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## **METALMAKING IN ITALY, 1861-1913: NATIONAL AND REGIONAL TIME SERIES**

Carlo Ciccarelli and Stefano Fenoaltea

Università di Tor Vergata - Rome - Italy

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Carlo Ciccarelli  
and  
Stefano Fenoaltea

Facoltà di Economia  
Università di Roma "Tor Vergata"

carlo.ciccarelli@uniroma2.it  
stefano.fenoaltea@uniroma2.it

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## METALMAKING IN ITALY, 1861-1913: NATIONAL AND REGIONAL TIME SERIES

### **Abstract**

This paper presents national and regional time-series estimates of metalmaking production in post-Unification Italy. The former broadly confirm their immediate predecessors; the latter are altogether new. The regional series evidence the industry's geographic concentration: the significant producers were Piedmont, Liguria, Lombardy, Tuscany, Umbria, and Campania, but production per capita significantly exceeded the national average only in Liguria and, in the later years, in Umbria and Tuscany.

## LA METALLURGIA IN ITALIA, 1861-1913: SERIE NAZIONALI E REGIONALI

### **Sommario**

Questo saggio presenta stime annuali della produzione delle industrie metallurgiche nell'Italia post-Unitaria, sia nazionali, sia regionali. Le prime confermano a un dipresso le stime aggregate precedenti; le seconde sono del tutto nuove. Le serie regionali evidenziano la concentrazione della produzione. Questa era rilevante solo in Piemonte, Liguria, Lombardia, Toscana, Umbria e Campania; pro capite, superava di molto la media nazionale solo in Liguria e, dopo i primi decenni, in Umbria e in Toscana.

This paper presents national and regional time-series estimates for the metalmaking industry in post-Unification Italy. The former improve on those in the literature; the latter are the first of their kind. Both sets distinguish ferrous and non-ferrous metals, and, within these, the initial production of the metal, and its subsequent transformation into semi-finished goods.

The text below provides a summary account of the underlying sources and methods, and a brief description of the patterns that emerge from the new estimates. At the national level, these confirm the strong cycle in aggregate production, and specifically, as is evident from the industry-specific series, in the production of ferrous metals. The new regional series document the concentration of production in a handful of regions (Piedmont, Liguria, Lombardy, Tuscany and Campania, joined eventually by Umbria). Regional shares varied as large plants came on stream, but these changes tended to offset each other over time. In 1913, as in 1861, the "industrial triangle" in the North-West held about half the total; the Center/North-East improved from a quarter of the total to a third, while the South slipped from a quarter of the total to a sixth.

### 1. National production

The new national estimates of the physical production of metals are collected in Appendix A, Panel 1. Total production is tracked, exhaustively, by four series for ferrous metals, and twelve for non-ferrous metals; all are derived directly or indirectly from the reports of the *Corpo delle miniere*.<sup>1</sup> The time series for pig iron, rails, ingot aluminum, and mercury reproduce the data with minimal corrections; the series for antimony, ingot copper, gold, silver, and ingot lead extensively correct the figures in the sources; the series for semi-finished aluminum, lead and lead alloys, tin, and zinc are estimated from the apparent consumption of ingot and scrap metal; the series for semi-finished wrought iron and steel, and copper and copper alloys, are hybrids, estimated from apparent input consumption over the first two to three decades, and subsequently by amending the available data; and the cast iron series interpolates early and late benchmarks on the assumption of a smoothly declining ratio of cast iron to wrought iron and steel in final consumption. These are aggregated with the 1911-price value added weights collected in Appendix A, Panel 2; all are derived from evidence on output and input prices, and technical coefficients. The resulting aggregates are presented in Appendix A, Panel 3, and illustrated in Figure 1.

The new estimates of aggregate production essentially confirm their immediate predecessors in the public domain.<sup>2</sup> The sub-aggregates, which appear here for the first time, show that the production of ferrous metals was not only much larger than that of non-ferrous metals, but more cyclically sensitive. Over the 1860s and 1870s these two subaggregates moved roughly in unison; after 1880 the production of ferrous metals grew faster in the upswings of the 1880s and early 1900s, and fell further (and took longer to recover) in the depression of the 1890s.

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<sup>1</sup>The main sources are Direzione generale della statistica, *Statistica del Regno d'Italia. Industria mineraria. Anno 1865*, Milan and Florence, 1868; *Corpo delle miniere, Notizie statistiche sull'industria mineraria in Italia dal 1860 al 1880*, Rome, 1881; Id., *Relazione sul servizio minerario*, annual (1877-82); Id., *Rivista del servizio minerario*, annual (1883 ff.).

<sup>2</sup>S. Fenoaltea, "Notes on the Rate of Industrial Growth in Italy, 1861-1913," *Journal of Economic History*, 63, 2003, pp. 710-11. The new estimates are generally higher, as some 1911-price estimates were revised upward (compare Appendix A, Panel 2, and S. Fenoaltea, "Il valore aggiunto dell'industria italiana nel 1911," in G. M. Rey, ed., *I conti economici dell'Italia. 2. Una stima del valore aggiunto per il 1911*, Bari, 1992, pp. 146, 148), and more volatile in the early decades, as the estimates of input supply that underlie the ferrous-metals output estimates are less vigorously smoothed.

Half a dozen physical production series, also derived from the reports of the *Corpo delle miniere*, have long been available in the official abstract of historical statistics.<sup>3</sup> The new series essentially confirm those for pig iron, ingot aluminum, and mercury, and extensively revise those for iron and steel, ingot lead (in the early decades), and ingot copper. The other new series fill the gaps in the earlier source; in 1911, these cover one sixth of ferrous metals production, and four fifths of non-ferrous metals production.

## 2. Regional production

The elementary regional estimates are all, by construction, disaggregations of corresponding national series. The regional physical series for pig iron, rails, ingot aluminum, antimony, ingot copper, gold, silver, ingot lead, and mercury simply subaggregate the local data, corrected as in the national series, to the regional level. The national wrought iron and steel tonnage figures are instead allocated among the regions using the *Corpo delle miniere* data on workers and installed horsepower (in preference to the output data, muddled by the varying incidence of vertical integration). Because of data limitations, the physical cast iron series is allocated using annual shares estimated from census-year benchmarks, amended as necessary in light of the limited output data provided by the *Corpo delle miniere*. Even more severe data limitations preclude the regional disaggregation of the physical series for semi-finished non-ferrous metals. Only their value-added-weighted sum is allocated among the regions; as with the cast iron series, the allocation interpolates census benchmark shares, allowing for the partial data provided by the *Corpo delle miniere*. The latter are limited to the semi-finished copper and copper alloys produced from 1885 by major firms, but they usefully document the subsequent opening of major plants in Tuscany.

The elementary regional series are presented in Appendix B. The non-zero physical series are collected in Panels 1 - 2, and the residual estimates of value added in the production of semi-finished non-ferrous metals appear in Panel 3. The region-specific sums of the physical series in Panels 1 - 2, weighted by the corresponding unit value added estimates (the national figures in Appendix A, Panel 2), and their (non-ferrous) complements in Panel 3 are the regional aggregates presented in Appendix C.<sup>4</sup>

Map 1 illustrates the regions' annual average metalmaking product over the period at hand. The industry was concentrated in a bare handful of regions. Liguria was the leader, with some 9 million 1911 lire per year, followed by Lombardy and Tuscany with 7 million each, and then by Piedmont, Umbria, and Campania with 3 to 4 million each; less than that was contributed by the ten other regions combined.<sup>5</sup>

Figure 2 illustrates the path of production in the six regions that mattered.<sup>6</sup> In 1861, the leader was Lombardy, with just over 2 million lire, closely followed by Campania; Piedmont, Liguria and Tuscany yielded just over 1 million each, Umbria a mere tenth of that. Between 1861 and 1880 production slipped in Campania, and grew moderately in the other five regions. Through most of the 1880s production grew smartly in all six regions; the

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<sup>3</sup>Istat (Istituto centrale di statistica), *Sommario di statistiche storiche italiane, 1861-1955*, Rome, 1958, p. 129.

<sup>4</sup>The ferrous-metal subaggregates are of course derived from Panel 1, and the non-ferrous-metal subaggregates from Panels 2 - 3.

<sup>5</sup>These ranged down from Venetia, just under one million lire per year, to Basilicata, with practically nothing.

<sup>6</sup>In almost all the omitted graphs, to the same scale, the production series are not perceptibly above the horizontal axis. The lone exception is Venetia, where total production was typically between the production of non-ferrous metals alone in Piedmont and in Lombardy.

sharpest increases were in Liguria, in Tuscany, with the opening of the Limestone and Torretta copper works, and of course in Umbria, with the opening of the Terni steel works. The subsequent depression was also felt everywhere, but not uniformly so: the late-1880's production peak was exceeded by 1895-98 in most regions, but not until 1905 in Lombardy and in Umbria. The pre-War boom was also shared, but again not uniformly so. Comparing output at its pre-War peak and at its late-1880s peak, Umbria's product increased just 40%; Liguria's and Lombardy's increased threefold, Tuscany's fourfold, Piedmont's fivefold, and Campania's no less than elevenfold. In Piedmont, Liguria, and Lombardy, too, growth appears relatively broadly based, and distributed over time; in Tuscany and Campania it was particularly concentrated, and tied to the construction of major integrated steel works at Piombino, Portoferraio, and Bagnoli. By 1913 the major producers were Liguria, Lombardy, and Tuscany, all just over 25 million 1911 lire (but with Liguria and Tuscany down from a peak of some 30 million, and Lombardy instead growing steadily); Campania was nearer 20 million, Piedmont under 15 million, and Umbria nearer 10 million. The other ten regions, together, contributed just 7 million more.

Figure 3 compares the metalmaking product, and the shares of the national total, of the North-West, the Center/North-East, and the South (and major islands). From 1861 to 1905, relative movements are easily summarized. The South's share declined from one quarter initially to one tenth by 1890, and then remained there; the Center/North-East maintained a 25-to-30% share from 1861 to 1885, surged to 40% by 1890, and then also remained there; the North-West increased its initial 50% share to 60% by the early 1880s, reverted to 50% by 1890 as the Center surged, and then also remained there. After 1905 regional shares fluctuate sharply, as major plants come on stream in all three areas, but not simultaneously; the South claimed the last, and the only net gain.

Table 1 scales the metal production estimates to gauge the local significance of the industry at the census-year benchmarks; Figure 4 illustrates these scaled figures, with the regions on the horizontal axis, ordered as in the Table. In cols. 1 - 4 (Figure 4A) metal production is divided by the preliminary estimates of total industrial production.<sup>7</sup> Metalmaking grew rapidly, but was ever a very minor part of Italy's industry. In the major areas its local share was well below the national average in the South (but least so in 1911), near it in the Center/North-East, and above it in the North-West (but much more so earlier than later). At the regional level metalmaking's share of industry was often negligible; but it varied sharply even within the major producers. Its share was largest in Umbria in the later years, where it reached double digits; it was smaller, but still double the national share, or more, in Liguria, in Tuscany, and, in 1911, in Campania too. Piedmont and Lombardy were also major producers of metal; but in both regions metalmaking's share was limited by the vigorous development of other industries, and over time it slipped below the national average.

In cols. 4 - 8 (Figure 4B) metal production is divided by the male population of working age, which proxies for the aggregate regional economy.<sup>8</sup> The broad patterns, by major area and region, tend to replicate those just seen. Piedmont and Lombardy turn out to be major producers with a below-average per-capita product (in essence, a comparative

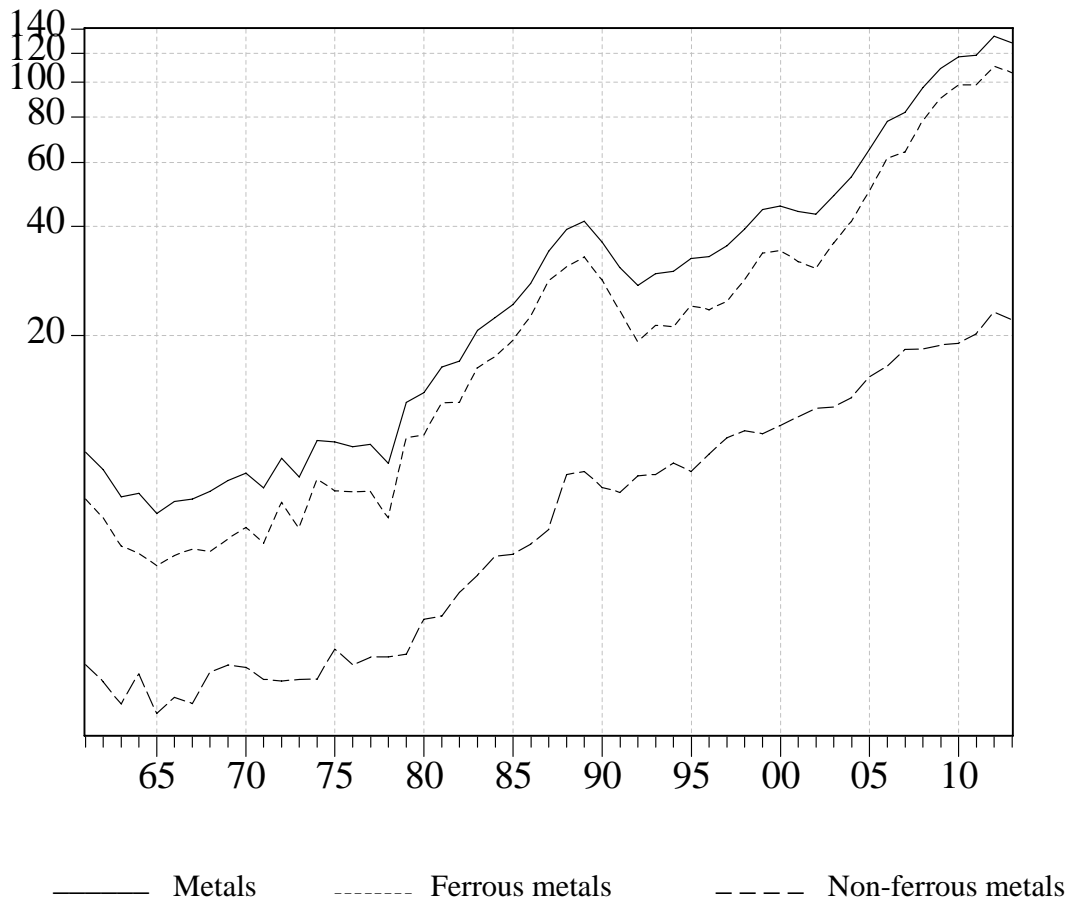
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<sup>7</sup>The aggregates reflect ongoing research; with respect to the original estimates in S. Fenoaltea, "Peeking Backward: Regional Aspects of Industrial Growth in Post-Unification Italy," *Journal of Economic History* LXIII (2003), pp. 1088-1091, these incorporate largely unpublished new estimates for the extractive industries, the textile and (non-leather) apparel industries, the non-metallic mineral products industries, the chemical and related industries, the utilities industries, and the construction industries.

<sup>8</sup>*Ibid.*, p. 1069.

*disadvantage*), while Campania performs indifferently even in 1911, when it just exceeds the national average. The strong performers, with a per-capita product near or above twice the national average, were Tuscany in 1911, Umbria in 1901 and 1911, and--in all four census years--Liguria.

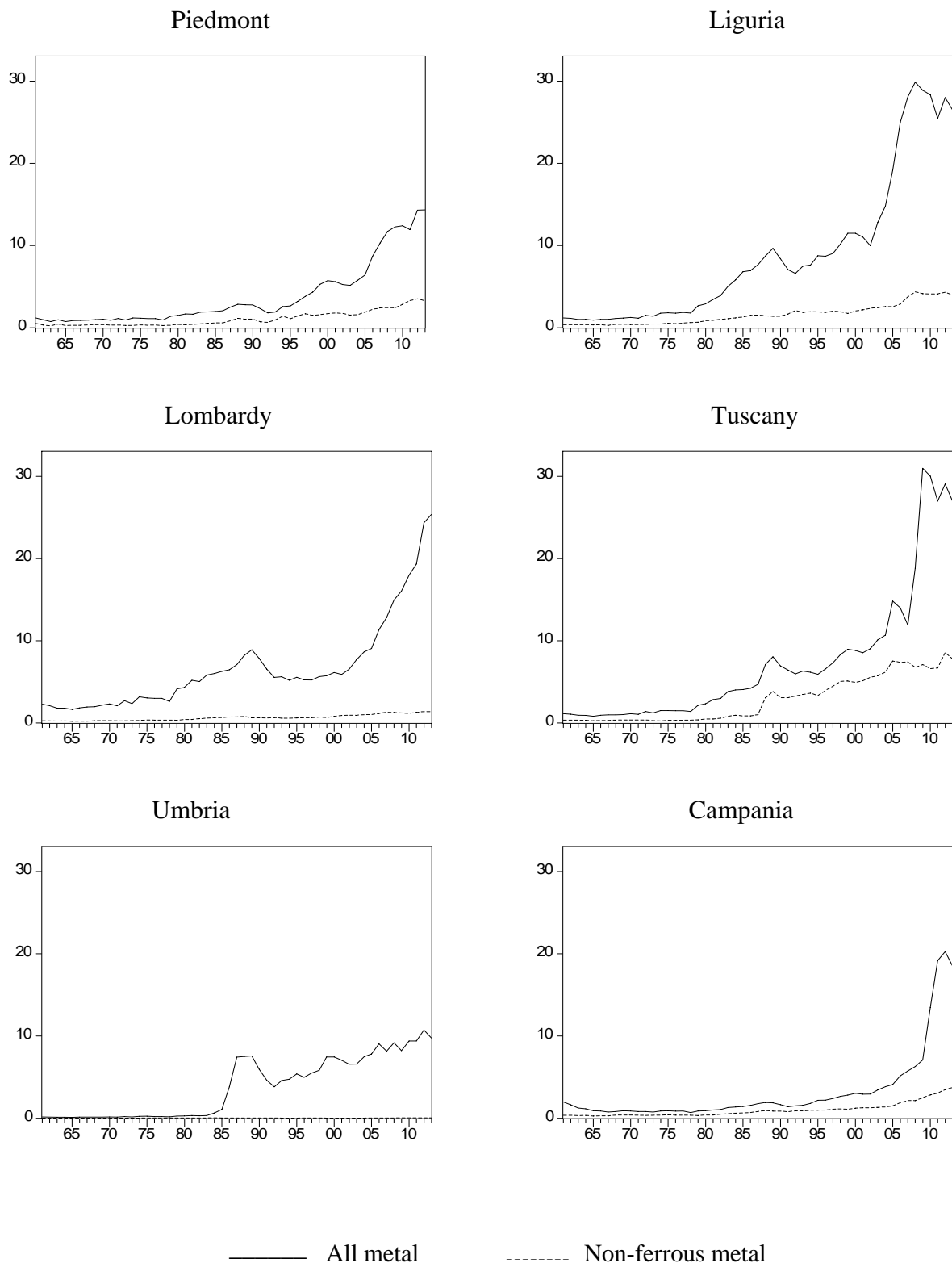
Figure 1  
National series (value added: million lire at 1911 prices)



Source: Appendix A.



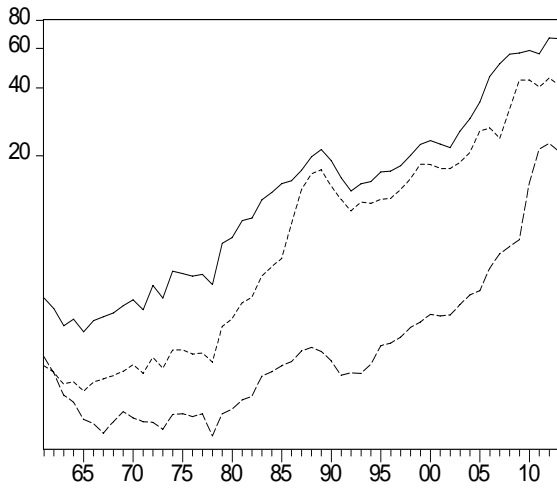
Figure 2  
Regional series (value added: million lire at 1911 prices)



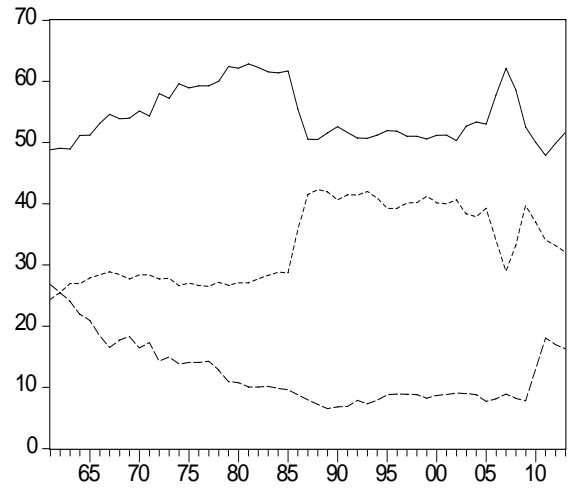
Source: Appendix C.

Figure 3  
The metalmaking industries, by major area

A. Value added at 1911 prices (million lire)



B. Percentage shares

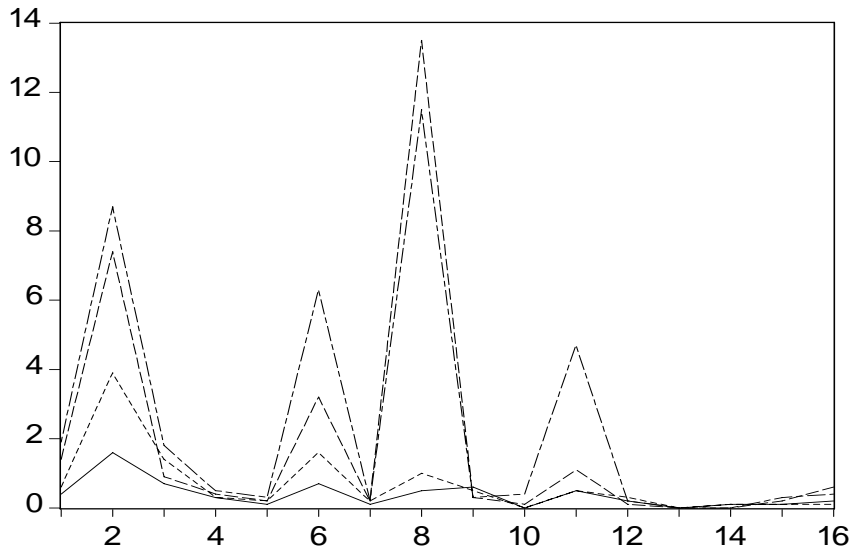


——— North-West      - - - - - Center/North-East      - . . . . South

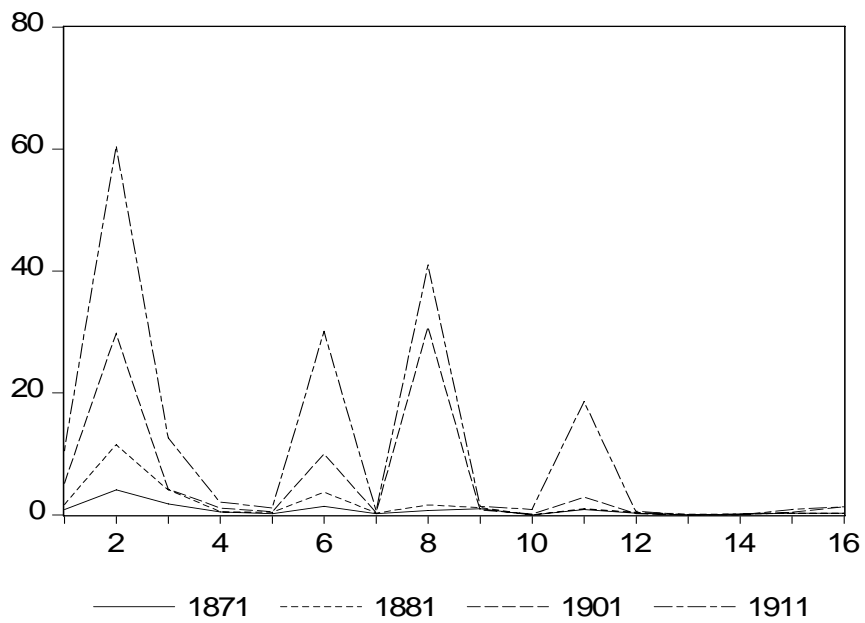
Source: Appendix C.

Figure 4  
 Metalmaking in the regional economies, census years

A. Share of metalmaking in industrial production (percent)

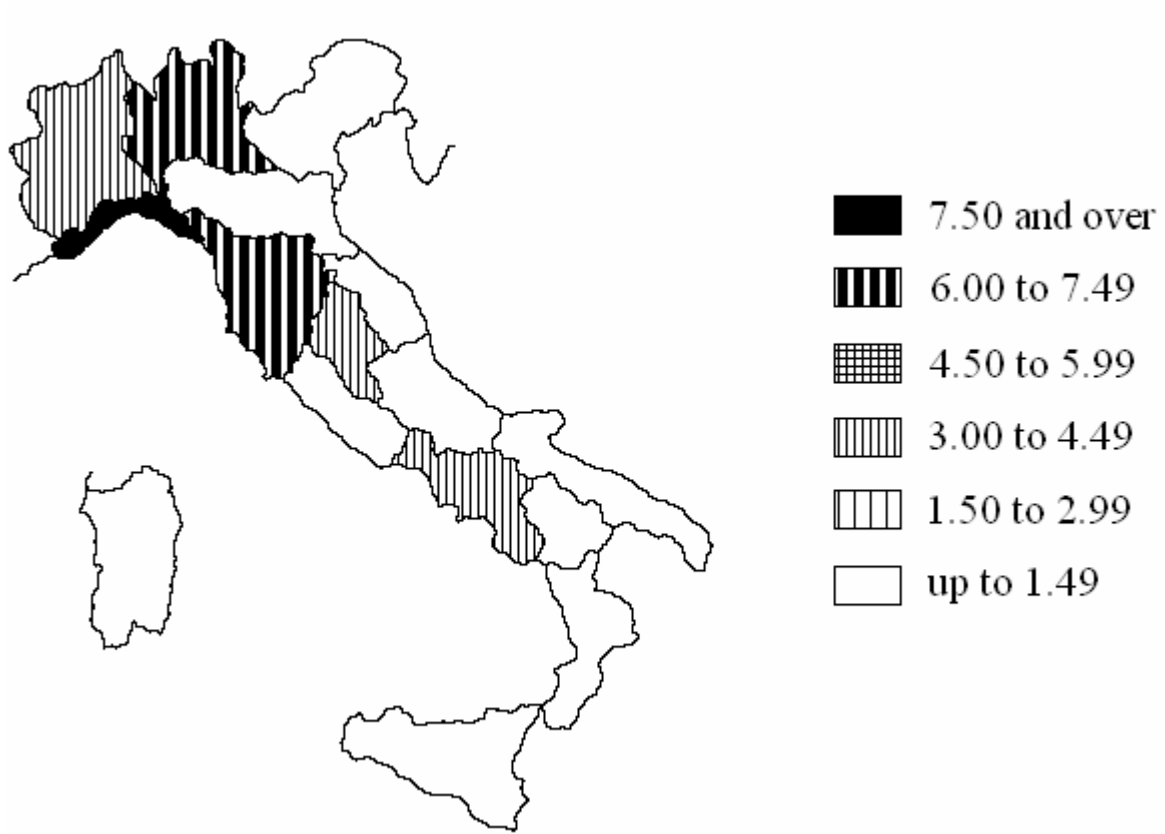


B. Metalmaking product per male of working age (1911 lire)



Source: Table 1.

Map 1  
Annual average value added in metalmaking, 1861-1913  
(million lire at 1911 prices)



Source: Appendix C.

Table 1  
Metalmaking in the regional economies, census years

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Share of metalmaking in industrial production (percent)				Metalmaking product per male of working age (1911 lire) .			
	1871	1881	1901	1911	1871	1881	1901	1911
Piedmont	.4	.6	1.4	1.9	.9	1.7	5.2	10.5
Liguria	1.6	3.9	7.4	8.7	4.1	11.5	29.8	60.5
Lombardy	.7	1.4	.9	1.8	1.8	4.1	4.2	12.6
<i>North-West</i>	<i>.7</i>	<i>1.5</i>	<i>1.9</i>	<i>2.8</i>	<i>2.8</i>	<i>6.7</i>	<i>13.8</i>	<i>27.0</i>
Venetia	.3	.3	.4	.5	.5	.5	1.1	2.1
Emilia	.1	.2	.2	.3	.2	.4	.5	1.1
Tuscany	.7	1.6	3.2	6.3	1.4	3.7	10.0	30.1
Marches	.1	.2	.2	.2	.2	.3	.4	.7
Umbria	.5	1.0	13.5	11.5	.7	1.6	30.8	41.0
Latium	.6	.5	.3	.3	1.0	1.2	.8	1.4
<i>Center/N.E.</i>	<i>.4</i>	<i>.7</i>	<i>1.8</i>	<i>2.5</i>	<i>1.3</i>	<i>2.3</i>	<i>12.0</i>	<i>20.0</i>
Abruzzi	.0	.0	.1	.4	.0	.0	.1	.9
Campania	.5	.5	1.1	4.7	.9	1.0	2.9	18.6
Apulia	.2	.3	.1	.2	.3	.4	.2	.6
Basilicata	.0	.0	.0	.0	.0	.1	.0	.0
Calabria	.1	.1	.0	.0	.1	.1	.1	.0
Sicily	.1	.1	.2	.3	.3	.3	.4	.9
Sardinia	.2	.1	.6	.4	.3	.3	1.3	1.3
<i>South</i>	<i>.2</i>	<i>.2</i>	<i>.4</i>	<i>1.7</i>	<i>.6</i>	<i>.6</i>	<i>1.2</i>	<i>5.4</i>
Italy	.4	.8	1.4	2.4	1.4	2.8	8.4	16.5

Source: see text.

Appendix A: National estimates

1. Physical output, 1861-1913 (tons)

	Ferrous metals				Non-ferrous metals			
	Pig iron	Wrought iron, steel	Other products	Cast iron	Ingot aluminum	Semi-finished aluminum	Antimony	Ingot copper
1861	26,551	0	47,000	22,000	0	0	33	947
1862	28,745	0	41,000	20,000	0	0	54	629
1863	23,556	0	31,000	19,000	0	0	0	508
1864	20,523	0	30,000	18,000	0	0	0	805
1865	17,492	0	26,000	18,000	0	0	0	545
1866	20,330	0	32,000	16,000	0	0	88	620
1867	21,580	0	34,000	16,000	0	0	88	620
1868	20,136	0	28,000	20,000	0	0	88	620
1869	18,166	0	29,000	23,000	0	0	88	620
1870	19,914	0	36,000	21,000	0	0	88	620
1871	16,641	0	30,000	21,000	0	0	88	582
1872	24,000	0	47,000	21,000	0	0	88	613
1873	28,770	0	39,000	18,000	0	0	88	455
1874	28,736	0	56,000	23,000	0	0	88	370
1875	28,563	0	51,000	22,000	0	0	70	376
1876	18,849	0	50,000	23,000	0	0	70	300
1877	15,991	0	48,000	25,000	0	0	49	306
1878	14,370	0	46,000	17,000	0	0	70	250
1879	12,472	0	79,000	27,000	0	0	35	325
1880	17,636	0	82,000	26,000	0	0	115	448
1881	27,800	0	101,000	31,000	0	0	92	348
1882	24,778	0	106,000	28,000	0	0	230	343
1883	24,306	0	131,000	36,000	0	0	365	431
1884	18,405	0	141,000	39,000	0	0	413	530
1885	15,991	0	153,000	46,000	0	0	363	407
1886	12,291	15,000	175,000	50,000	0	0	228	408
1887	12,265	39,522	215,000	58,000	0	0	87	1,254
1888	12,538	70,167	236,000	52,000	0	0	8	2,955
1889	13,473	105,994	243,000	49,000	0	0	197	2,369
1890	14,346	69,895	217,000	46,000	0	0	287	1,381
1891	11,930	47,176	182,000	39,000	0	0	289	1,558
1892	12,729	31,301	151,000	34,000	0	0	298	2,172
1893	8,038	39,344	170,000	34,000	0	0	366	2,344
1894	10,329	25,200	170,000	38,000	0	0	333	2,640
1895	9,213	17,653	201,000	43,000	0	0	400	2,375
1896	6,987	15,741	198,000	41,000	0	0	627	2,842
1897	8,393	16,047	206,000	46,000	0	0	382	2,980
1898	12,387	21,926	238,000	49,000	0	0	390	3,230
1899	19,218	20,734	281,000	61,000	0	0	408	3,032
1900	23,990	81,900	293,000	61,000	0	0	536	2,797
1901	15,819	24,833	265,000	57,000	0	5	831	3,483
1902	30,640	13,646	253,000	58,000	0	19	493	3,863
1903	75,279	39,239	287,000	64,000	0	74	346	3,620
1904	89,340	22,724	344,000	71,000	0	36	350	3,593
1905	143,079	34,568	413,000	83,000	0	42	137	3,578
1906	135,296	527,500	500,000	107,000	0	124	228	4,311
1907	112,232	754,000	506,000	117,000	322	578	268	4,024
1908	112,924	677,100	645,000	133,000	602	479	157	2,825
1909	207,800	123,290	732,000	139,000	751	828	48	2,535
1910	353,239	121,370	802,000	146,000	827	708	0	1,766
1911	302,931	107,431	813,000	145,000	798	718	0	1,666
1912	379,989	130,067	900,000	168,000	824	633	0	2,319
1913	426,755	173,560	836,000	159,000	874	857	71	2,091

## Appendix A (continued)

## 1. Physical output (continued)

	Non-ferrous metals (continued)							
	Semi-finished copper	Gold (kilograms)	Silver	Ingot lead	Semi-finished lead	Mercury	Semi-finished tin	Semi-finished zinc
1861	1,800	75	3.1	4,500	7,100	24	300	0
1862	1,500	78	3.8	4,900	7,700	26	300	200
1863	1,200	48	3.9	5,300	6,800	22	300	300
1864	1,500	84	3.8	5,200	7,500	26	300	200
1865	900	73	3.7	5,100	6,900	26	300	200
1866	1,200	134	3.6	5,000	6,700	20	300	100
1867	1,400	124	3.0	4,000	5,100	15	400	100
1868	1,900	116	3.8	5,700	6,800	18	300	0
1869	2,100	141	2.9	5,400	7,100	24	300	0
1870	2,000	154	2.8	4,900	7,200	47	300	0
1871	1,600	130	3.3	5,300	7,500	36	300	0
1872	1,400	113	3.3	5,700	8,000	27	300	0
1873	1,400	45	3.6	6,100	9,200	31	400	0
1874	1,800	14	3.6	5,400	8,400	32	400	0
1875	2,000	22	3.9	7,100	10,900	82	500	0
1876	1,900	80	4.1	5,900	9,100	99	500	100
1877	1,800	104	5.1	7,200	10,300	111	400	100
1878	1,600	120	7.6	8,500	10,600	124	400	200
1879	1,500	162	21.1	8,700	10,300	132	400	100
1880	1,900	178	24.0	10,700	12,600	116	600	200
1881	1,900	175	24.0	11,900	13,400	128	600	200
1882	2,500	177	24.1	13,300	14,800	140	700	300
1883	2,900	147	30.1	13,600	15,500	206	800	300
1884	3,300	140	31.2	15,000	17,000	267	800	500
1885	3,400	189	33.3	16,500	17,200	237	900	600
1886	3,400	159	33.8	19,500	19,300	251	900	800
1887	3,800	188	33.4	17,800	17,500	244	900	1,000
1888	6,100	151	34.9	17,500	19,200	339	900	1,100
1889	7,000	171	33.5	18,200	19,900	386	800	1,200
1890	6,600	162	34.2	17,800	20,000	449	800	1,100
1891	6,100	247	37.6	18,500	18,600	330	900	1,000
1892	6,000	299	43.0	22,000	21,100	325	900	1,000
1893	6,900	313	40.1	19,900	17,500	273	900	900
1894	8,200	346	58.6	19,600	15,000	258	1,000	800
1895	7,300	280	44.8	20,800	16,400	199	1,100	1,000
1896	8,700	266	38.2	21,100	16,100	186	1,200	1,200
1897	10,600	315	45.2	22,600	15,900	192	1,200	1,400
1898	10,500	184	44.2	24,800	19,800	173	1,000	1,700
1899	11,400	111	33.7	21,100	16,600	205	1,000	1,900
1900	11,600	57	31.6	24,200	20,800	260	900	2,800
1901	10,900	4	32.6	26,000	23,700	278	1,200	2,800
1902	11,500	1	29.5	26,100	25,100	259	1,400	2,900
1903	12,800	50	24.1	22,000	22,500	312	1,400	3,600
1904	13,900	9	24.8	23,400	25,600	352	1,300	3,800
1905	18,800	14	20.2	19,000	23,300	369	1,500	4,600
1906	18,800	71	20.2	21,100	26,900	417	1,700	4,300
1907	21,300	52	20.5	23,300	30,800	434	1,500	4,800
1908	22,000	63	20.6	25,800	33,400	684	1,200	5,300
1909	23,600	10	20.4	22,100	31,200	771	1,100	5,500
1910	26,700	16	14.2	14,800	27,200	894	1,200	5,800
1911	28,300	25	12.5	16,800	30,100	955	1,300	6,600
1912	32,600	17	14.5	22,100	34,800	1,000	1,200	6,000
1913	30,700	14	13.9	21,500	31,500	1,004	1,300	6,000

## Appendix A (continued)

## 2. Value added in 1911

Product	Value added per unit	Value added (million lire)
<i>Ferrous metals</i>		
pig iron	8.0 lire/ton	2.423
rails	48.0 lire/ton	5.157
other wrought iron and steel	90.0 lire/ton	73.170
cast iron	120.0 lire/ton	17.400
<i>Non-ferrous metals</i>		
ingot aluminum	400.0 lire/ton	.319
semi-finished aluminum	700.0 lire/ton	.503
antimony	230.0 lire/ton	.000
ingot copper	700.0 lire/ton	1.166
semi-finished copper	450.0 lire/ton	12.735
gold	400.0 lire/kilogram	.010
silver	3,500.0 lire/ton	.044
ingot lead	53.2 lire/ton	.894
semi-finished lead	85.0 lire/ton	2.559
mercury	1,000.0 lire/ton	.955
semi-finished tin	300.0 lire/ton	.390
semi-finished zinc	100.0 lire/ton	.660

## 3. Value added at 1911 prices, 1861-1913 (million lire)

	Ferrous metals	Non-ferrous metals	Metal- making		Ferrous metals	Non-ferrous metals	Metal- making
				1890	28.5	7.6	36.2
1861	7.1	2.5	9.6	1891	23.4	7.4	30.8
1862	6.3	2.2	8.5	1892	19.3	8.2	27.5
1863	5.3	1.9	7.2	1893	21.3	8.3	29.6
1864	5.0	2.3	7.4	1894	21.2	8.9	30.1
				1895	24.2	8.4	32.6
1865	4.6	1.8	6.5	1896	23.6	9.4	33.0
1866	5.0	2.0	7.0	1897	24.9	10.5	35.4
1867	5.2	1.9	7.1	1898	28.5	10.9	39.4
1868	5.1	2.4	7.4	1899	33.8	10.7	44.5
1869	5.5	2.5	8.0				
				1900	34.3	11.3	45.6
1870	5.9	2.4	8.4	1901	32.0	12.0	44.0
1871	5.4	2.3	7.6	1902	30.6	12.6	43.2
1872	6.9	2.2	9.2	1903	36.0	12.7	48.7
1873	5.9	2.3	8.2	1904	41.3	13.5	54.8
1874	8.0	2.3	10.3				
				1905	49.9	15.4	65.3
1875	7.5	2.7	10.2	1906	61.5	16.5	77.9
1876	7.4	2.5	9.9	1907	64.1	18.3	82.4
1877	7.4	2.6	10.0	1908	78.2	18.4	96.5
1878	6.3	2.6	8.9	1909	90.1	18.8	109.0
1879	10.5	2.7	13.1				
				1910	98.4	19.1	117.4
1880	10.6	3.3	13.9	1911	98.2	20.2	118.4
1881	13.0	3.4	16.4	1912	110.4	23.2	133.7
1882	13.1	3.9	17.0	1913	106.1	22.1	128.2
1883	16.3	4.4	20.7				
1884	17.5	4.9	22.4				
1885	19.4	5.0	24.4				
1886	22.6	5.3	27.9				
1887	28.3	5.8	34.2				
1888	30.9	8.3	39.2				
1889	32.9	8.4	41.4				

Source: see text.



Appendix B: Regional estimates, by product, 1861-1913

1. Ferrous metals: physical output (tons)

	Pig iron					.
	Piedmont	Lombardy	Tuscany	Umbria	Latium	
1861	2,652	10,950	11,749	0	1,200	0
1862	3,560	11,843	12,542	0	800	0
1863	1,625	8,034	12,947	0	950	0
1864	1,220	7,220	10,883	0	1,200	0
1865	1,465	6,500	8,677	0	850	0
1866	2,195	7,599	10,136	0	400	0
1867	2,195	10,097	8,638	0	650	0
1868	2,195	9,200	7,591	0	1,150	0
1869	2,195	9,155	6,416	0	400	0
1870	2,195	10,561	5,858	0	1,300	0
1871	1,818	7,506	6,417	0	900	0
1872	1,905	10,095	11,500	0	500	0
1873	2,025	10,585	15,860	0	300	0
1874	2,187	10,277	13,472	1,500	1,300	0
1875	1,425	10,014	10,124	7,000	0	0
1876	140	9,500	8,609	600	0	0
1877	0	9,500	6,491	0	0	0
1878	1,095	8,000	5,275	0	0	0
1879	0	9,000	3,472	0	0	0
1880	0	10,200	7,436	0	0	0
1881	3,100	12,300	12,400	0	0	0
1882	3,100	12,000	9,678	0	0	0
1883	2,950	10,800	10,556	0	0	0
1884	1,660	10,878	5,867	0	0	0
1885	0	11,400	4,591	0	0	0
1886	600	5,554	6,137	0	0	0
1887	700	6,501	5,064	0	0	0
1888	0	8,520	4,018	0	0	0
1889	1,480	8,915	3,078	0	0	0
1890	1,200	8,920	4,226	0	0	0
1891	900	6,250	4,780	0	0	0
1892	480	7,828	4,421	0	0	0
1893	480	3,210	4,348	0	0	0
1894	480	5,406	4,443	0	0	0
1895	480	4,473	4,260	0	0	0
1896	0	2,932	4,055	0	0	0
1897	0	3,680	4,713	0	0	0
1898	800	4,190	7,397	0	0	0
1899	0	5,440	13,778	0	0	0
1900	700	7,362	15,928	0	0	0
1901	0	3,379	12,440	0	0	0
1902	0	3,165	27,475	0	0	0
1903	0	4,480	70,799	0	0	0
1904	0	846	88,494	0	0	0
1905	0	4,555	138,524	0	0	0
1906	0	3,395	131,901	0	0	0
1907	230	5,102	106,900	0	0	0
1908	0	5,774	107,150	0	0	0
1909	0	3,800	204,000	0	0	0
1910	0	4,296	266,000	0	0	82,943
1911	0	7,315	177,616	0	0	118,000
1912	0	6,121	243,765	0	0	130,103
1913	0	6,472	278,487	0	0	141,796

## Appendix B (continued)

## 1. Ferrous metals: physical output (continued)

	Rails			
	Liguria	Tuscany	Umbria	Campania
1861	0	0	0	0
1862	0	0	0	0
1863	0	0	0	0
1864	0	0	0	0
1865	0	0	0	0
1866	0	0	0	0
1867	0	0	0	0
1868	0	0	0	0
1869	0	0	0	0
1870	0	0	0	0
1871	0	0	0	0
1872	0	0	0	0
1873	0	0	0	0
1874	0	0	0	0
1875	0	0	0	0
1876	0	0	0	0
1877	0	0	0	0
1878	0	0	0	0
1879	0	0	0	0
1880	0	0	0	0
1881	0	0	0	0
1882	0	0	0	0
1883	0	0	0	0
1884	0	0	0	0
1885	0	0	0	0
1886	0	0	15,000	0
1887	10,000	0	29,522	0
1888	26,000	0	44,167	0
1889	44,000	0	61,994	0
1890	33,800	0	36,095	0
1891	20,000	0	27,176	0
1892	11,500	0	19,801	0
1893	20,000	0	19,344	0
1894	10,373	0	14,827	0
1895	3,350	0	14,303	0
1896	8,130	0	7,611	0
1897	8,000	0	8,047	0
1898	10,741	0	11,185	0
1899	9,182	0	11,552	0
1900	1,537	0	6,653	0
1901	20,768	0	4,065	0
1902	8,000	0	5,646	0
1903	30,000	0	5,239	4,000
1904	11,331	0	5,893	5,500
1905	30,388	0	180	4,000
1906	45,750	0	0	7,000
1907	65,600	0	0	9,800
1908	55,660	6,550	0	5,500
1909	79,290	40,000	0	4,000
1910	78,055	39,377	0	3,938
1911	69,091	34,855	0	3,485
1912	83,648	42,199	0	4,220
1913	93,648	75,692	0	4,220

## Appendix B (continued)

## 1. Ferrous metals: physical output (continued)

	Other wrought iron and steel							.
	Piedmont	Liguria	Lombardy	Venetia	Emilia	Tuscany	Marches	
1861	4,454	5,948	12,403	450	660	5,193	230	1,344
1862	4,092	5,464	11,394	413	606	4,770	211	1,234
1863	3,202	4,276	8,917	323	474	3,733	165	966
1864	3,260	4,354	9,079	329	483	3,801	168	984
1865	2,930	3,913	8,159	296	434	3,416	151	884
1866	3,867	5,164	10,768	391	573	4,508	199	1,167
1867	4,327	5,778	12,049	437	641	5,045	223	1,305
1868	3,636	4,856	10,125	367	539	4,239	187	1,097
1869	3,695	5,127	10,526	352	534	4,509	179	1,113
1870	4,570	6,589	13,325	409	643	5,837	208	1,375
1871	3,699	5,545	11,048	308	506	4,947	157	1,111
1872	5,870	9,150	17,964	451	778	8,217	230	1,760
1873	4,745	7,694	14,888	332	608	6,954	169	1,420
1874	6,774	11,431	21,806	425	836	10,397	217	2,024
1875	6,030	10,595	19,928	333	715	9,695	170	1,798
1876	5,756	10,538	19,547	272	652	9,699	139	1,713
1877	5,375	10,257	18,767	209	580	9,493	107	1,596
1878	5,007	9,964	17,987	150	511	9,273	77	1,483
1879	8,350	17,343	30,894	172	801	16,226	88	2,468
1880	8,409	18,241	32,070	89	752	17,154	46	2,479
1881	10,040	22,763	39,504	0	829	21,512	0	2,951
1882	9,471	26,924	38,202	1,685	737	22,700	0	2,677
1883	10,392	37,023	43,193	4,170	745	28,209	0	2,787
1884	10,244	44,225	44,500	4,378	938	29,102	0	2,947
1885	10,103	52,744	46,131	4,634	1,157	30,211	0	3,136
1886	10,929	51,573	48,633	5,005	1,059	31,351	0	20,475
1887	12,665	52,605	54,674	5,786	959	34,572	0	45,906
1888	14,125	57,903	68,582	6,230	814	39,164	0	39,742
1889	14,779	59,771	79,444	6,297	588	41,581	0	29,956
1890	14,648	51,668	68,019	7,378	608	37,997	0	28,004
1891	13,506	41,892	54,608	7,657	585	32,596	0	24,528
1892	8,788	37,463	43,337	6,108	521	25,693	0	22,884
1893	7,174	45,223	46,584	6,601	626	27,404	0	28,612
1894	8,883	50,354	41,514	6,435	578	23,664	0	29,895
1895	12,522	65,614	43,096	7,409	629	23,559	0	36,872
1896	14,810	63,103	39,214	6,336	525	24,017	0	38,660
1897	17,989	64,059	37,433	5,586	455	25,831	0	42,660
1898	24,550	74,232	37,699	6,652	440	29,393	0	51,039
1899	33,441	87,888	37,957	8,090	429	34,184	0	62,331
1900	36,244	90,259	39,335	8,351	498	34,384	0	66,570
1901	34,021	80,382	35,350	7,485	501	29,983	0	61,650
1902	29,550	77,367	40,037	6,477	506	27,767	0	55,837
1903	30,187	88,490	52,556	6,596	615	30,543	0	59,921
1904	34,090	113,847	58,188	10,888	705	38,803	0	67,114
1905	38,394	146,056	64,085	16,636	817	49,229	0	74,914
1906	55,125	191,825	78,675	17,525	1,025	42,950	0	84,425
1907	64,532	209,311	80,709	15,103	1,063	26,618	0	79,100
1908	77,078	224,105	99,975	16,996	1,064	104,748	0	84,785
1909	81,647	205,809	110,151	16,779	896	199,286	0	78,012
1910	74,867	197,853	126,997	15,559	682	194,445	0	89,503
1911	61,100	172,519	135,146	12,946	405	172,896	0	94,829
1912	77,670	192,285	175,950	14,175	405	166,860	0	105,705
1913	81,443	179,818	187,919	13,042	376	132,155	0	98,926

## Appendix B (continued)

## 1. Ferrous metals: physical output (continued)

	Other wrought iron and steel (continued)				
	Latium	Campania	Apulia	Calabria	Sicily
1861	2,660	12,591	0	303	765
1862	2,660	9,361	0	225	569
1863	2,660	5,792	0	139	352
1864	2,660	4,499	0	108	273
1865	2,660	2,912	0	70	177
1866	2,660	2,492	0	60	151
1867	2,660	1,415	0	34	86
1868	2,660	293	0	0	0
1869	2,660	305	0	0	0
1870	2,660	386	0	0	0
1871	2,360	320	0	0	0
1872	2,060	520	0	0	0
1873	1,760	431	0	0	0
1874	1,460	631	0	0	0
1875	1,160	576	0	0	0
1876	1,118	565	0	0	0
1877	1,073	543	0	0	0
1878	1,028	520	0	0	0
1879	1,766	893	0	0	0
1880	1,833	927	0	0	0
1881	2,258	1,142	0	0	0
1882	1,998	1,601	0	0	0
1883	2,004	2,477	0	0	0
1884	2,037	2,630	0	0	0
1885	2,076	2,808	0	0	0
1886	2,196	3,588	210	0	0
1887	2,471	4,852	509	0	0
1888	2,195	6,136	1,121	0	0
1889	1,717	7,132	1,733	0	0
1890	1,986	5,100	1,606	0	0
1891	2,034	3,195	1,398	0	0
1892	1,661	3,549	997	0	0
1893	1,834	5,002	941	0	0
1894	918	6,911	833	0	0
1895	0	10,441	857	0	0
1896	0	10,633	693	0	0
1897	0	11,428	557	0	0
1898	536	13,138	321	0	0
1899	1,258	15,422	0	0	0
1900	1,201	16,144	0	0	0
1901	983	14,645	0	0	0
1902	886	14,548	0	0	0
1903	945	17,147	0	0	0
1904	1,032	19,316	0	0	0
1905	1,132	21,738	0	0	0
1906	1,350	25,775	0	0	1,325
1907	1,349	25,528	0	0	2,687
1908	1,548	32,960	0	0	1,709
1909	1,567	37,852	0	0	0
1910	1,484	96,360	0	0	4,170
1911	1,321	153,362	0	0	8,477
1912	1,440	156,510	0	0	8,910
1913	1,345	133,101	0	0	7,875

## Appendix B (continued)

## 1. Ferrous metals: physical output (continued)

	Cast iron							
	Piedmont	Liguria	Lombardy	Venetia	Emilia	Tuscany	Marches	Umbria
1861	2,213	2,477	6,885	100	564	1,837	167	142
1862	2,002	2,241	6,229	100	510	1,662	151	129
1863	1,897	2,123	5,902	100	483	1,575	143	122
1864	1,791	2,005	5,574	100	456	1,487	135	115
1865	1,791	2,005	5,574	100	456	1,487	135	115
1866	1,580	1,769	4,918	100	403	1,312	119	102
1867	1,562	1,749	4,862	271	398	1,297	118	100
1868	1,966	2,201	6,117	442	501	1,632	148	126
1869	2,264	2,534	7,045	613	577	1,880	171	146
1870	2,035	2,278	6,333	784	519	1,690	154	131
1871	2,068	2,315	6,435	954	527	1,717	156	133
1872	2,086	2,370	6,416	961	540	1,732	163	132
1873	1,803	2,079	5,483	830	474	1,496	147	113
1874	2,323	2,718	6,985	1,067	619	1,927	196	145
1875	2,240	2,658	6,661	1,028	605	1,858	195	139
1876	2,360	2,840	6,942	1,082	646	1,957	212	145
1877	2,585	3,154	7,522	1,184	716	2,144	240	158
1878	1,771	2,190	5,099	810	497	1,469	169	107
1879	2,833	3,549	8,074	1,295	804	2,351	277	170
1880	2,748	3,487	7,750	1,255	789	2,281	276	164
1881	3,300	4,240	9,210	1,505	958	2,741	340	195
1882	3,001	3,904	8,292	1,368	881	2,494	316	176
1883	3,884	5,115	10,627	1,769	1,152	3,230	419	227
1884	3,910	5,456	10,593	1,779	1,171	3,405	430	2,759
1885	4,253	6,325	11,410	1,933	1,286	3,903	478	6,219
1886	4,225	6,745	11,228	1,919	1,290	4,115	484	9,983
1887	4,432	7,662	11,665	2,011	1,365	4,622	517	15,316
1888	3,853	6,902	10,046	1,747	1,197	4,119	458	14,779
1889	3,446	6,481	8,904	1,561	1,080	3,827	417	15,525
1890	3,350	6,237	8,576	1,516	1,058	3,647	412	13,948
1891	3,264	5,623	8,281	1,476	1,040	3,261	408	8,932
1892	3,068	5,105	7,715	1,386	985	2,935	389	6,368
1893	2,750	4,967	6,854	1,242	890	2,826	354	8,821
1894	2,944	5,539	7,273	1,328	959	3,121	385	10,956
1895	3,514	6,463	8,607	1,584	1,153	3,611	466	11,316
1896	3,613	6,407	8,775	1,628	1,194	3,552	485	9,167
1897	4,102	7,305	9,878	1,847	1,365	4,017	558	10,182
1898	5,188	8,410	12,389	2,334	1,738	4,597	715	5,533
1899	5,699	11,744	13,498	2,562	1,922	5,556	795	10,574
1900	6,191	10,639	14,544	2,781	2,101	5,665	874	9,253
1901	6,327	5,334	14,745	2,841	2,160	5,207	904	10,792
1902	7,180	2,242	16,292	2,997	2,341	6,443	934	10,460
1903	7,584	8,030	16,778	2,943	2,363	8,636	896	7,741
1904	9,367	11,872	20,226	3,380	2,794	2,559	1,002	9,510
1905	8,877	16,575	18,731	2,977	2,538	14,647	858	8,536
1906	12,522	21,915	25,845	3,902	3,434	14,347	1,090	11,897
1907	17,389	19,561	35,139	5,032	4,579	10,344	1,356	8,305
1908	19,522	22,253	38,658	5,241	4,941	12,515	1,356	12,570
1909	20,995	20,207	40,774	5,224	5,112	19,877	1,291	9,636
1910	23,464	22,435	44,724	5,403	5,501	16,115	1,266	10,723
1911	25,983	20,825	48,645	5,529	5,869	13,620	1,217	6,643
1912	31,524	19,622	59,018	6,708	7,121	12,713	1,477	9,639
1913	31,356	15,126	58,703	6,672	7,083	11,956	1,469	6,602

## Appendix B (continued)

## 1. Ferrous metals: physical output (continued)

	Cast iron (continued)							Sardinia
	Latium	Abruzzi	Campania	Apulia	Basil.	Calabria	Sicily	
1861	900	26	4,032	1,033	14	402	1,117	92
1862	900	23	3,648	934	13	364	1,011	83
1863	900	22	3,456	885	12	345	957	79
1864	900	21	3,264	836	11	326	904	74
1865	900	21	3,264	836	11	326	904	74
1866	900	18	2,880	738	10	287	798	66
1867	900	18	2,847	729	10	284	789	65
1868	900	23	3,582	917	12	357	992	82
1869	900	26	4,125	1,056	14	412	1,143	94
1870	900	24	3,708	950	13	370	1,027	85
1871	421	24	3,768	965	13	376	1,044	86
1872	434	25	3,668	965	13	363	1,047	85
1873	384	22	3,060	827	11	300	899	73
1874	505	30	3,803	1,056	13	370	1,152	92
1875	497	30	3,536	1,010	13	341	1,104	88
1876	534	32	3,591	1,056	13	343	1,157	91
1877	595	36	3,789	1,148	14	358	1,260	98
1878	415	25	2,500	781	9	233	858	66
1879	676	42	3,849	1,240	15	355	1,366	105
1880	666	41	3,591	1,194	14	327	1,318	100
1881	812	51	4,144	1,424	16	372	1,574	119
1882	750	47	3,620	1,286	15	320	1,424	107
1883	985	62	4,498	1,654	19	391	1,834	136
1884	1,006	64	4,343	1,724	18	371	1,837	135
1885	1,109	71	4,527	1,954	20	380	1,989	145
1886	1,116	72	4,307	2,037	19	354	1,966	142
1887	1,185	77	4,321	2,263	20	347	2,053	147
1888	1,043	68	3,589	2,000	17	281	1,776	127
1889	944	62	3,065	1,747	15	234	1,582	112
1890	928	61	2,840	1,566	14	210	1,530	107
1891	915	60	2,634	1,317	13	189	1,485	103
1892	869	57	2,354	1,108	12	162	1,390	96
1893	787	52	2,003	987	11	133	1,240	85
1894	851	57	2,031	1,007	11	128	1,322	90
1895	1,026	69	2,293	1,073	13	137	1,571	106
1896	1,065	71	2,225	965	13	124	1,609	108
1897	1,220	82	2,378	989	15	123	1,820	121
1898	1,557	105	2,824	1,019	18	133	2,292	151
1899	1,725	117	2,905	1,092	20	122	2,508	164
1900	1,890	128	2,945	974	21	107	2,715	176
1901	1,947	133	2,799	767	21	84	2,764	178
1902	2,005	135	3,122	736	21	84	2,803	209
1903	1,917	128	3,244	784	19	78	2,633	227
1904	2,137	141	3,946	800	21	85	2,875	289
1905	1,822	119	3,686	877	17	69	2,393	280
1906	2,301	147	5,128	1,028	20	84	2,937	405
1907	2,846	179	7,028	1,042	23	98	3,508	574
1908	2,826	173	7,793	1,048	21	91	3,337	657
1909	2,667	159	8,282	982	18	78	2,981	719
1910	2,587	149	9,152	894	14	66	2,691	816
1911	2,455	134	10,026	764	10	52	2,311	918
1912	2,978	163	12,164	881	13	63	2,803	1,114
1913	2,963	162	12,099	840	12	62	2,788	1,108

## Appendix B (continued)

## 2. Non-ferrous metals: physical output (tons)

	<u>Ingot aluminum</u>	<u>Antimony</u>		
	Abruzzi	Tuscany	Sicily	Sardinia
1861	0	33	0	0
1862	0	54	0	0
1863	0	0	0	0
1864	0	0	0	0
1865	0	0	0	0
1866	0	0	88	0
1867	0	0	88	0
1868	0	0	88	0
1869	0	0	88	0
1870	0	0	88	0
1871	0	0	88	0
1872	0	0	88	0
1873	0	0	88	0
1874	0	0	88	0
1875	0	0	70	0
1876	0	0	70	0
1877	0	0	49	0
1878	0	0	70	0
1879	0	0	35	0
1880	0	80	35	0
1881	0	57	35	0
1882	0	130	100	0
1883	0	187	143	35
1884	0	206	143	64
1885	0	68	143	152
1886	0	101	30	97
1887	0	9	70	46
1888	0	0	8	0
1889	0	185	2	10
1890	0	144	105	38
1891	0	187	71	31
1892	0	177	12	109
1893	0	229	0	137
1894	0	175	6	152
1895	0	197	12	191
1896	0	239	137	251
1897	0	157	25	200
1898	0	136	70	184
1899	0	200	28	180
1900	0	398	10	128
1901	0	667	16	148
1902	0	338	8	147
1903	0	199	1	146
1904	0	207	48	95
1905	0	21	10	106
1906	0	128	22	78
1907	322	168	30	70
1908	602	83	14	60
1909	751	48	0	0
1910	827	0	0	0
1911	798	0	0	0
1912	824	0	0	0
1913	874	0	0	71

## Appendix B (continued)

## 2. Non-ferrous metals: physical output (continued)

	Ingot copper				
	Piedmont	Liguria	Venetia	Tuscany	Campania
1861	398	0	284	265	0
1862	140	0	224	265	0
1863	52	0	191	265	0
1864	322	0	218	265	0
1865	113	0	224	208	0
1866	130	0	225	265	0
1867	130	0	225	265	0
1868	130	0	225	265	0
1869	130	0	225	265	0
1870	130	0	225	265	0
1871	92	0	225	265	0
1872	123	0	225	265	0
1873	92	0	225	138	0
1874	96	0	225	49	0
1875	102	0	225	49	0
1876	64	0	225	11	0
1877	60	0	225	21	0
1878	3	0	225	22	0
1879	30	0	225	70	0
1880	95	0	225	128	0
1881	23	0	225	100	0
1882	1	0	225	117	0
1883	12	0	100	319	0
1884	30	0	100	400	0
1885	1	0	98	308	0
1886	0	0	112	296	0
1887	463	161	105	525	0
1888	927	0	90	1,938	0
1889	160	0	108	2,101	0
1890	15	0	36	1,330	0
1891	0	120	23	1,415	0
1892	0	154	108	1,910	0
1893	10	210	49	2,075	0
1894	0	365	0	2,275	0
1895	0	406	0	1,969	0
1896	0	362	0	2,480	0
1897	0	480	0	2,500	0
1898	0	182	0	3,003	45
1899	0	202	0	2,785	45
1900	0	270	0	2,527	0
1901	0	287	0	3,140	56
1902	0	424	0	3,439	0
1903	0	440	0	3,180	0
1904	0	340	0	3,253	0
1905	0	452	0	3,126	0
1906	45	200	0	4,066	0
1907	20	395	0	3,609	0
1908	16	450	0	2,359	0
1909	110	225	0	2,200	0
1910	77	157	0	1,533	0
1911	72	148	0	1,446	0
1912	101	206	0	2,013	0
1913	91	186	0	1,815	0



## Appendix B (continued)

## 2. Non-ferrous metals: physical output (continued)

	Gold (kilograms)			Silver			
	Piedmont	Liguria	Lombardy	Piedmont	Liguria	Tuscany	Sardinia
1861	75	0	0	.0	2.1	.5	.5
1862	78	0	0	.0	2.2	.9	.7
1863	48	0	0	.0	2.4	.7	.8
1864	84	0	0	.0	2.4	.6	.8
1865	73	0	0	.0	2.2	.7	.8
1866	134	0	0	.0	2.2	.7	.7
1867	124	0	0	.0	1.5	.7	.8
1868	116	0	0	.0	2.4	.6	.8
1869	141	0	0	.0	1.6	.5	.8
1870	154	0	0	.0	1.5	.5	.8
1871	130	0	0	.0	1.7	.8	.8
1872	113	0	0	.0	1.9	.6	.8
1873	45	0	0	.0	2.3	.5	.8
1874	14	0	0	.0	2.4	.4	.8
1875	22	0	0	.0	2.7	.7	.5
1876	80	0	0	.0	3.1	.5	.5
1877	104	0	0	.0	4.1	.5	.5
1878	120	0	0	.0	6.6	.5	.5
1879	162	0	0	.0	20.1	.5	.5
1880	178	0	0	.0	23.1	.4	.5
1881	175	0	0	.0	23.1	.4	.5
1882	177	0	0	.0	23.1	.5	.5
1883	147	0	0	.0	29.3	.3	.5
1884	140	0	0	.0	30.7	.0	.5
1885	189	0	0	.0	32.9	.0	.4
1886	159	0	0	.0	33.4	.0	.4
1887	188	0	0	.0	33.1	.0	.3
1888	151	0	0	.7	33.9	.0	.3
1889	171	0	0	.0	33.2	.0	.3
1890	162	0	0	.0	34.1	.0	.1
1891	145	102	0	.0	37.6	.0	.0
1892	138	161	0	.0	43.0	.0	.0
1893	185	128	0	.0	40.1	.0	.0
1894	206	120	20	.1	58.5	.0	.0
1895	179	82	20	.1	44.1	.0	.6
1896	213	33	20	1.1	35.8	.0	1.3
1897	289	6	20	1.2	42.7	.0	1.3
1898	153	5	25	2.0	40.2	.0	2.0
1899	90	5	16	.0	30.9	.0	2.8
1900	38	4	15	.0	28.3	.0	3.3
1901	3	1	0	.0	28.8	.0	3.8
1902	1	0	0	.0	25.5	.0	4.0
1903	50	0	0	.0	20.3	.0	3.8
1904	7	2	0	.0	21.1	.4	3.3
1905	12	2	0	.0	16.9	.2	3.1
1906	69	2	0	.0	17.0	.3	2.9
1907	52	0	0	.0	17.8	.0	2.7
1908	63	0	0	.0	18.0	.0	2.6
1909	10	0	0	.0	18.0	.0	2.4
1910	16	0	0	.0	12.0	.0	2.2
1911	25	0	0	.0	10.0	.0	2.5
1912	17	0	0	.0	11.5	.0	3.0
1913	14	0	0	.0	10.0	.0	3.9

## Appendix B (continued)

## 2. Non-ferrous metals: physical output (continued)

	Ingot lead					Mercury		
	Piedmont	Liguria	Venetia	Tuscany	Sardinia	Venetia	Tuscany	Sardinia
1861	0	3,698	0	73	699	20	4	0
1862	0	3,930	0	89	930	23	4	0
1863	0	4,100	0	78	1,100	18	4	0
1864	0	4,079	0	56	1,078	22	4	0
1865	0	4,002	22	50	1,002	23	4	0
1866	0	3,983	0	41	983	17	3	0
1867	0	2,957	0	45	1,000	10	5	0
1868	0	4,642	0	45	1,000	13	5	0
1869	0	4,416	0	25	1,000	18	6	0
1870	0	3,851	0	32	1,000	31	16	0
1871	0	4,250	0	83	1,000	16	20	0
1872	0	4,583	0	73	1,000	7	21	0
1873	0	5,036	0	71	1,000	6	25	0
1874	0	4,401	0	44	1,000	2	30	0
1875	0	6,368	0	100	650	2	80	0
1876	0	5,134	0	68	650	2	97	0
1877	0	6,529	0	62	650	5	106	0
1878	0	7,765	0	59	650	3	121	0
1879	0	8,035	0	49	650	2	130	0
1880	0	10,012	0	50	650	0	116	0
1881	0	11,122	100	63	650	0	128	0
1882	0	12,604	0	80	631	0	140	0
1883	0	12,822	0	69	728	0	206	0
1884	0	14,310	0	0	690	0	267	0
1885	0	15,917	0	0	544	0	237	0
1886	0	19,010	0	0	498	0	251	0
1887	0	17,395	0	0	400	0	244	0
1888	0	17,085	0	0	396	0	339	0
1889	0	17,782	0	0	383	0	386	0
1890	0	17,621	0	0	147	0	449	0
1891	0	18,500	0	0	0	0	330	0
1892	0	22,000	0	0	0	0	325	0
1893	0	19,898	0	0	0	0	273	0
1894	0	19,576	29	0	0	0	258	0
1895	0	19,954	99	0	774	0	199	0
1896	250	19,480	108	0	1,242	0	186	0
1897	300	20,469	103	0	1,692	0	192	0
1898	100	22,500	94	0	2,058	0	173	0
1899	0	18,195	81	0	2,784	0	205	0
1900	0	20,463	0	0	3,774	0	260	0
1901	0	21,540	8	0	4,501	0	278	0
1902	0	21,685	56	0	4,380	0	259	0
1903	0	18,073	46	0	3,837	0	312	0
1904	0	19,774	35	0	3,550	0	352	0
1905	0	15,606	38	0	3,351	0	369	0
1906	0	18,000	0	0	3,149	0	416	1
1907	0	19,948	0	0	3,327	0	434	0
1908	0	22,380	0	0	3,378	0	684	0
1909	0	19,000	0	0	3,064	0	770	1
1910	0	11,500	0	0	3,340	0	893	1
1911	0	13,000	0	0	3,803	0	955	0
1912	0	17,528	0	0	4,601	0	1,000	0
1913	0	16,395	0	0	5,149	0	1,004	0

## Appendix B (continued)

## 3. Non-ferrous metals: value added at 1911 prices (million lire)

	Semi-finished non-ferrous metal							.
	Piedmont	Liguria	Lombardy	Venetia	Emilia	Tuscany	Marches	
1861	.195	.157	.257	.106	.061	.134	.024	.013
1862	.187	.150	.246	.101	.058	.129	.023	.012
1863	.161	.129	.212	.087	.050	.111	.020	.011
1864	.185	.148	.243	.100	.058	.127	.023	.012
1865	.143	.115	.188	.078	.045	.098	.018	.009
1866	.157	.126	.207	.085	.049	.108	.019	.010
1867	.155	.124	.204	.084	.048	.107	.019	.010
1868	.198	.159	.261	.107	.062	.136	.024	.013
1869	.213	.171	.280	.115	.066	.146	.026	.014
1870	.208	.167	.274	.113	.065	.143	.025	.014
1871	.188	.151	.248	.102	.059	.129	.023	.012
1872	.181	.145	.243	.099	.057	.129	.023	.013
1873	.196	.159	.269	.108	.064	.145	.026	.014
1874	.209	.170	.293	.116	.069	.160	.029	.016
1875	.250	.203	.357	.140	.084	.197	.035	.020
1876	.224	.184	.327	.127	.077	.183	.033	.019
1877	.226	.186	.336	.129	.080	.190	.034	.020
1878	.217	.180	.330	.125	.078	.189	.034	.020
1879	.206	.171	.319	.119	.076	.185	.033	.020
1880	.258	.216	.409	.151	.097	.239	.043	.026
1881	.265	.222	.427	.156	.101	.253	.045	.028
1882	.333	.267	.513	.180	.118	.297	.053	.032
1883	.386	.296	.569	.191	.126	.323	.056	.034
1884	.450	.331	.636	.204	.136	.354	.061	.036
1885	.485	.344	.660	.202	.136	.359	.061	.035
1886	.512	.369	.705	.206	.140	.375	.064	.035
1887	.428	.379	.725	.201	.139	.377	.063	.034
1888	.420	.405	.774	.204	.142	1.363	.065	.034
1889	.844	.321	.613	.153	.108	1.916	.050	.025
1890	.962	.327	.624	.147	.106	1.630	.049	.024
1891	.652	.418	.582	.130	.095	1.699	.044	.021
1892	.583	.588	.648	.135	.101	1.555	.047	.025
1893	.853	.464	.569	.111	.085	1.692	.040	.017
1894	1.318	.387	.538	.098	.076	1.725	.036	.015
1895	1.016	.383	.594	.101	.080	1.699	.039	.015
1896	1.319	.427	.620	.097	.080	1.953	.039	.029
1897	1.548	.437	.627	.090	.076	2.487	.038	.031
1898	1.421	.480	.699	.092	.080	2.732	.040	.031
1899	1.554	.515	.649	.077	.070	2.895	.036	.009
1900	1.691	.652	.779	.083	.080	2.786	.041	.009
1901	1.773	.720	.909	.085	.087	2.492	.045	.008
1902	1.733	.822	.937	.095	.094	2.794	.048	.010
1903	1.504	1.098	.914	.100	.096	3.160	.048	.012
1904	1.584	1.210	.993	.118	.109	3.490	.053	.016
1905	1.884	1.353	1.018	.130	.117	4.957	.056	.019
1906	2.163	1.711	1.148	.158	.138	4.075	.065	.024
1907	2.379	2.347	1.302	.193	.164	4.415	.076	.031
1908	2.401	2.789	1.268	.203	.168	4.385	.076	.034
1909	2.324	2.905	1.216	.210	.170	4.781	.076	.037
1910	2.792	3.332	1.151	.215	.169	4.626	.074	.040
1911	3.245	3.277	1.274	.313	.198	4.726	.085	.049
1912	3.445	3.195	1.371	.351	.213	6.138	.091	.053
1913	3.191	2.945	1.364	.331	.212	5.496	.091	.053

## Appendix B (continued)

## 3. Non-ferrous metals: value added at 1911 prices (continued)

	Semi-finished non-ferrous metal (continued)							Sardinia
	Latium	Abruzzi	Campania	Apulia	Basil.	Calabria	Sicily	
1861	.062	.006	.356	.018	.002	.005	.102	.006
1862	.059	.005	.341	.017	.002	.005	.097	.006
1863	.051	.005	.293	.015	.002	.004	.084	.005
1864	.058	.005	.337	.017	.002	.005	.096	.006
1865	.045	.004	.261	.013	.001	.004	.074	.004
1866	.050	.005	.287	.015	.002	.004	.082	.005
1867	.049	.005	.283	.014	.002	.004	.081	.005
1868	.062	.006	.361	.018	.002	.005	.103	.006
1869	.067	.006	.388	.020	.002	.006	.111	.006
1870	.066	.006	.380	.019	.002	.006	.108	.006
1871	.059	.006	.343	.017	.002	.005	.098	.006
1872	.059	.006	.324	.018	.002	.006	.091	.005
1873	.067	.006	.345	.022	.002	.007	.097	.006
1874	.074	.007	.361	.025	.003	.008	.100	.006
1875	.092	.009	.422	.032	.004	.010	.116	.007
1876	.085	.008	.371	.031	.003	.009	.101	.006
1877	.089	.009	.366	.033	.004	.010	.098	.006
1878	.089	.009	.345	.034	.004	.010	.091	.006
1879	.087	.009	.319	.035	.004	.010	.083	.005
1880	.113	.011	.391	.046	.005	.014	.100	.006
1881	.120	.012	.391	.050	.006	.015	.098	.006
1882	.136	.015	.475	.058	.006	.017	.114	.008
1883	.143	.016	.533	.063	.007	.018	.122	.010
1884	.151	.018	.603	.068	.007	.019	.132	.013
1885	.148	.019	.633	.069	.007	.019	.132	.014
1886	.148	.020	.696	.072	.007	.019	.137	.016
1887	.142	.020	.810	.072	.007	.019	.135	.017
1888	.141	.022	.928	.074	.007	.019	.139	.020
1889	.104	.017	.852	.057	.005	.014	.106	.016
1890	.097	.017	.842	.056	.005	.014	.104	.018
1891	.083	.016	.780	.051	.004	.012	.093	.017
1892	.084	.018	.890	.055	.004	.013	.099	.020
1893	.066	.016	.879	.047	.003	.010	.083	.019
1894	.056	.015	.933	.043	.002	.009	.075	.018
1895	.054	.017	.956	.045	.002	.009	.079	.021
1896	.049	.017	.976	.046	.002	.009	.079	.023
1897	.042	.017	1.076	.045	.002	.008	.075	.024
1898	.038	.019	1.083	.048	.001	.008	.080	.028
1899	.027	.018	1.035	.043	.001	.007	.070	.027
1900	.023	.022	1.205	.049	.000	.007	.079	.033
1901	.016	.025	1.215	.055	.000	.007	.087	.040
1902	.028	.026	1.246	.069	.000	.007	.084	.040
1903	.038	.026	1.308	.080	.000	.007	.077	.038
1904	.055	.028	1.346	.102	.000	.007	.077	.041
1905	.079	.029	1.498	.121	.000	.007	.071	.042
1906	.101	.033	1.873	.157	.000	.007	.072	.047
1907	.132	.037	2.130	.202	.001	.008	.071	.051
1908	.151	.037	2.114	.222	.001	.007	.058	.050
1909	.168	.036	2.477	.240	.001	.006	.044	.042
1910	.183	.034	2.821	.254	.001	.005	.030	.038
1911	.232	.038	3.031	.314	.001	.005	.018	.039
1912	.250	.041	3.477	.338	.001	.006	.020	.042
1913	.249	.041	3.705	.336	.001	.006	.020	.042

Source: see text.

Appendix C: Regional value added at 1911 prices, 1861-1913 (million lire)

	Piedmont			Liguria		
	Ferrous	Non-ferrous	Total	Ferrous	Non-ferrous	Total
1861	.69	.50	1.19	.83	.36	1.19
1862	.64	.32	.95	.76	.37	1.13
1863	.53	.22	.74	.64	.35	.99
1864	.52	.44	.96	.63	.37	1.01
1865	.49	.25	.74	.59	.34	.93
1866	.56	.30	.86	.68	.35	1.02
1867	.59	.30	.89	.73	.29	1.02
1868	.58	.34	.92	.70	.41	1.11
1869	.62	.36	.98	.77	.41	1.18
1870	.67	.36	1.03	.87	.38	1.24
1871	.60	.30	.90	.78	.38	1.16
1872	.79	.31	1.11	1.11	.40	1.50
1873	.66	.28	.94	.94	.44	1.38
1874	.91	.28	1.19	1.36	.41	1.77
1875	.82	.33	1.15	1.27	.55	1.82
1876	.80	.30	1.10	1.29	.47	1.76
1877	.79	.31	1.10	1.30	.55	1.85
1878	.67	.27	.94	1.16	.62	1.78
1879	1.09	.29	1.38	1.99	.67	2.65
1880	1.09	.40	1.48	2.06	.83	2.89
1881	1.32	.35	1.68	2.56	.89	3.45
1882	1.24	.41	1.64	2.89	1.02	3.91
1883	1.42	.45	1.88	3.95	1.08	5.03
1884	1.40	.53	1.93	4.64	1.20	5.83
1885	1.42	.56	1.98	5.51	1.31	6.81
1886	1.50	.58	2.07	5.45	1.50	6.95
1887	1.68	.83	2.50	6.13	1.53	7.67
1888	1.73	1.13	2.86	7.29	1.43	8.72
1889	1.75	1.02	2.78	8.27	1.38	9.65
1890	1.73	1.04	2.77	7.02	1.38	8.40
1891	1.61	.71	2.32	5.41	1.66	7.06
1892	1.16	.64	1.80	4.54	2.08	6.62
1893	.98	.93	1.91	5.63	1.86	7.49
1894	1.16	1.40	2.56	5.69	1.94	7.63
1895	1.55	1.09	2.64	6.84	1.92	8.76
1896	1.77	1.42	3.19	6.84	1.85	8.69
1897	2.11	1.68	3.80	7.03	2.01	9.04
1898	2.84	1.49	4.33	8.21	1.95	10.15
1899	3.69	1.59	5.28	9.76	1.73	11.49
1900	4.01	1.71	5.72	9.47	2.03	11.50
1901	3.82	1.77	5.60	8.87	2.17	11.04
1902	3.52	1.73	5.25	7.62	2.36	9.98
1903	3.63	1.52	5.15	10.37	2.44	12.81
1904	4.19	1.59	5.78	12.22	2.58	14.79
1905	4.52	1.89	6.41	16.59	2.56	19.15
1906	6.46	2.22	8.69	22.09	2.87	24.96
1907	7.90	2.41	10.31	24.33	3.75	28.08
1908	9.28	2.44	11.72	25.51	4.36	29.87
1909	9.87	2.40	12.27	24.75	4.14	28.89
1910	9.55	2.85	12.41	24.25	4.10	28.34
1911	8.62	3.31	11.92	21.34	4.11	25.45
1912	10.77	3.52	14.30	23.67	4.31	27.99
1913	11.09	3.26	14.35	22.49	3.98	26.48

Appendix C (continued)

	Lombardy			Venetia		
	Ferrous	Non-ferrous	Total	Ferrous	Non-ferrous	Total
1861	2.03	.26	2.29	.05	.32	.38
1862	1.87	.25	2.11	.05	.28	.33
1863	1.58	.21	1.79	.04	.24	.28
1864	1.54	.24	1.79	.04	.28	.32
1865	1.46	.19	1.64	.04	.26	.30
1866	1.62	.21	1.83	.05	.26	.31
1867	1.75	.20	1.95	.07	.25	.32
1868	1.72	.26	1.98	.09	.28	.36
1869	1.87	.28	2.15	.10	.29	.40
1870	2.04	.27	2.32	.13	.30	.43
1871	1.83	.25	2.08	.14	.28	.42
1872	2.47	.24	2.71	.16	.26	.42
1873	2.08	.27	2.35	.13	.27	.40
1874	2.88	.29	3.18	.17	.28	.44
1875	2.67	.36	3.03	.15	.30	.45
1876	2.67	.33	2.99	.15	.29	.44
1877	2.67	.34	3.00	.16	.29	.45
1878	2.30	.33	2.63	.11	.29	.40
1879	3.82	.32	4.14	.17	.28	.45
1880	3.90	.41	4.31	.16	.31	.47
1881	4.76	.43	5.19	.18	.32	.50
1882	4.53	.51	5.04	.32	.34	.65
1883	5.25	.57	5.82	.59	.26	.85
1884	5.36	.64	6.00	.61	.27	.88
1885	5.61	.66	6.27	.65	.27	.92
1886	5.77	.70	6.47	.68	.28	.96
1887	6.37	.73	7.10	.76	.28	1.04
1888	7.45	.77	8.22	.77	.27	1.04
1889	8.29	.61	8.90	.75	.23	.98
1890	7.22	.62	7.85	.85	.17	1.02
1891	5.96	.58	6.54	.87	.15	1.01
1892	4.89	.65	5.54	.72	.21	.93
1893	5.04	.57	5.61	.74	.14	.89
1894	4.65	.55	5.20	.74	.10	.84
1895	4.95	.60	5.55	.86	.11	.96
1896	4.61	.63	5.23	.77	.10	.87
1897	4.58	.63	5.22	.72	.09	.82
1898	4.91	.71	5.62	.88	.10	.98
1899	5.08	.65	5.73	1.04	.08	1.12
1900	5.34	.79	6.13	1.09	.08	1.17
1901	4.98	.91	5.89	1.01	.09	1.10
1902	5.58	.94	6.52	.94	.10	1.04
1903	6.78	.91	7.69	.95	.10	1.05
1904	7.67	.99	8.66	1.39	.12	1.51
1905	8.05	1.02	9.07	1.85	.13	1.99
1906	10.21	1.15	11.36	2.05	.16	2.20
1907	11.52	1.30	12.82	1.96	.19	2.16
1908	13.68	1.27	14.95	2.16	.20	2.36
1909	14.84	1.22	16.05	2.14	.21	2.35
1910	16.83	1.15	17.98	2.05	.22	2.26
1911	18.06	1.27	19.33	1.83	.31	2.14
1912	22.97	1.37	24.34	2.08	.35	2.43
1913	24.01	1.36	25.37	1.97	.33	2.30

## Appendix C (continued)

	Emilia			Tuscany		
	Ferrous	Non-ferrous	Total	Ferrous	Non-ferrous	Total
1861	.13	.06	.19	.78	.34	1.12
1862	.12	.06	.17	.73	.34	1.07
1863	.10	.05	.15	.63	.31	.94
1864	.10	.06	.16	.61	.32	.93
1865	.09	.05	.14	.56	.25	.81
1866	.10	.05	.15	.64	.30	.94
1867	.10	.05	.15	.68	.30	.98
1868	.11	.06	.17	.64	.33	.97
1869	.12	.07	.18	.68	.34	1.02
1870	.12	.06	.18	.77	.35	1.12
1871	.11	.06	.17	.70	.34	1.05
1872	.14	.06	.19	1.04	.34	1.38
1873	.11	.06	.18	.93	.27	1.20
1874	.15	.07	.22	1.27	.23	1.50
1875	.14	.08	.22	1.18	.32	1.50
1876	.14	.08	.21	1.18	.29	1.47
1877	.14	.08	.22	1.16	.32	1.48
1878	.11	.08	.18	1.05	.33	1.38
1879	.17	.08	.24	1.77	.37	2.14
1880	.16	.10	.26	1.88	.47	2.34
1881	.19	.10	.29	2.36	.47	2.83
1882	.17	.12	.29	2.42	.56	2.98
1883	.20	.13	.33	3.01	.80	3.81
1884	.22	.14	.36	3.08	.95	4.02
1885	.26	.14	.39	3.22	.83	4.05
1886	.25	.14	.39	3.36	.86	4.22
1887	.25	.14	.39	3.71	.99	4.70
1888	.22	.14	.36	4.05	3.06	7.11
1889	.18	.11	.29	4.23	3.82	8.04
1890	.18	.11	.29	3.89	3.04	6.93
1891	.18	.09	.27	3.36	3.06	6.43
1892	.17	.10	.27	2.70	3.26	5.96
1893	.16	.09	.25	2.84	3.47	6.31
1894	.17	.08	.24	2.54	3.62	6.16
1895	.19	.08	.27	2.59	3.32	5.91
1896	.19	.08	.27	2.62	3.93	6.55
1897	.20	.08	.28	2.85	4.47	7.31
1898	.25	.08	.33	3.26	5.04	8.29
1899	.27	.07	.34	3.85	5.10	8.95
1900	.30	.08	.38	3.90	4.91	8.81
1901	.30	.09	.39	3.42	5.12	8.54
1902	.33	.09	.42	3.49	5.54	9.03
1903	.34	.10	.43	4.35	5.74	10.10
1904	.40	.11	.51	4.51	6.17	10.67
1905	.38	.12	.49	7.30	7.52	14.82
1906	.50	.14	.64	6.64	7.37	14.01
1907	.64	.16	.81	4.49	7.41	11.91
1908	.69	.17	.86	12.10	6.74	18.84
1909	.69	.17	.86	23.87	7.10	30.97
1910	.72	.17	.89	23.45	6.59	30.04
1911	.74	.20	.94	20.29	6.69	26.98
1912	.89	.21	1.10	20.52	8.55	29.07
1913	.88	.21	1.10	19.19	7.77	26.96

Appendix C (continued)

	Marches			Umbria		
	Ferrous	Non-ferrous	Total	Ferrous	Non-ferrous	Total
1861	.04	.02	.07	.14	.01	.15
1862	.04	.02	.06	.13	.01	.14
1863	.03	.02	.05	.10	.01	.11
1864	.03	.02	.05	.10	.01	.11
1865	.03	.02	.05	.09	.01	.10
1866	.03	.02	.05	.12	.01	.13
1867	.03	.02	.05	.13	.01	.14
1868	.04	.02	.06	.11	.01	.13
1869	.04	.03	.06	.12	.01	.13
1870	.04	.03	.06	.14	.01	.15
1871	.03	.02	.06	.12	.01	.13
1872	.04	.02	.06	.17	.01	.19
1873	.03	.03	.06	.14	.01	.16
1874	.04	.03	.07	.21	.02	.23
1875	.04	.04	.07	.23	.02	.25
1876	.04	.03	.07	.18	.02	.19
1877	.04	.03	.07	.16	.02	.18
1878	.03	.03	.06	.15	.02	.17
1879	.04	.03	.07	.24	.02	.26
1880	.04	.04	.08	.24	.03	.27
1881	.04	.05	.09	.29	.03	.32
1882	.04	.05	.09	.26	.03	.29
1883	.05	.06	.11	.28	.03	.31
1884	.05	.06	.11	.60	.04	.63
1885	.06	.06	.12	1.03	.04	1.06
1886	.06	.06	.12	3.76	.04	3.80
1887	.06	.06	.12	7.39	.03	7.42
1888	.05	.06	.12	7.47	.03	7.50
1889	.05	.05	.10	7.53	.03	7.56
1890	.05	.05	.10	5.93	.02	5.95
1891	.05	.04	.09	4.58	.02	4.61
1892	.05	.05	.09	3.77	.03	3.80
1893	.04	.04	.08	4.56	.02	4.58
1894	.05	.04	.08	4.72	.01	4.73
1895	.06	.04	.10	5.36	.01	5.38
1896	.06	.04	.10	4.95	.03	4.97
1897	.07	.04	.11	5.45	.03	5.48
1898	.09	.04	.13	5.79	.03	5.83
1899	.09	.04	.13	7.43	.01	7.44
1900	.10	.04	.15	7.42	.01	7.43
1901	.11	.05	.15	7.04	.01	7.05
1902	.11	.05	.16	6.55	.01	6.56
1903	.11	.05	.16	6.57	.01	6.58
1904	.12	.05	.17	7.46	.02	7.48
1905	.10	.06	.16	7.78	.02	7.79
1906	.13	.06	.20	9.03	.02	9.05
1907	.16	.08	.24	8.12	.03	8.15
1908	.16	.08	.24	9.14	.03	9.17
1909	.16	.08	.23	8.18	.04	8.21
1910	.15	.07	.23	9.34	.04	9.38
1911	.15	.09	.23	9.33	.05	9.38
1912	.18	.09	.27	10.67	.05	10.72
1913	.18	.09	.27	9.70	.05	9.75



Appendix C (continued)

	Latium			Abruzzi		
	Ferrous	Non-ferrous	Total	Ferrous	Non-ferrous	Total
1861	.36	.06	.42	.00	.01	.01
1862	.35	.06	.41	.00	.00	.01
1863	.35	.05	.41	.00	.00	.01
1864	.36	.06	.41	.00	.00	.01
1865	.35	.05	.40	.00	.00	.01
1866	.35	.05	.40	.00	.00	.01
1867	.35	.05	.40	.00	.00	.01
1868	.36	.06	.42	.00	.01	.01
1869	.35	.07	.42	.00	.01	.01
1870	.36	.07	.42	.00	.01	.01
1871	.27	.06	.33	.00	.01	.01
1872	.24	.06	.30	.00	.01	.01
1873	.21	.07	.27	.00	.01	.01
1874	.20	.07	.28	.00	.01	.01
1875	.16	.09	.26	.00	.01	.01
1876	.17	.09	.25	.00	.01	.01
1877	.17	.09	.26	.00	.01	.01
1878	.14	.09	.23	.00	.01	.01
1879	.24	.09	.33	.00	.01	.01
1880	.25	.11	.36	.00	.01	.02
1881	.30	.12	.42	.01	.01	.02
1882	.27	.14	.41	.01	.01	.02
1883	.30	.14	.44	.01	.02	.02
1884	.30	.15	.45	.01	.02	.03
1885	.32	.15	.47	.01	.02	.03
1886	.33	.15	.48	.01	.02	.03
1887	.37	.14	.51	.01	.02	.03
1888	.32	.14	.46	.01	.02	.03
1889	.27	.10	.37	.01	.02	.02
1890	.29	.10	.39	.01	.02	.02
1891	.29	.08	.38	.01	.02	.02
1892	.25	.08	.34	.01	.02	.03
1893	.26	.07	.33	.01	.02	.02
1894	.19	.06	.24	.01	.01	.02
1895	.12	.05	.18	.01	.02	.03
1896	.13	.05	.18	.01	.02	.03
1897	.15	.04	.19	.01	.02	.03
1898	.23	.04	.27	.01	.02	.03
1899	.32	.03	.35	.01	.02	.03
1900	.34	.02	.36	.01	.02	.04
1901	.32	.02	.34	.02	.03	.04
1902	.32	.03	.35	.02	.03	.04
1903	.31	.04	.35	.01	.03	.04
1904	.35	.05	.40	.02	.03	.05
1905	.32	.08	.40	.01	.03	.04
1906	.40	.10	.50	.02	.03	.05
1907	.46	.13	.59	.02	.17	.19
1908	.48	.15	.63	.02	.28	.30
1909	.46	.17	.63	.02	.34	.35
1910	.44	.18	.63	.02	.37	.38
1911	.41	.23	.64	.02	.36	.37
1912	.49	.25	.74	.02	.37	.39
1913	.48	.25	.73	.02	.39	.41

Appendix C (continued)

	Campania			Apulia		
	Ferrous	Non-ferrous	Total	Ferrous	Non-ferrous	Total
1861	1.62	.36	1.97	.12	.02	.14
1862	1.28	.34	1.62	.11	.02	.13
1863	.94	.29	1.23	.11	.01	.12
1864	.80	.34	1.13	.10	.02	.12
1865	.65	.26	.91	.10	.01	.11
1866	.57	.29	.86	.09	.01	.10
1867	.47	.28	.75	.09	.01	.10
1868	.46	.36	.82	.11	.02	.13
1869	.52	.39	.91	.13	.02	.15
1870	.48	.38	.86	.11	.02	.13
1871	.48	.34	.82	.12	.02	.13
1872	.49	.32	.81	.12	.02	.13
1873	.41	.34	.75	.10	.02	.12
1874	.51	.36	.87	.13	.03	.15
1875	.48	.42	.90	.12	.03	.15
1876	.48	.37	.85	.13	.03	.16
1877	.50	.37	.87	.14	.03	.17
1878	.35	.34	.69	.09	.03	.13
1879	.54	.32	.86	.15	.04	.18
1880	.51	.39	.90	.14	.05	.19
1881	.60	.39	.99	.17	.05	.22
1882	.58	.47	1.05	.15	.06	.21
1883	.76	.53	1.30	.20	.06	.26
1884	.76	.60	1.36	.21	.07	.28
1885	.80	.63	1.43	.23	.07	.30
1886	.84	.70	1.54	.26	.07	.34
1887	.95	.81	1.76	.32	.07	.39
1888	.98	.93	1.91	.34	.07	.41
1889	1.01	.85	1.86	.37	.06	.42
1890	.80	.84	1.64	.33	.06	.39
1891	.60	.78	1.38	.28	.05	.34
1892	.60	.89	1.49	.22	.05	.28
1893	.69	.88	1.57	.20	.05	.25
1894	.87	.93	1.80	.20	.04	.24
1895	1.22	.96	2.17	.21	.05	.25
1896	1.22	.98	2.20	.18	.05	.22
1897	1.31	1.08	2.39	.17	.05	.21
1898	1.52	1.12	2.64	.15	.05	.20
1899	1.74	1.07	2.80	.13	.04	.17
1900	1.81	1.21	3.01	.12	.05	.17
1901	1.65	1.25	2.91	.09	.05	.15
1902	1.68	1.25	2.93	.09	.07	.16
1903	2.13	1.31	3.43	.09	.08	.17
1904	2.48	1.35	3.82	.10	.10	.20
1905	2.59	1.50	4.09	.10	.12	.23
1906	3.27	1.87	5.14	.12	.16	.28
1907	3.61	2.13	5.74	.13	.20	.33
1908	4.17	2.11	6.28	.13	.22	.35
1909	4.59	2.48	7.07	.12	.24	.36
1910	10.62	2.82	13.44	.11	.25	.36
1911	16.12	3.03	19.15	.09	.31	.41
1912	16.79	3.48	20.27	.11	.34	.44
1913	14.77	3.70	18.47	.10	.34	.44

Appendix C (continued)

	Basilicata			Calabria		
	Ferrous	Non-ferrous	Total	Ferrous	Non-ferrous	Total
1861	.00	.00	.00	.08	.00	.08
1862	.00	.00	.00	.06	.00	.07
1863	.00	.00	.00	.05	.00	.06
1864	.00	.00	.00	.05	.00	.05
1865	.00	.00	.00	.05	.00	.05
1866	.00	.00	.00	.04	.00	.04
1867	.00	.00	.00	.04	.00	.04
1868	.00	.00	.00	.04	.00	.05
1869	.00	.00	.00	.05	.01	.05
1870	.00	.00	.00	.04	.01	.05
1871	.00	.00	.00	.05	.00	.05
1872	.00	.00	.00	.04	.01	.05
1873	.00	.00	.00	.04	.01	.04
1874	.00	.00	.01	.04	.01	.05
1875	.00	.00	.01	.04	.01	.05
1876	.00	.00	.01	.04	.01	.05
1877	.00	.00	.01	.04	.01	.05
1878	.00	.00	.01	.03	.01	.04
1879	.00	.00	.01	.04	.01	.05
1880	.00	.00	.01	.04	.01	.05
1881	.00	.01	.01	.05	.01	.06
1882	.00	.01	.01	.04	.02	.05
1883	.00	.01	.01	.05	.02	.06
1884	.00	.01	.01	.05	.02	.06
1885	.00	.01	.01	.05	.02	.07
1886	.00	.01	.01	.04	.02	.06
1887	.00	.01	.01	.04	.02	.06
1888	.00	.01	.01	.03	.02	.05
1889	.00	.00	.01	.03	.01	.04
1890	.00	.00	.01	.03	.01	.04
1891	.00	.00	.01	.02	.01	.04
1892	.00	.00	.01	.02	.01	.03
1893	.00	.00	.00	.02	.01	.03
1894	.00	.00	.00	.01	.01	.02
1895	.00	.00	.00	.02	.01	.03
1896	.00	.00	.00	.01	.01	.02
1897	.00	.00	.00	.01	.01	.02
1898	.00	.00	.00	.02	.01	.02
1899	.00	.00	.00	.01	.01	.02
1900	.00	.00	.00	.01	.01	.02
1901	.00	.00	.00	.01	.01	.02
1902	.00	.00	.00	.01	.01	.02
1903	.00	.00	.00	.01	.01	.02
1904	.00	.00	.00	.01	.01	.02
1905	.00	.00	.00	.01	.01	.02
1906	.00	.00	.00	.01	.01	.02
1907	.00	.00	.00	.01	.01	.02
1908	.00	.00	.00	.01	.01	.02
1909	.00	.00	.00	.01	.01	.01
1910	.00	.00	.00	.01	.00	.01
1911	.00	.00	.00	.01	.00	.01
1912	.00	.00	.00	.01	.01	.01
1913	.00	.00	.00	.01	.01	.01

## Appendix C (continued)

	Sicily			Sardinia		
	Ferrous	Non-ferrous	Total	Ferrous	Non-ferrous	Total
1861	.20	.10	.30	.01	.05	.06
1862	.17	.10	.27	.01	.06	.07
1863	.15	.08	.23	.01	.07	.08
1864	.13	.10	.23	.01	.07	.07
1865	.12	.07	.20	.01	.06	.07
1866	.11	.10	.21	.01	.06	.07
1867	.10	.10	.20	.01	.06	.07
1868	.12	.12	.24	.01	.06	.07
1869	.14	.13	.27	.01	.06	.07
1870	.12	.13	.25	.01	.06	.07
1871	.13	.12	.24	.01	.06	.07
1872	.13	.11	.24	.01	.06	.07
1873	.11	.12	.23	.01	.06	.07
1874	.14	.12	.26	.01	.06	.07
1875	.13	.13	.26	.01	.04	.05
1876	.14	.12	.26	.01	.04	.05
1877	.15	.11	.26	.01	.04	.06
1878	.10	.11	.21	.01	.04	.05
1879	.16	.09	.26	.01	.04	.06
1880	.16	.11	.27	.01	.04	.06
1881	.19	.11	.29	.01	.04	.06
1882	.17	.14	.31	.01	.04	.06
1883	.22	.16	.37	.02	.06	.08
1884	.22	.17	.38	.02	.07	.08
1885	.24	.17	.40	.02	.08	.10
1886	.24	.14	.38	.02	.06	.08
1887	.25	.15	.40	.02	.05	.07
1888	.21	.14	.35	.01	.04	.06
1889	.19	.11	.30	.01	.04	.05
1890	.18	.13	.31	.01	.04	.05
1891	.18	.11	.29	.01	.02	.04
1892	.17	.10	.27	.01	.05	.06
1893	.15	.08	.23	.01	.05	.06
1894	.16	.08	.23	.01	.05	.06
1895	.19	.08	.27	.01	.11	.12
1896	.19	.11	.30	.01	.15	.17
1897	.22	.08	.30	.01	.17	.18
1898	.28	.10	.37	.02	.19	.20
1899	.30	.08	.38	.02	.23	.25
1900	.33	.08	.41	.02	.28	.30
1901	.33	.09	.42	.02	.33	.35
1902	.34	.09	.42	.03	.32	.35
1903	.32	.08	.39	.03	.29	.32
1904	.34	.09	.43	.04	.26	.30
1905	.29	.07	.36	.03	.25	.29
1906	.47	.08	.55	.05	.24	.29
1907	.66	.08	.74	.07	.25	.32
1908	.55	.06	.62	.08	.25	.33
1909	.36	.04	.40	.09	.21	.30
1910	.70	.03	.73	.10	.22	.32
1911	1.04	.02	1.06	.11	.25	.36
1912	1.14	.02	1.16	.13	.30	.43
1913	1.04	.02	1.06	.13	.35	.48

Source: see text.