

THE GOLD AND SILVER REFINING TRADE

Note.—For information regarding the scope of the Census, instructions given to firms for making returns, and definitions of the terms used in this report, reference should be made to the Introductory Notes on pages v to xviii.

Introductory

This trade comprises firms that were engaged wholly or mainly in the refining of gold, silver and other precious metals. No production was recorded for Scotland in 1930 and the summary table (I) and the tables showing details of power equipment (IV) and consumption of fuel (V) are not appended to this report. The whole of this information is available in the tables given in the report itself.

The following table shows the main results of the Censuses of 1930 and 1924 in respect of firms in Great Britain that employed an average of more than ten persons :—

Particulars	Unit	1930	1924
Value of goods made and work done (Gross output)	£'000	39,838	15,796
Cost of materials used	"	38,719	14,801
Paid for work given out to other firms	"	8	10
Net output	"	1,111	985
Average number of persons employed	No.	2,274	1,778
Net output per person employed	£	489	554
Power available :—			
Prime movers	H.P.	271	320
Electric motors driven by purchased electricity	"	9,270	4,132
Number of returns	No.	21	26
Number of establishments	"	33	*

* Not available.

Deficiencies in 1930 aggregates.—The aggregate number of persons employed in 1930 by firms that stated that they employed not more than ten persons on the average was 124, the corresponding figure for 1924 being 153. The value of the gross output of the small firms in 1924 was £160,000, and particulars of the items included in this figure are given below :—

	£'000
Gold, refined, and manufactures of gold, other than gold leaf	42
Gold leaf	24
Silver, refined, and manufactures of silver	19
Platinum, refined	21
Other refinery products	30
Other goods, including waste products	20
Repair work and work done for the trade	4
TOTAL	160

Size of firms.—In the following table the main particulars recorded at the Census of 1930 are grouped according to the average numbers of persons shown in the returns:—

Size of firm (average numbers employed)	Number of returns	Gross output	Net output	Average number of persons employed	Net output per person employed
	No.	£'000	£'000	No.	£
11-49	9	660	84	264	318
50-99	7	25,451	610	549	1,110
100 and over ...	5	13,727	417	1,461	286
TOTAL	21	39,838	1,111	2,274	489

Regional distribution.—In the following table the results recorded at the Censuses of 1930 and 1924 are grouped according to the principal areas* of Great Britain in which firms in this trade are situated:—

Area	Number of returns	Gross output	Net output	Average number of persons employed	Net output per person employed
	No.	£'000	£'000	No.	£
1 ... { 1930	7	36,888	751	1,175	639
... { 1924	10	12,838	703	916	768
5 ... { 1930	9	1,872	181	703	258
... { 1924	11	2,348	223	553	403
Other ... { 1930	5	1,078	179	396	452
areas ... { 1924	5	610	59	309	191
TOTAL { 1930	21	39,838	1,111	2,274	489
... { 1924	26	15,796	985	1,778	554

Northern Ireland.—No production was recorded for Northern Ireland either in 1930 or in 1924.

Production

Total output of refined silver and platinum.—The total quantity of refined silver produced in 1930 was recorded as 38,396,900 ozs. troy (14 entries), of which the quantity returned by firms that made returns on schedules for the Gold and Silver Refining Trade was 38,181,200 ozs. troy (10 entries). The difference between this figure and the amount shown as sold or added to stock (see following table) was 321,500 ozs. troy, representing the quantity used for further manufacture in the refiners' works. At the 1924 Census, 38,127,100 ozs. troy were produced, of which 36,242,200 ozs. troy were sold (or added to stock) as refined silver, leaving 1,884,900 ozs.

* For particulars see page xviii.

troy as the quantity used for further manufacture by the refining firms.

The total output of refined platinum in 1930 (including the amounts used in refiners' works) was 104,067 ozs. troy (8 entries), or 1,265 ozs. troy in excess of the quantity sold or added to stock as such: corresponding figures for 1924 were 54,189 ozs. troy and 192 ozs. troy respectively.

Owing to the risk of disclosure of information relating to the business of individual firms, similar particulars regarding the production of gold cannot be given.

Goods sold or added to stock.—The following table shows the value and, where available, the quantity of refined gold, silver and other precious metals and manufactures thereof sold (or added to stock) in 1930 and 1924:—

Kind of goods	1930						1924	
	Returned on schedules for						Total	
	The Gold and Silver Refining Trade			All trades				
	Quan- tity	Value	Ent- ries	Quan- tity	Value	Ent- ries	Quan- tity	Value
Gold, refined, and manufactures of gold†, other than gold leaf	Th. ozs. troy	£'000	No.	Th. ozs. troy	£'000	No.	Th. ozs. troy	£'000
	6,191·9	25,986	15	6,193·0	25,991	21	2,140·4	8,309
Gold leaf	Mill. leaves			Mill. leaves			Mill. leaves	
	32·2	112	5	32·2	112	5	35·9	133
Silver, refined ...	Th. ozs. troy			Th. ozs. troy			Th. ozs. troy	
Manufactures of silver†	37,859·7	3,106	10	38,075·4	3,125	14	36,242·2	5,243
Platinum, refined ...	2,601·6	223	5	2,871·6	242	11	4,111·3	666
Other refinery pro- ducts (including re-melted and mer- chanted gold and silver, platinum alloys, etc.) ...	102·8	798	8	102·8	798	8	54·0	1,367
TOTAL—								
PRINCIPAL PRODUCTS	...	39,237	...	...	39,280	...	...	16,356

* Quantity not stated.

† Exclusive of jewellery, plate, watches, etc., for which see the reports on the Plate and Jewellery and the Watch and Clock Trades (pages 473 to 496).

Owing to the fact that certain firms were unable in their returns to distinguish their merchanting from their refining operations, the figures shown for both years under the heading "Other refinery products" are inclusive of sales of some gold and silver on which no productive process was carried out.

Prices.—The average selling values of gold, silver, etc., in 1930 and 1924, as calculated from the Census returns, are shown in the following table:—

Kind of goods	Average value		1930 as a percentage of 1924
	1930	1924	
	£ per oz. troy	£ per oz. troy	Per cent.
Gold, refined, and manufactures of gold other than gold leaf	4.20	3.89	108.0
Platinum, refined, etc.	7.76	25.32	30.6
	£ per 1,000 leaves	£ per 1,000 leaves	
Gold leaf	3.49	3.72	93.8
	d. per oz. troy	d. per oz. troy	
Silver, refined	19.70	34.72	56.7
Manufactures of silver	20.23	38.85	52.1

The returns made by individual firms show considerable variations in the average value per oz. of refined silver. Practically the whole of the output was included within the range of 17.16d.-20.04d. per oz., but there was a heavy fall in the price of silver in 1930 and the price data obtainable from the individual returns are not sufficiently precise to enable the output of fine silver (998) and that of standard silver (925) to be distinguished.

Volume of production in 1930 and 1924.—The following table compares the volume of production of refined gold, silver and other precious metals and manufactures thereof in 1930 and 1924. Owing to the uncertainty as to the amount of merchant gold and silver included under the heading "Other refinery products," the proportionate increase shown for the trade as a whole should be regarded with some reserve.

Kind of goods	Total production			1930 as a percentage of 1924
	1930	1924		
	As returned	As returned	At 1930 average values	Per cent.
	£'000	£'000	£'000	
Gold, refined, and manufactures of gold, other than gold leaf ...	26,620	8,309	8,974	297
Gold leaf	112	133	125	90
Silver, refined	3,125	5,243	2,973	105
Manufactures of silver	242	666	347	70
Platinum, refined	798	1,367	418	191
Other refinery products	8,383	638	309	*
TOTAL	39,280	16,356	13,146	299

* This figure would have no significance.

Production, exports and retained imports.—Exports and imports of refined gold and silver do not bear any relation to the quantities produced at refineries in this country. Particulars of the exports and imports of gold leaf and refined platinum in 1930 and 1924 are given below in relation to the production in those years, the production figures for 1924 being inclusive of the output of the small firms.

Kind of goods	Production	Exports	Retained imports	Available for use in the United Kingdom
	Mill. leaves	Mill. leaves	Mill. leaves	Mill. leaves
Gold leaf	32.2	1.1	75.7	106.8
	43.1	1.4	33.7	75.4
	Th. ozs. troy	Th. ozs. troy	Th. ozs. troy	Th. ozs. troy
Refined platinum { 1930	104.1	16.1	8.6	96.6
{ 1924	55.1	13.7	34.9	76.3

Work done for the trade, etc.—The total amount recorded as received for repair work and work done for the trade in 1930 was £42,000, the corresponding total for 1924 being £48,000.

Other products.—In addition to the output shown in the table of principal products on page 453, the following goods were produced in 1930 and 1924 by firms that made their returns on schedules for the Gold and Silver Refining Trade. These goods are dealt with in the reports on those trades in which the principal output was recorded.

Kind of goods	1930		1924	
	Quantity	Value	Quantity	Value
	Tons	£'000	Tons	£'000
Brass and manufactures thereof ...	502	46	—	—
Copper and manufactures thereof	1,678	103	548	17
Other non-ferrous metals, alloys and manufactures thereof ...	...	54	...	95*
Other goods made ... ..	...	54	...	9
TOTAL VALUE ... ..	...	257	...	121

* Including £17,000 in respect of unclassified metals and manufactures of unclassified metals.

Waste and by-products sold.—The total amount recorded at the 1930 Census in respect of sales of manufacturers' scrap and by-products was £302,000, of which £297,000 related to concentrates, residues, etc., and the remainder to metal scrap. The total recorded at the 1924 Census was £16,000, but as no specific heading was provided for concentrates, residues, etc., this figure may be somewhat defective.

Employment and Wages

Employment.—The following table shows the average numbers of persons employed in 1930 and 1924 :—

Persons employed	Males		Females		Total	
	Under 18	All ages	Under 18	All ages	Under 18	All ages
1930						
Operatives (average for the year)	162	1,585	64	277	226	1,862
Administrative, technical and clerical staff (as at 18th October)	7	329	1	83	8	412
TOTAL	169	1,914	65	360	234	2,274
1924						
Operatives (average for the year)	129	1,192	43	246	172	1,438
Administrative, technical and clerical staff (as at 18th October)	4	259	4	81	8	340
TOTAL	133	1,451	47	327	180	1,778

Wages.—The available information as to the amount of wages paid in 1930 and 1924 is given on pages 406 and 407.

Power

The following table shows the capacity of prime movers and electric motors ordinarily in use and in reserve or idle in 1930 and 1924. No electric generators were recorded for this trade either for 1930 or for 1924.

Power equipment	1930			1924		
	Ordinarily in use	In reserve or idle	Total	Ordinarily in use	In reserve or idle	Total
PRIME MOVERS						
Reciprocating steam engines	140	—	140	140	—	140
Internal combustion engines :—						
Gas	111	—	111	145	35	180
Heavy oils	—	20	20	—	—	—
TOTAL	251	20	271	285	35	320
ELECTRIC MOTORS						
Driven by Purchased electricity	8,336	934	9,270	3,994	138	4,132
TOTAL	8,336	934	9,270	3,994	138	4,132

Consumption of fuel

The following table shows the quantities of coal, coke and electricity recorded as used in 1930 :—

Kind of fuel used	For power (driving engines)	For other purposes
	Tons	Tons
Coal... ..	1,876	8,948
Coke	—	3,144
Electricity used for all purposes :—		B.T.U. (Kw.-hrs.) '000
Purchased ... ..	...	3,981
TOTAL—Electricity		3,981

TABLES

Note.—The following particulars relate throughout to England and Wales, no production being recorded in Scotland.

I. Summary of results (see page 451)

II. Production

A.—TOTAL OUTPUT OF REFINED SILVER AND PLATINUM, AS RETURNED ON SCHEDULES FOR THE GOLD AND SILVER REFINING TRADE

	Ozs. troy
Silver, refined	38,181,200
Platinum, refined	104,067

B.—GOODS SOLD OR ADDED TO STOCK AND WORK DONE

Kind of goods made and work done	Quantity	Value
Gold, refined, and manufactures of gold †, other than gold leaf	Th. ozs. troy 6,191·9	£'000 25,986
	* Mill. leaves 32·2	629 112
Gold leaf	Th. ozs. troy 37,859·7	3,106
Silver, refined	2,601·6	223
Manufactures of silver †	102·8	798
Platinum, refined ... ..	...	8,383
Other refinery products (including re-melted and merchanted gold and silver, platinum alloys, etc.) ...	...	39,237
TOTAL	Tons 502	46
Brass and manufactures thereof	1,678	103
Copper and manufactures thereof ... ..	...	54
Other non-ferrous metals, alloys and manufactures thereof ... ..	...	54
Other goods made ... ..	...	5
Metal scrap sold ... ..	...	297
Concentrates, residues, etc., sold ... ..	...	39,796
TOTAL VALUE OF GOODS MADE ... ..	...	42†
Repair work and work done for the trade ... ..	...	39,838
TOTAL VALUE OF GOODS MADE AND WORK DONE (GROSS OUTPUT) ... ..	...

† Exclusive of jewellery, plate, watches, etc.

* Weight not stated.

† Amount received for work done.

III. Employment

A.—NUMBERS EMPLOYED IN WEEK ENDED 18TH OCTOBER, 1930

Persons employed	Males		Females		Males and females	
	Under 18	All ages	Under 18	All ages	Under 18	All ages
Operatives	165	1,611	65	281	230	1,892
Administrative, technical and clerical staff	7	329	1	83	8	412
TOTAL	172	1,940	66	364	238	2,304

B.—OPERATIVES EMPLOYED IN ONE WEEK IN EACH MONTH OF 1930

Week ended	Males and females	Week ended	Males and females
January 18	1,865	July 19	1,877
February 15	1,844	August 16	1,749
March 15	1,837	September 13	1,873
April 12	1,913	October 18	1,892
May 17	1,908	November 15	1,870
June 21	1,878	December 13	1,834
AVERAGE FOR THE 12 MONTHS			1,862

IV. Power (see page 456)

V. Consumption of fuel (see page 457)