian quarries	"	388,303
Imported	"	331,694
Dolomite	"	398,663
Coke:		
Purchased	"	110,178
Own make	"	3,269,124
Firebrick, fireclay and other refractories, n.e.s.	"	488
Steel ingots and steel castings		
Pig iron:		
Purchased	ton	16,444
Own make	"	4,545,508
Scrap iron and steel:		
Purchased	"	1,297,784
Own make	"	1,891,994
Sinter:		
Purchased	"	16,794
Own make	"	-
Coke (charged to furnace; not for fuel):		
Purchased	ton	1,363
Own make	"	1,346
Ferromanganese:		
High carbon (over 3 per cent carbon)	"	43,727
Medium carbon	"	4,607
Low carbon (maximum 0.75 per cent carbon)	"	428
Silico manganese	"	9,279
Ferrosilicon:		
Low silicon grade (under 45 per cent silicon)	"	44
Medium silicon grade	"	11,222
High silicon grade (over 55 per cent silicon)	"	1,691
Sil-x	"	54
Ferrochrome (including chrom-X):		
High carbon	"	2,353
Low carbon (maximum 2 per cent carbon)	"	6,114
Ferromolybdenum	"	305
Ferrophosphorus	"	336
Ferroselenium	"	3
Ferrotitanium	"	123
Ferrotungsten	"	57
Ferrovandium	"	220
Ferrozirconium	"	58
Calcium silicon	"	374
Calcium manganese silicon	"	137

¹ See explanatory notes.

TABLE 4. Materials and Supplies Used in Manufacturing Activity, 1962 - Concluded

Description	Quantity	Cost
1. Materials used - Concluded:		\$'000
Steel ingots and steel castings section - Concluded		
Other ferro-alloys	ton 2,050	710
Iron ore, crude	" 106,580	1,765
Iron ore, calcined, roasted or treated	" 254,057	4,152
Chrome ore	" 547	41
Tungsten ore	" 185	201
Aluminium ingots, shot, etc.	" 2,291	1,160
Copper ingots, cakes, shot, etc.	" 240	140
Nickel ingots, cathodes, shot, etc.	" 2,534	4,211
Other metals	" 180	243
Charcoal	" 85	8
Bentonite	" 4,352	184
Dolomite:		
Raw, crushed	" 113,593	295
Calcined	" 90,269	2,316
Fluorspar	" 33,824	1,179
Ganister	" 2,093	33
Graphite	" 972	58
Lime	" 194,899	3,107
Limestone	" 180,208	553
Linseed oil	Imp. gal. 12,316	13
Magnesite	ton 15,049	1,006
Electrodes	" ..	2,185
Silica sand:		
For moulds	ton 85,512	724
For sand blasting	" ..	--
Other foundry sands	ton 3,863	93
Sulphur	" 165	25
Firebrick, fireclay and other refractories, n.e.s.	" ..	13,865
Molybdenum trioxide (molybdic oxide) briquettes	ton 564	1,219
Ingot moulds (including hot tops) and stools	" ..	9,121
Rolled steel products section		
Steel ingots:		
Purchased	ton 84,281	5,634
Own make	" 6,690,555	--
Steel billets and slabs	" 93,675	9,251
Steel bars	" 40,961	6,344
Wire rods	" 2,684	394
Rails, old (include reject rails)	" 62,673	3,307
Steel sheet and strip	" 34,688	4,771
Scrap iron and steel incl. old axles	" 3,179	160
Tin	" 2,864	6,185
Zinc spelter	" 23,851	5,536
Acids:		
Chromic	lb. 249,400	70
Hydrochloric (muriatic)	" 801,190	67
Sulphuric, 100%	ton 37,223	860
Cleaners (Pennsalt, etc.)	" ..	285
Inhibitors (Rodine, etc.)	" ..	11
Phenone	lb. 69,350	76
Rolling oils	" ..	1,121
Zinc ammonium chloride	ton 103	28
Firebrick, fireclay and other refractories, n.e.s.	" ..	627
Rolls and dies	" ..	6,723
Silica sand	" ..	--
Ferro-alloys section		
Coal:		
Anthracite	ton 17,704	272
Bituminous	" 31,500	519
Coke:		
Petroleum	" 32,969	602
Other	" 45,171	650
Dolomite	" 5,410	17
Electrodes	" ..	922
Firebrick, fireclay and other refractories, n.e.s.	" ..	132
Lime	ton 5,536	71
Limestone	" 2,075	10
Linseed oil	Imp. gal. 13,024	27
Magnesite	ton 271	23
Millscale	" 1,249	12
Pitch	" 7,979	364
Quartzite	" 47,595	368
Silica sand	" 3,291	34
Steel scrap (borings, turnings, etc.)	" 31,508	560
Woodchips	" 30,424	243
All other materials and components used	" ..	11,041
2. Containers and other packaging materials and supplies used		4,313
3. Operating, maintenance and repair supplies used (excluding fuel)		44,559
4. Amount paid out to others for work done on materials owned by establishments		3,164
Total		391,866

TABLE 5. Fuel and Electricity Used¹ in Manufacturing Activity,² 1962
Basis: Revised Standard Industrial Classification and New Establishment Concept³

Description		Quantity	Cost
			\$'000
Bituminous coal:			
(a) From Canadian mines	ton	36,684	347
(b) Imported	"	54,324	576
Sub-bituminous coal (from Alberta mines only)		-	-
Anthracite coal		-	-
Lignite coal		-	-
Coke	ton	5,274	99
Gasoline (including gasoline used in cars and trucks)	Imp. gal.	889,970	237
Fuel oil including kerosene or coal oil	"	144,798,787	11,994
Wood	cord	202	2
Gas:			
(a) Liquefied petroleum gases	Imp. gal.	204,142	42
(b) Other manufactured gas		-	-
(c) Natural gas	M cu.ft.	7,195,594	3,575
Other fuel .....		...	287
Electricity purchased	kwh.	2,758,613,515	14,481
Steam purchased		-	-
Total fuel and electricity used .....		...	31,639

¹ Does not include fuel and electricity produced for own use.

² Includes only fuel and electricity purchased. Conceptually identical to previous years in that it also includes relatively small amounts used in non-manufacturing activities since these cannot be reported separately.

³ See Explanatory Notes.

TABLE 6. Industry Inventories,¹ 1962
Basis: Revised Standard Industrial Classification and New Establishment Concept²

Province	Manufacturing				Non-manufacturing	Total inventories	
	Raw materials and supplies	Goods in process	Finished goods of own manufacture	Total manufacturing	Products or materials purchased for resale		
book value \$'000							
Opening: ³							
Nova Scotia.....	}	16,665	4,035	4,417	25,117	54	25,171
Quebec.....							
Ontario.....		89,980	27,897	31,623	149,500	516	150,016
Manitoba.....	}						
Saskatchewan.....		5,062	1,144	465	6,671	—	6,671
Alberta.....							
British Columbia.....		1,557	103	829	2,489	—	2,489
Totals ⁴		113,264	33,178	37,335	183,777	570	184,347
Closing:							
Nova Scotia.....	}	15,494	4,749	4,936	25,179	60	25,239
Quebec.....							
Ontario.....		79,816	32,718	33,261	145,795	544	146,339
Manitoba.....	}						
Alberta.....		5,360	954	847	7,161	—	7,161
British Columbia.....		1,286	95	1,203	2,584	—	2,584
Totals ⁴		101,955	38,517	40,248	180,719	605	181,324

¹ Values represent book values of inventories owned in Canada. Inventories held for which progress payments have been received are not included. Where progress payment accounts are maintained the change in these accounts is treated as a net adjustment to shipments.

² See Explanatory Notes.

³ The opening inventories may differ from the closing inventories for the previous survey year because of changes in classification, the receipt of revised data, the inclusion of new establishments and the removal of establishments which did not operate during the survey year.

⁴ Figures may not add due to rounding.

TABLE 7. Production and Factory Shipments of Steel Shapes — All Industries,¹ 1961 and 1962

Product	Total tonnage made	Factory sales	
		Tonnage sold in Canada or for export	Income from tonnage sold
		net tons	\$'000
1961			
A. Hot-rolled products			
Semi-finished rolled forms:			
All semi-finished forms intended for further rolling, including blooms, billets, slabs and sheet bars:			
For sale in Canada		187,478	16,093
For export	137,549	139,417	9,597
Blooms, billets and axle blanks for forging purposes only, whether for own use or for sale to others			
Including export			
Rounds or billets for seamless tubes including export			
Total semi-finished rolled forms	180,709	156,637	18,461
Total semi-finished rolled forms	318,258	483,532	44,151
Rails	197,416	190,760	21,556
Wire rods, No. 5 gauge to 47/64 inch in diameter (excluding straight lengths over 5/16 inch in diameter)	356,574	354,119	46,362
Structural steel shapes:			
Heavy, including sheet piling, beams, angles, channels, tees, zees etc., having one leg or web of 3" and over, and a thickness of 1/8" and over	249,073	238,784	29,932
Light, including light shapes, angles, channels, etc., having a section smaller than that provided under previous item	80,499	79,880	10,481
Total structural steel shapes	329,572	318,664	40,413
Bars:			
Bars, hot-rolled, of all grades and of all sections, including bolt, nut, rivet, spike, chain, horseshoe and other miscellaneous bars but omitting all bars reported immediately below	437,941	387,120	62,155
Bars for concrete reinforcing, including twisted and other deformed bars	402,861	396,194	45,284
Long angle splice bars, tie plate bars and all other long rail joint bars	58,993	—	—
Total hot-rolled bars	899,795	783,314	107,439
Plates (excluding plate for pipes and tubes)	410,267	403,080	51,542
Skelp ² (hot and cold-rolled plate, sheets, strip and bars for pipes and tubes)	482,881	483,727	54,435
Other hot-rolled sheets and strip including material for further cold reduction and all other hot-rolled forms	1,891,100	436,704	55,417
B. Cold-rolled and coated products²			
Bars, cold-rolled and cold-drawn	41,339	41,218	14,054
Cold-rolled strip	48,268	48,820	14,551
Other cold-rolled and coated products, including cold-reduced sheets, black plate for tinning and other black plate, galvanized sheets and strip, tin plate, silicon sheet and strip, but excluding cold-rolled skelp	1,881,501	1,178,160	194,366
C. Other products			
Rail fastenings:			
Rail joints, including splice bars and fish plates	7,493	7,736	1,130
Tie plates	44,401	43,022	5,684
1962			
A. Hot-rolled products			
Semi-finished rolled forms:			
All semi-finished forms intended for further rolling, including blooms, billets, slabs and sheet bars:			
For sale in Canada		219,241	18,405
For export	117,017	113,122	7,792
Blooms, billets and axle blanks for forging purposes only, whether for own use or for sale to others			
Including export			
Rounds or billets for seamless tubes including export			
Total semi-finished rolled forms	192,706	181,545	21,832
Total semi-finished rolled forms	309,723	513,908	48,029
Rails	233,067	225,683	25,404
Wire rods, No. 5 gauge to 47/64 inch in diameter (excluding straight lengths over 5/16 inch in diameter)	356,262	354,412	46,010
Structural steel shapes:			
Heavy, including sheet piling, beams, angles, channels, tees, zees, etc., having one leg or web of 3" and over, and a thickness of 1/8" and over	370,306	361,060	44,851
Light, including light shapes angles, channels, etc., having a section smaller than that provided under previous item	92,136	89,249	11,808
Total structural steel shapes	462,442	450,309	56,659
Bars:			
Bars, hot-rolled, of all grades and of all sections, including bolt, nut, rivet, spike, chain, horseshoe and other miscellaneous bars, but omitting all bars reported immediately below	528,760	452,002	70,825
Bars for concrete reinforcing, including twisted and other deformed bars	412,661	385,752	44,936
Long angle splice bars, tie plate bars and all other long rail joint bars	65,603	386	54
Total hot-rolled bars	1,007,024	838,140	115,815
Plates (excluding plate for pipes and tubes)	489,968	491,533	61,815
Skelp ² (hot and cold-rolled plate, sheets, strip and bars for pipes and tubes)	413,478	357,017	41,333
Other hot-rolled sheets and strip including material for further cold reduction and all other hot-rolled forms	2,216,797	591,221	71,015
B. Cold-rolled and coated products²			
Bars, cold-rolled and cold-drawn	49,544	50,210	15,870
Cold-rolled strip	57,227	57,961	17,235
Other cold-rolled and coated products, including cold-reduced sheets, black plate for tinning and other black plate, galvanized sheets and strip, tin plate, silicon sheet and strip, but excluding cold-rolled skelp	1,754,721	942,768	154,143
C. Other products			
Rail fastenings:			
Rail joints, including splice bars and fish plates	10,613	10,624	1,586
Tie plates	53,765	54,554	7,238

¹ Includes data from other industries which manufacture, as a secondary activity, the commodities listed here.

² Note that skelp as listed provides for both hot-rolled and cold-rolled material.

TABLE 8. Production¹ of Pig Iron and Sales¹ by Producers - All Industries,² 1961 and 1962

Grade	Total tonnage made	Sales	
		Quantity	Income from sales
		net tons	\$'000
1961			
Basic	4,203,578	120,253	5,568
Foundry ³	386,644	308,276	14,844
Malleable	355,799	354,659	19,554
Total	4,946,021	783,188	39,966
1962			
Basic	4,561,273	52,854	2,937
Foundry ³	254,807	357,439	17,210
Malleable	460,673	404,550	22,825
Total	5,276,753	814,843	42,972

¹ Includes the output from smelting of titanium ores.

² Includes data from other industries which manufacture, as a secondary activity the commodities listed here.

³ Includes silvery pig.

TABLE 9. Production¹ of Pig Iron, by Grades, 1953-62

Year	Basic	Foundry	Malleable	Total
	net tons			
1953	2,436,504	182,821	392,843	3,012,268
1954	1,740,712	167,797	302,520	2,211,029
1955	2,591,662	176,710	446,995	3,215,367
1956	2,990,222	150,354	427,627	3,568,203
1957	3,209,411	104,830	404,109	3,718,350
1958	2,665,705	43,755	350,119	3,059,579
1959 ²	3,552,926	228,843	401,006	4,182,775
1960	3,598,595	290,050	410,204	4,298,849
1961	4,203,578	386,644	355,799	4,946,021
1962	4,561,273	254,807	460,673	5,276,753

¹ Includes silvery pig.

² Commencing with 1959 includes the output from smelting of titanium ores.

TABLE 10. Production¹ of Pig Iron, by Months, 1961 and 1962

Month	1961			1962		
	For own use	For sale	Total	For own use	For sale	Total
	net tons					
January	308,734	22,294	331,028	386,745	32,130	418,875
February	299,570	23,754	323,324	363,124	30,012	393,136
March	363,529	25,322	388,851	414,201	32,784	446,985
April	378,002	34,020	412,022	397,987	53,445	451,432
May	320,436	99,310	419,746	389,551	73,527	463,078
June	325,666	92,654	418,320	373,210	97,968	471,176
July	347,403	93,925	441,328	403,649	87,679	491,328
August	339,924	97,884	437,808	405,058	87,276	492,334
September	365,877	75,291	441,168	371,937	73,411	445,348
October	358,174	100,564	458,738	362,703	65,725	428,428
November	388,331	57,844	446,175	327,680	71,156	398,836
December	349,669	57,218	406,887	281,453	106,522	387,975
Totals	4,145,315	780,080	4,925,395	4,477,298	811,635	5,288,933

¹ See footnotes to Table 8.

Note: Above breakdown developed from a special monthly report on primary iron and steel and does not reconcile precisely with total shown on Table 8 or 9 because of the preliminary status of monthly figures.

TABLE 11. Sales¹ of Pig Iron by Producers, 1953-62

Year	Tonnage sold	Income from sales	Year	Tonnage sold	Income from sales
	net tons	\$'000		net tons	\$'000
1953	626,624	31,510	1958	429,708	24,878
1954	455,552	22,142	1959	662,341	36,280
1955	608,978	30,539	1960	676,964	36,160
1956	649,213	34,501	1961	783,188	39,966
1957	734,353	40,953	1962	814,843	42,972

¹ See footnotes to Table 8.

TABLE 12. Stocks of Pig Iron at Year-end by Producers in Canada, 1953-62

Year	Net tons	Year	Net tons
1953	135,781	1958	239,598
1954	127,894	1959	246,742
1955	136,415	1960	318,063
1956	113,629	1961	369,547
1957	233,569	1962	212,353

TABLE 13. Consumption of Pig Iron in Canada by Industries and by Provinces, 1961 and 1962
(As Reported by Consumers)

	1961	1962
	net tons	
By industries		
Agricultural implements	6,398	6,490
Boiler and plate works	1,154	669
Electrical products	4,925	4,873
Fabricated structural metal	617	318
Hardware, tool and cutlery	172	125
Heating equipment	4,524	8,159
Iron and steel mills	4,056,763	4,561,952
Iron foundries	120,690	137,819
Miscellaneous machinery	7,544	8,950
Miscellaneous metal fabricating	10,850	10,310
Motor vehicles	3,794	3,380
Motor vehicle parts and accessories	31,764	33,279
Railroad rolling stock	2,805	6,399
Shipbuilding and repair	348	353
Miscellaneous	46,695	58,266
Totals	4,299,043	4,841,342
By provinces		
Prince Edward Island and Newfoundland	45	40
Nova Scotia	371,940	447,492
New Brunswick	2,231	1,934
Quebec	22,761	30,251
Ontario	3,897,774	4,357,044
Manitoba	2,972	2,802
Saskatchewan	393	260
Alberta	927	1,519
British Columbia		
Canada	4,299,043	4,841,342

Note: Data in Table 13 by industry reflect classification in accordance with revised Standard Industrial Classification adopted in 1960 and the New Establishment Concept adopted in 1961.

TABLE 14. Blast Furnaces in Canada, 1960-62

Name of company	Location of plant	Number of stacks	Total annual capacity	Number of days in blast		
				1960	1961	1962
Dominion Foundries & Steel Ltd.	Hamilton, Ont.	1	500,000	241	—	224
		1	500,000	365	365	151
		1	550,000	130	365	365
		3	1,550,000	—	—	—
Dominion Steel & Coal Corporation, Limited	Sydney, Nova Scotia	1	237,000	365	263	216
		1	265,000	365	362	363
		1	182,000	251	—	—
		3	684,000	—	—	—
Canadian Furnace Company, Limited	Port Colborne, Ont.	1	190,000	193	277	193
		1	190,000	—	—	—
The Steel Company of Canada, Limited	Hamilton, Ont.	1	1,750,000	362	361	365
		1		221	298	364
		1		286	349	365
		4	1,750,000	347	354	364
Algoma Steel Corporation, Limited	Sault Ste. Marie, Ont.	1	218,000	279	240	314
		1	177,000	167	222	362
		1	700,000	302	365	364
		4	1,795,000	366	361	311
Totals for Canada		15	5,969,000	—	—	—

Note: Data in above table do not include details on other producers of pig iron in Canada as follows:

1. Electric furnace operations used in smelting titanium ores rated at approximately 354,000 tons pig iron per annum operated by Quebec Iron and Titanium Corporation at Sorel, Quebec.
2. One electric furnace used in direct reduction of iron ore rated at 40,000 tons pig iron per annum operated by the Consolidated Mining and Smelting Co. of Canada Ltd., Kimberley, British Columbia.

TABLE 15. Production of Steel Ingots and Steel Castings, and Sales by the Producers - All Industries,¹ 1961 and 1962

	1961			1962		
	Total tonnage of steel made (all kinds), including alloys	Sales		Total tonnage of steel made (all kinds), including alloys	Sales	
		Quantity	Income from sales		Quantity	Income from sales
	net tons		\$'000	net tons		\$'000
Steel ingots:						
Basic open-hearth ²	5,712,846	156,325	9,585	6,394,451	156,620	10,077
Electric	663,261	109,136	10,016	653,851	96,894	12,200
Totals, steel ingots	6,376,107	265,461	19,601	7,048,302	253,514	22,277
Steel castings:						
Basic open-hearth	2,830	541	267	3,125	961	494
Electric	109,370	104,058	41,717	122,107	122,073	52,325
Totals, steel castings	112,200	104,599	41,984	125,232	123,034	52,819
Totals, steel ingots and castings	6,488,307	370,060	61,585	7,173,534	376,548	75,096
Alloy steel included in above:						
Ingots	252,867	6,200	3,537	321,708	9,592	6,628
Castings	26,268	25,097	19,107	32,439	31,931	26,130
Totals	279,135	31,297	22,694	354,147	41,523	32,758

¹ Includes details from other industries which manufacture, as a secondary activity, the commodities listed here.

² Includes production from oxygen vessels.

TABLE 16. Production of Steel Ingots and Steel Castings by Grades - All Industries,¹ 1953 - 62

Year	Steel ingots		Steel castings			Total steel ingots and castings
	Open-hearth ²	Electric	Open-hearth	Converter	Electric	
	net tons					
1953	3,522,039	487,509	30,406	254	75,860	4,116,068
1954	2,727,730	386,061	22,364	95	58,780	3,195,030
1955	3,917,151	529,190	25,953	165	62,213	4,534,672
1956	4,628,777	551,644	32,107	307	88,367	5,301,202
1957	4,500,737	430,673	27,076	20	109,643	5,068,149
1958	3,875,470	386,652	15,880	20	81,444	4,359,466
1959	5,267,282	532,074	14,834	7	87,290	5,901,487
1960	5,089,660	618,943	2,611	—	97,894	5,809,108
1961	5,712,846	663,261	2,830	—	109,370	6,488,307
1962	6,394,451	653,851	3,125	—	122,107	7,173,534

¹ Includes details from other industries which manufacture, as a secondary activity, the commodities listed here.

² Commencing with 1954, includes production from oxygen vessels.

TABLE 17. Production of Steel Ingots and Steel Castings, by Months - All Industries,¹ 1958 - 62

Month	1958	1959	1960	1961	1962
	net tons				
January	402,915	461,113	570,057	457,388	576,052
February	375,267	436,932	551,557	472,409	533,788
March	412,432	476,154	595,715	565,198	602,810
April	377,965	487,885	516,318	554,168	597,659
May	413,431	489,387	498,408	562,067	603,154
June	403,310	467,607	443,423	565,244	598,708
July	366,139	482,256	440,803	539,337	611,065
August	270,511	487,271	431,469	582,961	651,274
September	247,900	503,146	450,575	562,306	618,726
October	261,133	536,909	485,865	586,221	598,331
November	387,696	542,858	451,659	534,325	607,903
December	426,592	550,210	353,721	482,700	573,985
Totals	4,345,291	5,921,728	5,789,570	6,466,324	7,173,475

¹ Includes details from other industries which manufacture these commodities, as a secondary activity.

Note: Above breakdown developed from a special monthly report on primary iron and steel and does not reconcile precisely with total shown in Tables 15, 16 or 18 because of the preliminary status of monthly figures.

TABLE 18. Annual Production of Steel Ingots and Steel Castings, by Provinces - All Industries,¹ 1953 - 62

Year	Nova Scotia	Quebec	Ontario	Manitoba and Saskatchewan	Alberta	British Columbia	Canada
	net tons						
1953	638,097	97,450	3,263,633	76,180	699	40,009	4,116,068
1954	462,594	84,777	2,536,952	65,912	676	44,119	3,195,030
1955	583,340	99,122	3,716,833	84,055	5,042	46,280	4,534,672
1956	706,264	131,266	4,267,179	113,056	31,945	51,492	5,301,202
1957	740,364	157,251	4,004,620	76,243	43,827	45,844	5,068,149
1958	597,752	117,907	3,504,215	68,921	36,046	34,625	4,359,466
1959	674,226	120,274	4,905,424	98,954	56,235	46,374	5,901,487
1960	796,878	169,672	4,609,221	93,921	68,378	71,038	5,809,108
1961	523,627	179,534	5,431,212	197,100	69,029	87,805	6,488,307
1962	661,883	212,825	5,965,215	176,628	70,218	86,765	7,173,534

¹ Includes details from other industries which manufacture these commodities, as a secondary activity.

TABLE 19. Sales of Steel Ingots and Steel Castings by Producers - All Industries,¹ 1953 - 62

Year	Tonnage sold	Income from sales	Year	Tonnage sold	Income from sales
	net tons	\$'000		net tons	\$'000
1953	133,389	44,745	1958	105,251	42,581
1954	86,066	35,434	1959	298,249	59,005
1955	201,114	43,682	1960	312,989	59,192
1956	164,288	55,326	1961	370,060	61,587
1957	187,806	65,553	1962	376,548	75,096

¹ Includes details from other industries which manufacture these commodities, as a secondary activity.

TABLE 20. Production of Alloy Steel Ingots and Castings, 1953 - 62

Year	Ingots	Castings	Total
	net tons		
1953	191,977	23,874	215,851
1954	132,976	20,852	153,828
1955	217,207	21,928	239,135
1956	218,611	27,774	246,385
1957	213,101	29,110	242,211
1958	182,902	19,470	202,372
1959	270,991	22,936	293,927
1960	237,393	24,241	261,634
1961	252,867	26,268	279,135
1962	321,708	32,439	354,147

TABLE 21. Metal, Ore and Flux Charged to Steel Furnaces, 1953 - 62

Year	Pig iron	Ferro-manganese alloys ¹	Other ferro-alloys	Scrap iron and steel	Iron ore including sinter	Lime-stone	Dolomite	Fluorspar
	net tons							
1953	2,311,378	39,055	15,167	2,200,518	275,983	301,078	171,525	22,730
1954	1,767,307	29,571	11,962	1,629,866	203,119	182,972	135,987	16,002
1955	2,554,433	39,870	17,443	2,366,107	405,709	219,147	182,803	18,610
1956	2,902,367	46,556	20,567	2,865,563	472,476	232,065	202,352	18,979
1957	2,875,324	46,220	21,787	2,625,963	421,755	199,681	190,039	16,935
1958	2,610,517	37,699	15,539	2,112,355	373,143	124,189	152,290	14,539
1959	3,511,207	48,230	22,809	2,951,186	419,945	140,736	188,041	20,063
1960 ²	3,510,892	46,584	23,083	2,887,566	393,036	163,362	164,074	21,029
1961 ²	4,056,763	52,116	20,788	3,183,533 ²	405,893 ²	137,424	194,054	24,310
1962 ²	4,561,952	58,041	24,631	3,520,481	377,431	180,208	203,862	33,824

¹ Including spiegeleisen, silicospiegeleisen, ferromanganese (all grades) and silicomanganese.

² (a) 1960 does not include materials charged to furnaces by firms reclassified under the new Standard Industrial Classification.

(b) In addition to changes effected in 1960, (see 2(a) above), totals (except for scrap iron and steel) for 1961 and subsequent years exclude material charged to furnaces by firms reclassified in accordance with the New Establishment Concept.

TABLE 22. Steel Furnaces in Canada, December 31, 1962

	Type	Number of units	Size	Total annual capacity tons
Nova Scotia:				
Dominion Steel and Coal Corporation Ltd., Sydney	O.H.	2	225	390,000
	O.H.	4	195	580,000
	Elec.	1	11	30,000
Total		7	—	1,000,000
Maritime Steel Foundries Ltd., New Glasgow	Elec.	1	4	3,000
Quebec:				
Canadian Unitcast Steel Ltd., Sherbrooke	Elec.	1	4	8,000
Canadian Steel Foundries, Montreal	O.H.	3	25	45,900
	Elec.	1	1½	4,700
	Elec.	1	3	7,000
	Elec.	1	35	52,800
Total		6	—	110,400
Canadian Steel Wheel Ltd., Montreal	Elec.	2	45	145,800
Dominion Brake Shoe Co. Ltd., Joliette	Elec.	1	3	9,000
	Elec.	1	4	16,200
Total		2	—	25,200
Dominion Engineering Works Ltd., Lachine	Elec.	1	5	5,000
	Elec.	1	15	10,000
Total		2	—	15,000
Dominion Steel and Coal Corporation Ltd., Montreal	Elec.	2	28	90,000
Griffin Steel Foundries Ltd., St. Hyacinthe	Elec.	2	6	52,500
Lynn MacLeod Metallurgy Limited, Thetford Mines	Elec.	1	3	7,000
Manganese Steel Castings Ltd., Sherbrooke	Elec.	1	3	2,000
Shawinigan Chemicals Ltd., Shawinigan Falls	Elec.	1	½	900
	Elec.	1	2	3,600
	Elec.	1	1	1,800
Total		3	—	6,300
Crucible Steel of Canada Ltd., Sorel	Elec.	1	4	2,650
	Elec.	1	13	9,000
	Elec.	1	30	20,350
Total		3	—	32,000
Sorel Steel Foundries Limited, Sorel	Elec.	2	6	14,500
Ontario:				
Algoma Steel Corporation Limited, Sault Ste. Marie	O.H.	4	180	450,000
	O.H.	2	360	450,000
	Oxygen vessels	2	106	900,000
Total		8	—	1,800,000
Altas Steels Limited, Welland	Elec.	1	6	5,400
	Elec.	1	10	9,000
	Elec.	2	30	63,000
	Elec.	2	50	105,000
	Elec. (Induction)	1	—	800
Total		7	—	183,200
Burlington Steel Co. Ltd., Hamilton	Elec.	1	6	28,000
Canada Electric Castings Ltd., Orillia	Elec.	2	2	6,000
Dominion Foundries and Steel Ltd., Hamilton	Elec.	1	2½	50,000
	Elec.	2	10	50,000
	Elec.	1	50	1,200,000
	Oxygen vessels	3	100	1,200,000
Total		7	—	1,250,000
Fahrer Alloy Canada Limited, Orillia	Elec.	4	¼ - 1	7,800
Ford Motor Co. of Canada Ltd., Windsor	Elec.	1	3	8,000
	Elec.	15	5	97,000
Total		16	—	105,000
The Indiana Steel Products Co. of Canada Ltd., Kitchener	Elec.	3	¼ - ½ - 1	1,950
Black Clawson - Kennedy Ltd., Owen Sound	Elec.	1	4	8,000
	Elec.	1	1½	2,400
Total		2	—	10,400
Neelon Steel Limited, Lebel	Elec.	1	6	18,000
Steel Co. of Canada Ltd., Hamilton	O.H.	4	115	428,000
	O.H.	5	190	832,000
	O.H.	4	315	1,240,000
	O.H.	1	500	625,000
Total		14	—	3,125,000
Welland Electric Steel Foundry Limited, Welland	Elec.	1	3½	11,000
	Elec. (Induction)	1	½	11,000
	Elec. (Induction)	1	½	11,000
Total		3	—	11,000

TABLE 22. Steel Furnaces in Canada, December 31, 1962 - Concluded

	Type	Number of units	Size	Total annual capacity tons
Manitoba:				
Manitoba Rolling Mills, Selkirk	O.H.	2	20	50,000
	Elec.	1	6	23,000
	Elec.	1	9	35,000
Total		4	-	108,000
Dominion Brake Shoe Co. Ltd., Selkirk	Elec.	1	3	3,000
	Elec.	1	5	4,000
Total		2	-	7,000
Griffin Steel Foundries Limited, Transcona	Elec.	2	8	70,000
Saskatchewan:				
Interprovincial Steel and Pipe Corp. Ltd., Regina	Elec.	2	30	128,000
Alberta:				
Foothills Steel Foundry & Iron Works Ltd., Calgary	Elec.	1	1½	4,000
	Elec.	1	2	4,000
Total		2	-	8,000
Premier Steel Mills Ltd., Edmonton	Elec.	2	15	100,000
Quality Steel Foundries Ltd., Edmonton	Elec.	1	-	2,000
British Columbia:				
A-1 Steel & Iron Foundry Ltd., Vancouver	Elec.	1	½	2,600
	Elec.	1	1½	1,600
Total		2	-	4,200
Consolidated Mining & Smelting Company of Canada Ltd., Trail	Elec.	1	1	2,500
	Elec.	1	3	6,000
Total		2	-	8,500
Reliance Foundry Co. Ltd., Vancouver	Elec.	1	1	2,000
	Elec.	2	1½	6,000
Total		3	-	8,000
Vancouver Steel Co. Ltd., Vancouver	Elec.	1	30	86,000
Esco Ltd., Port Coquitlam	Elec.	1	4	6,000
Victoria Machinery Depot Co. Ltd., Vancouver	Elec.	2	2	5,000
Canadian Summer Iron Works Ltd., Vancouver	Elec.	2	1	6,000

TABLE 23. Summary of Steel Furnace Capacity, December 31, 1962

	Number of furnaces	Total annual capacity net tons
Basic open-hearth	31	5,090,900
Oxygen vessels	5	2,100,000
Electric	95	1,413,850
Total	131	8,604,750
Steel ingots:		
Basic open-hearth	28	5,045,000
Oxygen vessels	5	2,100,000
Electric	27	931,000
Total	60	8,076,000
Steel castings	71	528,750
Total ingots and castings	131	8,604,750

TABLE 24. Summary of Steel Furnace Capacity, by Provinces, December 31, 1958-62

	Total annual capacity				
	1958	1959	1960	1961	1962
	net tons				
Nova Scotia	933,000	963,000	963,000	1,006,000	1,003,000
Quebec	298,000	269,700	491,500	483,100	508,700
Ontario	5,182,700	5,461,300	5,636,600	6,452,050	6,546,300
Manitoba	121,000	154,200	151,000	151,000	185,000
Saskatchewan	-	-	125,000	121,600	128,000
Alberta	77,300	79,300	89,500	90,100	110,000
British Columbia	74,500	73,200	114,800	126,900	123,700
Canada	6,686,500	7,000,700	7,371,400	8,430,750	8,604,750

TABLE 25. Net Production¹ in Canada of Hot-rolled Steel Products, 1958 - 62

Item	1958	1959	1960	1961	1962
	net tons				
Blooms, billets and slabs	172,804	232,052	412,348	318,258	309,723
Rails	365,429	286,989	224,306	197,416	233,067
Bars for rail fastenings	72,955	95,346	48,351	58,993	65,603
Wire rods	268,848	382,106	343,052	356,574	356,262
Structural shapes	217,137	268,573	241,392	329,572	462,442
Bars	632,118	854,519	759,424	840,802	941,421
Plates (excluding plates for pipes and tubes)	230,309	416,099	387,947	410,267	489,968
Sheets, hoops, bands and strips (excluding skelp)	1,147,238	1,772,395	1,773,562	1,891,100	2,212,511
Other hot-rolled forms (Including hot-rolled skelp)	349,755	359,635	308,605	486,728	367,106
Totals	3,456,593	4,667,714	4,498,987	4,889,710	5,438,103

¹ Inter-mill shipments have been excluded.

TABLE 26. Alloy Steel Products Made and Sold by Rolling Mills, 1961 and 1962

	1961		1962	
	Tonnage made	Tonnage sold	Tonnage made	Tonnage sold
	net tons			
Bars	76,840	76,534	102,692	97,945
Other products, including plates, billets, forgings, sheet piling and wire rods, etc.	142,942	54,012 ¹	87,036	63,744
Total alloy steel	219,782	130,546	189,728	161,689

¹ Included alloy grinding balls.

TABLE 27. Products Rolled from Axles, etc., 1961 and 1962

Year	1961		1962	
	Tonnage made	Tonnage sold	Tonnage made	Tonnage sold
	net tons			
Bars	40,564	39,773	37,654	39,026
Other products	18,941	16,478	19,155	17,884
Totals	59,505	56,251	56,809	56,910

TABLE 28. Production and Factory Sales of Steel Rails, 1953 - 62

Year	Tonnage made	Factory sales	
		Tonnage sold	Income from sales
	net tons		\$'000
1953	303,318	299,808	28,466
1954	241,922	232,484	21,421
1955	228,991	241,254	22,352
1956	336,662	333,979	33,027
1957	393,928	383,174	39,979
1958	365,429	377,604	41,587
1959	286,989	286,419	31,637
1960	224,306	223,033	25,385
1961	197,416	190,760	21,556
1962	233,067	225,683	25,404

TABLE 29. Production and Factory Sales of Finished Rail Fastenings, 1953-62

Year	Tie plates			Fish plates and splice bars		
	Quantity made	Factory sales		Quantity made	Factory sales	
		Quantity	Income from sales		Quantity	Income from sales
	net tons		\$'000	net tons		\$'000
1953	50,181	50,202	5,530	14,939	14,159	1,754
1954	39,386	38,027	4,152	13,175	12,786	1,545
1955	66,856	67,683	7,272	15,582	16,812	1,986
1956	88,590	86,592	10,103	18,487	18,675	2,465
1957	78,555	80,575	10,148	17,022	16,793	2,502
1958	56,118	56,189	7,338	14,078	14,088	2,066
1959	70,376	70,351	8,970	14,853	14,818	2,212
1960	36,028	36,108	4,787	11,256	11,133	1,684
1961	44,401	43,022	5,683	7,493	7,736	1,150
1962	53,765	54,554	7,238	10,613	10,624	1,586

TABLE 30. Production and Factory Sales¹ of Wire Rods of Iron or Steel, 1953-62

Year	Total tonnage made	Factory sales	
		Tonnage sold	Income from sales
	net tons		\$'000
1953	286,471	113,095	10,687
1954	275,121	274,870	26,848
1955	357,775	362,258	33,296
1956	403,834	403,602	42,565
1957	291,300	292,563	34,408
1958	268,848	270,210	30,592
1959	382,106	380,132	46,182
1960	343,052	347,629	42,949
1961	356,574	354,119	46,362
1962	356,262	354,412	46,010

¹ Beginning with 1954, includes shipments transferred to own mills of producing firms.

TABLE 31. Production and Factory Sales of Blooms, Billets and Slabs, 1953-62

Year	Except for forging ¹			For forging ²		
	Total tonnage made	Factory sales		Total tonnage made	Factory sales	
		Tonnage sold	Income from sales		Tonnage sold	Income from sales
	net tons		\$'000	net tons		\$'000
1953	2,760,518	176,515	14,803	110,342	103,471	10,424
1954	2,201,222	91,378	6,821	72,503	59,539	5,927
1955	2,864,919	227,833	16,552	77,806	70,813	6,561
1956	3,490,564	133,991	9,290	113,328	102,978	11,282
1957		141,062	11,153	156,065	146,407	17,108
1958		101,343	8,245	171,217	166,079	20,274
1959		131,574	11,303	197,415	194,419	21,518
1960		479,229	39,445	149,353	140,885	16,837
1961		326,895	25,690	180,709	156,637	18,461
1962		332,363	26,197	192,706	181,545	21,832

¹ Shipment to other Canadian rolling mills are included.

² Includes blanks or pierced billets for seamless tubes.

³ Not collected since 1957.

TABLE 32. Production and Factory Sales of Hot-rolled Bars of All Kinds, 1953-62

Year	Total tonnage made	Factory sales	
		Tonnage sold	Income from sales
	net tons		\$'000
1953	732,275	592,078	75,013
1954	528,521	445,519	56,525
1955	742,494	621,819	79,641
1956	947,979	795,675	112,281
1957	865,533	718,864	107,391
1958	705,073	585,016	86,215
1959	949,865	795,274	116,993
1960	807,775	723,753	105,903
1961	899,795	783,314	107,439
1962	1,007,024	838,140	115,815

TABLE 33. Production and Factory Sales of Structural Steel Shapes,¹ of All Kinds, 1953-62

Year	Total tonnage made	Factory sales	
		Tonnage sold	Income from sales
	net tons		\$'000
1953	283,203	273,591	26,725
1954	193,673	190,521	20,056
1955	241,698	249,762	26,694
1956	316,000	315,564	36,361
1957	347,693	341,975	42,823
1958	217,137	225,295	29,140
1959	268,573	265,194	34,528
1960	241,392	234,530	30,075
1961	329,572	318,664	40,412
1962	462,442	450,306	56,659

¹ In 1956 this category was revised to include sheet piling. Data in above table for previous years have been revised to accommodate this change in classification.

TABLE 34. Production and Factory Sales of Steel Plate,¹ 1953-62

Year	Total tonnage made	Factory sales	
		Tonnage sold	Income from sales
	net tons		\$'000
1952	234,115	234,795	26,071
1953	221,818	220,539	23,136
1954	201,939	201,524	20,568
1955	253,640	251,870	26,162
1956	326,206	319,666	36,936
1957	349,626	344,616	45,017
1958	230,309	226,750	30,618
1959	416,099	408,835	53,394
1960	387,947	387,993	52,275
1961	410,267	403,080	57,542
1962	489,968	491,533	61,815

¹ Excludes plate for pipes and tubes.

TABLE 35. Factory Shipments of Ferro-alloys - All Industries,¹ 1953-62

Year	Net tons	Year	Net tons
1953	150,000	1958	113,000
1954	116,000	1959	136,000
1955	190,000	1960	138,000
1956	240,000	1961	118,000
1957	204,000	1962	142,000

¹ Includes shipments from other industries which manufacture these commodities, as a secondary activity.

TABLE 36. Production and Factory Shipments of Coke Oven Products: Iron and Steel Mills, 1962

Product	Quantity made (including amounts for own use)	Factory shipments	
		Quantity shipped	Value
			\$'000
Coke (including breeze)	ton 3,615,359	310,895	4,162
Coke oven gas	M cu. ft. 51,844,538	4,579,886	1,116
Tar	Imp. gal. ...	36,011,084	4,310
Ammonium sulphate	ton ...	23,178	746
Benzol (all grades)	Imp. gal. ...	5,349,874	1,724
Toluol	" ...	2,065,725	578
Xylol	" ...	1,046,529	383
All other products			672
Total			13,691

Note: Comprehensive details on operations of coke plants, regardless of industrial classification, are published in a monthly report "Coal and Coke Statistics", Catalogue No. 45-002, and in an annual report "The Coal Mining Industry", Catalogue No. 26-206.

TABLE 37. Coke Ovens: Iron and Steel Mills, December 31, 1962

Name of company and location of plant	Coke-making equipment, including reserve equipment (Rated annual capacity, in tons of coal carbonized, given in brackets)
The Algoma Steel Corporation Limited, Sault Ste. Marie, Ontario	In use—110 Wilputte ovens (803,000 tons), and 143 Koppers ovens (1,240,000 tons).
Dominion Foundries and Steel Limited, Hamilton, Ontario	In use—105 Koppers ovens (850,000 tons).
Dominion Steel and Coal Corporation Limited, Sydney, Nova Scotia	In use—114 Koppers Becker Underjet ovens (988,690 tons).
The Steel Company of Canada Limited, Hamilton, Ontario	In use—191 Wilputte ovens (1,700,000 tons).

TABLE 38. Producers of Ferro-alloys, 1962

Name of company	Plant location	Kind of ferro-alloy made
Canadian Carborundum Company, Limited	Niagara Falls, Ontario	Ferrosilicon (by-product)
Chromium Mining & Smelting Corp., Limited	Melocheville, Quebec	Ferrosilicon, silico manganese, ferromanganese, chrom-x, chrome sil-x
Union Carbide Canada Ltd, (Metal & Carbon Div.)	(a) Beauharnois, Quebec	Ferrosilicon
	(b) Welland, Ontario	Ferrochrome, ferromanganese, silico manganese, ferrochrome-silicon
Electric Reduction Company of Canada, Limited	Buckingham, Quebec	Ferrophosphorus
Exodon Company	Thorold, Ontario	Ferrosilicon (by-product)
Lionite Abrasives Limited	Niagara Falls, Ontario	Ferrosilicon (by-product)
Norton Company	Chippawa, Ontario	Ferrosilicon (by-product)
Shawinigan Chemicals Limited	Shawinigan Falls, Quebec	Ferrosilicon (by-product)
Simonds Canada Abrasive Co., Limited	Arvida, Quebec	Ferrosilicon (by-product)
Strategic-Udy Metallurgy Limited	Niagara Falls, Ontario	Ferrochrome

TABLE 39. Capital and Repair Expenditures, 1960-62

Year	Capital expenditures			Repair expenditures			Total capital and repair expenditures		
	Construction	Machinery and equipment	Sub-total	Construction	Machinery and equipment	Sub-total	Construction	Machinery and equipment	Total
									\$'000
1960	23,789	90,975	114,764	6,535	79,938	86,473	30,324	170,913	201,237
1961	13,043	54,599	67,642	4,198	67,885	72,083	17,241	122,484	139,725
1962	20,898	91,979	112,877	5,126	80,359	85,485	26,024	172,338	198,362

Source: Business Finance Division. — D.F.S.

List of Establishments, 1962

Name	Location
Nova Scotia:	
Dominion Steel and Coal Corp. Ltd.	Sydney
Enamel Heating Products Ltd.	Amherst
Quebec:	
Canadian Steel foundries Ltd.	Montreal
Canadian Unitcast Steel Ltd.	Sherbrooke
Chromium Mining and Smelting Corp. Ltd.	Melocheville
Crucible Steel of Canada Ltd.	Sorel
Dominion Brake shoe Co., Ltd.	Joliette
Dominion Steel and Coal Corp. Ltd.	Montreal
Lynn Macleod Metallurgy Ltd.	Thetford Mines
Manganese Steel Castings Ltd.	Sherbrooke
Sorel Steel Foundries Ltd.	Sorel
Union Carbide Canada Ltd.	Beauharnois
Ontario:	
Atlas Steels Ltd.	Welland
Algoma Steel Corp. Ltd., Steel Works Division	Sault Ste Marie
Algoma Steel Corp. Ltd., Canadian Furnace Division	Port Colborne
Black Clawson-Kennedy Ltd.	Owen Sound
Canada Electric Castings Ltd.	Orillia
Canadian Drawn Steel Co., Ltd.	Hamilton
Dominion Foundries and Steel Ltd.	Hamilton
Fahraltloy Canada Ltd.	Orillia
Indiana Steel Products Co. of Canada Ltd.	Kitchener
Neelon Steel Ltd.	Sudbury
Slater Steel Industries Ltd., Burlington Steel Div.	Hamilton
Stanley Steel Co., Ltd.	Hamilton
Steel Co. of Canada Ltd.	Hamilton
Strategic-Udy Metallurgical and Chemical Processes Limited	Niagara Falls
Union Carbide Canada Ltd.	Welland
Union Drawn Steel Co., Ltd.	Hamilton
Vanadium Alloys Steel Canada Ltd.	London
Welland Electric Steel Foundry Ltd.	Welland
Manitoba:	
Dominion Brake Shoe Co., Ltd., Manitoba Steel Foundry Div.	Selkirk
Manitoba Rolling (Mills) Co., Ltd., Div. of Dom. Bridge Co., Ltd.	Selkirk
Alberta:	
Foothills Steel Foundry and Iron Works Ltd.	Calgary
Premier Steel Mills Ltd.	Edmonton
Quality Steel Foundries Ltd.	Edmonton
British Columbia:	
A-1 Steel and Iron Foundry Ltd.	Vancouver
Consolidated Mining and Smelting Co. of Canada Ltd.	Kimberley
Esco Limited, Foundry Div.	Port Coquitlam
Reliance Foundry Co., Ltd.	Vancouver
Vancouver Rolling Mill Ltd.	Vancouver
Vancouver Rolling Mill Ltd., Steel Div.	Twigg Island, Richmond

EXPLANATORY NOTES

This report is one in a series of about 140 publications which present the results of the 1962 Census of Manufactures. Most reports in this series refer to specific industries, but there are summary reports for Canada and the provinces and special reports on geographical distribution and on type of ownership and size of establishments.

With the publication of the results of the 1962 Census of Manufactures, the Bureau has completed a major revision in the classification and concept of its annual census of manufacturing establishments. Because of its size and complexity, this project had to be carried out in three stages. The first stage was the change in classification and the results of the 1960 Census, together with the re-compilation of the 1957, 1958 and 1959 Censuses were published in the 1960 reports on the basis of the revised Standard Industrial Classification. This part of the project was confined entirely to a re-coding of existing reporting units. The second stage consisted of the implementation of the new definition of the reporting unit i.e. "establishment" as it applied to **manufacturing activities** of manufacturing establishments (See following note on "Establishment"). Results of the 1961 Census reflected this change in concept and, in order to provide comparability of data for recent years, the 1961 reports contained principal statistics on the basis of the new establishment definition for years back to 1957.

The third stage which was the extension of the definition of the establishment to cover **total activities** of manufacturing establishments is reflected in the statistics for 1961 and 1962 contained in this report. This full implementation of the new definition of the establishment has resulted in an extension of the data to non-manufacturing activities of manufacturing establishments and in additional changes in the 1961 statistics of manufacturing activities. Statistics on manufacturing activities will continue to be shown separately as in the past but, beginning with 1961, data on all operations (total activity) of manufacturing establishments will also be given. By definition "total activity" relates to all operational data and excludes such non-operational items as rent, interest and dividends. In addition, statistics on man-hours paid will be included as part of the regular series of industry statistics. For many industries, adjustments and revisions were made to the 1961 data on **manufacturing activities** which were published during the second stage to bring them in line with reporting procedures followed in the 1962 Census and to reflect the final application of the new concept. The 1961 statistics on manufacturing activities contained in this report are thus not entirely comparable with those published in the 1961 reports. However, the 1961 statistics are shown in this publication in both their original and revised forms in order to provide a link with the immediate past. A more complete account of recent changes and additions and brief descriptions of the principal industry statistics are given in following sections of these notes.

Standard Industrial Classification

The revised Standard Industrial Classification which was introduced with the 1960 Census of Manufactures and applied to the results of the 1957, 1958 and 1959 censuses provides for a breakdown of the manufacturing universe into 140 industries arranged in 20 major groups. Custom Tailoring Shops is the only industry class in the Manufacturing Industries Division of the classification which is not covered in the annual Census of Manufactures. It is surveyed as part of the Decennial Census of Merchandising and Service Establishments. Of the 140 "three-digit" industry classes in the Manufacturing Industries Division, 21 are further broken down into 67 "four-digit" sub-classes. With the exception of the Wood Preservation and Sound Recording industries, the figures for which are at present confidential and have to be included with those of related industries, the statistics for all of the "four-digit" sub-classes are published regularly. Thus, at the Canada level, principal statistics are compiled for 183 industries. These cannot all be published separately by province because of the confidential nature of the data in certain provinces.

Reporting establishments are classified or allotted to specific industries in the classification system on the basis of the value of principal products made or shipped. In general, establishments primarily engaged in repair work (Shoe Repair Shops, Motor Vehicle Repair Shops etc.) are not included in manufacturing industries. Exceptions are establishments primarily engaged in furniture, ship, boat, aircraft and railroad rolling stock repairs which are classified to the manufacturing industries producing the products involved. Establishments primarily engaged in assembling parts into complete units have always been included in manufacturing industries.

Full details concerning the revised classification system are contained in the Standard Industrial Classification Manual, Catalogue No. 12-501, which is available from either the Queen's Printer or the Dominion Bureau of Statistics.

It should be noted that two new industries (Poultry Processors and Dental Laboratories) and three new groups of establishments (book publishers in the Publishing Industry, electro-plating establishments in the Metal Stamping, Pressing and Coating Industry and prescription branches in the Ophthalmic Goods Manufacturers Industry) have been included in the 1961 (revised) and 1962 Census statistics and will continue to be included thereafter. They were surveyed for the first time in the 1960 Census (1961 Census in the case of prescription branches) in line with the revised classification but, since they did not represent new production, they were removed from the 1960 and 1961 compilations published in the 1961 Census reports in order to provide complete comparability of data over the period 1957-61. Statistics for this period are repeated in the 1962 reports to supply a link with the revised 1961 data and the new 1962 statistics.

Establishment

The reporting unit in the Census of Manufactures is the **establishment**. The majority of establishments are firms, but many firms have more than one manufacturing establishment. Such firms are requested to submit a separate Census of Manufactures report for each manufacturing establishment which can meet the reporting requirements described below.

Beginning with the 1961 Census of Manufactures the establishment is defined as follows:

"The smallest unit which is a separate operating entity capable of reporting all the following principal statistics:

Materials and supplies used,
Goods purchased for resale as such,
Fuel and power consumed,
Number of employees and salaries and wages,
Inventories,
Shipments or sales."

Following is a description of the main features of the new establishment concept introduced in the 1961 Census, how they differ from those of the old "activity" concept and the steps taken to correct for breaks in continuity.

(a) The establishment is to be distinguished from smaller subdivisions or departments which do not have records that permit them to report all items required of an establishment. Prior to 1961, some establishments were required to submit two or more separate reports when they were engaged in activities which were classifiable to different industries. Beginning with 1961, separate reports for such activities are required only in cases where accounting records can provide the necessary input and output elements of principal statistics. Special reporting arrangements were made with respondents when the acceptance of combined reports would have seriously affected the statistics for particular industries or areas. Where continuity of industry statistics was affected by this change in reporting procedures, adjustments to the data were made back to 1957 in order to maintain comparability of the series for recent years.¹

(b) A manufacturing establishment is typically a factory, mill or plant principally engaged in manufacturing activities. Prior to 1961, the Census of Manufactures attempted to cover the manufacturing activities of all establishments, whether or not they were primarily engaged in manufacturing. Beginning with the 1961 Census, establishments (accounting entities) which are not primarily engaged in manufacturing are no longer included as manufacturing establishments in the basic industry statistics.¹

¹ Most of these adjustments were made when the results of the 1961 Census were being compiled. Since publication of these results in the 1961 reports additional adjustments were made to the 1961 data, as noted earlier, and these are reflected, where applicable, in the revised 1961 statistics contained in this report.

Again, adjustments were made to reflect the removal of such reporting units for the period 1957-60. These reporting units are now listed as establishments in other Bureau surveys, such as Wholesale Trade, Construction etc. This has resulted in a somewhat smaller universe represented by the Census of Manufactures. In terms of overall 1960 Census results, the number of establishments transferred to other industries totalled 2,786 or 8% but these represented only 0.7% of total employment and of total value of shipments of manufactured products. In order, however, to maintain complete coverage of certain commodity items produced mainly in manufacturing establishments, many non-manufacturing establishments are now surveyed by the Industry Division for commodity shipments only and the latter are included in those tables of industry reports showing shipments of certain commodities "from all industries".

(c) A manufacturing establishment may be, and often is, engaged in other activities in addition to its principal manufacturing activity. Prior to 1961 the main emphasis in the Census of Manufactures was on manufacturing activity. Beginning with 1961, each establishment reports on all the activities carried out within its accounting boundaries (except income from investments such as rent, interest and dividends) and data on different activities (manufacturing, trading in goods not of own manufacture, construction by own labour force, revenue from services etc.) are requested separately. However, the statistics published in the 1961 reports were confined to manufacturing activity only in order to maintain comparability with previous years and to permit a more thorough audit of the new data. The 1962 reports contain principal statistics on total activities of manufacturing establishments for 1961 and 1962 with the main elements of manufacturing activity shown separately as in the past. It should be noted that the statistics for separate activities are not completely consistent. Some respondents cannot distinguish in their records materials, shipments and inventories relating to own manufacturing activities from those relating to goods not of their own manufacture or to other activities and can report operational data in total only under manufacturing activity. This situation has always existed, however, and is not considered important enough to invalidate the use of the data in the measurement of manufacturing as an "activity". The values assigned by the respondent to materials and shipments of own manufactured goods include costs in varying degrees that relate to internal (to the establishment) transportation, warehousing and selling activities, but it is not possible to make adjustments to arrive at a uniform valuation for manufacturing activity only; although valuation at the establishment "boundary" must be accepted, the items valued under manufacturing activities still relate, in most cases, to "goods of own manufacture". In the case of employment only data on manufacturing production workers and manufacturing man-hours can be assigned, in total, to manufacturing activity; administrative and office employees can seldom be allocated to separate activities.

Complete consistency, therefore, can be obtained only at the "all operations" (total activity) level, and for studies or statistical measures requiring accurate co-ordinated data, the "total" statistics should be used.

(d) Additional changes resulted from intensive editing and follow-up consistent with the introduction of the new concept. An example of such changes is the provision for the elimination, in total, of sales taxes and outward transportation charges from value of shipments. Prior to 1961, although the value of shipments for each product was requested excluding taxes and transportation charges, no allowance had been made for the reporting of these items in total when the respondents' records did not permit their deduction from the values of the individual products. Another example is a change in the valuation of shipments where, prior to 1961, a manufacturing company operating warehouses or sales outlets was reporting value of shipments in terms of an estimated manufacturer's price in accordance with the old activity concept, even though his records were not kept on this basis. Since the accounting boundary in such cases extends to distribution operations, the respondent was instructed in 1961 to report shipments at the final selling price in order to obtain more realistic and accurate data.² Adjustments were made to the value of shipments for the period 1957-60 to reflect such changes and maintain continuity of the shipments data. Since no actual data to make these corrections were available for back years, 1961 adjustment ratios were applied to the previous years for each industry affected, on the assumption that the valuation changes in 1961 applied in equal proportions to the preceding period.³

(e) The new concept also demands that inventories held apart from plant be included with plant inventories if establishment boundaries extend to warehouses and sales outlets. Prior to 1961, compilations took into account only the inventories held at plant. In this case, however, most of the missing data were available from supplementary questions in the Annual Census and from the Monthly Inventories and Shipments Survey and actual corrections could be made for previous years.

² Some manufacturing firms operate sales branches or selling warehouses as separate sales establishments for which complete accounting records of receipts, expenses, employment and sales are maintained. In such cases the plants, in effect, "sell" to the sales outlets on much the same basis as they would to independent buyers. The value of plant shipments is based on factory prices and the "boundary" of the manufacturing establishment does not extend beyond the plant. The sales outlets in such cases constitute separate sales establishments and are classified to wholesale or retail trade. Some sales outlets of manufacturing firms, although they physically handle products of the plants, do not maintain separate accounts and are generally treated for statistical purposes as extensions of manufacturing operations. Special arrangements were made for separate reporting in a few cases where the treatment of such outlets as manufacturing extensions would seriously affect the significance of statistics for particular manufacturing and trade industries.

³ See footnote 1.

(f) Prior to 1961 the Census of Manufactures did not have complete coverage of head and administrative offices and had never surveyed separate sales offices, warehouses or laboratories operated by manufacturing firms. Beginning with the 1961 survey, complete coverage of these auxiliary units was effected. In the past the employment and salaries and wages of those head and administrative offices that were surveyed were either coded in total to the industry in which the greatest portion of the company's manufacturing activities was classified or else, in the case of certain large multi-unit firms with establishments in several industries, were pro-rated among the different industries involved. In the original 1961 statistics published in 1961 reports, the same coverage and treatment of head offices was applied to maintain comparability over the 1957-61 period. Beginning with the revised 1961 statistics, all head offices and auxiliary units are covered and are processed according to the methods described below.

1. Single-Establishment Companies

In the great majority of cases central administrative and executive personnel of companies consisting only of one establishment are generally located at the site of the manufacturing plant and are automatically included in the plant reports. Where head offices and auxiliary units are geographically separate from plant locations and employ a sizeable number of workers they are surveyed on special questionnaires.

Separately located head offices, sales offices, administrative offices and other separate auxiliary units (laboratories, warehouses, etc.) do not usually constitute separate establishments⁴ for purposes of industry statistics since they do not normally generate operational revenues but give rise only to costs of operation (mainly salaries and wages) which make up part of the selling price of manufactured products and which are thus included in the value of shipments or sales. Where such units belong to single-establishment companies, they will be considered as extensions of the establishment's boundaries and their operations consolidated with the establishment's total activity.

2. Multi-Establishment Companies

In the case of companies with more than one establishment the following rules are applied:

(i) Where all the establishments of a company are classified to the same (three-digit) industry, the head office and other auxiliary units are coded to that same industry.

(ii) Where the establishments of a company are not all classified to the same (three-digit) industry but are coded to different industries, or industries in different industry groups or even different divisions

⁴ See footnote 2 for exceptions.

of the Standard Industrial Classification, the inclusion of data for head office and auxiliary units in any one of the (three-digit) industries concerned would distort the relationship between items of principal statistics. In such cases, the auxiliary units are coded at the group (two-digit) level in tabulations of industry statistics. Where multi-establishment companies cut across group or major division lines of the Classification, the head office and auxiliary units will be coded to the (two-digit) industry group in which the major part of the company's operations are classified. Although this may result in some distortion of (two-digit) industry group statistics it will eliminate distortion within groups as it will leave statistics at the (three-digit) industry level free of these company-wide data.

Period Covered

Respondents are asked to submit figures for the calendar year, if at all possible, and most reports are on this basis. Financial year reports for periods differing from the calendar year are accepted in instances where respondents find it impossible to supply calendar year data from accounting records. However, the data on employees, salaries, wages and man-hours are requested on a calendar year basis in all cases.

When establishments are operated for only a portion of a year, a report is required covering the period of operation.

Working Owners or Partners

Beginning with the revised 1961 statistics working owners and partners of unincorporated businesses are shown as a separate category in the principal statistics and are neither included in the number of employees nor in salaries and wages; there is some duplication in numbers when a person owns more than one establishment and is reported as a working owner on each census return. In all previous reports of the Census of Manufactures these workers were included as part of the number of administrative and office employees and their withdrawals were included as part of salaries. Withdrawals are defined as amounts withdrawn by owners or partners for normal living expenses, excluding withdrawals for payment of income tax.

Number of Establishments

The number of establishments represents the number of operating units (accounting entities as per the new definition of the establishment) for which separate reports are submitted. Head offices located apart from establishments and which are surveyed separately and separate sales and administrative auxiliaries that are treated as extensions of manufacturing activities are not included in the establishment count. However, the operational statistics (employment, salaries etc.) of such auxiliary units which are coded at the "three-digit"

level are included in the principal statistics of industries coded at the same level; those units coded at the "two-digit" level are included with the statistics for groups of industries.

Employees

As noted above, the number of working owners and partners are excluded from the number of employees, beginning with the revised 1961 statistics. This change brings the definition of "employees" in the Census of Manufactures in line with that of "employees" in the Bureau's monthly Employment Survey and with that of "paid workers" in the Bureau's Labour Force Survey. For purposes of historical comparisons, the number of working owners and partners should be added to total employees (beginning with the revised 1961 data) in order to correspond with the figure of "total employees" published in previous reports concerned with the Annual Census of Manufactures.

In addition to production and related workers engaged in manufacturing activities, total employees include administrative, office, sales and distribution workers as well as any production workers employed in non-manufacturing activities such as construction undertaken for the use of the establishment by its own employees (when these are treated as a separate work force) or logging (mostly in connection with sawmills or planing mills). Number of employees represents as closely as possible equivalent annual full-time employment. Adjustments are made when reported figures indicate the existence of part-time or seasonal employment.

Administrative and office employees include all executive and supervisory officials such as presidents, vice-presidents, controllers, secretaries, treasurers etc., together with managers, professional, technical and research employees, superintendents and factory supervisors above the working foreman level, and clerical staffs. Also included are employees in activities such as advertising, credit collections, purchasing, personnel, legal, medical etc. Sales and distribution workers include office personnel whose salaries are charged to selling expense, travelling salesmen, driver salesmen, truck drivers and their helpers, etc. They exclude persons working on a commission basis who are not considered regular employees.

Production and related workers in manufacturing activities include, in addition to those engaged in processing and assembling, those employed in storing, inspecting, handling, packing, warehousing, etc. They also include employees in related activities such as maintenance, repair, janitorial and watchman services. Working foremen doing similar work to that of employees they supervise are also included. Production workers employed in non-manufacturing activities such as construction undertaken for the use of the establishment, logging

employees or outside piece-workers employed in certain industries are excluded from the number of production and related workers but are part of the total number of employees in those industries.

Production and related workers are reported as those receiving pay during the last pay period of each month, an average for the year being obtained by summing the monthly figures and dividing by twelve. This procedure is followed even though the plant did not operate in all months in order to derive equivalent annual full-time employment. The numbers are somewhat affected by turn over, in that employment is overstated when an employee changes employment within the same industry during a pay period. Other categories of workers are reported in the form of annual averages. Figures on employment and man-hours refer to the calendar year whether or not some establishments report other data on a financial year basis.

Man-hours of production and related workers in manufacturing activities represent total man-hours paid (total hours at work during the calendar year plus hours not worked but nevertheless paid for, such as paid vacations, sick leave, statutory holidays etc.). In reporting overtime hours, respondents are requested to report only hours actually at work. It should be noted that the division of hours paid into production and related workers payrolls results in **average** hourly earnings and does **not** represent hourly wage rates which are collected and published by the Department of Labour and which are based on selected occupations.

Salaries and Wages

Salaries and Wages refer to gross earnings of the employees described above, **before** deductions for income tax and employees' contributions to social services such as sickness, accident and unemployment insurance, pensions etc. They include all salaries, wages, bonuses, profits shared with employees, the value of room and board where provided, commissions (paid to regular employees only), as well as any other allowance forming part of the workers' earnings. Payments for overtime are included.

Wages refer to amounts paid to production and related workers engaged in manufacturing operations as defined above. Salaries refer to amounts paid to all other categories of employees including relatively small numbers of production workers engaged in construction and extractive operations or who are employed as outside piece-workers. Figures on salaries and wages refer to the calendar year whether or not some establishments reported other data on a financial year basis.

Fuel and Electricity

Figures for fuel refer to amounts actually used (including fuel used in cars, trucks, locomotives etc.) not to purchases unless the quantities are

substantially the same. **Any fuel and electricity produced by establishments for internal consumption are not included in the total cost.** Values represent laid-down cost at the establishment including freight, duty etc.

Materials and Supplies

(a) Used in manufacturing activities. Figures represent quantities and laid-down cost values, at the establishment, of materials, supplies and purchased components owned and used during the year in manufacturing activities and related processes. The statistics represent only commodity items or physical goods (costs of services or overhead charges such as advertising, insurance, depreciation etc. are not included) whether purchased from others or received as transfers (in the form of materials, components or semi-processed goods) from other establishments of the reporting company. Respondents are required to report materials and supplies **used not purchased**. Included are maintenance and repair supplies not chargeable to fixed assets accounts and any amounts charged by other establishments for work done on materials owned by the reporting establishment. Cost of repairs or maintenance done by outside contractors and cost of returnable containers are not included.

(b) Purchases for resale as such. Figures represent the cost of materials or products purchased from others by the reporting establishment (or received as transfers from other establishments of the reporting company) for re-sale as such in the same condition as purchased. Included are any finished products received on consignment from other countries.

(c) Other materials and supplies used. Figures represent the cost of materials and supplies, if any, used in new construction and in the production of machinery and equipment (for the use of the reporting establishment) by the establishment's own employees. Included are materials used for any capital repairs and alterations carried out by the establishment's employees. Value of construction and repair work done by outside contractors is not included nor is the cost of purchased machinery and equipment. Also included is the cost of office supplies not chargeable to fixed assets accounts and the cost of such other items of materials and supplies used as food, beverages and supplies for establishment-operated cafeterias and lunch counters, first aid medical supplies, laboratory supplies etc.

Shipments

In general the figures represent revenue from all production, sales, services and related activities of reporting establishments. Non-operating revenues such as rent, interest and dividends and the sale of used fixed assets are excluded.

(a) Shipments of goods of own manufacture

These figures represent shipments of goods made from own materials either in the reporting establishments or by other manufacturers on the basis of a charge to the reporting establishments for work done. Included are revenue from repair and custom work, amounts received in payment for work done on materials owned by other establishments and the cost of any goods shipped on a rental basis.

All products and by-products of own manufacture shipped from the establishment are covered, including transfer shipments to sales outlets, distributing warehouses or to other manufacturing plants of the reporting firm when such units are treated as separate establishments. (See notes on "Establishment").

Such shipments are net of returned goods, and value figures at the establishment exclude discounts, returns, allowances, sales taxes and excise duties, returnable containers, and charges for outward transportation by common or contract carriers. Transportation or delivery expenses incurred by the reporting establishments' own carriers are not deducted.

The unsold portion, at year-end, of consignment shipments in Canada, is treated as inventory and not as shipments, but all shipments to foreign countries, for which form B.13 "Customs Canada, Export Entry" has been completed, are treated as shipments.

In four industries, viz. Fabricated Structural Metal Industry, Aircraft and Parts Manufacturers, Railroad Rolling Stock Industry and Shipbuilding and Repair, where work on principal products extends over a relatively long period, the value of production, rather than the value of shipments, is recorded. For these industries value of production is computed from the value of deliveries of complete units during the year plus the value of work done during the year on unfinished units less the value of work done in previous years on units delivered in the year under review. Adjustments to the value of shipments are also made for firms in these industries and in some other industries which operate on the basis of progress payments. The latter are treated as sales and not as inventory, so that for firms which use a progress payments account, an adjustment to the value of shipments is made for the net change in this account during the year.

(b) Shipments of goods not of own manufacture

These figures represent the net selling value at the establishment (less discounts, returns, allowances, sales taxes and excise duties and transportation charges by common or contract carriers) of all products or materials (including products transferred from other establishments of the reporting firm) sold as such in the same condition as purchased or received as transfers. For those industries which ship goods on a rental basis value of shipments represents the book value of such goods. All sales of consignment goods from other countries are included.

(c) Other revenue

Figures represent the book value of fixed assets, if any, (new construction and machinery and equipment including major repairs and alterations, additions, modifications, installation and assembly work) produced during the year for the use of reporting establishments by the establishments' own employees and for which depreciation accounts are maintained. Included also are any revenues from the sale of electricity and from any operations performed by the establishments' own employees, such as revenue from goods produced for rental (the book value of such goods are included as part of factory shipments), servicing revenues, commissions on sales (when not included in value of sales), revenue from company-operated cafeterias and lunch counters and revenue from outside installation or construction work not related to the establishments' own products, sale of used materials (excluding sale of used fixed assets), research and development work etc. As mentioned previously the figures do not include non-operating revenue such as rent, dividends, interest, etc.

Inventories

(a) Manufacturing inventory

Values represent the book value of manufacturing inventory owned in Canada. The value of inventory held for which progress payments have been received is treated as shipments and is not included in inventory owned. Figures consist of inventory owned at the plant and at warehouses or selling outlets which are treated as extensions of establishments for the purpose of reporting shipments. Inventory owned in transit in Canada or on consignment in Canada is included. Inventory owned abroad has already been reported as shipments and is excluded.

(b) Inventory of goods purchased for re-sale

Figures represent the book value of inventory of goods purchased for re-sale as such without further processing, owned by reporting establishments and held at the plants and at any warehouses or selling outlets which are treated as extensions of establishments. Inventory owned in transit in Canada or on consignment in Canada is included.

Because of changes in classification, the receipt of revised data, the inclusion of new establishments or the removal of old establishments which did not operate during the latest year, the opening inventory for the latest year does not necessarily coincide with the closing inventory of the preceding year.

Value Added

(a) By manufacturing activities

Figures are compiled by deducting the cost of materials and fuel and electricity consumed from the value of production (value of shipments adjusted for changes in the value of inventories of finished goods and goods in process).

(b) By total activities

Figures consist of value added by manufacturing activities plus value added by non-manufacturing activities and is compiled by deducting the cost of goods purchased for re-sale and the cost of other materials and supplies used from the value of shipments of goods not of own manufacture plus other revenue, adjusted for changes in the value of inventories of goods purchased for re-sale.

"Value added" is sometimes referred to as net production. However, to arrive at the National Accounts concept of net production, or "Gross domestic product at factor cost", it would be necessary to subtract also the cost of advertising, insurance and other business expenses which are not collected in the annual Census of Manufactures. "Value added" figures for the primary industries, manufacturing and construction are published in DBS publication Catalogue No. 61-202, Survey of Production.

Short Forms

Since 1949, in order to ease the reporting burden for smaller firms, a one-page short form has been used asking for only a limited amount of detail. For purposes of publication, missing data were estimated on the basis of appropriate ratios. Beginning with the 1959 census, the general limit for short forms was raised from \$50,000 (the limit used since 1949) to \$100,000 value of shipments and a new medium form was used. This form is a shortened version of the long form in that some of the general questions were pared down and the detailed lists of materials and products were limited to the more important items. The general limits for firms in this category were set at between \$100,000-\$500,000 value of shipments, but in the case of both the

short and medium forms there are lower cut-offs for a number of industries in which the smaller firms account for a larger share of total shipments.

Prior to 1961, the short form was limited to a question on the principal items of factory shipments. In the 1961 and 1962 censuses, in addition to the question on shipments of goods of own manufacture, general questions on employment and payroll and on total revenue were added on all short forms. The other elements of principal statistics, viz. value of materials, fuel and electricity and inventories, were estimated by using ratios based on the change in the value of shipments reported in 1961 and 1962. This was done to permit the complete compilation of basic industry statistics by industry and by geographic location. The proportions of the estimated data was generally less than 5 per cent of the total in each category of principal statistics.

Beginning with the 1963 census, general questions on total purchases of materials, fuel and electricity and on total inventory were added on the short forms. The two questions, however, were designed so that the data can be easily derived from respondents' regular accounting records. This will permit a complete tabulation of principal statistics without the necessity of estimating missing items and will result in increased accuracy for rural area statistics where small firms account for a relatively important part of industrial output.

The addition of extra questions on the short form in recent years has also permitted an increase in the cut-off limits for short forms in many industries. This has meant that many more firms are now receiving the short form instead of the long or medium form. It has also resulted in the withdrawal of the medium form in a number of industries, thus further simplifying collection and tabulation procedures.

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