

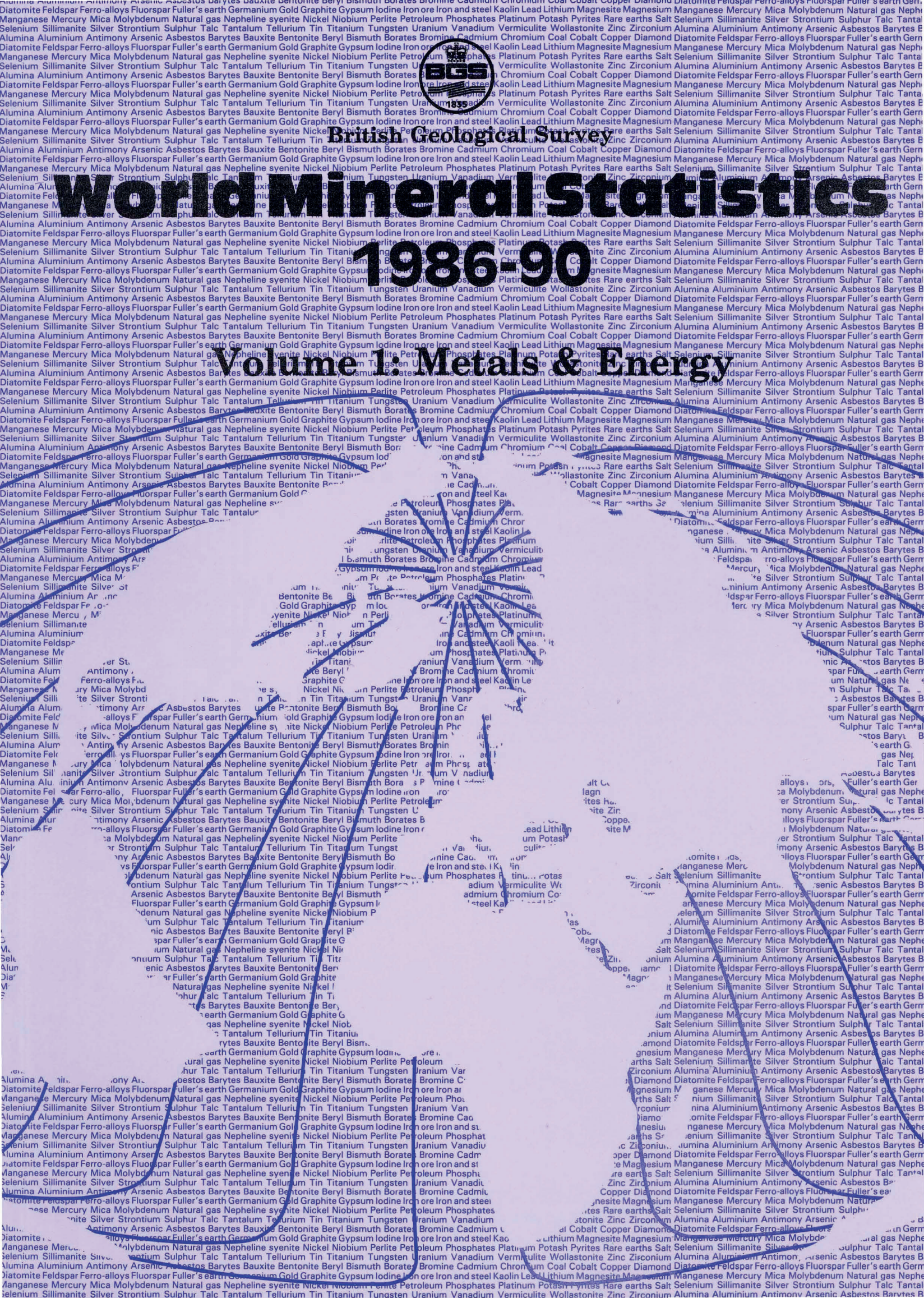


British Geological Survey

World Mineral Statistics

1986-90

Volume 1: Metals & Energy



BRITISH GEOLOGICAL SURVEY

**WORLD MINERAL STATISTICS
1986-90**

Volume 1: Metals & Energy

Production: Exports: Imports

Compiled by G J Lofty, J A Hillier, S A Cooke, K A Linley, and H R Singh
Research and Graphics by C D G Black

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BRITISH GEOLOGICAL SURVEY

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The British Geological Survey carries out the geological survey of Great Britain and Northern Ireland (the latter as an agency service for the government of Northern Ireland), and of the surrounding continental shelf, as well as its basic research projects. It also undertakes programmes of British technical aid in geology in developing countries as arranged by the Overseas Development Administration.

The British Geological Survey is a component body of the Natural Environment Research Council.

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PREFACE

This volume is the fifteenth in the series *World Mineral Statistics*.

The first volume in this series was published in 1978 but publication by the British Geological Survey, and its precursors, of descriptive statistics encompassing the mineral industry world-wide dates back to 1913 in the well-known *Statistical Summary of the Mineral Industry*. The current volume is therefore the latest in a continuous series encompassing 78 years.

In response to the wishes of many of our subscribers, the current edition of *World Mineral Statistics* is being published in two volumes: **Metals and Energy** and **Industrial Minerals**. It is hoped that this will enable the book to serve better those with specific interests in the minerals field. A precise split between the two categories has not been possible; consequently some materials are featured in both volumes. These are bauxite, alumina, chromite, lithium minerals, rare earths and titanium minerals.

Production data for 1991 will be made available on microfiche towards the end of this year but the production supplement will not be published. The British Geological Survey is carrying out customer trials with a view to putting the entire World Mineral Statistics data on-line as a dial-up subscription service.

Comparing the total world production of individual minerals with previous years provides an insight into the way in which the mineral industry has responded to the recession affecting the major economies.

Industrial minerals have, with some notable exceptions, fared better than metallic minerals and many showed increases in production in 1990. For the first time diamond production passed 100 million carats. The decline has continued, however, in total world production of potash and sulphur.

The base metals maintained their production levels and both primary magnesium and gold continued to rise. Gold attained an annual production of 2000 tonnes in 1990. Cadmium, mercury and uranium, recorded further drops in production possibly reflecting environmental concerns. Iron ore production, which had been rising steadily since 1983, fell during 1990, as did the alloying metals, probably in response to the general recession. Also of significance is the decline in coal mine production; the first appreciable year-on-year fall to register since 1967. On the other hand crude petroleum production in 1990 reached 3 billion tonnes; a level not attained since 1980.

An appendix showing reconstructed trade data, which was a feature of previous volumes, has not been included this year. However, the research required to produce this data is on-going and the reconstructed figures do appear in the commodity tables where they are shown as estimates.

The reader should be aware that this publication is compiled from a more comprehensive data set maintained by the staff of the Minerals Group of the British Geological Survey. Additional data, such as those for value of minerals produced, for country breakdown of trade, and for trade in other minerals, are available on enquiry. Although data on consumption is not compiled it will be evident to the reader that it is possible to calculate approximate apparent consumption of many commodities from the published data, although stock changes have to be ignored unless such information is obtainable elsewhere.

In each new volume account is taken of revisions and information received after the publication of the previous issue, so that data for every year are as up-to-date as is practicable. The objective remains to present the latest complete information from primary sources, that is from individual producing and trading countries, rather than to reproduce data from compilations made by other organisations working in the same field of world mineral statistics. However, such secondary sources have been fully consulted and the co-operation afforded to the British Geological Survey by numerous national and international organisations, in particular the International

Consultative Group on Non-Ferrous Metal Statistics, is gratefully acknowledged.

The political changes of recent years in the countries of the former Communist bloc present to the observer of the mining industry rapidly shifting patterns in the nature of world trade in minerals. Although there was never total isolation between 'western world' and 'eastern bloc' economies, a much greater degree of interdependence is expected to develop quickly. Countries of the old eastern bloc are expected to become net exporters to the west of many commodities, especially metals, with consequent effects on supply and prices.

For many years it has been the remit of the British Geological Survey to make available to our customers a reliable, comprehensive and continuous set of data covering most of the minerals which enter into manufacturing and international trade. It is our view that such a time series is a pre-requisite for informed analysis by those who are concerned with the current somewhat volatile situation and future developments in the mineral industry. Funding constraints make it progressively more difficult to do this but nonetheless it is our hope that the service will be maintained at its present high standard.

Criticisms and suggestions that might help us to meet your changing needs would be welcome.

Peter J Cook
Director

British Geological Survey
Keyworth
Nottingham NG12 5GG

8 September 1992

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EXPLANATORY NOTES

Coverage

World Mineral Statistics: Volume 1 covers the majority of economically important, and internationally traded, metal and energy minerals. It should be noted that prior to this year both metallic and non-metallic minerals were included in one volume of the same title. For each commodity constant efforts are made to ensure that as many producing and trading countries as possible are reported and that trade data cover all major traded forms. For some commodities, where statistics on production and trade are not publicly available, estimates are made. Users of this compilation are advised that more statistical information than can be included in a publication of this nature is in the Minerals Group files and is available for consultation. Historical data (1913–1970) can be obtained from the predecessor of this series entitled the *Statistical Summary of the Mineral Industry*.

Arrangement of countries

After the United Kingdom, if listed, countries are ordered alphabetically in geographical groupings as follows:

- European Economic Community (EEC)
- Europe other than EEC; including the Soviet Union
- Africa
- North and Central America, including the Caribbean
- South America
- Asia
- Australasia, including the Pacific Islands

So far as possible the nomenclature follows the London Diplomatic List and United Nations usage.

Production data

Metals Mine production of many metals is expressed in terms of metal content. This is clearly indicated at the head of the table, adjacent to the unit used. For aluminium, cobalt, copper, iron, lead, nickel, tin and zinc, mine production and metal production are shown in separate tables. Unless otherwise specified, metal production statistics relate to metal recovered from both domestic or imported materials, whether primary or secondary, but exclude remelted material.

Canada With effect from 1987, Canadian production figures, previously shown throughout as 'shipments', are shown as mine production where the data are available.

Trade data

Federal Republic of Germany Data include shipments to, and purchases from, the German Democratic Republic.

South Africa Import data are taken from the trade statistics of the common customs area, which includes Botswana, Lesotho, South Africa and Swaziland, and relate to this area as a whole. Where separate data are available for any of these countries they have also been shown even though this may result in some double counting.

Export data are taken from returns furnished by producers to the Department of Mineral and Energy Affairs, and may be shipments rather than actual exports.

Estimates for other South African exports, based on reconstruction from importing countries, may include material originating in any of the countries of the common customs area and so involve some double counting on tables where these are listed separately.

USA US trade statistics show trade between the US customs territory and foreign countries, but exclude trade between the US and Puerto Rico, and between the US and Guam, American Samoa and other US possessions. Also excluded is trade between any of these outlying areas, shipments from US possessions to foreign countries, and shipments for the use of the US Government in foreign countries.

General Although every effort has been made to provide comprehensive coverage of trade statistics the resulting trade

compilations depend on the nature of the data available. The fact that a country is not shown as trading in a particular commodity does not necessarily imply that there is no trade in that item. The commodity may not be separately identified in the available trade statistics or may not be traded in significant quantities.

Where an estimate for a trade statistic has been reconstructed from the imports/exports of other countries, the resulting figure may be conservative, as complete coverage of world trade is seldom available.

In general, export statistics include re-exports. The distinction is only made when re-exports are recorded separately in the relevant national trade account and are deemed to be significant.

Tables showing trade in metals covered by Standard International Trade Classification (Revision 3) 689.1, 8 & 9, and 699.8 & 9 (Antimony, Bismuth, Cadmium, Chromium, Cobalt, Manganese, Molybdenum, Tantalum–Niobium, Titanium, Tungsten and Vanadium) include under the term 'metal', unwrought and wrought forms, powder, alloys, waste and scrap, unless these are separately shown. Trade tables of other metals include only unwrought forms under the term 'metal'.

Commodity production—price graphs

These have been inserted adjacent to the relevant tables. They are computer-generated plots of total annual world production against time. On the same horizontal time axis a specific price for the commodity has been plotted with reference to the right-hand vertical axis. Details of the prices used are annotated below each plot. The production data have been taken from the current series of *World Mineral Statistics* and, pre-1970, from its predecessor, the *Statistical Summary of the Mineral Industry*. It should be noted that although mine production and commodity prices are shown on the same plot, any inference about the relationship between the two curves is a matter for the reader.

Indexed prices, around the base year 1985, have been derived by applying the US producer price index to the actual US dollar prices. Exceptionally the gold and silver prices have been indexed using the GDP deflator for the USA with 1985 as the base year. These indexes are quoted in the *International Financial Statistics Yearbook* published by the IMF.

The initial graphics and trend line analyses of the data were carried out using the MINITAB package. The plots were generated using in-house software modified by Cathy Melia of the NERC Computer Services and run on the NCS VAX cluster at BGS, Keyworth.

Acknowledgements

Compilation of this volume of mineral statistics has been possible only by obtaining information from a very large number of organisations throughout the world, chiefly home and overseas government departments and specialist national or international authorities concerned with particular sectors of the minerals or metals industries. To all these bodies the British Geological Survey expresses its grateful acknowledgement for the information made available, whether in published form or provided by direct correspondence.

Among the numerous overseas government agencies which have provided valuable information, particular acknowledgement is made to the United States Bureau of Mines; the Department of Energy, Mines and Resources of Canada; the Bureau of Mineral Resources, Geology and Geophysics of Australia; the Department of Mineral and Energy Affairs of South Africa; the Indian Bureau of Mines; and the Mines Departments of other countries whose regular statements, yearbooks and other reports are worthy of direct consultation by readers in search of detail.

Specialist commodity organisations which have kindly allowed information to be reproduced include the International Lead and Zinc Study Group, the UK Iron and Steel Statistics Bureau, and the UNCTAD. In a few instances, information on specific commodities has been obtained directly from company sources.

Supplementary information is also obtained from publications dealing with a wider range of commodities such as American Bureau of Metal Statistics, *Non-ferrous Metal Data*; Annales des Mines, *Realities Industrielles*; International Mining, *Yearbook*; Metaleurop, *Annuaire Statistique*; Metallgesellschaft AG, *Metallstatistik*; Mining Journal, *Mining Annual Review*; Nuova Samim, *Metalli Non Ferrosi*; World Bureau of Metal Statistics, *World Metal Statistics*; and publications of the United Nations and its agencies.

Units

The statistics shown in this volume are expressed in metric units. The following factors are given for converting to non-metric units:

tonnes \times 0.9842 = long tons

tonnes \times 1.1023 = short tons

kilograms \times 2.2046 = pounds

kilograms \times 32.1507 = troy ounces

cubic metres \times 35.3147 = cubic feet

1 tonne of crude petroleum equals on average 7 barrels of crude petroleum.

1 metric ton unit = 10 kilograms

1 flask mercury = 34.5 kilograms

Conversion of national currencies to pounds sterling has been made using the annual period average factors shown for each country in *International Financial Statistics* published by the International Monetary Fund.

Symbols

... figures not available

0 quantity less than half unit shown

— nil

* estimated

BGS British Geological Survey

S.I.T.C. Standard International Trade Classification

STATISTICAL TABLES

Production of Bauxite

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------|------------|------------|-------------|-------------|-------------|
| France | 1 379 000 | 1 388 200 | 977 700 | 550 427 | 489 800 |
| Greece | 2 314 962 | 2 455 988 | 2 460 782 | 2 550 015 | 2 495 940 |
| Italy | — | 16 557 | 17 125 | 11 761 | 338 |
| Spain | 3 000 | 1 050 | 2 500 | — | — |
| Albania | 10 006 | 16 002 | 37 669 | 35 343 | 23 489 |
| Hungary | 3 022 297 | 3 101 000 | 2 593 000 | 2 644 000 | 2 559 100 |
| Romania | 343 000 | 337 000 | 356 000 | 313 000 | 204 000 |
| Soviet Union (a) | *6 275 000 | *5 700 000 | *5 900 000 | *5 750 000 | *5 350 000 |
| Turkey | 280 401 | 259 075 | 269 437 | 534 273 | 772 673 |
| Yugoslavia | 3 458 917 | 3 394 000 | 3 033 794 | 3 252 468 | 2 952 000 |
| Ghana | 204 000 | 195 000 | 287 300 | 347 100 | 381 273 |
| Guinea | 14 961 000 | 16 413 000 | 17 859 000 | 17 547 000 | 17 524 000 |
| Mozambique | 4 248 | 5 114 | 6 548 | 5 501 | 7 186 |
| Sierra Leone | 1 244 300 | 1 390 600 | 1 379 200 | 1 561 800 | 1 445 120 |
| Zimbabwe | 24 284 | — | — | — | — |
| Dominican Republic | — | 186 671 | 167 800 | 150 813 | 85 164 |
| Jamaica | 6 953 000 | 7 702 000 | 7 316 000 | 9 487 000 | 10 920 830 |
| USA (b) | 510 000 | 576 000 | 588 000 | 670 000 | *495 000 |
| Brazil (c) | 5 418 259 | 6 376 650 | 7 388 000 | 7 893 800 | 9 875 600 |
| Guyana | 2 073 918 | 2 351 496 | 2 154 847 | ... | ... |
| Suriname | 3 731 000 | 2 522 000 | 3 434 000 | 3 457 348 | 3 266 800 |
| Venezuela | 1 275 | 245 157 | 521 504 | 701 770 | 771 422 |
| China | *2 900 000 | *3 200 000 | *4 600 000 | 2 055 200 | 3 655 200 |
| India | 2 662 200 | 2 778 678 | 3 960 799 | 4 344 936 | 4 340 000 |
| Indonesia | 649 881 | 635 309 | 505 804 | 835 085 | 1 205 697 |
| Iran (d)(e) | — | — | 92 537 | *100 000 | *100 000 |
| Malaysia | 566 170 | 482 125 | 360 798 | 355 174 | 398 180 |
| Australia | 32 383 773 | 34 101 721 | 36 192 000 | 38 584 000 | 41 391 000 |
| World total | 91 400 000 | 95 800 000 | 102 500 000 | 105 900 000 | 112 900 000 |

Note(s):

(1) In addition to the countries listed, Pakistan produces small amounts of bauxite

(a) Including nepheline concentrates and alunite

(b) Dried bauxite equivalent

(c) Including beneficiated and direct shipping ore

(d) Alunite

(e) Years ended 20 March following that stated

Production of Alumina

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------------------|------------|------------|------------|------------|------------|
| United Kingdom | 109 940 | 109 800 | 114 000 | 116 200 | 120 000 |
| France (a) | 740 000 | 712 000 | 551 000 | 478 000 | 466 540 |
| Germany, Federal Republic of | 1 559 804 | 1 312 828 | 1 162 786 | 1 173 993 | 1 172 808 |
| Greece | 307 092 | 338 833 | 336 373 | 331 007 | 378 595 |
| Irish Republic | 685 490 | 777 974 | 842 800 | 864 510 | 926 500 |
| Italy | 404 200 | 457 600 | 460 500 | 472 000 | 491 400 |
| Spain | 489 000 | 524 000 | 576 000 | 620 000 | 655 000 |
| Czechoslovakia | 153 345 | 149 917 | 182 651 | 204 615 | 209 229 |
| German Democratic Republic (a) | 46 350 | 50 880 | 64 000 | 69 000 | 27 000 |
| Hungary (a) | 856 333 | 857 612 | 873 232 | 881 505 | 826 000 |
| Romania (a) | 555 000 | 584 000 | 458 000 | 426 000 | 354 000 |
| Soviet Union | *4 400 000 | *4 400 000 | *4 600 000 | *4 800 000 | *4 000 000 |
| Turkey | 144 396 | 95 232 | 181 670 | 200 560 | 177 144 |
| Yugoslavia | 1 116 716 | 1 113 000 | 1 060 041 | 1 170 463 | 1 086 000 |
| Guinea | 555 400 | 543 000 | 590 000 | 617 000 | 642 100 |
| Canada | 1 015 000 | 952 690 | 992 576 | 1 048 432 | 1 087 029 |
| Jamaica | 1 578 000 | 1 622 000 | 1 520 000 | 2 221 070 | 2 868 844 |
| USA | *3 105 000 | *4 150 000 | *4 770 000 | *5 000 000 | *5 230 000 |
| Brazil | 1 196 800 | 1 365 000 | 1 487 850 | 1 632 000 | 1 653 000 |
| Suriname | 1 471 000 | 1 363 000 | 1 632 200 | 1 567 051 | 1 531 500 |
| Venezuela | 1 268 745 | 1 360 012 | 1 284 036 | 1 293 219 | 1 404 769 |
| China | *1 400 000 | *1 320 000 | *1 900 000 | 1 318 000 | 1 463 800 |
| India | 586 000 | 650 000 | 1 188 000 | 1 419 000 | 1 334 000 |
| Japan | 644 000 | 465 000 | 508 000 | 564 000 | 458 893 |
| Australia | 9 423 220 | 10 109 290 | 10 510 514 | 10 823 000 | 11 231 000 |
| World total | 33 800 000 | 35 400 000 | 37 800 000 | 39 300 000 | 39 800 000 |

Note(s):

(1) Where possible figures in this table show the alumina equivalent (Al_2O_3) of total hydrate produced, whether or not calcined

(a) Calcined

Aluminium

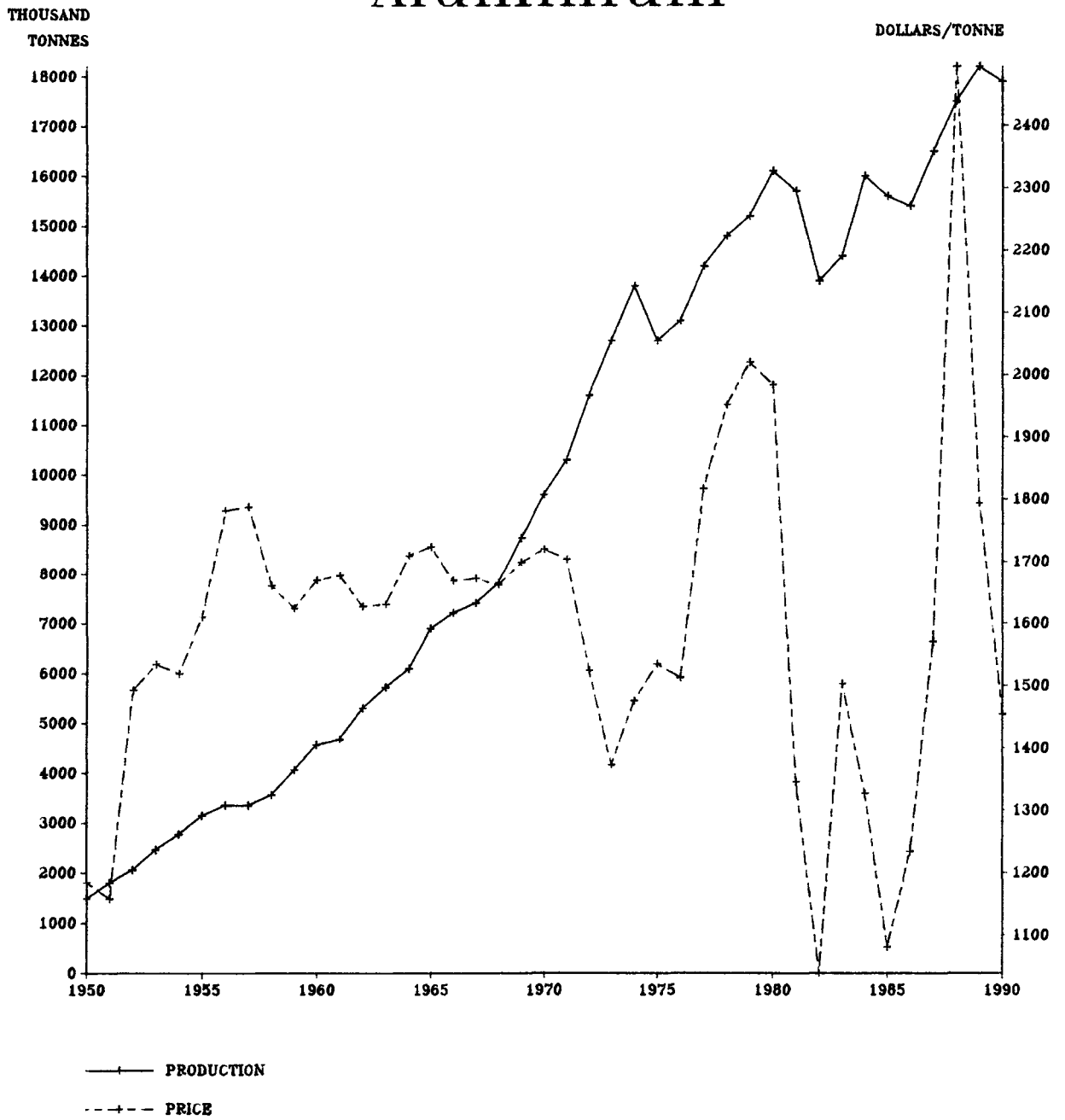


Figure 1 World production of primary aluminium compared with the UK price of ingot (99.5%) and, from 1979, the LME high grade cash price, expressed in constant 1985 US dollars.

Production of Primary Aluminium

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|------------|------------|------------|------------|------------|
| United Kingdom | 275 876 | 294 382 | 300 166 | 297 313 | 289 796 |
| France | 321 793 | 322 500 | 327 856 | 329 253 | 325 900 |
| Germany, Federal Republic of | 552 218 | 792 628 | 752 927 | 733 703 | 714 946 |
| Greece | 126 000 | 126 751 | 148 253 | 144 833 | 152 362 |
| Italy | 242 632 | 232 600 | 226 300 | 219 500 | 231 800 |
| Netherlands | 265 768 | 275 939 | 278 198 | 279 243 | (b)257 884 |
| Spain | 354 700 | 341 000 | 293 900 | 352 400 | 355 300 |
| Austria | 92 453 | 93 414 | 95 494 | 92 933 | 89 400 |
| Czechoslovakia | 33 078 | 32 366 | 31 435 | 32 576 | 30 076 |
| German Democratic Republic | *66 000 | *67 900 | *61 200 | *53 900 | *21 000 |
| Hungary | 73 877 | 73 500 | 74 692 | 75 195 | 75 162 |
| Iceland | 75 929 | 83 485 | 82 034 | 88 477 | 86 773 |
| Norway (a) | 725 813 | 853 213 | 838 224 | 867 276 | 845 068 |
| Poland | 47 500 | 47 500 | 47 700 | 47 800 | 46 000 |
| Romania | 253 000 | 260 000 | 266 000 | 269 100 | 177 800 |
| Soviet Union | *2 350 000 | *2 370 000 | *2 400 000 | *2 500 000 | *2 200 000 |
| Sweden | 77 882 | 79 462 | 94 711 | 96 070 | 96 300 |
| Switzerland | 80 259 | 73 169 | 71 816 | 71 308 | 71 602 |
| Turkey | 60 017 | 41 685 | 56 500 | 58 564 | 60 902 |
| Yugoslavia | 309 206 | 280 633 | 321 900 | 331 011 | 350 500 |
| Cameroon | 81 100 | 71 500 | 80 000 | 87 300 | 87 500 |
| Egypt | 176 760 | 179 200 | 173 460 | 180 931 | 141 081 |
| Ghana | 124 600 | 150 300 | 163 500 | 168 600 | 174 200 |
| South Africa | 169 600 | 170 600 | 170 400 | 165 900 | 157 500 |
| Canada | 1 355 161 | 1 540 439 | 1 534 499 | 1 554 753 | 1 567 395 |
| Mexico | 39 946 | 63 260 | 68 337 | 71 691 | 67 515 |
| USA | 3 037 000 | 3 343 000 | 3 944 000 | 4 030 000 | 4 048 000 |
| Argentina | 150 642 | 155 107 | 157 407 | 164 154 | 165 608 |
| Brazil | 757 375 | 843 500 | 873 500 | 887 432 | 930 585 |
| Suriname | 28 715 | 1 913 | 9 760 | 28 407 | 31 300 |
| Venezuela | 420 660 | 430 230 | 443 305 | 546 021 | 599 480 |
| Bahrain | 178 194 | 180 344 | 182 804 | 186 395 | 212 500 |
| China | *570 000 | *640 000 | *713 000 | 758 300 | 854 300 |
| Dubai | 154 838 | 155 876 | 162 500 | 168 250 | 174 300 |
| India | 257 096 | 253 372 | 334 861 | 423 250 | 433 200 |
| Indonesia | 218 772 | 201 402 | 185 112 | 196 869 | 192 100 |
| Iran | 40 000 | 45 000 | 40 000 | 45 000 | 59 400 |
| Japan | 140 187 | 40 691 | 35 347 | 35 014 | 34 224 |
| Korea, Dem. P.R. of | *10 000 | *10 000 | *10 000 | *5 000 | *5 000 |
| Korea, Republic of | 18 259 | 16 777 | 16 101 | 15 683 | 13 285 |
| Australia | 881 910 | 1 003 947 | 1 149 000 | 1 244 000 | 1 234 000 |
| New Zealand | 236 332 | 252 000 | 265 700 | 258 800 | 259 700 |
| World total | 15 400 000 | 16 500 000 | 17 500 000 | 18 200 000 | 17 900 000 |

(a) May include some super purity aluminium

(b) Sales

Exports of Bauxite, Alumina and Aluminium

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------------------|-----------|-----------|---------|---------|---------|
| United Kingdom | | | | | |
| Bauxite | 1 221 | 2 148 | 4 120 | 10 951 | 4 774 |
| Alumina | 8 793 | 8 031 | 7 453 | 9 614 | 11 735 |
| Alumina hydrate | 38 213 | 34 335 | 41 695 | 45 492 | 42 105 |
| Unwrought | 50 409 | 69 108 | 79 378 | 73 816 | 60 795 |
| Unwrought alloys | 66 348 | 64 447 | 75 672 | 95 379 | 95 804 |
| Scrap | 89 886 | 87 372 | 114 286 | 99 334 | 94 452 |
| Belgium-Luxembourg | | | | | |
| Bauxite | 2 873 | 2 416 | 3 648 | 1 713 | 1 725 |
| Alumina | 1 237 | 1 102 | 1 202 | 2 143 | 1 079 |
| Unwrought | 9 134 | 8 278 | 4 996 | 4 566 | 3 162 |
| Unwrought alloys | 15 727 | 19 277 | 27 922 | 30 785 | 29 735 |
| Scrap | 51 888 | 60 186 | 77 770 | 74 729 | 67 769 |
| Denmark | | | | | |
| Unwrought | 10 | 73 | 309 | 574 | 469 |
| Unwrought alloys | 10 213 | 12 581 | 10 703 | 7 629 | 9 045 |
| Scrap | 20 545 | 25 186 | 26 645 | 28 003 | 29 068 |
| France | | | | | |
| Bauxite | 116 060 | 187 433 | 13 487 | 28 916 | 13 143 |
| Alumina | 113 046 | 93 276 | 84 106 | 104 355 | 96 287 |
| Alumina hydrate | 81 280 | 101 992 | 127 969 | 138 981 | 131 590 |
| Unwrought | 59 515 | 41 028 | 36 704 | 49 703 | 53 067 |
| Unwrought alloys | 83 760 | 78 254 | 76 436 | 71 932 | 82 767 |
| Scrap | 99 522 | 109 206 | 160 811 | 155 886 | 150 037 |
| Germany, Federal Republic of | | | | | |
| Bauxite | 25 979 | 33 385 | 57 050 | 71 666 | 86 019 |
| Alumina | 324 858 | 312 760 | 330 355 | 287 282 | 239 600 |
| Alumina hydrate | 248 489 | 252 435 | 270 136 | 269 317 | 306 068 |
| Unwrought | 71 378 | 91 826 | 68 866 | 53 299 | 64 734 |
| Unwrought alloys | 230 370 | 241 764 | 254 938 | 272 717 | 254 705 |
| Scrap | 104 453 | 134 983 | 141 019 | 164 157 | 198 958 |
| Greece | | | | | |
| Bauxite | 1 133 487 | 1 224 490 | 416 811 | 518 723 | 401 648 |
| Alumina | 135 565 | 348 700 | 178 762 | 222 450 | 286 046 |
| Unwrought (a) | 45 855 | 73 494 | 51 415 | 57 041 | 61 186 |
| Scrap | 317 | 1 466 | 3 625 | 4 130 | 2 378 |
| Irish Republic | | | | | |
| Alumina | 669 362 | 741 487 | 901 093 | 915 349 | 915 888 |
| Unwrought (a) | 1 478 | 1 475 | 1 902 | 2 574 | 1 970 |
| Scrap | 8 093 | 8 468 | 11 147 | 11 028 | 12 210 |
| Italy | | | | | |
| Bauxite | 4 502 | 21 141 | 14 333 | 23 134 | 15 617 |
| Alumina | 308 006 | 561 315 | 388 535 | 410 382 | 412 368 |
| Alumina hydrate | 30 354 | 29 509 | 14 078 | 14 967 | 15 451 |
| Unwrought | 9 611 | 11 298 | 5 069 | 6 155 | 10 135 |
| Unwrought alloys | 24 696 | 40 338 | 33 341 | 23 660 | 18 150 |
| Scrap | 4 240 | 6 049 | 8 061 | 10 365 | 7 132 |
| Netherlands | | | | | |
| Bauxite | 3 983 | 9 283 | 17 913 | 22 351 | 25 048 |
| Alumina | 46 404 | 61 934 | 87 557 | 101 045 | 98 806 |
| Alumina hydrate | 89 | 105 | 1 497 | 2 379 | 2 441 |
| Unwrought | 144 277 | 156 306 | 90 836 | 101 842 | 119 967 |
| Unwrought alloys | 156 983 | 158 083 | 238 950 | 246 992 | 242 497 |
| Scrap | 96 045 | 105 385 | 138 871 | 149 824 | 132 672 |
| Portugal | | | | | |
| Scrap | 3 899 | 5 705 | 8 052 | 6 923 | 5 378 |
| Spain | | | | | |
| Bauxite | 1 120 | 1 849 | 2 066 | 2 987 | 1 182 |
| Alumina | 21 953 | 124 132 | 283 368 | 207 186 | 233 102 |
| Alumina hydrate | 20 790 | 35 655 | 26 863 | 48 521 | 48 559 |
| Unwrought | 86 118 | 34 436 | 31 666 | 14 348 | 8 515 |
| Unwrought alloys | 60 268 | 72 043 | 58 223 | 96 966 | 98 303 |
| Scrap | 556 | 810 | 2 807 | 3 348 | 3 736 |
| Austria | | | | | |
| Unwrought (a) | 31 317 | 39 447 | 44 894 | 42 985 | 52 057 |
| Scrap | 43 387 | 63 587 | 46 911 | 35 508 | 26 881 |
| Bulgaria | | | | | |
| Unwrought (a)(f) | *4 100 | *3 600 | *2 700 | *3 600 | *2 200 |
| Scrap (f) | *5 100 | *4 900 | *5 400 | *1 900 | *2 300 |

Exports of Bauxite, Alumina and Aluminium

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------------|--------------|----------------|----------------|----------------|----------------|
| Czechoslovakia | | | | | |
| Unwrought (a)(f) | *15 300 | *11 200 | *14 800 | *16 400 | *14 900 |
| Finland | | | | | |
| Unwrought (a) | 16 974 | 24 286 | 25 291 | 24 023 | 23 285 |
| German Democratic Republic | | | | | |
| Unwrought (a)(f) | *28 400 | *30 700 | *28 500 | *24 500 | *30 700 |
| Scrap (f) | *7 400 | *6 000 | *8 000 | *8 900 | *3 000 |
| Hungary | | | | | |
| Bauxite | 461 473 | 437 987 | 378 533 | 338 428 | 280 338 |
| Alumina | 664 845 | 665 226 | 715 214 | 676 892 | 613 163 |
| Alumina hydrate | 4 200 | 2 729 | 1 513 | — | — |
| Unwrought | 61 200 | 63 354 | 59 135 | 76 479 | 121 761 |
| Scrap | 7 002 | 8 748 | 9 868 | 9 534 | 11 312 |
| Iceland | | | | | |
| Unwrought (a) | 77 490 | 89 081 | 81 071 | 89 657 | 86 392 |
| Norway | | | | | |
| Alumina | 12 642 | 17 764 | 16 241 | 27 | 104 |
| Unwrought | 298 122 | 326 307 | 241 612 | 240 743 | 211 412 |
| Unwrought alloys | 348 417 | 431 308 | 513 051 | 529 603 | 565 864 |
| Scrap | 31 126 | 38 156 | 50 536 | 52 079 | 28 678 |
| Poland | | | | | |
| Unwrought (a) | 3 023 | 2 595 | 2 647 | 2 638 | 15 200 |
| Romania | | | | | |
| Unwrought | 156 200 | 157 300 | 193 700 | 108 100 | ... |
| Scrap (f) | *2 100 | *2 800 | *500 | *3 200 | *1 600 |
| Soviet Union | | | | | |
| Unwrought (a)(f) | *654 400 | *610 300 | *641 200 | *709 900 | *675 300 |
| Scrap (f) | *43 300 | *57 600 | *43 200 | *33 100 | *15 900 |
| Sweden | | | | | |
| Alumina | 8 226 | 676 | 356 | 210 | 452 |
| Unwrought | 4 345 | 8 056 | 25 654 | 25 125 | 14 427 |
| Unwrought alloys | 35 008 | 35 509 | 34 233 | 33 689 | 49 713 |
| Scrap | 13 459 | 11 259 | 11 069 | 13 691 | 20 882 |
| Switzerland | | | | | |
| Alumina | 423 | 459 | 1 313 | 830 | 1 432 |
| Unwrought (a) | (i)54 583 | (i)60 991 | 32 872 | 32 476 | 30 618 |
| Scrap | ... | ... | 35 776 | 39 143 | 36 846 |
| Turkey | | | | | |
| Bauxite | 57 325 | 104 525 | 79 997 | 58 243 | 83 015 |
| Alumina | 23 900 | 17 746 | 66 450 | 77 483 | 63 016 |
| Unwrought (a) | 1 | 320 | 6 326 | 8 945 | 9 890 |
| Yugoslavia | | | | | |
| Bauxite | 765 127 | 584 714 | 639 528 | 600 084 | 506 966 |
| Alumina | 561 153 | 389 531 | 457 136 | 587 188 | 584 741 |
| Alumina hydrate | 21 137 | 29 231 | 58 966 | 99 890 | 115 827 |
| Unwrought | 123 507 | 130 242 | 129 829 | 144 122 | 196 275 |
| Unwrought alloys | 20 808 | 29 515 | 23 914 | 22 965 | 34 444 |
| Scrap | 1 560 | 1 702 | 1 594 | 1 427 | 591 |
| Cameroon | | | | | |
| Unwrought & scrap | 41 739 | 47 356 | 63 100 | 62 400 | 67 700 |
| Ghana | | | | | |
| Bauxite | 226 461 | 229 415 | 299 939 | 374 646 | 382 173 |
| Unwrought (a) | 107 819 | 140 000 | 125 700 | 118 500 | 127 500 |
| Guinea | | | | | |
| Bauxite | 11 600 000 | (f)*13 200 000 | (f)*13 700 000 | (f)*14 200 000 | (f)*13 200 000 |
| Alumina | 500 000 | 500 000 | 600 000 | 600 000 | 600 000 |
| Sierra Leone | | | | | |
| Bauxite | 1 550 608 | 1 280 000 | 1 428 000 | 1 557 000 | 1 429 000 |
| South Africa | | | | | |
| Unwrought (a) | 94 695 | 94 000 | 68 000 | 53 415 | 71 835 |
| Scrap (f) | *7 700 | *2 600 | *2 500 | *2 300 | *2 300 |
| Canada | | | | | |
| Alumina | (b)45 434 | (b)45 624 | 139 094 | 128 256 | 134 334 |
| Unwrought | (a)1 163 875 | (a)1 171 887 | 659 922 | 615 238 | 664 549 |
| Unwrought alloys | ... | ... | 495 096 | 544 445 | 617 647 |
| Scrap | 125 018 | 127 181 | 165 216 | 164 493 | 188 363 |
| Cuba | | | | | |
| Scrap (e) | 4 100 | 3 778 | 2 498 | 1 524 | 412 |

Exports of Bauxite, Alumina and Aluminium

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------|-------------|------------|------------|------------|-----------|
| Dominican Republic | | | | | |
| Bauxite | — | (h)328 046 | (h)199 933 | (h)174 871 | 76 529 |
| Jamaica | | | | | |
| Bauxite | 2 939 593 | 3 711 396 | 3 494 440 | 4 189 739 | 3 885 758 |
| Alumina | 1 580 462 | 1 557 008 | 1 561 349 | 2 140 885 | 2 885 131 |
| Mexico | | | | | |
| Unwrought & scrap | 12 116 | 9 649 | 19 126 | 11 860 | ... |
| USA | | | | | |
| Bauxite | 99 161 | 203 711 | 68 252 | 65 022 | 90 723 |
| of which: Re-exports | 30 056 | 2 214 | 5 321 | 21 278 | 17 214 |
| Alumina | 475 360 | 1 108 975 | 1 021 372 | 1 295 075 | 1 216 084 |
| Alumina hydrate | 18 925 | 29 004 | 24 160 | 51 404 | 52 664 |
| Unwrought | 158 964 | 249 563 | 362 559 | 481 293 | 510 513 |
| Unwrought alloys | 52 125 | 35 345 | 40 111 | 112 116 | 173 557 |
| Scrap | 347 946 | 369 745 | 487 714 | 575 890 | 537 994 |
| Argentina | | | | | |
| Unwrought | 74 000 | 73 009 | 83 473 | 80 600 | ... |
| Brazil | | | | | |
| Bauxite | 3 059 736 | 2 813 587 | 4 660 509 | 4 636 700 | 5 455 921 |
| Alumina | 41 994 | 52 903 | 70 429 | 175 995 | 172 114 |
| Unwrought (a) | 323 703 | 426 893 | 514 898 | 470 266 | 591 982 |
| Guyana | | | | | |
| Bauxite | 1 345 000 | 1 315 000 | 1 209 000 | ... | ... |
| Suriname | | | | | |
| Bauxite | 897 000 | 340 900 | 7 460 | — | ... |
| Alumina | 1 343 000 | 1 342 100 | 1 629 980 | 1 445 088 | ... |
| Unwrought | 29 000 | 3 200 | 7 620 | 26 111 | ... |
| Venezuela | | | | | |
| Alumina | 508 971 | 516 969 | 366 856 | 152 932 | 107 100 |
| Unwrought | 277 877 | 302 515 | 287 925 | 379 641 | 389 575 |
| Bahrain | | | | | |
| Unwrought (a) | 182 342 | 122 551 | 94 817 | 96 043 | 108 000 |
| China | | | | | |
| Bauxite (j) | (f)*632 800 | 785 003 | 1 250 502 | 1 491 702 | 680 315 |
| Unwrought (a) | (f)*500 | 60 680 | 130 378 | 13 411 | 65 125 |
| Scrap (f) | ... | *3 100 | *7 200 | *5 000 | *4 900 |
| Dubai | | | | | |
| Unwrought (a) | 148 841 | 146 000 | 154 000 | 165 100 | 171 000 |
| Scrap | 3 635 | ... | ... | ... | ... |
| Hong Kong | | | | | |
| Bauxite (g) | 19 987 | 25 971 | 15 010 | 16 654 | 14 461 |
| Alumina (g) | 678 | 788 | 20 077 | 132 560 | — |
| Alumina hydrate (g) | 3 | 405 | 60 | 1 169 | 38 |
| Unwrought | 26 085 | 36 181 | 77 616 | 26 412 | 17 381 |
| of which: Re-exports | 26 085 | 36 131 | 77 252 | 26 291 | 17 281 |
| Scrap | 22 081 | 27 656 | 31 929 | 30 240 | 32 999 |
| India (c) | | | | | |
| Bauxite | 85 148 | 147 402 | 93 547 | ... | 187 782 |
| Alumina | 42 079 | 10 637 | 404 170 | ... | 317 218 |
| Indonesia | | | | | |
| Bauxite | 525 811 | 583 900 | 466 517 | 843 476 | 813 637 |
| Unwrought (a) | 174 048 | 163 337 | 125 628 | 142 885 | 125 162 |
| Israel | | | | | |
| Unwrought (a)(f) | *4 100 | *2 600 | *4 500 | *5 900 | *6 800 |
| Scrap (f) | *600 | *2 600 | *2 800 | *2 400 | *2 200 |
| Japan | | | | | |
| Alumina | 282 714 | 101 057 | 126 353 | 151 192 | 158 656 |
| Alumina hydrate | 101 759 | 96 789 | 71 917 | 98 273 | 119 991 |
| Unwrought | 971 | 854 | 665 | 307 | 547 |
| Unwrought alloys | 1 050 | 1 073 | 2 768 | 2 640 | 4 267 |
| Scrap | 1 914 | 8 707 | 7 334 | 9 893 | 7 751 |
| Jordan | | | | | |
| Scrap | 3 240 | 3 133 | 7 162 | 4 241 | 1 207 |
| Korea, Dem. P.R. of | | | | | |
| Unwrought (a)(f) | *11 400 | *7 400 | *5 800 | *5 800 | *3 800 |
| Korea, Republic of | | | | | |
| Unwrought (a) | 782 | 2 850 | 7 643 | 3 819 | 6 307 |
| Malaysia | | | | | |
| Bauxite | 412 400 | 199 000 | 222 100 | 321 750 | 407 670 |
| Scrap | 8 993 | 6 548 | 11 249 | 5 127 | ... |

Exports of Bauxite, Alumina and Aluminium

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------|------------|------------|------------|------------|------------|
| Saudi Arabia | | | | | |
| Scrap | 20 603 | 27 552 | 52 266 | 54 544 | ... |
| Singapore | | | | | |
| Alumina | 119 180 | 31 102 | 32 414 | 29 300 | 20 581 |
| of which: Re-exports | 118 947 | 30 090 | 32 297 | 28 617 | 20 468 |
| Unwrought | 6 444 | 13 107 | 106 582 | 65 907 | 21 890 |
| of which: Re-exports | 5 886 | 11 193 | 104 842 | 63 571 | 19 362 |
| Scrap | 12 434 | 15 770 | 20 386 | 21 779 | 20 591 |
| Taiwan | | | | | |
| Alumina | 6 384 | 3 721 | 562 | 3 459 | 3 833 |
| Unwrought | 12 504 | 17 254 | (a)34 753 | (a)30 204 | (a)47 687 |
| Scrap | 3 096 | 7 969 | 5 211 | 4 412 | 5 557 |
| Australia | | | | | |
| Bauxite | *4 260 000 | *4 500 000 | *4 900 000 | *5 000 000 | *5 500 000 |
| Alumina | 7 687 099 | 8 299 277 | 8 558 000 | 8 426 000 | 8 782 000 |
| Unwrought (a) | 579 528 | 710 425 | 815 500 | 924 000 | 925 000 |
| Scrap (d) | 30 618 | 43 801 | 44 205 | 48 777 | 50 046 |
| New Zealand (d) | | | | | |
| Unwrought (a) | 207 761 | 211 521 | 227 259 | 243 992 | 230 556 |
| Scrap | 3 681 | 5 659 | 10 013 | 8 299 | 9 207 |

Note(s):

- (1) Except where alumina hydrate is separately specified, national trade figures for alumina can be considered as inclusive of hydrate
- (2) In this table the term 'unwrought' aluminium corresponds to item 684.1 of the Standard International Trade Classification (Revision 3) and comprises ingots, blocks, unwrought bars, etc.
- (3) Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys
- (a) Including alloys
- (b) Officially described as 'Aluminium ores and concentrates' but believed to be mostly alumina
- (c) Years ended 31 March following that stated
- (d) Years ended 30 June of that stated
- (e) Imports into the Netherlands
- (f) BGS estimates, based on known imports into certain countries
- (g) Re-exports
- (h) Some material believed to come from stocks
- (i) Including scrap
- (j) Including alumina

Imports of Bauxite, Alumina and Aluminium

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------------------|-----------|-----------|-----------|-----------|-----------|
| United Kingdom | | | | | |
| Bauxite, uncalcined | 185 719 | 292 340 | 330 572 | 280 896 | 263 755 |
| Bauxite, calcined | 170 511 | 137 050 | 160 908 | 162 641 | 177 160 |
| Alumina | 546 330 | 609 630 | 601 850 | 655 396 | 625 284 |
| Alumina hydrate | 12 714 | 19 549 | 17 646 | 21 409 | 17 204 |
| Unwrought | 62 435 | 65 257 | 119 757 | 129 134 | 130 688 |
| Unwrought alloys | 119 731 | 110 566 | 115 263 | 106 317 | 110 318 |
| Scrap | 7 811 | 12 621 | 18 664 | 24 138 | 16 864 |
| Belgium-Luxembourg | | | | | |
| Bauxite | 29 130 | 26 534 | 37 841 | 25 077 | 37 310 |
| Alumina | 8 824 | 8 029 | 9 032 | 10 650 | 11 025 |
| Alumina hydrate | 20 066 | 28 842 | 23 858 | 30 841 | 47 101 |
| Unwrought | 231 442 | 238 168 | 208 265 | 196 711 | 225 569 |
| Unwrought alloys | 75 979 | 77 346 | 146 873 | 161 407 | 141 923 |
| Scrap | 71 291 | 90 872 | 112 805 | 120 849 | 117 184 |
| Denmark | | | | | |
| Bauxite | 554 | 1 024 | 1 414 | 1 675 | 2 667 |
| Alumina | 411 | 1 606 | 688 | 648 | 814 |
| Alumina hydrate | 4 173 | 3 350 | 4 866 | 5 196 | 4 515 |
| Unwrought | 1 172 | 872 | 914 | 984 | 1 926 |
| Unwrought alloys | 33 108 | 26 961 | 29 235 | 28 202 | 28 046 |
| Scrap | 5 321 | 7 162 | 8 790 | 4 575 | 6 082 |
| France | | | | | |
| Bauxite | 909 241 | 894 330 | 1 069 102 | 1 348 886 | 1 388 476 |
| Alumina | 103 056 | 121 762 | 230 645 | 371 255 | 373 484 |
| Alumina hydrate | 21 592 | 24 030 | 36 502 | 38 924 | 78 103 |
| Unwrought | 217 803 | 186 105 | 203 915 | 208 744 | 248 642 |
| Unwrought alloys | 210 252 | 221 015 | 257 960 | 275 506 | 292 455 |
| Scrap | 58 818 | 70 185 | 96 994 | 122 986 | 137 528 |
| Germany, Federal Republic of | | | | | |
| Bauxite | 3 658 891 | 2 879 377 | 2 576 992 | 2 879 675 | 3 076 544 |
| Alumina | 717 930 | 857 845 | 851 658 | 1 033 220 | 970 227 |
| Alumina hydrate | 3 768 | 7 201 | 106 588 | 22 865 | 35 750 |
| Unwrought | 492 912 | 448 670 | 467 538 | 569 135 | 545 143 |
| Unwrought alloys | 290 751 | 285 363 | 339 184 | 374 056 | 355 557 |
| Scrap | 215 152 | 205 285 | 283 217 | 271 198 | 229 002 |
| Greece | | | | | |
| Bauxite | 102 | 5 616 | — | 5 028 | 800 |
| Alumina | 505 | 261 | 235 | 381 | 419 |
| Unwrought (a) | 7 180 | 14 259 | 5 506 | 13 180 | 11 843 |
| Scrap | 70 | 32 | 1 734 | 1 898 | 1 257 |
| Irish Republic | | | | | |
| Bauxite | 1 079 908 | 1 440 106 | 1 746 828 | 1 606 158 | 1 746 337 |
| Alumina | 4 414 | 4 234 | 4 355 | 5 142 | 3 852 |
| Unwrought (a) | 3 789 | 2 252 | 2 812 | 3 711 | 7 705 |
| Italy | | | | | |
| Bauxite | 1 395 994 | 1 380 836 | 1 394 092 | 1 465 981 | 1 680 619 |
| Alumina | 298 607 | 266 522 | 240 880 | 243 024 | 210 232 |
| Alumina hydrate | 78 294 | 69 951 | 88 875 | 148 762 | 146 823 |
| Unwrought | 214 678 | 215 962 | 270 397 | 306 670 | 339 639 |
| Unwrought alloys | 133 012 | 160 962 | 147 721 | 154 334 | 198 994 |
| Scrap | 182 088 | 159 707 | 184 202 | 207 982 | 174 198 |
| Netherlands | | | | | |
| Bauxite | 162 760 | 141 702 | 160 273 | 142 971 | 142 916 |
| Alumina | 600 988 | 612 071 | 642 945 | 530 875 | 459 077 |
| Alumina hydrate | 40 597 | 35 066 | 44 301 | 40 697 | 43 689 |
| Unwrought | 105 830 | 97 818 | 105 308 | 114 755 | 138 298 |
| Unwrought alloys | 45 301 | 47 718 | 62 423 | 62 563 | 51 926 |
| Scrap | 76 325 | 81 662 | 105 655 | 138 241 | 126 757 |
| Portugal | | | | | |
| Bauxite | 2 282 | 1 793 | 1 836 | 1 658 | 1 786 |
| Alumina | 8 195 | 8 562 | 8 066 | 7 557 | 7 943 |
| Unwrought | 13 664 | 5 825 | (a)45 127 | (a)47 105 | 15 320 |
| Unwrought alloys | 26 239 | 38 225 | ... | ... | 34 157 |
| Spain | | | | | |
| Bauxite | 1 431 284 | 1 663 191 | 1 389 690 | 1 725 327 | 1 922 855 |
| Alumina | 22 296 | 27 295 | 30 885 | 35 560 | 38 527 |
| Unwrought | 14 410 | 5 623 | 38 638 | 6 629 | 15 400 |
| Unwrought alloys | 7 363 | 7 772 | 11 235 | 7 378 | 15 771 |
| Scrap | 19 129 | 16 103 | 16 088 | 22 339 | 24 198 |

Imports of Bauxite, Alumina and Aluminium

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-----------------------------------|------------|------------|------------|------------|------------|
| Austria | | | | | |
| Bauxite | 36 889 | 32 661 | 49 223 | 54 922 | 34 466 |
| Alumina | 275 911 | 282 983 | 298 833 | 224 419 | 222 498 |
| Alumina hydrate | 7 483 | 8 227 | 8 139 | 8 226 | 8 552 |
| Unwrought (a) | 93 413 | 81 133 | 108 266 | 130 428 | 150 097 |
| Scrap | 61 863 | 54 621 | 56 043 | 47 231 | 41 628 |
| Bulgaria | | | | | |
| Unwrought (a)(f) | *14 800 | *14 400 | *29 600 | *11 000 | *6 000 |
| Czechoslovakia | | | | | |
| Bauxite | 399 000 | 453 000 | 445 000 | 478 000 | ... |
| Alumina (f) | *25 400 | *30 500 | *3 200 | *400 | *700 |
| Unwrought (a) | 78 000 | 76 000 | 108 000 | 106 000 | ... |
| Finland | | | | | |
| Bauxite | 1 687 | 5 633 | 2 043 | 236 | 7 070 |
| Alumina | 1 285 | 1 372 | 1 447 | 1 717 | 3 317 |
| Alumina hydrate | 28 863 | 32 186 | 26 207 | 32 296 | 21 513 |
| Unwrought | 18 564 | 18 825 | 18 127 | 17 528 | 20 754 |
| Unwrought alloys | 3 037 | 4 697 | 5 452 | 6 208 | 5 382 |
| Scrap | 46 177 | 57 677 | 69 811 | 70 477 | 27 004 |
| German Democratic Republic | | | | | |
| Bauxite | 178 100 | 141 600 | 148 300 | 152 900 | ... |
| Alumina (f) | *100 200 | *100 900 | *83 000 | *56 900 | *25 500 |
| Unwrought (a)(f) | *124 000 | *120 500 | *119 200 | *113 900 | *102 000 |
| Hungary | | | | | |
| Unwrought | 205 007 | 189 961 | 197 577 | 204 974 | 204 070 |
| Iceland | | | | | |
| Alumina | 138 028 | 142 335 | 140 525 | 160 763 | 160 290 |
| Norway | | | | | |
| Bauxite | 5 871 | 5 792 | 14 746 | 9 463 | 14 185 |
| Alumina | 1 458 718 | 1 604 669 | 1 287 319 | 1 334 530 | 1 861 687 |
| Alumina hydrate | 36 931 | 40 467 | 277 169 | 232 489 | 35 809 |
| Unwrought | 3 374 | 19 444 | 71 541 | 86 300 | 71 411 |
| Unwrought alloys | 31 743 | 37 702 | 18 654 | 15 804 | 9 548 |
| Scrap | 3 211 | 1 417 | 2 085 | 4 371 | 23 732 |
| Poland | | | | | |
| Bauxite | 49 311 | 52 248 | 51 891 | 44 236 | ... |
| Alumina | 225 216 | 221 042 | 193 457 | 185 179 | 130 000 |
| Unwrought | 88 207 | 88 631 | 88 755 | 96 415 | 45 000 |
| Romania | | | | | |
| Bauxite (f) | *657 300 | *529 100 | *463 300 | *495 000 | *428 200 |
| Alumina (f) | *42 200 | *72 100 | *16 800 | *10 000 | *8 500 |
| Soviet Union | | | | | |
| Bauxite (f) | *4 908 600 | *4 823 500 | *4 563 600 | *5 300 700 | *3 819 800 |
| Alumina (f) | *1 168 400 | *928 500 | *736 800 | *1 140 200 | *1 319 700 |
| Sweden | | | | | |
| Bauxite | 50 056 | 46 425 | 51 108 | 56 593 | 48 822 |
| Alumina | 127 453 | 184 283 | 189 820 | 189 798 | 165 454 |
| Alumina hydrate | 60 130 | 86 615 | 63 896 | 63 709 | 53 972 |
| Unwrought | 33 639 | 21 725 | 28 191 | 27 030 | 15 607 |
| Unwrought alloys | 20 652 | 21 399 | 30 628 | 29 111 | 31 060 |
| Scrap | 1 621 | 2 526 | 3 592 | 5 223 | 6 779 |
| Switzerland | | | | | |
| Bauxite | 512 | 2 625 | 3 852 | 1 747 | 691 |
| Alumina | 160 374 | 156 382 | 140 614 | 146 529 | 150 483 |
| Unwrought | (b)88 274 | (b)90 239 | 59 738 | 78 598 | 63 586 |
| Unwrought alloys | ... | ... | 35 088 | 39 003 | 41 010 |
| Scrap | ... | ... | 4 042 | 5 734 | 4 110 |
| Turkey | | | | | |
| Bauxite | 43 366 | 40 461 | 55 684 | 51 367 | 44 790 |
| Alumina | 1 004 | 1 499 | 2 293 | 1 165 | 1 851 |
| Unwrought (a) | 38 355 | 89 638 | 59 193 | 48 243 | 100 961 |
| Yugoslavia | | | | | |
| Bauxite | 184 697 | 132 797 | 364 761 | 691 925 | 439 702 |
| Alumina | 152 210 | 118 165 | 128 230 | 264 843 | 245 465 |
| Unwrought | 33 060 | 33 981 | 17 587 | 14 945 | 18 180 |
| Unwrought alloys | 1 320 | 147 | 3 253 | 1 376 | 4 564 |

Imports of Bauxite, Alumina and Aluminium

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-----------------------|-----------|-----------|------------|------------|------------|
| Algeria | | | | | |
| Alumina | 795 | 186 | 253 | ... | ... |
| Unwrought (a) | 6 636 | 7 665 | 7 946 | ... | ... |
| Cameroon | | | | | |
| Alumina | 150 744 | 161 945 | 170 000 | ... | ... |
| Ghana | | | | | |
| Alumina | 225 284 | 182 461 | 198 000 | ... | ... |
| Kenya | | | | | |
| Alumina | 2 943 | 1 984 | 3 926 | ... | ... |
| Morocco | | | | | |
| Bauxite | 4 000 | 4 575 | 5 118 | 10 651 | 9 102 |
| Alumina | 2 081 | 2 885 | 3 029 | 2 798 | 4 761 |
| Unwrought (a) | 1 645 | 1 139 | 1 717 | 2 151 | 2 461 |
| Nigeria | | | | | |
| Unwrought (a) | 1 234 | 11 306 | 5 000 | ... | ... |
| South Africa | | | | | |
| Bauxite | 10 804 | 21 765 | 4 983 | 5 587 | 7 294 |
| Alumina | 307 253 | 322 058 | 339 264 | 351 415 | 321 733 |
| Scrap | 490 | 536 | 273 | 312 | 1 699 |
| Tanzania | | | | | |
| Unwrought (a) | 254 | 3 909 | 1 061 | 1 023 | ... |
| Tunisia | | | | | |
| Alumina | 23 707 | 18 847 | 24 904 | 33 333 | 24 560 |
| Alumina hydrate | 3 152 | 2 438 | 3 803 | 4 440 | 5 562 |
| Unwrought | 1 956 | 936 | 1 296 | 2 189 | (a)1 583 |
| Canada | | | | | |
| Bauxite | 2 112 874 | 2 019 119 | 2 351 595 | 2 540 694 | 2 310 461 |
| Alumina | 1 724 569 | 2 068 390 | 1 875 546 | 2 040 947 | 1 982 952 |
| Unwrought | (a)64 459 | (a)53 479 | 23 973 | 20 037 | 27 300 |
| Unwrought alloys | ... | ... | 35 342 | 44 941 | 57 358 |
| Scrap | 69 945 | 56 959 | 62 161 | 58 203 | 52 603 |
| Costa Rica | | | | | |
| Unwrought (a) | 1 544 | 506 | 3 436 | 3 496 | 7 707 |
| Mexico | | | | | |
| Bauxite | 35 086 | 40 264 | 53 040 | 51 247 | 46 018 |
| Alumina | 70 139 | 137 192 | 150 178 | 147 089 | ... |
| Alumina hydrate | 39 860 | 27 668 | 44 441 | 47 512 | ... |
| Unwrought & scrap (a) | 48 410 | 38 065 | 48 155 | 49 912 | 47 474 |
| Panama | | | | | |
| Unwrought (a) | 1 366 | 1 989 | 546 | 1 013 | 761 |
| USA | | | | | |
| Bauxite, crude dried | 6 854 063 | 9 819 080 | 10 502 783 | 11 346 182 | 12 628 163 |
| Bauxite, calcined | 303 783 | 338 589 | 393 699 | 531 000 | 558 000 |
| Alumina | 3 613 263 | 4 078 048 | 4 647 390 | 4 330 405 | 4 087 503 |
| Unwrought | 766 220 | 706 200 | 514 037 | 422 416 | 438 543 |
| Unwrought alloys | 580 110 | 539 385 | 512 786 | 502 970 | 523 194 |
| Scrap | 162 276 | 188 614 | 200 498 | 206 380 | 214 853 |
| Argentina | | | | | |
| Bauxite | 25 739 | 31 525 | 20 457 | *25 000 | ... |
| Alumina | 345 794 | 226 437 | 261 862 | 291 938 | ... |
| Alumina hydrate | 11 044 | 12 787 | 9 137 | ... | ... |
| Brazil | | | | | |
| Bauxite | 1 020 | 2 998 | 2 028 | 129 259 | 349 678 |
| Alumina | 285 470 | 393 438 | 378 243 | 311 348 | 419 838 |
| Unwrought | 106 | 118 | 33 | 1 287 | 329 |
| Unwrought alloys | 1 308 | 2 192 | 67 | 1 259 | 4 806 |
| Scrap | 3 119 | 4 931 | 759 | 2 579 | 4 751 |
| Chile | | | | | |
| Unwrought | 3 420 | 3 010 | 3 728 | 3 834 | 6 371 |
| Colombia | | | | | |
| Bauxite | 5 071 | *4 500 | 6 733 | 8 384 | ... |
| Alumina | 4 151 | *2 500 | 3 908 | 5 039 | ... |
| Unwrought (a) | 21 290 | 17 901 | 8 690 | 13 791 | 15 578 |
| Ecuador | | | | | |
| Unwrought | 5 144 | 4 773 | 4 947 | 4 256 | ... |
| Peru | | | | | |
| Bauxite | 283 | 1 874 | 2 504 | 3 021 | ... |
| Alumina | 1 302 | 1 636 | 2 301 | 735 | ... |
| Unwrought | 5 290 | 5 082 | 4 190 | 759 | ... |

Imports of Bauxite, Alumina and Aluminium

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|---------------------|-------------|-----------|-----------|-----------|-----------|
| Uruguay | | | | | |
| Bauxite | 3 951 | 8 455 | 4 071 | ... | ... |
| Alumina | 1 202 | 1 102 | 1 120 | ... | ... |
| Unwrought | 1 991 | 2 693 | 2 306 | ... | ... |
| Venezuela | | | | | |
| Bauxite | 2 855 125 | 3 023 945 | 3 086 130 | 3 158 812 | ... |
| Alumina | 5 068 | 6 832 | 7 818 | 6 435 | ... |
| Alumina hydrate | 1 290 | 2 249 | 2 167 | 798 | ... |
| Unwrought | 3 725 | 1 816 | 3 | 106 | ... |
| Abu Dhabi | | | | | |
| Scrap | 2 418 | 5 017 | 9 197 | ... | 8 625 |
| Bahrain | | | | | |
| Alumina | 332 417 | 346 191 | 363 151 | 351 694 | ... |
| China | | | | | |
| Alumina | (f)*107 800 | 322 149 | 159 535 | 298 006 | 582 390 |
| Unwrought (a) | 266 241 | 148 130 | 75 381 | 175 510 | 71 771 |
| Scrap (f) | *1 100 | *1 600 | *4 100 | *8 000 | *14 700 |
| Dubai | | | | | |
| Alumina | 294 626 | 284 000 | 315 000 | ... | ... |
| Hong Kong | | | | | |
| Bauxite | 20 526 | 25 815 | 16 471 | 17 289 | 12 497 |
| Alumina | — | 474 | 84 000 | 181 969 | — |
| Alumina hydrate | 57 | 469 | 29 | 881 | 60 |
| Unwrought | 46 950 | 70 480 | 111 187 | 52 889 | 46 208 |
| Scrap | 1 301 | 3 072 | 5 512 | 5 660 | 5 693 |
| India (c) | | | | | |
| Unwrought (a) | 81 227 | 52 276 | 12 145 | 35 900 | 16 148 |
| Indonesia | | | | | |
| Alumina | 251 225 | 226 509 | 287 585 | 372 591 | 303 594 |
| Alumina hydrate | 52 271 | 36 499 | 44 590 | 59 238 | 54 469 |
| Unwrought (a) | 9 551 | 12 086 | 6 818 | 7 324 | 24 777 |
| Iran (e) | | | | | |
| Alumina | 81 532 | 26 980 | 27 100 | 43 275 | ... |
| Unwrought | 13 600 | 9 500 | 3 532 | 1 005 | ... |
| Israel | | | | | |
| Alumina (f) | *1 700 | *1 800 | *1 100 | *1 100 | *900 |
| Unwrought (a) | 15 899 | 18 180 | 17 698 | 15 932 | 18 244 |
| Japan | | | | | |
| Bauxite | 2 307 459 | 1 872 020 | 2 148 590 | 2 269 477 | 2 302 206 |
| Alumina | 63 489 | 26 984 | 44 092 | 28 294 | 19 008 |
| Alumina hydrate | 2 564 | 14 791 | 27 956 | 48 667 | 54 448 |
| Unwrought | 1 076 353 | 1 435 037 | 1 716 070 | 1 745 362 | 1 983 773 |
| Unwrought alloys | 289 662 | 400 253 | 575 926 | 617 828 | 669 290 |
| Scrap | 358 813 | 430 642 | 399 154 | 400 226 | 352 699 |
| Jordan | | | | | |
| Alumina | 455 | 11 529 | 22 174 | 20 820 | 22 871 |
| Unwrought | 4 536 | 5 319 | 3 883 | 3 651 | 3 588 |
| Korea, Dem. P.R. of | | | | | |
| Alumina (f) | *11 500 | *7 600 | *30 600 | *6 600 | *9 400 |
| Unwrought (a)(f) | *3 300 | *150 | *400 | *1 300 | *500 |
| Korea, Republic of | | | | | |
| Bauxite | 15 571 | 30 359 | 24 733 | 31 320 | 34 536 |
| Alumina | 36 008 | 38 603 | 43 242 | 42 144 | 14 328 |
| Alumina hydrate | 57 119 | 68 406 | 75 233 | 96 032 | 100 765 |
| Unwrought | 159 860 | 480 535 | 217 744 | 442 379 | 301 611 |
| Unwrought alloys | 24 652 | 32 955 | 48 831 | 43 179 | 60 315 |
| Scrap | 8 799 | 43 240 | 27 840 | 55 601 | 39 576 |
| Malaysia | | | | | |
| Alumina | 12 300 | 12 030 | 18 661 | 16 298 | ... |
| Unwrought | 10 576 | 11 724 | 15 072 | 19 700 | ... |
| Unwrought alloys | 15 873 | 19 812 | 18 636 | 22 410 | ... |
| Scrap | 1 339 | 849 | 3 462 | 2 448 | ... |
| Pakistan (d) | | | | | |
| Alumina | 2 586 | 2 487 | 2 500 | ... | 2 360 |
| Unwrought | 5 250 | 8 921 | 14 471 | ... | 8 630 |
| Scrap | 16 421 | 26 688 | 26 451 | ... | 27 017 |
| Philippines | | | | | |
| Bauxite | 5 379 | 933 | 4 637 | 7 669 | 1 962 |
| Alumina | 5 380 | 8 257 | 5 775 | 7 798 | 7 155 |
| Unwrought (a) | 6 271 | 10 808 | 10 222 | 13 771 | 14 631 |

Imports of Bauxite, Alumina and Aluminium

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------|---------|---------|-----------|---------|---------|
| Saudi Arabia | | | | | |
| Bauxite | 162 837 | 77 602 | 147 531 | 214 534 | ... |
| Unwrought | 14 300 | 18 625 | 14 405 | 14 662 | ... |
| Singapore | | | | | |
| Alumina | 52 877 | 12 093 | 1 215 | 1 064 | 1 426 |
| Alumina hydrate | 50 260 | 63 131 | 84 780 | 69 124 | 62 258 |
| Unwrought | 15 653 | 40 628 | 125 646 | 38 576 | 46 158 |
| Scrap | 845 | 1 525 | 3 101 | 4 452 | 3 357 |
| Syria | | | | | |
| Unwrought & scrap | 1 077 | 537 | ... | ... | ... |
| Taiwan | | | | | |
| Bauxite | 47 261 | 36 235 | 39 635 | 31 297 | 48 025 |
| Alumina | 2 219 | 4 888 | 9 097 | 23 065 | 33 085 |
| Alumina hydrate | 3 506 | 7 215 | 11 685 | 13 579 | 22 191 |
| Unwrought | 155 956 | 195 095 | 136 553 | 162 521 | 170 088 |
| Unwrought alloys | ... | ... | 56 851 | 60 304 | 75 269 |
| Scrap | 13 055 | 23 211 | 64 115 | 71 711 | 70 265 |
| Thailand | | | | | |
| Bauxite | 11 491 | 21 714 | 30 426 | 32 131 | 25 102 |
| Alumina | 3 258 | 7 842 | 6 151 | 9 853 | 10 008 |
| Alumina hydrate | 14 347 | 12 117 | 19 592 | 26 570 | 17 800 |
| Unwrought | 42 206 | 43 804 | 1 036 106 | 66 030 | 75 581 |
| Unwrought alloys | 5 606 | 9 932 | 26 601 | 32 234 | 52 555 |
| Scrap | 420 | 1 499 | 4 716 | 4 570 | 2 012 |
| Australia | | | | | |
| Bauxite | 3 800 | 10 107 | 21 429 | 35 000 | 19 000 |
| Alumina | 4 966 | 5 639 | 10 939 | 12 000 | 10 000 |
| Unwrought (a) | 754 | 1 060 | 2 800 | 3 400 | 1 000 |
| Scrap (d) | 2 820 | 1 397 | 1 834 | 2 552 | 2 574 |
| New Zealand (d) | | | | | |
| Alumina | 475 486 | 472 601 | 520 223 | 471 467 | 511 261 |
| Unwrought (a) | 534 | 1 565 | 6 942 | 5 172 | 8 341 |

Note(s):

- (1) Except where alumina hydrate is separately specified, national trade figures for alumina can be considered as inclusive of hydrate
 - (2) In this table the term 'unwrought' aluminium corresponds to item 684.1 of the Standard International Trade Classification (Revision 3) and comprises ingots, blocks, unwrought bars, etc.
 - (3) Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys
- (a) Including alloys
(b) Including alloys and scrap
(c) Years ended 31 March following that stated
(d) Years ended 30 June of that stated
(e) Years ended 20 March following that stated
(f) BGS estimates, based on known exports from certain countries

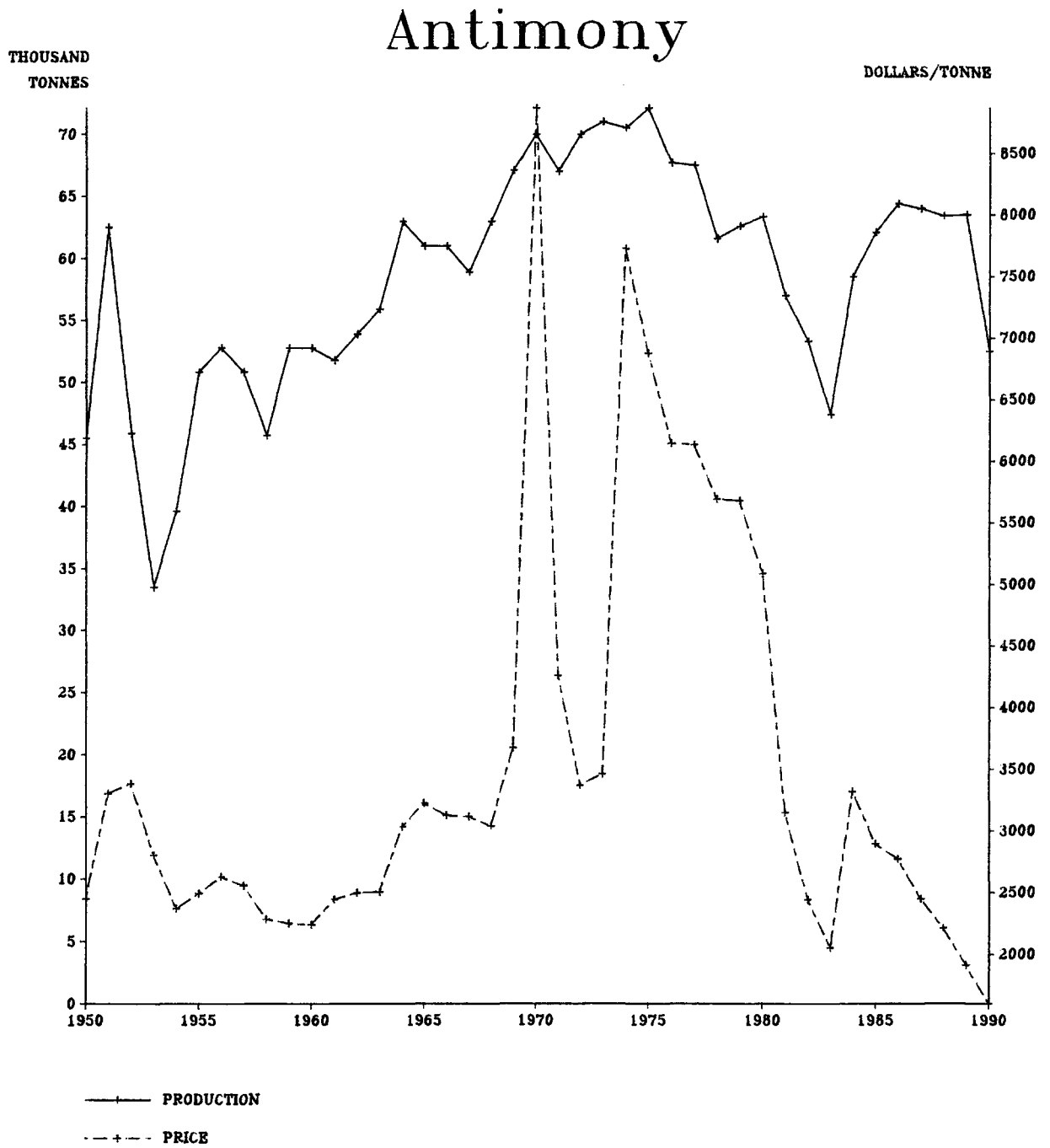


Figure 2 World mine production of antimony compared with the annual average ordinary grade US price and, from 1980, the New York dealer price (99.5%–99.6%) according to *Metals Week*, expressed in constant 1985 US dollars.

Mine Production of Antimony

tonnes (metal content)

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------|---------|---------|---------|---------|---------|
| Italy | 286 | 91 | 119 | — | — |
| Spain | 45 | — | — | — | — |
| Austria | 558 | 399 | 270 | 412 | 469 |
| Czechoslovakia | 782 | 931 | 947 | 839 | 917 |
| Romania | *400 | *400 | *350 | *300 | *100 |
| Soviet Union | *6 000 | *6 000 | *6 000 | *5 800 | *5 400 |
| Turkey | 2 752 | 2 344 | 1 876 | 1 465 | 552 |
| Yugoslavia | 859 | 834 | 725 | 798 | 409 |
| Morocco | 584 | 440 | 243 | 142 | 181 |
| South Africa | 6 816 | 6 301 | 5 917 | 4 401 | 5 258 |
| Zimbabwe | 175 | 153 | 164 | 210 | 100 |
| Canada | 3 805 | 3 531 | 3 387 | 2 821 | 741 |
| Guatemala | 1 469 | 1 696 | 846 | 1 222 | 840 |
| Honduras | 118 | 72 | 19 | 44 | *25 |
| Mexico | 3 337 | 2 839 | 2 185 | 1 906 | 2 627 |
| USA | *250 | — | *150 | *2 500 | *2 300 |
| Bolivia | 10 243 | 10 635 | 9 943 | 9 189 | 8 454 |
| Peru (a) | *670 | 590 | 420 | 519 | *500 |
| China | *23 000 | *25 000 | *28 000 | *29 000 | *22 000 |
| Malaysia | 129 | 22 | — | — | — |
| Pakistan | — | 45 | — | 33 | 38 |
| Thailand | 1 019 | 409 | 445 | 496 | 326 |
| Australia (b) | 1 131 | 1 231 | 1 377 | 1 419 | 1 300 |
| World total | 64 400 | 64 000 | 63 400 | 63 500 | 52 500 |

Note(s):

- (1) This table includes antimony content of antimonial lead alloys
 - (2) In addition to the countries listed, Afghanistan, Hungary and Iran are believed to produce antimony
- (a) Including Sb content of antimonial lead plus Sb content of ores for export
- (b) Including Sb content of lead and zinc concentrates

Exports of Antimony

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|---------|---------|---------|---------|---------|
| United Kingdom | | | | | |
| Metal | 98 | 59 | 33 | 167 | 115 |
| Oxide (a) | *3 700 | *4 600 | *4 500 | *5 300 | *4 900 |
| Belgium-Luxembourg | | | | | |
| Oxide (a) | *3 400 | *3 100 | *3 800 | *3 900 | *3 800 |
| France | | | | | |
| Ore | 19 | 58 | 144 | 73 | 26 |
| Metal | 91 | 45 | 158 | 69 | 72 |
| Oxide | 4 630 | 6 019 | 5 458 | 5 479 | 5 007 |
| Germany, Federal Republic of | | | | | |
| Metal | 53 | 57 | 237 | 289 | 76 |
| Oxide | 747 | 803 | 822 | 689 | 675 |
| Italy | | | | | |
| Metal | 24 | 4 | 9 | 13 | 46 |
| Oxide | 115 | 79 | 36 | 52 | 24 |
| Netherlands | | | | | |
| Metal | 7 | — | 45 | — | — |
| Oxide | 220 | 453 | 467 | 527 | 495 |
| Spain | | | | | |
| Metal | 43 | 5 | 1 | — | 1 |
| Austria | | | | | |
| Ore | 5 | 3 | 77 | 138 | 1 |
| Sulphide (b) | 53 | 4 | 24 | 58 | 67 |
| Soviet Union | | | | | |
| Metal (a) | *600 | *1 200 | *400 | *600 | *1 000 |
| Oxide (a) | *300 | *200 | *300 | *200 | *100 |
| Turkey | | | | | |
| Ore | 2 190 | 4 084 | 1 644 | ... | ... |
| Metal | 447 | 665 | 12 384 | 494 | 293 |
| Morocco | | | | | |
| Ore | 1 384 | 999 | 465 | 41 | 377 |
| South Africa | | | | | |
| Ore (c) | 822 | 112 | 76 | 100 | 92 |
| Oxide | 6 170 | 3 940 | 4 802 | 4 802 | 4 764 |
| Canada | | | | | |
| Ores & concentrates | ... | ... | 3 833 | 2 371 | 463 |
| Mexico | | | | | |
| Ores & concentrates | 3 876 | 3 108 | 3 980 | 3 857 | ... |
| Metal | 140 | 63 | 109 | 67 | ... |
| USA | | | | | |
| Metal | 626 | 816 | 626 | 311 | 736 |
| Oxide | 638 | 854 | 1 478 | 2 268 | 8 608 |
| Bolivia | | | | | |
| Ore | 18 813 | 17 351 | 11 891 | 13 037 | 11 686 |
| Metal | 578 | 1 029 | 469 | 404 | 453 |
| Oxide | 900 | 870 | 672 | 853 | 762 |
| Peru | | | | | |
| Ores & concentrates | 361 | 274 | 241 | 76 | ... |
| Metal (a) | *50 | ... | ... | ... | *20 |
| China | | | | | |
| Ores & concentrates (a) | *12 100 | *12 200 | *6 500 | *11 100 | *18 400 |
| Metal | 21 567 | 29 573 | 29 276 | 32 993 | 33 368 |
| Oxide (a) | *6 900 | *7 400 | *11 300 | *13 200 | *13 700 |
| Sulphide (a) | *490 | *100 | *260 | ... | ... |
| Thailand | | | | | |
| Ore | 2 774 | 3 627 | 3 617 | 2 480 | 302 |
| Australia | | | | | |
| Ores & concentrates (d) | 2 222 | 1 397 | 1 769 | 2 305 | 1 622 |

(a) BGS estimates, based on known imports into certain countries

(b) Believed to be crude liquated sulphide

(c) Sb content

(d) Years ended 30 June of that stated

Imports of Antimony

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|--------|--------|--------|--------|--------|
| United Kingdom | | | | | |
| Ore (b) | ... | ... | *2 900 | *1 800 | *500 |
| Metal | 454 | 389 | 410 | 558 | 604 |
| Oxide | 1 320 | 1 416 | 1 637 | 1 890 | 2 172 |
| Belgium-Luxembourg | | | | | |
| Ore | 5 188 | 6 086 | 5 341 | 6 048 | 3 863 |
| Metal | 385 | 878 | 1 260 | 2 435 | 2 953 |
| Oxide | 792 | 786 | 945 | 665 | 1 299 |
| Denmark | | | | | |
| Oxide | 68 | 72 | 79 | 104 | 83 |
| France | | | | | |
| Ore | 11 783 | 14 886 | 9 269 | 12 806 | 9 620 |
| Metal | 377 | 2 821 | 1 046 | 2 729 | 2 977 |
| Oxide | 640 | 735 | 989 | 772 | 1 080 |
| Germany, Federal Republic of | | | | | |
| Ore | 1 845 | 319 | — | 36 | 5 |
| Metal | 977 | 1 399 | 1 727 | 1 386 | 3 145 |
| Oxide | 4 581 | 4 792 | 4 922 | 5 411 | 5 517 |
| Greece | | | | | |
| Metal | 13 | 80 | 35 | 24 | ... |
| Italy | | | | | |
| Metal | 222 | 155 | 581 | 845 | 1 247 |
| Oxide | 1 163 | 1 669 | 2 069 | 2 116 | 2 682 |
| Netherlands | | | | | |
| Metal | 64 | 45 | 111 | 82 | 51 |
| Oxide | 1 125 | 1 652 | 1 805 | 1 807 | 1 531 |
| Portugal | | | | | |
| Metal | 28 | 79 | 84 | 134 | 98 |
| Spain | | | | | |
| Ore | 630 | 684 | 129 | 8 | 100 |
| Metal | 177 | 235 | 171 | 203 | 683 |
| Oxide | 273 | 411 | 596 | 456 | 508 |
| Austria | | | | | |
| Ore | 678 | 970 | 0 | — | ... |
| Metal | 84 | 63 | 45 | 64 | 49 |
| Oxide | 261 | 163 | 115 | 200 | 220 |
| Sulphide | 35 | 27 | 203 | — | — |
| Finland | | | | | |
| Metal | 8 | 49 | 7 | 5 | 9 |
| German Democratic Republic | | | | | |
| Oxide (b) | *100 | *50 | *60 | *70 | *10 |
| Norway | | | | | |
| Metal | 26 | 55 | 10 | 12 | 45 |
| Oxide | ... | ... | 155 | 163 | 168 |
| Sweden | | | | | |
| Metal | 13 | 12 | 112 | 65 | 59 |
| Oxide | ... | ... | 652 | 561 | 563 |
| Switzerland | | | | | |
| Metal | 62 | 90 | 65 | 30 | 79 |
| Oxide | ... | ... | 464 | 316 | 390 |
| Yugoslavia | | | | | |
| Ores & Concentrates | 2 732 | 2 907 | — | — | — |
| Metal | 1 | — | 66 | 66 | 135 |
| Algeria | | | | | |
| Metal | 55 | 115 | ... | ... | ... |
| Canada | | | | | |
| Metal | 241 | 209 | 123 | 243 | 182 |
| Oxide | 1 278 | 1 526 | 1 760 | 1 322 | 1 277 |
| USA | | | | | |
| Ore | 9 861 | 10 332 | 8 109 | 8 613 | 5 681 |
| Liquated | 523 | 92 | 163 | — | ... |
| Metal | 7 583 | 9 011 | 17 733 | 10 557 | 13 940 |
| Oxide | 12 266 | 12 378 | 11 548 | 12 041 | 14 472 |
| Argentina | | | | | |
| Ore | 483 | 680 | 743 | 550 | ... |

Imports of Antimony

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|---------------------------|-------|-------|-------|-------|-------|
| Brazil | | | | | |
| Ore | 817 | 768 | 765 | ... | 215 |
| Metal | 854 | 1 010 | 730 | ... | 370 |
| Oxide | 30 | 44 | 71 | ... | 81 |
| Sulphide | 21 | 23 | 24 | ... | 48 |
| Venezuela | | | | | |
| Metal | 116 | 134 | 103 | 172 | ... |
| India (a) | | | | | |
| Metal | 975 | 852 | 1 283 | ... | 1 505 |
| Oxide | 107 | 156 | 149 | ... | 184 |
| Japan | | | | | |
| Ores & Concentrates | 6 400 | 5 886 | 6 376 | 4 978 | 5 997 |
| Metal | 3 985 | 4 743 | 5 817 | 6 225 | 6 316 |
| Oxide | 3 609 | 4 368 | 6 202 | 7 268 | 6 299 |
| Sulphide | 126 | 69 | 134 | 208 | 184 |
| Korea, Republic of | | | | | |
| Ores & Concentrates | 4 655 | 5 266 | 3 780 | 2 238 | 2 326 |
| Metal | 298 | 725 | 416 | 645 | 2 178 |
| Oxide | 644 | 616 | 416 | 527 | 505 |
| Malaysia | | | | | |
| Metal | 69 | 99 | 152 | 221 | ... |
| Pakistan (c) | | | | | |
| Metal | 75 | 66 | 92 | ... | 110 |
| Taiwan | | | | | |
| Metal | 77 | 618 | 580 | 1 242 | 1 954 |
| Oxide | 765 | 1 079 | 1 197 | 987 | 1 075 |
| Thailand | | | | | |
| Ores & Concentrates | 3 002 | 4 284 | 6 045 | 5 167 | 7 956 |
| Metal | 12 | 10 | 0 | 17 | 1 |
| Oxide | ... | ... | 120 | 470 | 427 |
| Australia | | | | | |
| Metal (c) | 138 | 205 | 139 | 198 | 66 |
| Oxide (c) | 497 | 371 | 416 | 377 | 449 |

(a) Years ended 31 March following that stated

(b) BGS estimates, based on known exports from certain countries

(c) Years ended 30 June of that stated

Production of White Arsenic

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|---------|---------|---------|---------|---------|
| France | 10 000 | 7 000 | 7 000 | 7 000 | 6 500 |
| Germany, Federal Republic of | *360 | *360 | *360 | *360 | *360 |
| Portugal | 197 | 217 | 214 | 199 | 246 |
| Soviet Union | *8 100 | *8 100 | *8 100 | *8 100 | *7 800 |
| Sweden | *10 000 | *10 000 | *10 000 | *10 000 | *10 000 |
| Namibia (a) | 2 208 | 1 864 | 2 984 | 2 399 | 1 637 |
| Canada | *2 000 | *5 000 | *2 000 | *2 000 | *2 000 |
| Mexico (b) | 7 016 | 7 001 | 6 816 | 7 327 | 6 348 |
| Bolivia | 84 | 132 | 191 | 338 | 300 |
| Chile (c) | 3 375 | 5 028 | 7 292 | 4 596 | 5 831 |
| Peru | 1 273 | 1 757 | 828 | 563 | *600 |
| Japan | *500 | *500 | *500 | *500 | *500 |
| Philippines | 4 123 | 6 286 | 5 046 | 4 652 | 5 092 |

Note(s):

- (1) This table includes calculated trioxide equivalent of arsenic metal produced except where this would involve double counting
- (2) In addition to the countries listed, Argentina, Austria, Belgium, China, Czechoslovakia, German Democratic Republic, Finland, Hungary, Spain, United Kingdom and Yugoslavia are believed to produce arsenic
- (a) Output of Tsumeb Corp. only, trioxide equivalent of reported black arsenic
- (b) Including trioxide equivalent of black arsenic
- (c) Exports

Arsenic

Exports of Arsenic

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|--------|--------|--------|-------|--------|
| United Kingdom | | | | | |
| White arsenic | 131 | 342 | ... | ... | ... |
| Metallic arsenic | (a)204 | (a)87 | 29 | 30 | 92 |
| Belgium-Luxembourg | | | | | |
| Metallic arsenic | (a)53 | (a)78 | 0 | 7 | 4 |
| France | | | | | |
| Metallic arsenic | 186 | 251 | 128 | 1 058 | 784 |
| Germany, Federal Republic of | | | | | |
| White arsenic | 216 | 284 | ... | ... | ... |
| Metallic arsenic | (a)16 | (a)11 | 9 | 2 | 2 |
| Italy | | | | | |
| White arsenic | 16 | 5 | ... | ... | ... |
| Netherlands | | | | | |
| Metallic arsenic | (a)44 | (a)56 | 24 | — | 27 |
| Portugal | | | | | |
| White arsenic | 139 | 76 | ... | ... | ... |
| Namibia | | | | | |
| White arsenic | 1 936 | 2 219 | 2 890 | 2 331 | 2 055 |
| Mexico | | | | | |
| White arsenic | 4 330 | 4 547 | *3 500 | ... | ... |
| Bolivia | | | | | |
| White arsenic | 241 | 132 | 191 | 338 | 300 |
| Chile | | | | | |
| White arsenic | 3 375 | 5 028 | 7 292 | 4 596 | 5 831 |
| China | | | | | |
| White arsenic (b) | *1 000 | *1 600 | *700 | *400 | *2 000 |
| Metallic arsenic (b) | *360 | *680 | *620 | *870 | *1 200 |
| Hong Kong | | | | | |
| White arsenic (c) | 308 | 441 | 554 | 208 | 763 |
| Korea, Republic of | | | | | |
| White arsenic | 41 | 268 | 133 | 125 | 187 |

Note(s):

(1) This table does not purport to be comprehensive: data relating to arsenic are not fully recorded by many countries

(a) May include some tellurium

(b) BGS estimates, based on known imports into certain countries

(c) Re-exports

Imports of Arsenic

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|--------|--------|--------|--------|--------|
| United Kingdom | | | | | |
| White arsenic | 4 298 | 3 804 | ... | ... | ... |
| Metallic arsenic | (a)153 | (a)152 | 58 | 70 | 80 |
| Belgium-Luxembourg | | | | | |
| Metallic arsenic | (a)79 | (a)194 | 100 | 107 | 97 |
| Denmark | | | | | |
| White arsenic | 10 | 29 | ... | ... | ... |
| France | | | | | |
| White arsenic | 125 | 1 635 | ... | ... | ... |
| Metallic arsenic | 258 | 104 | 71 | 250 | 260 |
| Germany, Federal Republic of | | | | | |
| White arsenic | 253 | 195 | ... | ... | ... |
| Metallic arsenic | (a)103 | (a)111 | 34 | 11 | 29 |
| Greece | | | | | |
| White arsenic | 51 | 14 | ... | ... | ... |
| Italy | | | | | |
| White arsenic | 494 | 564 | ... | ... | ... |
| Metallic arsenic | (a)65 | (a)92 | 71 | 144 | 208 |
| Netherlands | | | | | |
| Metallic arsenic | (a)37 | (a)58 | 38 | — | 30 |
| Spain | | | | | |
| White arsenic | 182 | 280 | ... | ... | ... |
| Metallic arsenic | 12 | 20 | 12 | 33 | 30 |
| Finland | | | | | |
| White arsenic (d) | 1 604 | 1 373 | ... | ... | ... |
| Sweden | | | | | |
| Metallic arsenic | 0 | — | 143 | 5 | 29 |
| Turkey | | | | | |
| White arsenic | 103 | 55 | 95 | ... | ... |
| Yugoslavia | | | | | |
| White arsenic | 148 | 112 | ... | ... | ... |
| Metallic arsenic | 53 | 50 | 39 | 67 | 27 |
| South Africa | | | | | |
| Metallic arsenic | 30 | 43 | 28 | 28 | 31 |
| USA | | | | | |
| White arsenic | 25 730 | 26 934 | 28 056 | 28 347 | 26 257 |
| Metallic arsenic | 394 | 631 | 600 | 928 | 796 |
| Argentina | | | | | |
| White arsenic | 228 | 115 | 94 | ... | ... |
| Brazil | | | | | |
| White arsenic | 656 | 428 | 314 | ... | ... |
| Uruguay | | | | | |
| White arsenic | 39 | 35 | 51 | ... | ... |
| Hong Kong | | | | | |
| White arsenic | 116 | 375 | 348 | 326 | 658 |
| India (b) | | | | | |
| White arsenic | 348 | 857 | 527 | ... | 211 |
| Metallic arsenic | 16 | 374 | 312 | ... | 41 |
| Indonesia | | | | | |
| White arsenic | 101 | 84 | 93 | 43 | 2 |
| Japan | | | | | |
| White arsenic | 161 | 325 | 104 | 315 | 362 |
| Malaysia | | | | | |
| White arsenic | 554 | 1 368 | ... | ... | ... |
| Philippines | | | | | |
| White arsenic (d) | 16 | 52 | 65 | 108 | 25 |
| Taiwan | | | | | |
| White arsenic | 563 | 646 | 511 | 165 | 245 |
| Thailand | | | | | |
| White arsenic (d) | 79 | 134 | 51 | 56 | 97 |

Arsenic

Imports of Arsenic

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------|-------|-------|-------|-------|-------|
| Australia | | | | | |
| White arsenic (c) | ... | 1 254 | 724 | 1 174 | 966 |
| New Zealand (c) | | | | | |
| White arsenic (d) | 2 101 | 930 | 1 242 | 857 | 1 215 |

Note(s):

(1) This table does not purport to be comprehensive: data relating to arsenic are not fully recorded by many countries

(a) May include some tellurium

(b) Years ended 31 March following that stated

(c) Years ended 30 June of that stated

(d) Including pentoxide and/or arsenic acid

Mine Production of Bismuth

tonnes (metal content)

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------|--------|-------|-------|-------|-------|
| France | 95 | 100 | 100 | 110 | 70 |
| Italy | 66 | 44 | 32 | 46 | 34 |
| Romania | *80 | *75 | *65 | *60 | *70 |
| Soviet Union | *84 | *85 | *85 | *85 | *80 |
| Yugoslavia | 21 | 73 | 23 | 40 | 9 |
| Canada (a) | 153 | 167 | 212 | 205 | 118 |
| Mexico | 749 | 1 012 | 958 | 883 | 733 |
| USA | *400 | *400 | *400 | *400 | ... |
| Bolivia | 43 | 1 | 13 | 41 | 68 |
| Peru (a) | 605 | 438 | 386 | 687 | *555 |
| China | *500 | *600 | *750 | 786 | 1 058 |
| Japan | 640 | 546 | 524 | 502 | 442 |
| Korea, Republic of | 136 | 145 | 132 | 96 | 79 |
| Australia | *1 000 | *350 | *400 | *400 | *400 |
| World total | 4 600 | 4 000 | 4 100 | 4 300 | 4 100 |

Note(s):

- (1) The figures in this table are in some instances derived from reported bismuth content of refined and impure metal plus recoverable bismuth in ores and concentrates exported
 - (2) Production for some countries may include bismuth produced from imported ores but it is thought that any resulting duplication is insignificant in the countries shown
 - (3) In addition to the countries listed, Belgium, Brazil, Bulgaria, German Democratic Republic and Namibia are believed to produce bismuth
- (a) Including Bi content of bullion and concentrates exported

Bismuth

Exports of Bismuth

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|---------|---------|-------|-------|-------|
| United Kingdom | | | | | |
| Metal | (a)*310 | (a)*460 | 566 | 413 | 598 |
| France | | | | | |
| Compounds | 43 | 35 | 163 | 113 | 68 |
| Metal | 1 | 40 | 73 | 88 | 78 |
| Germany, Federal Republic of | | | | | |
| Compounds | 45 | 81 | 104 | 24 | 56 |
| Metal | 77 | 146 | 144 | 168 | 75 |
| Italy | | | | | |
| Metal | 25 | 80 | 23 | 31 | 19 |
| Netherlands | | | | | |
| Metal | 27 | 17 | 30 | 18 | 46 |
| Spain | | | | | |
| Compounds | 7 | 6 | 32 | 36 | 33 |
| Canada | | | | | |
| Metal | ... | ... | 103 | 28 | 130 |
| Mexico | | | | | |
| Metal | 673 | 1 993 | 1 514 | 1 174 | 1 037 |
| USA | | | | | |
| Metal | 45 | 38 | 154 | 124 | 123 |
| Peru | | | | | |
| Metal | 538 | 1 047 | 425 | 424 | ... |
| China | | | | | |
| Metal (a) | *60 | *130 | *500 | *300 | *100 |
| Japan | | | | | |
| Metal | 257 | 55 | 68 | 16 | 35 |
| Korea, Republic of | | | | | |
| Metal | 178 | 152 | 180 | 161 | 129 |
| Australia | | | | | |
| Metal (b) | ... | ... | ... | 380 | 176 |

Note(s):

(1) The compounds recorded in this table are bismuth carbonate and/or bismuth nitrate

(a) BGS estimates, based on known imports into certain countries

(b) Years ended 30 June of that stated

Imports of Bismuth

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|-------|-------|-------|-------|-------|
| United Kingdom | | | | | |
| Metal | 370 | 550 | 678 | 414 | 449 |
| France | | | | | |
| Compounds | 0 | 3 | 59 | 59 | 13 |
| Metal | 304 | 327 | 427 | 273 | 199 |
| Germany, Federal Republic of | | | | | |
| Compounds | 6 | 14 | 9 | 11 | 5 |
| Metal | 434 | 688 | 659 | 602 | 635 |
| Italy | | | | | |
| Compounds | 18 | 10 | 14 | 17 | 11 |
| Metal | 111 | 61 | 96 | 80 | 144 |
| Netherlands | | | | | |
| Compounds | 1 | — | 246 | 40 | 28 |
| Metal | 21 | 25 | 28 | 25 | 41 |
| Spain | | | | | |
| Metal | 82 | 83 | 77 | 73 | 59 |
| Turkey | | | | | |
| Compounds | 4 | 6 | 3 | ... | ... |
| Yugoslavia | | | | | |
| Compounds | 4 | 8 | 0 | 0 | 0 |
| Metal | 4 | — | 47 | 22 | 49 |
| USA | | | | | |
| Metal | 1 228 | 1 693 | 1 749 | 1 880 | 1 612 |
| Argentina | | | | | |
| Metal | 31 | 20 | 28 | ... | ... |
| Brazil | | | | | |
| Compounds (a) | 16 | 12 | 6 | ... | 6 |
| Metal | 72 | 72 | 55 | ... | 34 |
| Japan | | | | | |
| Metal | ... | ... | 326 | 408 | 180 |
| Australia | | | | | |
| Metal (b) | 5 | 15 | 11 | 9 | 13 |

Note(s):

(1) The compounds recorded in this table are bismuth carbonate and/or bismuth nitrate

(a) Also includes oxide and chloride

(b) Years ended 30 June of that stated



Figure 3 World production of cadmium compared with the *Metals Week* New York producer price expressed in constant 1985 US dollars.

Production of Cadmium

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------------------|--------|--------|--------|--------|--------|
| United Kingdom | 379 | 498 | 399 | 395 | 438 |
| Belgium | 1 380 | 1 308 | 1 836 | 1 761 | 1 956 |
| France (a) | 431 | 457 | 558 | 790 | 780 |
| Germany, Federal Republic of (a) | 1 218 | 1 125 | 1 156 | 1 208 | 973 |
| Italy | 300 | 320 | 705 | 775 | 691 |
| Netherlands | 557 | 517 | 655 | 505 | 590 |
| Spain | 247 | 297 | 438 | 361 | 355 |
| Austria | 52 | 26 | 26 | 49 | 44 |
| Bulgaria | *310 | *290 | *270 | *235 | 309 |
| Finland | 532 | 428 | 808 | 569 | 484 |
| German Democratic Republic | 26 | 37 | 30 | 26 | 17 |
| Norway | 154 | 147 | 169 | 207 | 286 |
| Poland | 500 | 620 | 642 | 485 | 373 |
| Romania | *90 | *90 | *75 | *65 | *30 |
| Soviet Union | *2 700 | *2 600 | *2 650 | *2 600 | *2 400 |
| Turkey | 6 | 11 | 22 | 54 | 46 |
| Yugoslavia | 259 | 284 | 405 | 475 | 362 |
| Algeria | 124 | 102 | 55 | 46 | 65 |
| Namibia | 61 | 51 | 106 | 88 | 69 |
| Zaire | 364 | 299 | 281 | 224 | 127 |
| Canada (a) | 1 552 | 1 571 | 1 694 | 1 620 | 1 437 |
| Mexico (b) | 963 | 1 139 | 1 235 | 1 316 | 1 278 |
| USA (a) | 1 486 | 1 515 | 1 885 | 1 550 | 1 678 |
| Argentina | 47 | 53 | 54 | 60 | 55 |
| Brazil | 233 | 214 | 161 | 190 | 135 |
| Peru | 387 | 353 | 316 | 472 | 265 |
| China | *650 | *750 | *840 | 1 165 | 1 129 |
| India | 160 | 214 | 237 | 275 | 277 |
| Japan | 2 542 | 2 374 | 2 614 | 2 694 | 2 451 |
| Korea, Dem. P.R. of | *360 | *380 | *380 | *350 | *340 |
| Korea, Republic of | *455 | *470 | *490 | *470 | 568 |
| Australia | 909 | 950 | 855 | 696 | 648 |
| World total | 19 400 | 19 500 | 22 000 | 21 800 | 20 700 |

Note(s):

(1) Data in this table excludes secondary metal unless otherwise stated

(a) Including cadmium sponge and/or secondary metal

(b) Including oxides

Cadmium

Exports of Cadmium

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|-------|-------|-------|-------|-------|
| United Kingdom | 85 | 62 | 147 | 570 | 621 |
| Belgium-Luxembourg | | | | | |
| Metal | 633 | 583 | 1 032 | 1 643 | 1 168 |
| Sulphide | 60 | 86 | 56 | 162 | 60 |
| France | 411 | 316 | 544 | 679 | 377 |
| Germany, Federal Republic of | | | | | |
| Metal (a) | 439 | 991 | ... | ... | ... |
| Italy | 224 | 221 | 560 | 741 | 450 |
| Netherlands | 541 | 842 | 703 | 717 | 500 |
| Spain | 230 | 230 | 438 | 254 | 155 |
| Austria | 55 | 40 | 20 | 120 | 35 |
| Bulgaria (b) | *40 | *40 | *40 | *110 | *40 |
| Finland | 567 | 609 | 784 | 591 | 591 |
| Hungary | ... | ... | ... | 147 | 144 |
| Norway | 162 | 135 | 140 | 229 | 287 |
| Poland | ... | ... | ... | 122 | 140 |
| Soviet Union | *400 | *200 | *100 | *100 | ... |
| Sweden | 46 | — | 2 | — | 0 |
| Yugoslavia | 33 | 97 | 125 | 318 | 33 |
| Algeria | 225 | 224 | ... | ... | ... |
| Namibia | 106 | 45 | 107 | 73 | 45 |
| Zaire | 293 | 174 | *240 | ... | ... |
| Canada | 1 383 | 1 157 | 1 113 | 1 433 | 1 283 |
| Mexico | 600 | 782 | 1 408 | 1 061 | 973 |
| USA | 38 | 270 | 626 | 790 | 702 |
| Peru | 658 | 138 | 200 | 299 | ... |
| China (b) | *340 | *290 | *690 | *370 | *150 |
| Japan | 452 | 201 | 158 | 141 | 255 |
| Korea, Republic of | | | | | |
| Metal | 104 | 163 | 731 | 828 | 874 |
| Oxide | 465 | 292 | — | — | — |
| Australia (c) | 645 | 2 262 | 1 103 | 1 237 | 311 |

(a) Including rhenium

(b) BGS estimates, based on known imports into certain countries

(c) Years ended 30 June of that stated

Imports of Cadmium

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------------------|-------|-------|-------|-------|-------|
| United Kingdom | 1 095 | 1 093 | 1 157 | 943 | 971 |
| Belgium-Luxembourg | | | | | |
| Metal | 1 509 | 1 586 | 2 096 | 1 991 | 1 925 |
| Sulphide | 6 | 18 | 6 | 29 | 31 |
| Denmark | | | | | |
| Sulphide | ... | ... | 82 | 157 | — |
| France | | | | | |
| Metal | 888 | 1 137 | 1 180 | 1 746 | 1 750 |
| Sulphide | 39 | 58 | 76 | 70 | 69 |
| Germany, Federal Republic of | | | | | |
| Metal | 531 | 511 | 658 | 791 | 530 |
| Oxide | 556 | 660 | — | — | — |
| Sulphide | 6 | 14 | 59 | 8 | 4 |
| Italy | | | | | |
| Metal | 105 | 90 | 84 | 64 | 71 |
| Sulphide | 6 | 3 | 6 | 8 | 4 |
| Netherlands | | | | | |
| Metal | 53 | 115 | 102 | 65 | 32 |
| Sulphide | 4 | 3 | 7 | 7 | 2 |
| Spain | 92 | 87 | 65 | 105 | 69 |
| Czechoslovakia | 170 | 146 | 93 | 137 | ... |
| Finland | 0 | 242 | 68 | 0 | 1 |
| German Democratic Republic (a) | *180 | *130 | *50 | *10 | *30 |
| Soviet Union (a) | *100 | *110 | ... | *20 | ... |
| Sweden | 201 | 122 | 177 | 181 | 252 |
| USA | 3 174 | 2 701 | 2 482 | 2 787 | 1 740 |
| Brazil | | | | | |
| Metal | 3 | 208 | 22 | ... | 15 |
| Oxide | 121 | 158 | 74 | ... | 55 |
| India (b) | 52 | 116 | 2 | ... | 190 |
| Japan | ... | ... | 2 546 | 2 908 | 2 199 |
| Pakistan (c) | | | | | |
| Sulphide | 50 | 51 | 15 | ... | 49 |
| Taiwan | | | | | |
| Oxide | 476 | 341 | 282 | 274 | 254 |

(a) BGS estimates, based on known exports from certain countries

(b) Years ended 31 March following that stated

(c) Years ended 30 June of that stated

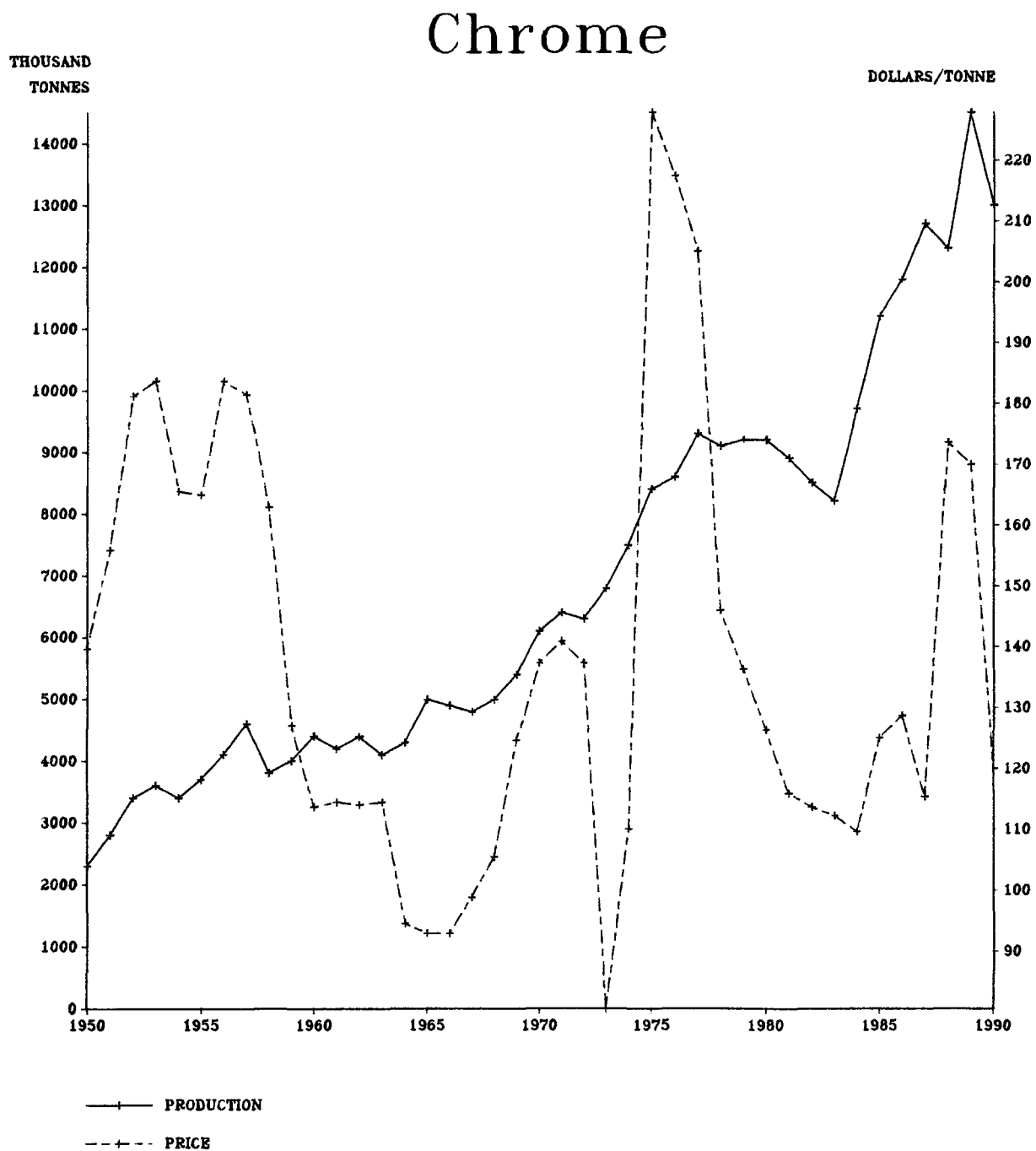


Figure 4 World production of chrome ore compared with the price of Turkish (48% Cr₂O₃) ore f.o.b. US ports expressed in constant 1985 US dollars.

Production of Chromium Ores and Concentrates

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-----------------|------------|------------|------------|------------|------------|
| Greece | 60 063 | 63 825 | 49 335 | 47 324 | *50 000 |
| Albania | 1 159 000 | 1 072 000 | 1 109 000 | 1 101 000 | 910 000 |
| Finland (b) | 492 094 | 503 159 | 536 309 | 573 715 | 461 277 |
| Soviet Union | 3 640 000 | 3 570 000 | 3 700 000 | 3 800 000 | *3 800 000 |
| Turkey (a) | 617 652 | 762 071 | 851 425 | 1 415 038 | *850 000 |
| Madagascar | 89 300 | 106 773 | 171 484 | 165 397 | 122 276 |
| South Africa | 3 907 473 | 3 784 402 | 4 244 632 | 4 950 854 | 4 489 124 |
| Sudan | 18 000 | 10 000 | 25 000 | 30 000 | 35 000 |
| Zimbabwe | 553 106 | 570 298 | 561 630 | 627 500 | 562 600 |
| Cuba | 50 000 | 52 400 | 52 200 | 50 600 | *50 000 |
| Brazil (a) | 222 990 | 191 033 | 229 912 | *225 000 | ... |
| India | 629 671 | 623 591 | 820 863 | 1 002 659 | *995 000 |
| Iran (c) | *54 000 | *55 000 | 60 289 | *62 000 | (b)79 000 |
| Japan | 10 642 | 11 815 | 9 508 | 11 674 | 8 075 |
| Oman | 4 820 | *4 000 | *4 000 | 12 810 | ... |
| Pakistan | 8 299 | 9 963 | 4 924 | *10 000 | 18 191 |
| Philippines (b) | 202 214 | 188 647 | 165 710 | 379 521 | 234 600 |
| Vietnam | *4 000 | *4 000 | *4 000 | *3 500 | *3 500 |
| New Caledonia | 72 207 | 61 832 | 70 341 | 60 281 | *60 000 |
| World total | 11 800 000 | 11 600 000 | 12 700 000 | 14 500 000 | 13 000 000 |

Note(s):

(1) In addition to the countries listed, Bulgaria, China, Democratic P.R. of Korea and Thailand are believed to produce chromite

(a) Including beneficiated and direct shipping ore

(b) Including foundry sand and/or lumpy ore

(c) Years ended 20 March following that stated

Chromium

Exports of Chromium

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|-----------|-----------|-----------|-----------|-----------|
| United Kingdom | | | | | |
| Ores & concentrates | 405 | 217 | 207 | 64 | 36 |
| Metal | 3 828 | 3 733 | 3 469 | 3 409 | 3 301 |
| Belgium-Luxembourg | | | | | |
| Ores & concentrates | 0 | 85 | 1 484 | 290 | 12 484 |
| Metal | 121 | 123 | 133 | 82 | 65 |
| France | | | | | |
| Ores & concentrates | 951 | 1 368 | 3 113 | 9 676 | 2 395 |
| Metal | 1 797 | 1 659 | 2 205 | 2 358 | 3 900 |
| Germany, Federal Republic of | | | | | |
| Ores & concentrates | 12 061 | 11 392 | 14 419 | 16 237 | 13 466 |
| Metal | 132 | 143 | 189 | 364 | 1 184 |
| Greece | | | | | |
| Ores & concentrates | 10 964 | 7 089 | 6 484 | 17 510 | 7 967 |
| Italy | | | | | |
| Ores & concentrates | 3 710 | 2 053 | 13 475 | 2 999 | 3 940 |
| Metal | 211 | 307 | 28 | 817 | 157 |
| Netherlands | | | | | |
| Ores & concentrates | 30 070 | 28 005 | 31 902 | 39 777 | 37 703 |
| Metal | 75 | 6 | 5 | 65 | 50 |
| Albania | | | | | |
| Ores & concentrates | 755 000 | 677 000 | 639 000 | 605 000 | 503 000 |
| Austria | | | | | |
| Ores & concentrates | 555 | — | 213 | 94 | 131 |
| Finland | | | | | |
| Ores & concentrates | 161 387 | 144 017 | 200 693 | 109 976 | 9 106 |
| Soviet Union | | | | | |
| Ores & concentrates | 474 000 | 521 000 | 632 000 | 741 000 | ... |
| Metal (b) | ... | ... | *300 | *800 | *1 300 |
| Turkey | | | | | |
| Ores & concentrates | 451 384 | 569 733 | 843 116 | 882 627 | 676 499 |
| Yugoslavia | | | | | |
| Ores & concentrates | 7 919 | 10 589 | 2 459 | 3 124 | — |
| Madagascar | | | | | |
| Ores & concentrates | 130 244 | 83 842 | 148 500 | 152 591 | 125 558 |
| South Africa | | | | | |
| Ores & concentrates | 1 133 625 | 1 442 747 | 1 461 713 | 1 541 011 | 1 200 919 |
| Sudan | | | | | |
| Ores & concentrates | 24 000 | ... | ... | ... | ... |
| Cuba | | | | | |
| Ores & concentrates | 37 771 | 49 664 | ... | ... | ... |
| USA | | | | | |
| Ores & concentrates | 84 820 | 5 982 | 4 964 | 42 820 | 10 373 |
| of which: Re-exports | 1 322 | 4 837 | 1 033 | 2 375 | 4 052 |
| Metal | 293 | 379 | 322 | 1 503 | 345 |
| Brazil | | | | | |
| Ores & concentrates | — | 8 | 29 931 | 41 863 | 34 995 |
| China | | | | | |
| Metal (b) | *1 100 | *1 300 | *1 200 | *1 100 | *2 500 |
| India (a) | | | | | |
| Ores & concentrates | 119 084 | 185 196 | 588 700 | ... | 179 580 |
| Iran | | | | | |
| Ores & concentrates (b) | ... | *13 500 | *7 500 | *30 500 | *30 700 |
| Japan | | | | | |
| Ores & concentrates | 283 | 309 | 298 | 2 429 | 495 |
| Metal | ... | ... | 2 014 | 2 322 | 2 822 |
| Philippines | | | | | |
| Ores & concentrates | 130 164 | 105 676 | 163 499 | 201 683 | 198 366 |

Exports of Chromium

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------------------------|--------|--------|--------|--------|--------|
| New Caledonia Ores & concentrates | 61 104 | 72 112 | 71 646 | 64 651 | 13 523 |

Note(s):

(1) Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

(a) Years ended 31 March following that stated

(b) BGS estimates, based on known imports into certain countries

Chromium

Imports of Chromium

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|------------|------------|------------|---------|---------|
| United Kingdom | | | | | |
| Ores & concentrates | 138 572 | 124 318 | 199 043 | 170 461 | 154 919 |
| Metal | 367 | 504 | 391 | 709 | 854 |
| Belgium-Luxembourg | | | | | |
| Ores & concentrates | 3 846 | 2 581 | 3 404 | 3 861 | 19 926 |
| Metal | 536 | 406 | 374 | 392 | 570 |
| Denmark | | | | | |
| Ores & concentrates | 1 473 | 667 | 697 | 6 481 | 14 770 |
| France | | | | | |
| Ores & concentrates | 24 610 | 24 771 | 80 910 | 81 288 | 88 144 |
| Metal | 232 | 253 | 264 | 506 | 1 047 |
| Germany, Federal Republic of | | | | | |
| Ores & concentrates | 275 307 | 258 912 | 272 541 | 343 779 | 245 513 |
| Metal | 180 | 1 144 | 1 347 | 2 147 | 3 236 |
| Greece | | | | | |
| Ores & concentrates | 65 152 | 27 354 | 42 600 | 73 812 | 47 284 |
| Irish Republic | | | | | |
| Ores & concentrates | 29 | 3 010 | 13 | 22 | 47 |
| Italy | | | | | |
| Ores & concentrates | 152 169 | 218 974 | 304 149 | 383 158 | 179 711 |
| Metal | 197 | 223 | 376 | 289 | 649 |
| Netherlands | | | | | |
| Ores & concentrates | 38 247 | 17 229 | 34 477 | 42 777 | 54 066 |
| Metal | 67 | 82 | 155 | 137 | 261 |
| Portugal | | | | | |
| Ores & concentrates | 1 098 | 779 | 1 136 | 1 055 | 1 571 |
| Spain | | | | | |
| Ores & concentrates | 92 194 | 76 902 | 104 254 | 87 766 | 54 695 |
| Metal | 40 | 143 | 80 | 104 | 110 |
| Austria | | | | | |
| Ores & concentrates | 47 867 | 39 282 | 58 712 | 60 936 | 43 752 |
| Czechoslovakia | | | | | |
| Ores & concentrates | 188 000 | 188 000 | 171 000 | 171 000 | ... |
| German Democratic Republic | | | | | |
| Ores & concentrates (b) | 49 600 | 41 000 | 47 400 | 41 600 | ... |
| Hungary | | | | | |
| Ores & concentrates | (a)*15 200 | (a)*20 100 | (a)*27 500 | 18 315 | 16 169 |
| Norway | | | | | |
| Ores & concentrates | 520 | 760 | 558 | 64 663 | 159 457 |
| Poland | | | | | |
| Ores & concentrates | 145 790 | 190 731 | 168 081 | 159 110 | ... |
| Romania | | | | | |
| Ores & concentrates | 155 100 | 130 100 | 115 500 | 146 700 | ... |
| Sweden | | | | | |
| Ores & concentrates | 377 786 | 314 495 | 432 148 | 397 178 | 191 722 |
| Metal | 321 | 216 | 220 | 271 | 315 |
| Switzerland | | | | | |
| Ores & concentrates | ... | ... | 1 211 | 2 404 | 2 682 |
| Metal | ... | ... | 112 | 115 | 184 |
| Yugoslavia | | | | | |
| Ores & concentrates | 286 965 | 225 856 | 290 212 | 334 479 | 283 601 |
| Canada | | | | | |
| Ores & concentrates | (b)23 348 | (b)19 797 | 32 529 | 33 843 | 21 309 |
| Mexico | | | | | |
| Ores & concentrates | 27 781 | 45 016 | 39 019 | 29 376 | ... |
| USA | | | | | |
| Ores & concentrates | 444 753 | 489 900 | 625 490 | 525 044 | 565 357 |
| Metal | 4 069 | 3 957 | 4 104 | 4 184 | 6 713 |
| Argentina | | | | | |
| Ores & concentrates | 15 572 | 27 558 | 14 776 | 26 060 | ... |
| Brazil | | | | | |
| Ores & concentrates | 10 756 | 14 380 | 8 649 | 17 908 | 6 568 |
| Chile | | | | | |
| Ores & concentrates | 4 490 | 6 084 | 12 233 | 22 111 | 9 148 |
| Peru | | | | | |
| Ores & concentrates | 4 144 | 2 658 | 3 246 | 2 006 | ... |
| Venezuela | | | | | |
| Ores & concentrates | 7 041 | 20 149 | 7 072 | 11 958 | ... |

Imports of Chromium

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------|---------|---------|---------|-----------|---------|
| China | | | | | |
| Ores & concentrates | 385 156 | 230 375 | 429 808 | 595 783 | 641 267 |
| Japan | | | | | |
| Ores & concentrates | 670 625 | 674 743 | 976 168 | 1 043 468 | 789 225 |
| Metal | ... | ... | 725 | 830 | 571 |
| Korea, Dem. P.R. of | | | | | |
| Ores & concentrates (a) | *25 000 | *24 000 | *21 000 | *25 700 | ... |
| Korea, Republic of | | | | | |
| Ores & concentrates | 3 274 | 41 147 | 7 408 | 3 250 | 528 |
| Philippines | | | | | |
| Ores & concentrates | 17 | 12 000 | 52 111 | 46 541 | 20 |
| Singapore | | | | | |
| Ores & concentrates | ... | ... | 4 045 | 7 010 | 1 073 |
| Taiwan | | | | | |
| Ores & concentrates | 19 048 | 20 899 | 12 238 | 35 709 | 4 492 |
| Thailand | | | | | |
| Ores & concentrates | 2 755 | 174 | 4 492 | 7 359 | 5 872 |
| Australia | | | | | |
| Ores & concentrates (c) | 5 229 | 4 395 | 2 579 | 8 154 | 5 302 |
| Metal (c) | 57 | 84 | 61 | 79 | 91 |

Note(s):

(1) Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

(a) BGS estimates, based on known exports from certain countries

(b) Cr₂O₃ content

(c) Years ended 30 June of that stated

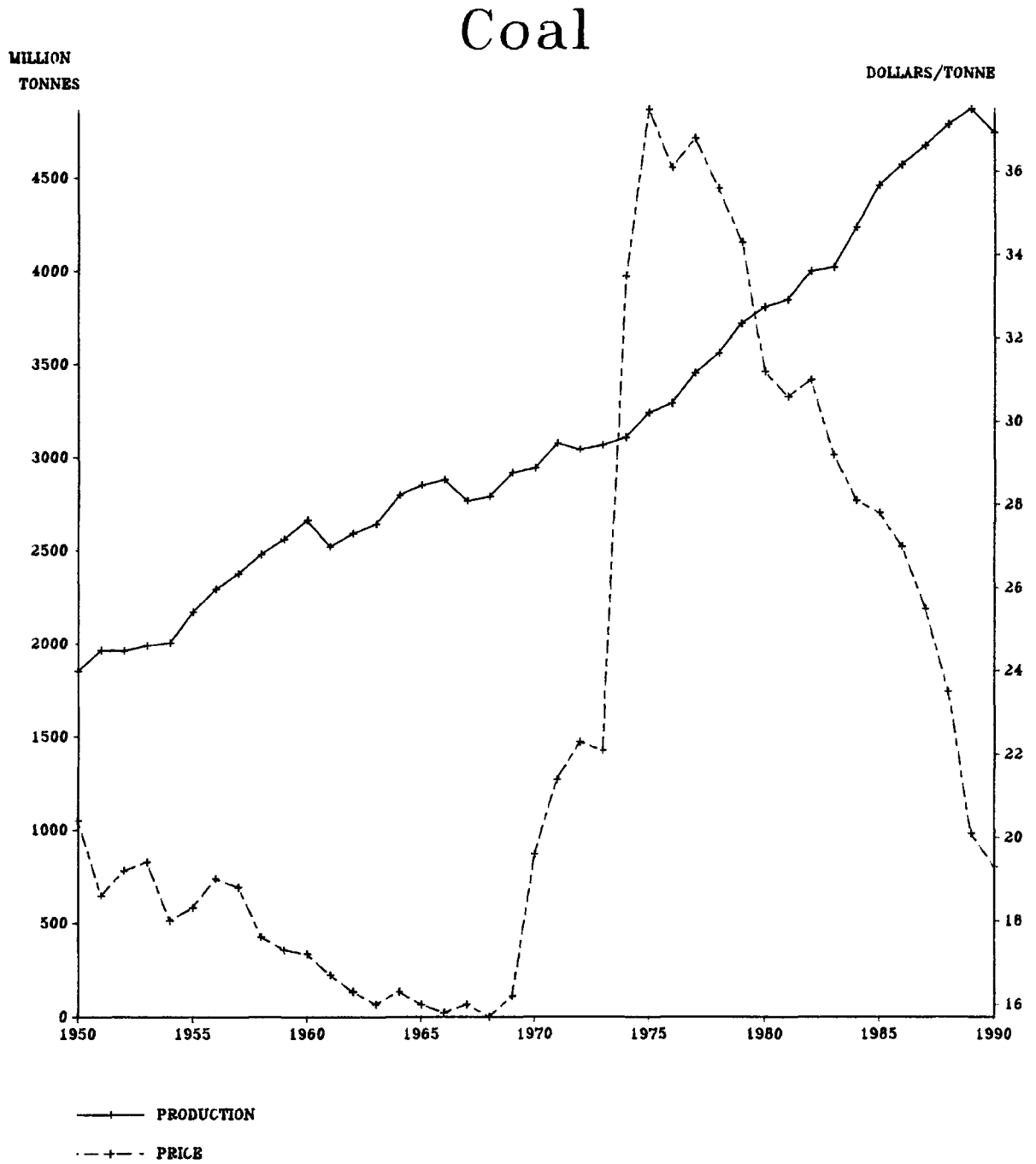


Figure 5 World production of coal compared with the annual average price of bituminous coal f.o.b. US mines expressed in constant 1985 US dollars.
 Trend-line analysis of the production data indicates a growth rate of approximately 2.5% per annum.

Production of Coal

Coal
tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|-------------|-------------|-------------|-------------|---------------|
| United Kingdom | | | | | |
| Anthracite | 1 985 000 | 2 091 000 | 1 798 000 | 2 060 000 | 1 945 000 |
| Bituminous | 106 114 000 | 102 442 000 | 102 268 000 | 99 075 000 | 92 452 000 |
| Belgium | | | | | |
| Bituminous | 5 589 208 | 4 356 455 | 2 487 217 | 1 892 689 | 1 035 832 |
| France | | | | | |
| Anthracite & bituminous | 14 394 000 | 13 743 000 | 12 142 000 | 11 471 000 | 10 740 000 |
| Lignite | 2 142 000 | 2 051 000 | 1 653 000 | 2 168 000 | 2 256 000 |
| Germany, Federal Republic of | | | | | |
| Anthracite & bituminous | 80 801 000 | 76 300 000 | 73 304 000 | 71 428 000 | 70 159 000 |
| Brown coal | 114 310 000 | 108 799 000 | 108 563 000 | 110 081 000 | 107 525 000 |
| Greece | | | | | |
| Lignite | 39 014 076 | 40 944 576 | 48 507 091 | 51 942 495 | 51 877 249 |
| Irish Republic | | | | | |
| Anthracite & semi-bituminous | 53 500 | 45 200 | 41 700 | 42 900 | 25 000 |
| Italy | | | | | |
| Bituminous | 13 708 | 15 356 | 48 408 | 69 420 | 60 000 |
| Lignite | 1 541 218 | 1 641 744 | 1 600 373 | 1 485 490 | 1 482 611 |
| Portugal | | | | | |
| Anthracite | 209 501 | 228 648 | 227 188 | 257 985 | 283 529 |
| Spain | | | | | |
| Anthracite | 5 609 873 | 5 361 395 | 5 276 111 | 5 519 231 | 5 810 000 |
| Bituminous | 16 183 459 | 13 602 604 | 13 608 676 | 13 604 995 | 13 780 000 |
| Lignite | 16 527 183 | 15 626 963 | 12 959 775 | 17 274 878 | 16 370 000 |
| Albania | | | | | |
| Lignite | 2 166 200 | 2 133 950 | 2 184 130 | 2 193 050 | 2 070 574 |
| Austria | | | | | |
| Brown coal & lignite | 2 968 978 | 2 785 616 | 2 129 264 | 2 065 815 | 2 448 053 |
| Bulgaria | | | | | |
| Anthracite & bituminous | 207 000 | 198 000 | 196 000 | 193 000 | 144 000 |
| Brown coal & lignite | 35 015 000 | 36 623 000 | 33 951 000 | 34 105 000 | 31 524 000 |
| Czechoslovakia | | | | | |
| Bituminous | 25 658 000 | 25 736 000 | 25 503 000 | 25 070 000 | 22 406 000 |
| Lignite | 3 607 000 | 3 639 000 | 3 558 000 | 3 348 000 | 3 123 000 |
| Brown coal | 99 131 000 | 98 347 000 | 96 361 000 | 90 915 000 | 82 044 000 |
| German Democratic Republic | | | | | |
| Brown coal | 311 260 000 | 308 976 000 | 310 314 000 | 301 058 000 | 249 100 000 |
| Hungary | | | | | |
| Bituminous | 2 324 722 | 2 360 056 | 2 254 882 | 2 127 359 | 1 735 940 |
| Lignite | 6 982 645 | 7 223 032 | 5 633 577 | 5 882 957 | 5 469 419 |
| Brown coal | 13 821 330 | 13 261 262 | 12 986 323 | 12 019 527 | 10 372 572 |
| Norway | | | | | |
| Spitzbergen (d) | | | | | |
| Bituminous | 437 089 | 398 745 | 263 717 | 259 193 | 358 026 |
| Poland | | | | | |
| Bituminous | 192 080 000 | 193 012 000 | 193 015 000 | 177 633 000 | 147 672 000 |
| Brown coal | 67 259 000 | 73 194 000 | 73 489 000 | 71 815 000 | 67 584 000 |
| Romania | | | | | |
| Anthracite & bituminous | 11 174 000 | 11 693 000 | 11 568 000 | 11 583 000 | *5 000 000 |
| Lignite | 39 400 000 | 43 109 000 | 50 439 000 | 53 980 000 | ... |
| Brown coal | 858 000 | 897 000 | 910 000 | 899 000 | (a)33 612 000 |
| Soviet Union | | | | | |
| Anthracite & bituminous | 588 000 000 | 595 000 000 | 599 000 000 | 577 000 000 | 543 000 000 |
| Lignite | 163 000 000 | 165 000 000 | 172 000 000 | 164 000 000 | 160 000 000 |
| Turkey | | | | | |
| Bituminous | 7 015 292 | 7 084 479 | 6 687 948 | 6 258 784 | 5 500 000 |
| Lignite | 45 469 889 | 46 481 173 | 39 025 028 | 52 567 468 | 45 392 206 |
| Yugoslavia | | | | | |
| Bituminous | 407 203 | 379 444 | 362 000 | 292 588 | 292 000 |
| Lignite | 56 359 304 | 59 359 000 | 60 352 000 | 62 276 291 | 64 094 000 |
| Brown coal | 13 098 668 | 12 135 000 | 11 876 611 | 12 062 544 | 11 462 000 |
| Botswana | 499 373 | 579 409 | 612 873 | 663 045 | 794 041 |
| Malawi | 11 026 | 23 531 | *39 000 | *41 500 | *44 500 |
| Morocco | | | | | |
| Anthracite | 775 000 | 634 200 | 636 700 | 504 300 | ... |

Coal

Production of Coal

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------------|----------------|----------------|----------------|-------------|--------------|
| Mozambique | | | | | |
| Bituminous | 3 895 | 43 319 | 23 856 | 62 010 | 40 411 |
| Niger | 148 111 | 164 313 | *150 000 | 171 434 | ... |
| Nigeria | | | | | |
| Sub-bituminous | 144 411 | 117 917 | 82 488 | 57 379 | 77 502 |
| South Africa | | | | | |
| Anthracite | 4 989 799 | 5 251 945 | 4 950 988 | 4 208 058 | 3 622 253 |
| Bituminous | 171 729 605 | 171 293 841 | 176 408 771 | 172 074 711 | 171 161 308 |
| Swaziland | | | | | |
| Bituminous | 172 199 | 165 371 | 164 845 | 165 122 | 152 705 |
| Tanzania | | | | | |
| Bituminous | 5 164 | 2 866 | 3 349 | 46 000 | 80 900 |
| Zaire | | | | | |
| Bituminous | 119 296 | 121 866 | *123 000 | ... | ... |
| Zambia | | | | | |
| Bituminous | 557 099 | 463 072 | 523 651 | 394 839 | 381 501 |
| Zimbabwe | | | | | |
| Bituminous | 4 047 000 | 4 831 000 | 5 065 000 | 5 112 000 | 5 504 000 |
| Canada | | | | | |
| Bituminous | 32 199 000 | 32 650 000 | 38 586 000 | 38 794 000 | 37 672 000 |
| Sub-bituminous | 17 331 000 | 18 537 000 | 19 910 000 | 20 918 000 | 21 252 000 |
| Lignite | 8 281 000 | 10 020 000 | 12 148 000 | 10 816 000 | 9 407 000 |
| Mexico | | | | | |
| Bituminous | 10 157 998 | 11 137 054 | 10 586 336 | 9 983 087 | 10 013 655 |
| USA | | | | | |
| Anthracite | 3 900 000 | 3 300 000 | 3 300 000 | 3 000 000 | 3 200 000 |
| Bituminous & lignite | 803 800 000 | 830 300 000 | 858 800 000 | 886 700 000 | 930 400 000 |
| Argentina | | | | | |
| Bituminous | 370 000 | 380 855 | 505 000 | 441 052 | 270 354 |
| Brazil | | | | | |
| Bituminous & lignite (e) | 7 491 495 | 6 741 984 | 7 686 516 | 7 186 000 | ... |
| Chile | | | | | |
| Bituminous | 1 323 019 | 1 305 246 | 1 436 151 | 1 267 456 | 1 467 885 |
| Lignite | 117 997 | 430 906 | 1 034 265 | 1 136 088 | 1 261 404 |
| Colombia | | | | | |
| Bituminous | 10 800 000 | 14 594 000 | 15 101 000 | 18 902 000 | 20 400 000 |
| Peru | | | | | |
| Anthracite | 90 000 | *90 000 | 101 198 | ... | ... |
| Bituminous | 61 077 | 107 501 | 49 200 | ... | ... |
| Venezuela | | | | | |
| Bituminous | 56 644 | 237 608 | 1 072 204 | 2 113 296 | 2 145 648 |
| Afghanistan (c) | | | | | |
| Bituminous | *160 000 | *167 000 | *138 000 | *125 000 | ... |
| China | | | | | |
| Anthracite | ... | ... | ... | 217 980 000 | 212 850 000 |
| Bituminous | (h)894 039 000 | (h)927 965 000 | (h)980 000 000 | 793 390 000 | 821 530 000 |
| Lignite | ... | ... | ... | 42 780 000 | 45 500 000 |
| India | | | | | |
| Bituminous | 162 647 000 | 177 220 000 | 189 023 000 | 199 054 000 | 191 000 000 |
| Lignite | 7 991 000 | 8 311 000 | 12 588 000 | 12 571 000 | 9 000 000 |
| Indonesia | | | | | |
| Anthracite & bituminous | 2 572 340 | 2 813 533 | 2 854 470 | 3 068 150 | ... |
| Iran (c) | | | | | |
| Bituminous | 1 262 000 | 1 239 000 | 1 625 214 | *1 500 000 | 1 200 000 |
| Japan | | | | | |
| Anthracite & bituminous | 16 012 870 | 13 034 465 | 11 223 396 | 10 187 309 | 8 262 891 |
| Lignite | 12 947 | 12 154 | 12 600 | 14 240 | 14 618 |
| Korea, Dem. P.R. of | | | | | |
| Anthracite | 39 500 000 | 39 500 000 | 40 000 000 | 40 000 000 | 40 000 000 |
| Lignite | 12 500 000 | 12 500 000 | 12 500 000 | 12 500 000 | 12 500 000 |
| Korea, Republic of | | | | | |
| Anthracite | 24 252 700 | 24 273 100 | 24 294 700 | 20 785 000 | 15 780 000 |
| Mongolia | | | | | |
| Anthracite | 497 000 | 655 000 | 692 000 | *1 000 000 | ... |
| Lignite | 6 567 000 | 7 110 000 | 7 914 000 | 7 000 000 | (g)7 147 500 |

Production of Coal

Coal
tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------|---------------|-----------------|-----------------|---------------|---------------|
| Myanmar (b) | 38 100 | 39 334 | 30 258 | 37 594 | *42 000 |
| Pakistan (a) | 2 047 142 | 2 418 875 | 2 696 000 | 2 642 489 | 2 733 345 |
| Philippines | | | | | |
| Bituminous | 1 235 503 | 1 169 167 | 1 335 687 | 1 342 891 | 1 186 531 |
| Taiwan | | | | | |
| Bituminous | 1 725 024 | 1 499 240 | 1 225 487 | 784 409 | 472 050 |
| Thailand | | | | | |
| Lignite | 5 542 247 | 6 929 212 | 7 273 647 | 8 899 195 | 12 421 138 |
| Vietnam | | | | | |
| Anthracite | 6 392 000 | 6 839 000 | 6 900 000 | 5 500 000 | ... |
| Australia | | | | | |
| Bituminous (f) | 170 067 000 | 178 399 000 | 176 604 000 | 190 085 000 | 199 212 000 |
| Brown coal | 37 604 000 | 44 877 000 | 43 450 000 | 48 252 000 | 47 725 000 |
| New Zealand | | | | | |
| Bituminous | 678 800 | (a)(f)2 401 956 | (a)(f)2 400 556 | 773 015 | 666 196 |
| Sub-bituminous | 1 767 200 | ... | ... | 1 780 694 | 1 756 298 |
| Lignite | 194 700 | ... | ... | 159 289 | 159 289 |
| World total | 4 567 000 000 | 4 669 000 000 | 4 782 000 000 | 4 865 000 000 | 4 738 000 000 |

Note(s):

(1) There is no international agreement as to the separate definition of lignite and brown coal. In some cases they are distinguished. Elsewhere both may be aggregated under one or other term

(a) Including lignite

(b) Years ended 31 March following that stated

(c) Years ended 20 March following that stated

(d) Not including production from mines controlled by the Soviet Union

(e) Including beneficiated and directly shipped material

(f) Including sub-bituminous

(g) Including anthracite

(h) Including anthracite and lignite

Coal

Exports of Coal

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|------------|------------|------------|------------|------------|
| United Kingdom | | | | | |
| Anthracite | 352 197 | 200 905 | 286 298 | 336 862 | 508 720 |
| Other coal | 2 396 213 | 2 140 982 | 1 450 667 | 1 735 043 | 1 812 866 |
| Briquettes | 154 710 | 114 018 | 78 860 | 129 750 | 137 304 |
| Belgium-Luxembourg | | | | | |
| Anthracite | 85 903 | 112 601 | 122 089 | 83 189 | 96 708 |
| Other coal | 1 170 047 | 836 194 | 830 587 | 875 041 | 723 999 |
| Lignite | 23 137 | 1 907 | 3 635 | 11 693 | 5 204 |
| Briquettes | 13 506 | 13 900 | 23 847 | 14 958 | 17 780 |
| Denmark | | | | | |
| Coal (b) | 53 346 | 52 004 | 89 464 | 44 397 | 44 394 |
| of which: Re-exports | 53 275 | 50 499 | 83 417 | 44 289 | 44 342 |
| France | | | | | |
| Anthracite | 60 545 | 33 038 | 38 001 | 62 562 | 36 793 |
| Other coal | 643 339 | 718 672 | 1 643 901 | 745 379 | 606 512 |
| Lignite | 2 166 | 1 574 | 20 | 264 | 14 |
| Briquettes | 33 436 | 90 805 | 13 799 | 14 119 | 27 705 |
| Germany, Federal Republic of | | | | | |
| Coal (b) | 7 190 136 | 6 295 396 | 5 020 570 | 5 921 642 | 5 410 412 |
| Brown coal | 441 676 | 426 669 | 365 660 | 410 623 | 448 886 |
| Briquettes | 952 547 | 791 281 | 738 730 | 672 258 | 1 037 618 |
| Irish Republic (b) | 12 360 | 50 122 | 30 455 | 23 165 | 27 763 |
| Italy (b) | 5 588 | 15 587 | 84 631 | 27 521 | 30 883 |
| Netherlands | | | | | |
| Anthracite | 215 300 | 291 512 | 330 853 | 230 634 | 341 242 |
| Other coal | 2 165 804 | 1 746 868 | 1 416 406 | 928 530 | 1 933 077 |
| Briquettes | 4 754 | 2 545 | 2 734 | 1 337 | 512 |
| Spain | | | | | |
| Coal (b) | 64 | 75 | 7 117 | 7 351 | 3 230 |
| Austria | | | | | |
| Brown coal | 5 301 | 4 295 | 3 557 | 3 285 | 3 472 |
| Czechoslovakia | | | | | |
| Coal | 2 539 000 | 1 999 000 | 2 147 000 | 2 202 000 | 1 557 000 |
| Brown coal | 2 814 000 | 2 281 000 | 1 968 000 | 2 303 000 | 2 515 000 |
| German Democratic Republic | | | | | |
| Briquettes | 3 485 000 | 3 088 000 | 3 352 000 | 3 059 000 | ... |
| Hungary | | | | | |
| Brown coal | 15 622 | 17 534 | 11 726 | 2 274 | ... |
| Norway (b) | 122 726 | 203 239 | 254 941 | 246 956 | 254 277 |
| Poland | | | | | |
| Coal | 34 315 000 | 30 961 000 | 32 177 000 | 28 858 000 | 28 026 000 |
| Soviet Union | | | | | |
| Coal (b) | 33 536 000 | 35 454 000 | 39 385 000 | 37 514 000 | ... |
| Brown coal (c) | *144 700 | *145 800 | *109 000 | *372 800 | *374 400 |
| Sweden (b) | 58 400 | 104 255 | 35 380 | 7 331 | 2 290 |
| Switzerland (b) | 1 | 12 567 | 26 289 | 18 426 | 4 274 |
| Turkey | | | | | |
| Coal | — | — | 154 | 1 709 | 5 000 |
| Lignite | 1 900 | 3 350 | 3 364 | 3 000 | 3 000 |
| Yugoslavia | | | | | |
| Lignite | 129 763 | 5 296 | ... | ... | ... |
| Brown coal | 279 909 | 61 927 | (e)45 625 | (e)29 747 | (e)72 914 |
| Morocco | | | | | |
| Anthracite | 49 534 | 20 070 | 10 655 | 2 659 | — |
| South Africa | | | | | |
| Anthracite | 4 405 577 | 3 211 682 | 2 938 789 | 3 712 572 | 3 519 364 |
| Other coal | 41 080 626 | 39 231 329 | 40 059 056 | 44 856 995 | 46 047 056 |
| Swaziland | 153 664 | 157 108 | 160 239 | ... | ... |
| Zimbabwe (b) | 64 847 | 57 667 | 78 516 | ... | 59 369 |
| Canada | 25 899 685 | 25 466 258 | 29 449 199 | 31 779 902 | 31 989 284 |
| USA | | | | | |
| Anthracite | 1 324 594 | 1 071 346 | 817 129 | 677 200 | 625 786 |
| Other coal | 76 219 485 | 70 439 178 | 85 287 394 | 90 791 738 | 95 391 482 |
| Lignite | 37 262 | 32 771 | 109 037 | 24 971 | 34 719 |
| Briquettes | 64 056 | 88 093 | 44 104 | 7 443 | 36 545 |

Exports of CoalCoal
tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------|------------|-------------|------------|------------|-------------|
| Colombia | 5 083 566 | 8 442 616 | 10 075 435 | 12 485 059 | *14 500 000 |
| Venezuela | — | 58 690 | 964 629 | 1 785 059 | 1 572 000 |
| China | 9 820 000 | 13 514 670 | 15 625 509 | 15 338 150 | 17 290 000 |
| India (a) | 102 135 | 150 215 | 166 407 | ... | 411 770 |
| Indonesia | | | | | |
| Anthracite | 57 041 | 60 530 | 198 995 | 742 611 | 643 386 |
| Other coal | 942 405 | 832 056 | 1 162 085 | 1 649 505 | 3 707 778 |
| Japan | 1 167 | 1 281 | 1 304 | 989 | 1 987 |
| Korea, Dem. P.R. of (c) | *1 906 000 | *2 033 000 | *2 095 000 | *1 948 000 | *2 028 000 |
| Australia | 92 022 000 | 101 979 000 | 99 821 000 | 99 121 000 | 107 682 000 |
| New Zealand (d) | 368 972 | 318 879 | 331 437 | 428 670 | 377 775 |

Note(s):

(1) This table excludes bunker shipments

(a) Years ended 31 March following that stated

(b) Including anthracite

(c) BGS estimates, based on known imports into certain countries

(d) Years ended 30 June of that stated

(e) Including lignite

Coal

Imports of Coal

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------------------|------------|------------|--------------|--------------|--------------|
| United Kingdom | | | | | |
| Anthracite | 595 267 | 573 106 | 803 736 | 765 182 | 633 964 |
| Other coal | 9 958 292 | 9 207 810 | 10 881 160 | 11 371 897 | 14 156 669 |
| Briquettes | 109 419 | 137 107 | 167 942 | 140 317 | 132 484 |
| Belgium-Luxembourg | | | | | |
| Anthracite | 1 662 811 | 1 214 710 | 1 020 753 | 1 009 006 | 911 275 |
| Other coal | 7 092 103 | 8 536 441 | 10 334 943 | 11 413 679 | 14 182 191 |
| Brown coal | 265 294 | 255 758 | 221 441 | 245 294 | 260 967 |
| Briquettes | 193 246 | 166 227 | 123 138 | 93 127 | 85 399 |
| Denmark | | | | | |
| Coal (c) | 12 153 136 | 12 054 761 | 10 306 160 | 10 876 410 | 9 953 126 |
| Lignite | 42 | 26 | 11 016 | 5 333 | 4 476 |
| Briquettes | 34 226 | 30 135 | 3 662 | 597 | 3 627 |
| France | | | | | |
| Anthracite | 1 462 793 | 997 098 | 1 987 932 | 1 807 936 | 1 979 970 |
| Other coal | 15 780 308 | 12 060 312 | 10 866 117 | 14 067 060 | 17 161 598 |
| Lignite | 41 389 | 38 352 | 48 674 | 61 902 | 70 793 |
| Briquettes | 227 510 | 179 961 | 161 503 | 172 897 | 174 924 |
| Germany, Federal Republic of | | | | | |
| Anthracite | 29 722 | 27 423 | 75 517 | 72 803 | 76 926 |
| Other coal | 9 966 747 | 8 140 454 | 7 092 646 | 6 335 453 | 10 778 573 |
| Brown coal | 2 475 185 | 2 163 504 | 1 882 968 | 2 091 051 | 2 408 115 |
| Briquettes | 1 310 697 | 1 051 426 | 983 620 | 930 281 | 467 176 |
| Greece | | | | | |
| Anthracite | 9 295 | 5 369 | 15 | 40 | 127 |
| Other coal | 1 823 557 | 1 131 583 | 774 635 | 833 052 | 980 020 |
| Irish Republic | | | | | |
| Anthracite | 60 248 | 73 634 | 96 526 | 109 099 | 139 914 |
| Other coal | 2 562 144 | 2 860 951 | 3 478 429 | 3 221 483 | 2 994 684 |
| Briquettes | 35 457 | 7 179 | 11 448 | 12 107 | 14 141 |
| Italy | | | | | |
| Anthracite | 883 766 | 144 267 | 2 847 819 | 2 875 271 | 2 838 619 |
| Other coal | 19 209 148 | 19 844 210 | 16 237 229 | 17 370 830 | 16 860 099 |
| Lignite | 5 511 | 2 732 | 4 706 | 398 295 | 3 047 |
| Briquettes | 291 624 | 135 236 | 148 379 | 123 844 | 125 489 |
| Netherlands | | | | | |
| Anthracite | 344 366 | 322 434 | 400 968 | 346 112 | 308 069 |
| Other coal | 11 943 606 | 12 265 969 | 14 766 903 | 13 548 665 | 17 196 108 |
| Brown coal | 112 655 | 78 400 | 64 264 | 64 100 | 73 609 |
| Briquettes | 23 160 | 18 346 | 14 417 | 10 042 | 4 496 |
| Portugal | | | | | |
| Anthracite | 383 714 | 535 079 | ... | ... | ... |
| Other coal | 1 508 759 | 2 015 262 | (c)3 115 713 | (c)3 529 728 | (c)4 555 309 |
| Spain | | | | | |
| Coal (c) | 8 714 966 | 8 879 153 | 8 761 633 | 10 725 955 | 10 511 527 |
| Lignite | 2 092 | 1 566 | 1 525 | 1 213 | 848 |
| Briquettes | 143 536 | 70 296 | 73 071 | 136 236 | 312 344 |
| Albania (e) | *159 000 | *202 000 | *246 000 | *212 000 | *252 000 |
| Austria | | | | | |
| Anthracite | 26 689 | 28 789 | 16 716 | 17 692 | 16 265 |
| Other coal | 3 703 909 | 4 103 845 | 3 843 570 | 3 703 417 | 3 579 750 |
| Brown coal | 206 854 | 50 416 | 38 520 | 24 225 | 23 551 |
| Briquettes | 501 111 | 465 791 | 359 213 | 317 729 | 318 977 |
| Bulgaria | | | | | |
| Anthracite | 1 972 230 | 1 658 000 | 1 112 000 | ... | ... |
| Other coal | 5 321 579 | 5 600 000 | 5 339 000 | 5 001 000 | ... |
| Czechoslovakia | | | | | |
| Coal | 4 896 000 | 4 235 000 | 4 781 000 | 4 503 000 | 4 736 000 |
| Briquettes | 658 000 | 702 000 | 977 000 | 766 000 | ... |
| Finland | | | | | |
| Anthracite | 77 006 | 62 436 | 43 486 | 24 605 | 17 246 |
| Other coal | 5 376 721 | 5 008 427 | 4 756 402 | 5 540 412 | 6 084 368 |
| Briquettes | 5 861 | 6 237 | 6 921 | 0 | 0 |
| German Democratic Republic (c) | 7 014 000 | 7 166 000 | 5 802 000 | 4 311 000 | ... |
| Hungary | | | | | |
| Coal (c) | 2 316 774 | 1 955 028 | 2 076 309 | 1 697 415 | 1 039 267 |
| Briquettes | 818 076 | 707 137 | 917 931 | 936 554 | 794 180 |
| Iceland | 73 520 | 59 919 | 66 167 | 71 534 | 64 518 |
| Malta | 184 235 | 181 275 | 191 579 | 303 101 | ... |

Imports of Coal

Coal
tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|---------------------|--------------|--------------|--------------|---------------|-------------|
| Norway (a) | | | | | |
| Anthracite | 102 349 | 97 078 | 110 264 | 126 477 | 120 549 |
| Other coal | 667 214 | 629 434 | 662 906 | 520 972 | 577 096 |
| Lignite | 11 | 10 | 22 | 5 331 | 6 126 |
| Briquettes | 1 977 | 18 918 | 707 | 4 429 | 9 377 |
| Poland | | | | | |
| Anthracite | 22 000 | 20 000 | 21 000 | 20 000 | ... |
| Other coal | 1 150 000 | 1 092 000 | 1 108 000 | 926 000 | 540 000 |
| Romania | 6 324 100 | 7 082 800 | 8 085 700 | 6 831 700 | ... |
| Soviet Union (e) | *11 693 000 | *9 583 000 | *11 735 000 | *9 947 000 | ... |
| Sweden | | | | | |
| Anthracite | 19 304 | 23 895 | 28 219 | 23 750 | 50 705 |
| Other coal | 4 432 866 | 3 942 080 | 3 811 143 | 3 671 573 | 3 491 012 |
| Switzerland | | | | | |
| Coal (c) | 613 799 | 521 212 | 436 555 | 333 358 | 484 654 |
| Briquettes | 35 560 | 28 479 | 24 910 | 16 020 | 11 475 |
| Turkey | | | | | |
| Coal | 2 644 583 | 3 442 858 | 4 460 192 | 4 043 847 | 4 771 000 |
| Lignite | 262 155 | 392 885 | 228 644 | 253 000 | 445 000 |
| Yugoslavia | | | | | |
| Anthracite | 210 984 | 174 089 | 225 661 | 186 579 | 174 121 |
| Other coal | 4 590 712 | 3 819 985 | 3 895 877 | 3 984 780 | 3 342 281 |
| Brown coal | 56 870 | 34 381 | 2 444 | 12 892 | 12 973 |
| Briquettes | 129 884 | 125 821 | 22 709 | 14 550 | 23 921 |
| Algeria | 1 009 325 | 1 371 465 | 1 304 569 | ... | ... |
| Botswana | 27 414 | 22 427 | ... | ... | ... |
| Egypt | 1 185 127 | 1 311 107 | 1 142 007 | ... | ... |
| Kenya | 74 707 | 91 784 | 130 791 | ... | ... |
| Madagascar | 11 988 | 11 686 | 12 000 | 13 371 | 11 437 |
| Malawi | 27 746 | 26 000 | 66 000 | ... | ... |
| Morocco | 755 041 | 1 040 745 | 1 018 299 | 1 278 452 | 1 189 248 |
| Mozambique | 7 857 | 39 416 | ... | ... | ... |
| South Africa | 2 000 | 1 685 | 2 372 | 100 977 | 483 428 |
| Tanzania | 13 099 | 28 009 | 4 130 | 3 537 | ... |
| Tunisia | 12 258 | 11 951 | 28 505 | 11 588 | 13 025 |
| Zaire | *65 000 | *62 000 | *62 000 | ... | ... |
| Zimbabwe | 51 321 | 47 708 | *50 000 | ... | ... |
| Canada | | | | | |
| Anthracite | 342 143 | 277 913 | 407 199 | 422 178 | 440 670 |
| Other coal | 13 026 147 | 13 872 312 | 15 258 058 | 15 020 145 | 14 364 811 |
| Cuba | 83 113 | 58 814 | 60 819 | 193 861 | ... |
| Mexico | | | | | |
| Coal | 239 870 | 20 163 | 76 242 | 20 229 | ... |
| Lignite | 3 592 | 3 180 | 4 232 | 1 459 | ... |
| USA | | | | | |
| Anthracite | ... | ... | ... | 382 847 | ... |
| Other coal | (c)2 006 425 | (c)1 611 769 | (c)1 935 959 | 2 111 797 | 2 384 111 |
| Briquettes | 19 242 | 142 541 | 74 002 | 99 262 | 69 989 |
| Argentina | 1 091 563 | 1 110 223 | 1 252 053 | 1 246 758 | ... |
| Brazil | | | | | |
| Anthracite | 34 716 | 30 710 | 156 866 | ... | 233 523 |
| Other coal | 8 910 793 | 10 559 811 | 10 554 775 | (c)10 535 000 | 10 417 062 |
| Chile | 487 616 | 499 288 | 417 559 | 1 572 006 | 1 791 072 |
| Peru | 26 573 | 26 450 | 53 517 | 61 504 | ... |
| Venezuela | 51 980 | 29 169 | 40 980 | 43 673 | ... |
| China | 2 470 000 | 1 942 185 | 1 692 902 | 2 191 274 | 2 000 000 |
| Cyprus | 54 638 | 151 423 | ... | 102 419 | 97 035 |
| Hong Kong | 6 392 528 | 8 009 570 | 9 266 528 | 9 927 839 | 8 930 667 |
| India (c)(d) | 2 345 848 | 2 861 023 | 4 488 209 | ... | 6 047 265 |
| Indonesia | 335 600 | 2 076 520 | 1 035 432 | 1 299 378 | 620 717 |
| Iran (b) | 134 781 | 267 410 | 120 605 | 277 816 | ... |
| Israel | 3 084 000 | 3 518 000 | 3 536 000 | ... | ... |
| Japan | | | | | |
| Anthracite | 1 970 840 | 1 876 376 | 2 453 917 | 2 272 209 | 2 039 845 |
| Other coal | 89 376 192 | 90 678 010 | 101 726 899 | 102 729 332 | 105 477 448 |
| Lignite | 25 415 | 37 368 | 28 208 | 22 477 | 10 875 |
| Korea, Dem. P.R. of | *2 500 000 | *2 500 000 | *2 500 000 | ... | ... |

Coal

Imports of Coal

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|---------------------------|------------|------------|------------|---------------|---------------|
| Korea, Republic of | | | | | |
| Anthracite | 4 482 657 | 3 432 671 | 2 803 007 | 1 516 883 | 1 072 492 |
| Other coal | 16 436 470 | 18 385 997 | 21 913 035 | 23 499 690 | 22 846 311 |
| Briquettes | 54 206 | 39 272 | 20 990 | 31 087 | 19 717 |
| Malaysia | | | | | |
| Anthracite | 4 787 | 42 416 | 13 450 | ... | ... |
| Other coal | 375 625 | 477 427 | 694 832 | 1 021 454 | ... |
| Lignite | ... | ... | 127 647 | 186 180 | ... |
| Myanmar | *40 000 | *40 000 | *40 000 | ... | ... |
| Pakistan (f) | 797 750 | 832 196 | 814 459 | ... | 764 981 |
| Philippines (c) | 960 102 | 469 990 | 1 255 437 | 883 983 | 891 901 |
| Taiwan | 11 003 486 | 13 381 901 | 17 887 678 | (c)17 013 984 | (c)19 006 018 |
| Thailand | | | | | |
| Coal (c) | 182 584 | 254 408 | 292 300 | 370 408 | 249 615 |
| Australia (f) | ... | 951 | 342 | 126 447 | 166 244 |
| New Caledonia | 202 885 | 149 691 | 163 507 | 199 200 | 212 747 |

(a) Excludes coal imported from Spitzbergen

(b) Years ended 20 March following that stated

(c) Including anthracite

(d) Years ended 31 March following that stated

(e) BGS estimates, based on known exports from certain countries

(f) Years ended 30 June of that stated

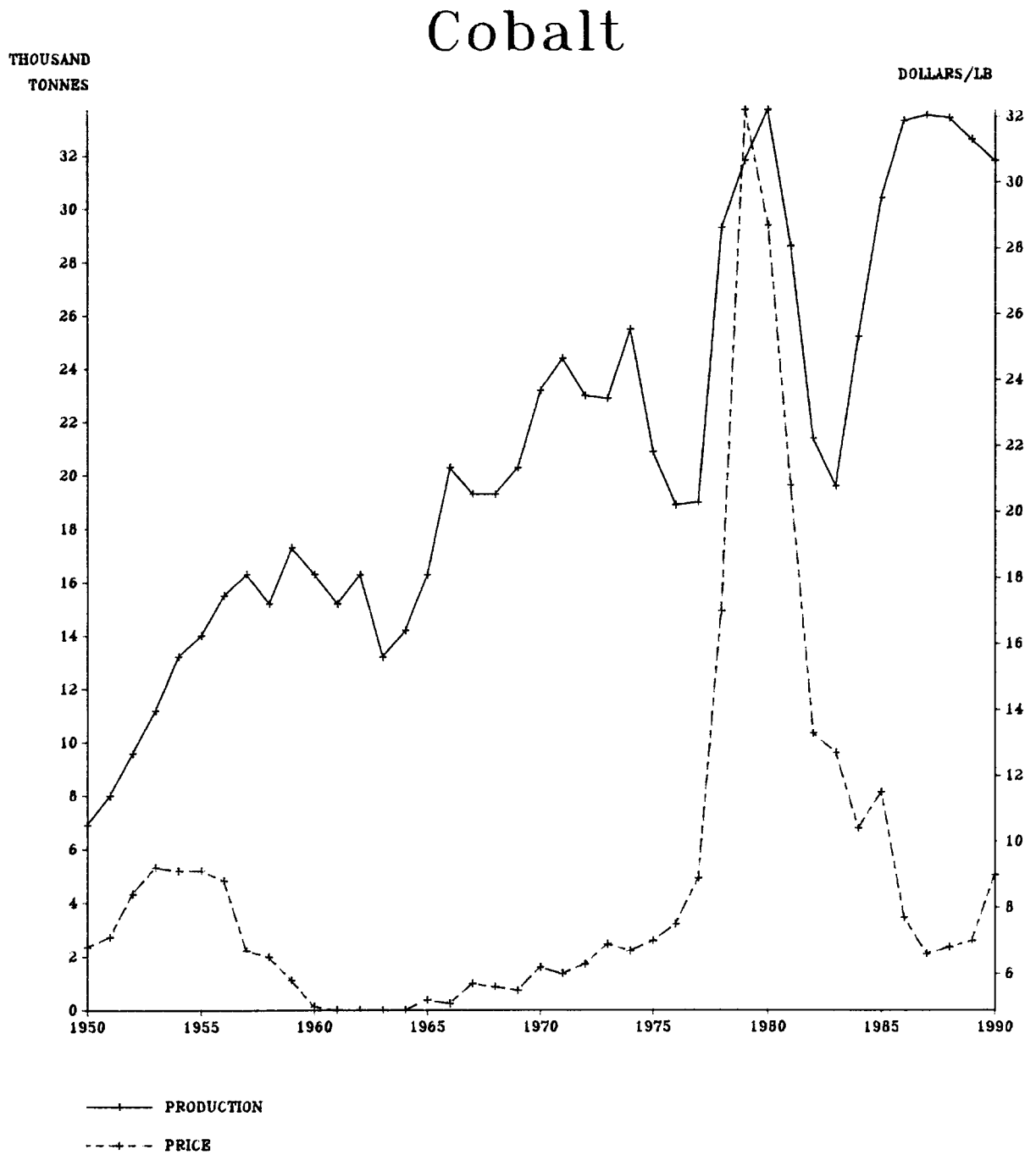


Figure 6 World mine production of cobalt compared with the annual average US producer price and, from 1984, the annual average New York spot cathode price, expressed in constant 1985 US dollars.

Mine Production of Cobalt

tonnes (metal content)

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|---------------|--------|--------|--------|--------|--------|
| Albania | 522 | 612 | 673 | 643 | 586 |
| Finland | 631 | 187 | — | — | — |
| Soviet Union | *2 800 | *2 800 | *2 850 | *2 850 | *2 400 |
| Botswana | 162 | 182 | 298 | 215 | 205 |
| Morocco | — | 259 | 278 | 287 | 120 |
| South Africa | *650 | *720 | *750 | *750 | *730 |
| Zaire | 14 518 | 11 871 | 10 026 | 9 311 | 10 033 |
| Zambia | 4 344 | 4 479 | 5 025 | 4 488 | 4 614 |
| Zimbabwe | 76 | 111 | 122 | 111 | 121 |
| Canada | 2 297 | 5 490 | 6 234 | 6 167 | 5 647 |
| Cuba | 1 578 | 1 613 | 1 783 | 1 827 | *1 700 |
| Brazil | 500 | 500 | 500 | 400 | ... |
| China | *270 | *270 | *270 | 255 | 325 |
| Philippines | 92 | — | — | — | — |
| Australia | 2 914 | 2 715 | 2 443 | *2 400 | *2 400 |
| New Caledonia | 1 936 | 1 724 | 2 137 | 2 885 | 2 551 |
| World total | 33 300 | 33 500 | 33 400 | 32 600 | 31 800 |

Note(s):

- (1) There is frequently a considerable disparity between the cobalt content of ore raised and cobalt actually recovered
- (2) Figures in this table relate where possible to cobalt recovered. The principal exceptions to this are Australia, Brazil and New Caledonia, the figures for which relate to cobalt in ore raised

Cobalt

Production of Cobalt Metal

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------------------|--------|--------|--------|--------|--------|
| Belgium (a) | ... | ... | ... | ... | ... |
| Germany, Federal Republic of (b) | 502 | 475 | 656 | 713 | 1 303 |
| Albania | — | — | *10 | *10 | *20 |
| Czechoslovakia | ... | ... | ... | *50 | 59 |
| Finland | 947 | 516 | 436 | 402 | 507 |
| Norway | 1 528 | 1 578 | 1 851 | 1 946 | 1 830 |
| Soviet Union | *5 300 | *5 300 | *5 300 | *5 300 | *4 500 |
| South Africa | *200 | *200 | *200 | *200 | *200 |
| Zaire | 14 518 | 11 871 | 10 026 | 9 311 | 10 033 |
| Zambia | 4 344 | 4 479 | 5 025 | 4 488 | 4 614 |
| Canada (c) | 2 283 | 2 527 | 2 356 | 2 109 | 2 062 |
| China | *270 | *270 | *270 | 255 | 325 |
| Japan | 1 340 | 124 | 109 | 102 | 199 |
| World total | 31 300 | 27 400 | 26 300 | 24 900 | 25 700 |

Note(s):

- (1) In addition to the production listed above, several countries, including the United Kingdom, Finland, France and USA, are known to produce substantial amounts of cobalt compounds
- (a) Production not reported. Much of the metal recorded under Zaire is believed to be further processed in Belgium
- (b) Sales
- (c) Including oxides

Exports of Cobalt

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|--------|--------|--------|--------|--------|
| United Kingdom | | | | | |
| Metal | 711 | 928 | 820 | 1 089 | 1 385 |
| Oxides | 601 | 780 | 1 004 | 1 200 | 1 413 |
| Belgium-Luxembourg (a) | | | | | |
| Metal | *1 800 | *1 500 | *1 900 | *3 100 | *3 200 |
| Oxides | *1 400 | *1 500 | *1 600 | *1 500 | *1 800 |
| France | | | | | |
| Metal | 682 | 580 | 617 | 966 | 616 |
| Oxides | 7 | 31 | 33 | 55 | 32 |
| Germany, Federal Republic of | | | | | |
| Metal | 1 589 | 1 182 | 1 236 | 1 084 | 1 382 |
| Oxides | 57 | 40 | 37 | 50 | 63 |
| Italy | | | | | |
| Metal | 86 | 82 | 74 | 123 | 71 |
| Oxides | 43 | 1 | 213 | 218 | 54 |
| Netherlands | | | | | |
| Metal | 35 | 39 | 47 | 91 | 93 |
| Oxides | 78 | 123 | 41 | 24 | 45 |
| Spain | 63 | 29 | 1 | 6 | 83 |
| Austria | | | | | |
| Oxides | 16 | 22 | 29 | — | 3 |
| Finland | | | | | |
| Metal | 925 | 481 | 282 | 288 | 318 |
| Oxides | 522 | 676 | 1 772 | 1 539 | 1 112 |
| Norway | 1 638 | 1 613 | 1 740 | 1 962 | 1 832 |
| Sweden | | | | | |
| Metal | 78 | 76 | 325 | 217 | 142 |
| Oxides | 0 | 0 | 155 | 141 | 181 |
| Switzerland | ... | ... | 88 | 111 | 130 |
| Morocco | | | | | |
| Ore | ... | ... | 2 148 | 2 021 | 2 070 |
| South Africa | 115 | 214 | 175 | 148 | 219 |
| Zaire | 13 800 | 9 367 | 8 700 | ... | ... |
| Zambia | 743 | 9 909 | 5 891 | 2 785 | ... |
| Canada | | | | | |
| Metal | 1 805 | 1 875 | 3 062 | 3 245 | 3 056 |
| Oxides | 374 | 440 | 953 | 371 | 393 |
| Cuba | | | | | |
| Oxide, sinter & sulphide (b) | *1 600 | *1 600 | *1 800 | *1 800 | *1 700 |
| USA | | | | | |
| Metal | 845 | 683 | 903 | 538 | 1 059 |
| Oxides | 358 | 378 | 419 | 606 | 934 |
| China | | | | | |
| Oxides (d) | *40 | *40 | *60 | *70 | *60 |
| Hong Kong | | | | | |
| Oxides (c) | 31 | 21 | 14 | 33 | 50 |
| Japan | | | | | |
| Metal | ... | ... | 207 | 355 | 440 |
| Oxides | 24 | 21 | 48 | 21 | 99 |
| Korea, Republic of | | | | | |
| Oxides | 21 | 42 | 16 | 47 | — |

(a) Exports of cobalt are not separately recorded. Figures shown are BGS estimates based on known imports into certain countries

(b) Co content

(c) Re-exports

(d) BGS estimates, based on known imports into certain countries

Imports of Cobalt

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------------------|-------|-------|-------|-------|-------|
| United Kingdom | | | | | |
| Metal | 2 387 | 2 253 | 2 898 | 2 588 | 3 857 |
| Oxides | 526 | 636 | 645 | 500 | 543 |
| Belgium-Luxembourg | | | | | |
| Metal | 161 | 494 | 417 | 202 | 84 |
| Oxides | 64 | 89 | 146 | 142 | 191 |
| Denmark | | | | | |
| Metal | 23 | 22 | 24 | 20 | 24 |
| Oxides | 9 | 30 | 53 | 9 | 2 |
| France | | | | | |
| Metal | 1 242 | 1 144 | 1 563 | 1 518 | 1 632 |
| Oxides | 281 | 389 | 286 | 357 | 290 |
| Germany, Federal Republic of | | | | | |
| Metal | 2 848 | 2 476 | 2 773 | 2 690 | 2 765 |
| Oxides | 374 | 311 | 383 | 387 | 496 |
| Italy | | | | | |
| Metal | 612 | 613 | 539 | 604 | 632 |
| Oxides | 235 | 290 | 454 | 473 | 591 |
| Netherlands | | | | | |
| Metal | 66 | 156 | 24 | 50 | 127 |
| Oxides | 280 | 372 | 321 | 285 | 329 |
| Portugal | | | | | |
| Oxide | 15 | 20 | 65 | 13 | 21 |
| Spain | | | | | |
| Metal | 194 | 208 | 264 | 238 | 285 |
| Oxides | 113 | 140 | 179 | 214 | 255 |
| Austria | | | | | |
| Metal | ... | ... | 347 | 388 | 405 |
| Oxides | 11 | 30 | 28 | 28 | 23 |
| German Democratic Republic (b) | *100 | *100 | *10 | *30 | *20 |
| Norway | | | | | |
| Metal | 370 | 1 | 9 | 1 | 2 |
| Oxides | 1 | 1 | 33 | 163 | 2 |
| Sweden | | | | | |
| Metal | 437 | 335 | 585 | 599 | 785 |
| Oxides | 10 | 10 | 12 | 5 | 5 |
| Switzerland | ... | ... | 243 | 240 | 256 |
| Turkey | | | | | |
| Oxides | 54 | 54 | 49 | 55 | 63 |
| Yugoslavia | | | | | |
| Metal | ... | ... | 53 | 73 | 93 |
| Oxides | 33 | 47 | 50 | 47 | 42 |
| South Africa | | | | | |
| Metal | 157 | 115 | 115 | 116 | 348 |
| Oxides | ... | 15 | 21 | 16 | 6 |
| Canada | ... | ... | 768 | 716 | 812 |
| Mexico | | | | | |
| Metal | 71 | 58 | 112 | 121 | 14 |
| Oxides | 151 | 158 | 136 | 200 | ... |
| USA | | | | | |
| Metal | 5 291 | 8 443 | 6 562 | 6 011 | 6 377 |
| Oxide | 232 | 361 | 337 | 380 | 488 |
| Argentina | 31 | 41 | 36 | ... | ... |
| Brazil | | | | | |
| Metal | 585 | 507 | 511 | ... | ... |
| Oxide | 15 | 27 | 29 | ... | 74 |
| Venezuela | | | | | |
| Oxides | 13 | 34 | 28 | 48 | ... |
| Hong Kong | | | | | |
| Oxide | 49 | 20 | 32 | 164 | 62 |
| India (a) | 263 | 148 | 273 | ... | 318 |
| Indonesia | | | | | |
| Oxides | 27 | 64 | 24 | 27 | 41 |

Imports of Cobalt

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------|-------|-------|-------|-------|-------|
| Japan | | | | | |
| Metal | 3 468 | 4 775 | 4 934 | 3 377 | 4 807 |
| Oxide | 460 | 432 | 455 | 449 | 631 |
| Korea, Republic of | | | | | |
| Metal | 444 | 276 | 404 | 436 | 630 |
| Oxides | 29 | 56 | 64 | 74 | 147 |
| Malaysia | | | | | |
| Metal | 367 | 168 | 346 | 431 | ... |
| Oxides | 12 | 8 | 24 | 21 | ... |
| Saudi Arabia | | | | | |
| Oxides | 130 | 575 | 364 | 106 | ... |
| Taiwan | | | | | |
| Metal | ... | ... | 159 | 118 | 107 |
| Oxides | 66 | 99 | 109 | 102 | 148 |
| Australia | | | | | |
| Metal (c) | 36 | 35 | 48 | 37 | 47 |
| Oxide (c) | 37 | 36 | 72 | 66 | 71 |

(a) Years ended 31 March following that stated

(b) BGS estimates, based on known exports from certain countries

(c) Years ended 30 June of that stated

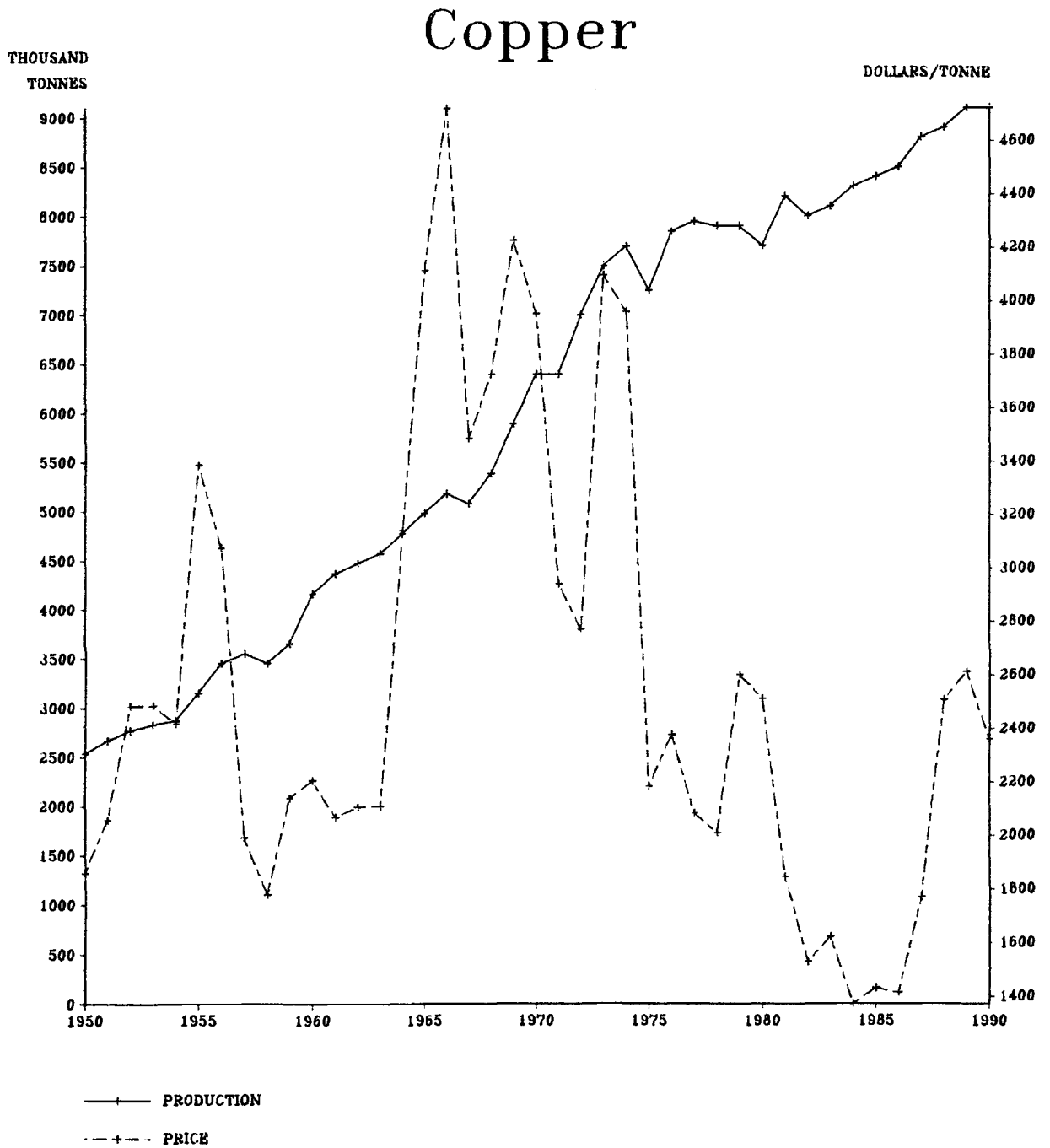


Figure 7 World mine production of copper compared with the annual average LME price of electrolytic wirebars, from 1982, the LME price of Higher Grade and, from 1987, Grade A, expressed in constant 1985 US dollars.

Mine Production of Copper

tonnes (metal content)

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|------------|------------|-----------|-----------|-----------|
| United Kingdom | 602 | 750 | 732 | 508 | 955 |
| France | 294 | 291 | 509 | 1 027 | 480 |
| Germany, Federal Republic of | 800 | 1 500 | 700 | 100 | — |
| Greece | 300 | 1 000 | — | — | — |
| Portugal | 271 | 203 | 8 221 | 98 017 | 157 460 |
| Spain | 51 084 | 16 213 | 14 165 | 27 510 | 15 400 |
| Albania | 15 170 | 16 227 | 17 269 | 17 902 | 13 565 |
| Bulgaria | 70 000 | 54 000 | 50 000 | 38 800 | 32 900 |
| Czechoslovakia | 4 795 | 4 069 | 3 807 | 3 709 | 2 884 |
| Finland | 27 463 | 21 593 | 18 420 | 25 107 | 17 482 |
| German Democratic Republic | 11 500 | 11 112 | 9 019 | 7 906 | 3 564 |
| Norway | 29 572 | 23 235 | 18 655 | 20 132 | 19 745 |
| Poland | 435 000 | 438 000 | 459 000 | 401 000 | 370 000 |
| Romania | 35 000 | 38 000 | 40 000 | 14 100 | 9 500 |
| Soviet Union | *1 030 000 | *1 010 000 | *990 000 | *950 000 | *900 000 |
| Sweden | 87 871 | 86 113 | 75 032 | 71 238 | 74 283 |
| Turkey | 26 085 | 31 531 | 37 746 | 38 151 | 38 825 |
| Yugoslavia | 138 544 | 130 470 | 103 523 | 139 631 | 140 145 |
| Algeria | 200 | 200 | — | — | — |
| Botswana | 21 337 | 18 934 | 24 428 | 23 403 | 20 612 |
| Congo | 700 | 320 | 520 | — | — |
| Morocco | 18 599 | 13 944 | 13 284 | 14 496 | 15 300 |
| Mozambique | 273 | 151 | 139 | 88 | 28 |
| Namibia | 47 111 | 37 993 | 42 899 | 32 792 | 32 499 |
| South Africa | 192 936 | 197 913 | 178 171 | 191 577 | 188 368 |
| Zaire | 502 600 | 501 864 | 505 800 | 454 600 | 356 200 |
| Zambia | 512 858 | 527 000 | 518 062 | 540 079 | 545 677 |
| Zimbabwe | 20 600 | 18 800 | 16 116 | 15 800 | 14 800 |
| Canada | (a)698 527 | 802 181 | 776 482 | 723 052 | 801 998 |
| Cuba | 3 257 | 3 461 | 2 951 | 2 759 | *3 000 |
| Honduras | 424 | 306 | 538 | 244 | ... |
| Mexico | 174 558 | 230 573 | 268 359 | 249 328 | 291 349 |
| USA | 1 144 213 | 1 243 596 | 1 416 928 | 1 497 818 | 1 587 191 |
| Argentina | 317 | 379 | 492 | 653 | 341 |
| Bolivia | 338 | 9 | 153 | 298 | 157 |
| Brazil | 40 183 | 40 332 | 44 845 | 45 885 | 38 700 |
| Chile | 1 401 100 | 1 418 100 | 1 451 000 | 1 609 300 | 1 588 400 |
| Peru | 386 060 | 406 430 | 298 332 | 364 073 | 317 706 |
| China | *300 000 | *350 000 | *370 000 | *380 000 | *360 000 |
| Cyprus | 559 | 97 | 383 | 485 | 472 |
| India | 49 160 | 54 085 | 51 463 | 53 342 | 51 566 |
| Indonesia | 100 490 | 105 346 | 126 200 | 135 035 | 162 366 |
| Iran | *50 000 | *40 000 | 50 700 | 56 200 | 60 300 |
| Japan | 34 924 | 23 817 | 16 666 | 14 650 | 12 927 |
| Korea, Dem. P.R. of | *10 000 | *12 000 | *12 000 | *12 000 | *12 000 |
| Korea, Republic of | 215 | 249 | 36 | 4 | 53 |
| Malaysia | 28 301 | 29 861 | 22 014 | 23 565 | 24 327 |
| Mongolia | 120 338 | 120 940 | 121 594 | 123 410 | 123 893 |
| Myanmar | 10 100 | 10 600 | 4 700 | 5 000 | *4 400 |
| Oman | 16 700 | 16 900 | 18 100 | 16 600 | 13 700 |
| Philippines | 217 023 | 214 103 | 216 465 | 196 422 | 182 318 |
| Australia | 248 368 | 232 695 | 243 800 | 296 000 | 330 000 |
| Papua New Guinea | 178 913 | 217 699 | 218 633 | 204 025 | 170 211 |
| World total | 8 500 000 | 8 800 000 | 8 900 000 | 9 100 000 | 9 100 000 |

(a) Blister copper plus recoverable copper in ores and matte exported

Copper

Smelter Production of Copper

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|------------|------------|------------|------------|-----------|
| Belgium | *900 | *100 | *200 | — | *1 500 |
| Germany, Federal Republic of | 161 900 | 168 900 | 162 500 | 176 900 | 183 600 |
| Portugal | *1 000 | 200 | — | — | — |
| Spain | 103 500 | 104 700 | *115 000 | *120 000 | 119 700 |
| Albania | 13 000 | 14 000 | 15 000 | 15 000 | 12 000 |
| Bulgaria | 60 000 | 49 800 | 57 400 | 59 200 | 30 300 |
| Czechoslovakia | 31 686 | 34 415 | 34 792 | 36 832 | 33 000 |
| Finland | 90 085 | 101 955 | 95 745 | 99 147 | 112 843 |
| German Democratic Republic | *23 800 | *23 300 | *22 700 | *20 100 | *14 000 |
| Hungary | 3 552 | 3 524 | 3 593 | 4 287 | *4 000 |
| Norway | 35 202 | 30 101 | 31 730 | 34 980 | 36 458 |
| Poland | 366 400 | 367 300 | 469 560 | 460 519 | 430 000 |
| Romania | 40 977 | 37 970 | 38 697 | 39 397 | 24 700 |
| Soviet Union | *1 155 000 | *1 140 000 | *1 110 000 | *1 075 000 | *990 000 |
| Sweden | 83 358 | 92 909 | 93 653 | 69 977 | 66 385 |
| Turkey | 35 466 | 19 247 | 12 910 | 21 129 | 25 200 |
| Yugoslavia | 127 236 | 103 399 | 106 457 | 101 606 | *100 000 |
| Namibia | 50 145 | 37 653 | 42 163 | 37 978 | 33 190 |
| South Africa | 184 000 | 189 800 | 180 600 | 184 800 | 176 000 |
| Zaire (a) | 476 003 | 472 303 | 439 500 | 424 500 | 338 200 |
| Zambia (a) | 514 090 | 523 226 | 466 756 | 485 199 | 426 246 |
| Zimbabwe | 29 600 | 30 000 | 27 500 | 23 100 | 24 400 |
| Canada | 450 219 | 473 979 | 478 321 | 462 324 | 481 307 |
| Mexico | 84 978 | 133 850 | 150 300 | 188 625 | 209 801 |
| USA | 908 087 | 972 141 | 1 042 961 | 1 120 445 | 1 158 461 |
| Brazil | 115 990 | 146 969 | 147 880 | 153 376 | 157 100 |
| Chile | 1 123 900 | 1 106 900 | 1 189 400 | 1 266 600 | 1 328 500 |
| Peru | 313 700 | 311 800 | 239 151 | 309 348 | 261 403 |
| China | *350 000 | *417 000 | *425 000 | 557 000 | 558 700 |
| India | 39 291 | 32 923 | 44 284 | 42 456 | 40 667 |
| Iran | *50 000 | *40 000 | *52 000 | 76 000 | 54 800 |
| Japan | 962 128 | 980 191 | 994 045 | 1 005 534 | 1 040 628 |
| Korea, Dem. P.R. of | *30 000 | *30 000 | *29 000 | *30 000 | *25 000 |
| Korea, Republic of | 123 200 | 143 800 | 123 500 | 159 600 | 160 500 |
| Oman | 19 600 | 20 600 | 21 700 | 19 600 | 15 200 |
| Philippines | 143 678 | 164 476 | 159 218 | 156 268 | 153 462 |
| Taiwan | 63 800 | 61 500 | 56 400 | 61 900 | 11 400 |
| Australia | 169 622 | 172 873 | 177 669 | 203 000 | 192 000 |
| World total | 8 500 000 | 8 800 000 | 8 900 000 | 9 300 000 | 9 000 000 |

Note(s):

(1) This table shows, where possible, primary metal in the form of blister and anode produced from concentrates, but may include some secondary metal produced from scrap, residues, etc.

(a) Including leach cathodes

Production of Refined Copper

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|------------|------------|------------|------------|------------|
| United Kingdom | 125 574 | 122 287 | 123 958 | 119 033 | 121 634 |
| Belgium | 414 200 | 407 500 | 392 900 | 344 000 | 331 857 |
| France | 41 294 | 39 323 | 43 239 | 43 163 | 51 885 |
| Germany, Federal Republic of | 421 918 | 399 800 | 426 400 | 475 200 | 476 200 |
| Italy | 65 400 | 65 000 | 75 400 | 83 300 | 83 000 |
| Portugal | 5 300 | 5 300 | 5 400 | — | 100 |
| Spain | 155 075 | 151 410 | 158 756 | 165 700 | 170 567 |
| Albania | 11 000 | 11 000 | 13 000 | 13 000 | 9 000 |
| Austria | 32 580 | 32 924 | 38 378 | 46 267 | 49 703 |
| Bulgaria | 62 307 | 52 812 | 50 020 | 55 800 | 24 333 |
| Czechoslovakia | 26 182 | 27 202 | 27 076 | 26 920 | 24 606 |
| Finland | 64 235 | 59 538 | 55 846 | 69 911 | 65 100 |
| German Democratic Republic | *80 000 | 76 700 | 75 700 | 75 100 | 55 700 |
| Hungary | 22 097 | 23 251 | 15 627 | 13 137 | 12 817 |
| Norway | 30 459 | 29 387 | 31 730 | 32 294 | 36 458 |
| Poland | 388 000 | 390 200 | 400 560 | 390 268 | 341 000 |
| Romania | *41 000 | *38 000 | *38 700 | *39 400 | *24 700 |
| Soviet Union | *1 400 000 | *1 410 000 | *1 380 000 | *1 345 000 | *1 260 000 |
| Sweden | 84 500 | 91 905 | 90 292 | 94 745 | 97 278 |
| Turkey | 75 100 | 75 600 | 68 400 | 86 400 | 84 200 |
| Yugoslavia | 140 393 | 138 867 | 145 376 | 151 035 | 151 395 |
| Egypt | 3 671 | 1 141 | 8 427 | *4 000 | *4 000 |
| South Africa | 143 200 | 146 500 | 136 700 | 144 200 | 133 000 |
| Zaire | 217 959 | 210 218 | 202 790 | 203 800 | 173 200 |
| Zambia | 460 437 | 483 040 | 422 252 | 450 910 | 426 243 |
| Zimbabwe | 25 300 | 23 000 | 27 500 | 24 000 | 24 400 |
| Canada | 493 445 | 491 124 | 528 723 | 515 216 | 515 835 |
| Mexico | 75 478 | 118 040 | 140 800 | 140 305 | 156 944 |
| USA | 1 479 925 | 1 541 646 | 1 852 000 | 1 956 851 | 2 017 390 |
| Argentina | *11 000 | *13 000 | *12 500 | *11 000 | *11 900 |
| Brazil | 115 990 | 146 969 | 147 880 | 153 376 | 157 100 |
| Chile | 942 300 | 970 300 | 1 012 700 | 1 071 000 | 1 191 600 |
| Peru | 229 200 | 224 808 | 174 746 | 224 260 | 181 500 |
| China | *350 000 | *450 000 | *460 000 | 299 100 | 295 900 |
| India | 36 888 | 30 807 | 40 100 | 41 843 | 38 722 |
| Iran | *12 000 | *30 000 | 32 600 | 39 900 | 43 300 |
| Japan | 943 037 | 980 349 | 955 108 | 989 566 | 1 007 976 |
| Korea, Dem. P.R. of | *40 000 | *40 000 | *40 000 | *40 000 | *30 000 |
| Korea, Republic of | 177 841 | 157 922 | 170 541 | 178 665 | 182 000 |
| Oman | 14 561 | 15 490 | 16 267 | 15 318 | 12 015 |
| Philippines | 134 547 | 132 112 | 132 183 | 132 193 | 125 938 |
| Taiwan | 50 439 | 46 961 | 43 333 | 43 237 | 16 090 |
| Australia | 185 071 | 207 768 | 222 707 | 255 000 | 274 000 |
| World total | 9 800 000 | 10 100 000 | 10 400 000 | 10 600 000 | 10 500 000 |

Note(s):

- (1) Figures relate to both primary and secondary refined copper, whether electrolytic or fire refined. Metal recovered from secondary materials by remelting alone is excluded

Exports of Copper

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|---------|---------|---------|---------|------------|
| United Kingdom | | | | | |
| Ore & matte | 6 376 | 2 990 | 4 310 | 1 401 | 5 138 |
| Unwrought | 15 765 | 18 685 | 13 800 | 11 050 | 11 597 |
| Unwrought alloys | 14 147 | 15 581 | 19 585 | 19 400 | 21 055 |
| Scrap | 125 322 | 123 013 | 125 557 | 127 878 | 111 208 |
| Belgium-Luxembourg | | | | | |
| Ore | 573 | 727 | 263 | 113 | 95 |
| Burnt cupreous pyrites | 27 | 3 672 | ... | ... | ... |
| Unwrought | 232 517 | 249 270 | ... | ... | (h)231 548 |
| Unwrought alloys | 10 666 | 8 913 | 7 850 | 11 005 | 8 275 |
| Scrap | 28 288 | 32 485 | 46 016 | 65 906 | 55 629 |
| Denmark | | | | | |
| Unwrought | 400 | 53 | 209 | 273 | 2 |
| Unwrought alloys | 1 666 | 1 674 | 494 | 1 731 | 277 |
| Scrap | 14 199 | 18 857 | 23 775 | 23 924 | 22 089 |
| France | | | | | |
| Ore | 608 | 409 | 1 707 | 996 | 1 060 |
| Matte & cement | 1 171 | 436 | 578 | 215 | 77 |
| Unwrought | | | | | |
| Unrefined | 4 045 | 7 508 | 5 638 | 7 971 | 5 271 |
| Refined | 9 220 | 3 900 | 6 195 | 7 036 | 7 176 |
| Alloys | 2 046 | 1 878 | 12 082 | 13 651 | 15 169 |
| Scrap | 121 832 | 139 481 | 174 213 | 188 955 | 161 158 |
| Germany, Federal Republic of | | | | | |
| Matte & cement | 828 | 194 | 7 | 1 644 | 1 568 |
| Unwrought | | | | | |
| Unrefined | 14 018 | 5 109 | 822 | 1 497 | 577 |
| Refined | 72 945 | 89 977 | 73 849 | 83 396 | 94 534 |
| Alloys | 15 133 | 11 981 | 14 987 | 13 542 | 14 383 |
| Scrap | 70 084 | 96 068 | 120 925 | 143 471 | 156 553 |
| Irish Republic | | | | | |
| Unwrought | 825 | 209 | 280 | 74 | 78 |
| Scrap | 6 312 | 9 783 | 10 121 | 10 061 | 9 274 |
| Italy | | | | | |
| Ore | 25 | — | 521 | 974 | 125 |
| Matte & cement | 11 | 751 | 156 | 101 | 265 |
| Unwrought | 5 074 | 4 436 | 13 078 | 15 175 | 20 281 |
| Unwrought alloys | 3 712 | 4 994 | 8 326 | 6 912 | 7 256 |
| Scrap | 10 927 | 16 476 | 19 447 | 26 324 | 22 797 |
| Netherlands | | | | | |
| Unwrought | 602 | 2 577 | 1 657 | 2 517 | 449 |
| Unwrought alloys | 5 464 | 4 793 | 5 115 | 8 146 | 8 523 |
| Scrap | 63 208 | 83 853 | 96 744 | 105 708 | 83 437 |
| Portugal | | | | | |
| Ore | 1 | 8 211 | 49 412 | 442 029 | 706 115 |
| Unwrought | 1 565 | 4 | 3 081 | 1 577 | 340 |
| Scrap | 1 715 | 1 387 | 5 402 | 3 903 | 6 304 |
| Spain | | | | | |
| Ore | 59 397 | 47 402 | 24 009 | 24 910 | 42 476 |
| Burnt cupreous pyrites | — | 3 274 | ... | ... | ... |
| Matte & cement | 3 133 | 3 778 | 4 486 | 4 458 | 4 118 |
| Unwrought | 65 361 | 42 525 | 39 642 | 41 794 | 30 834 |
| Unwrought alloys | 1 101 | 1 601 | 1 059 | 476 | 186 |
| Scrap | 605 | 967 | 11 741 | 17 112 | 16 859 |
| Austria | | | | | |
| Unwrought | 19 512 | 18 200 | 18 254 | 28 203 | 39 412 |
| Unwrought alloys | 4 816 | 5 647 | 6 180 | 5 243 | 5 272 |
| Scrap | 18 655 | 16 534 | 25 360 | 15 717 | 13 638 |
| Bulgaria | | | | | |
| Unwrought (f) | *500 | *800 | *2 400 | *500 | *4 000 |
| Scrap (f) | *600 | *700 | *1 500 | *1 200 | *1 000 |
| Czechoslovakia | | | | | |
| Scrap (f) | *1 600 | *5 000 | *5 700 | *3 400 | *3 500 |
| Finland | | | | | |
| Ore | — | — | 5 243 | 16 701 | 12 432 |
| Unwrought | | | | | |
| Unrefined | 15 676 | 20 869 | 23 811 | 22 675 | 25 413 |
| Refined | 4 867 | 8 693 | 15 241 | 18 873 | 19 509 |
| Alloys | 2 219 | 2 509 | 1 642 | 1 828 | 3 093 |
| Scrap | 1 162 | 1 650 | 3 596 | 4 621 | 3 289 |

Exports of Copper

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------------|------------|------------|----------|----------|----------|
| German Democratic Republic | | | | | |
| Unwrought (f) | *14 700 | *13 300 | *12 900 | *13 600 | *7 900 |
| Hungary | | | | | |
| Scrap | 1 704 | 1 528 | 1 223 | 4 077 | 6 537 |
| Norway | | | | | |
| Ore | 106 237 | 115 880 | 71 858 | 94 482 | 90 189 |
| Unwrought | | | | | |
| Unrefined | 5 288 | 705 | 10 236 | 24 | 19 397 |
| Refined | 29 270 | 30 160 | 29 075 | 33 706 | 37 682 |
| Scrap | 7 316 | 9 683 | 10 709 | 12 233 | 10 790 |
| Poland | | | | | |
| Unwrought | 169 431 | 161 632 | 166 520 | 157 247 | ... |
| Soviet Union | | | | | |
| Unwrought (f) | *103 100 | *141 100 | *137 000 | *181 700 | *255 000 |
| Scrap (f) | *27 200 | *22 800 | *27 100 | *15 200 | *10 900 |
| Sweden | | | | | |
| Ore | 83 164 | 72 584 | 55 190 | 75 144 | 92 751 |
| Unwrought | | | | | |
| Unrefined | 18 461 | 13 113 | 4 929 | 20 | 5 |
| Refined | 37 887 | 40 161 | 41 737 | 33 151 | 39 582 |
| Alloys | 2 304 | 3 400 | 4 031 | 7 575 | 4 918 |
| Scrap | 4 866 | 8 059 | 3 658 | 6 347 | 3 019 |
| Switzerland | | | | | |
| Unwrought | | | | | |
| Refined | 60 | 3 715 | 4 425 | 1 457 | 3 816 |
| Alloys | 5 249 | 5 202 | 6 588 | 5 870 | 4 842 |
| Scrap | 12 244 | 17 723 | 23 721 | 27 701 | 18 721 |
| Turkey | | | | | |
| Ore | — | — | 47 908 | 17 669 | 30 873 |
| Unwrought | 4 614 | 6 554 | 5 458 | 6 113 | 2 145 |
| Yugoslavia | | | | | |
| Ore | 15 000 | 24 500 | 11 722 | 6 191 | 17 479 |
| Matte | — | 4 261 | 4 902 | 8 104 | 9 199 |
| Unwrought | 37 277 | 33 361 | 44 553 | 49 989 | 66 224 |
| Unwrought alloys | 1 019 | 1 350 | 9 003 | 9 029 | 14 778 |
| Scrap | 2 997 | 20 828 | 4 741 | 2 151 | 2 393 |
| Algeria | | | | | |
| Scrap | 5 290 | 1 760 | 6 158 | ... | ... |
| Botswana | | | | | |
| Matte (b) | 17 400 | 18 800 | 25 400 | 19 200 | 19 300 |
| Ivory Coast | | | | | |
| Matte & scrap | 943 | ... | 780 | ... | ... |
| Morocco | | | | | |
| Ore | 61 509 | 50 854 | 44 675 | 45 229 | 44 848 |
| Matte | 1 169 | 2 235 | 2 738 | 2 647 | 2 057 |
| Scrap | 1 934 | 2 649 | 3 312 | 5 323 | 4 800 |
| Namibia | | | | | |
| Unwrought | 41 951 | 37 147 | 39 049 | 33 306 | 29 974 |
| Senegal | | | | | |
| Scrap | 713 | 612 | 2 085 | 853 | ... |
| South Africa | | | | | |
| Ores & concentrates (b) | 25 897 | 27 507 | 14 824 | 18 078 | 17 283 |
| Unwrought | 93 534 | 97 359 | 88 010 | 103 406 | 86 787 |
| Scrap (f) | *12 000 | *7 700 | *6 000 | *12 500 | *9 200 |
| Tunisia | | | | | |
| Scrap | 1 051 | 2 088 | 6 916 | 5 735 | 2 747 |
| Zaire | | | | | |
| Ores & concentrates | 59 227 | 38 884 | 46 784 | *26 000 | *28 000 |
| Unwrought | | | | | |
| Unrefined (e) | 275 733 | 254 329 | 233 376 | 221 400 | 215 451 |
| Refined | 222 785 | 204 867 | 198 307 | 201 600 | 140 743 |
| Zambia | | | | | |
| Unwrought, refined | 466 346 | 543 525 | 435 548 | 456 365 | 459 924 |
| Zimbabwe | | | | | |
| Unwrought | 21 660 | 20 912 | 15 549 | ... | 11 899 |
| Canada | | | | | |
| Ores & concentrates (b) | (i)341 392 | (i)381 123 | 330 840 | 329 617 | 359 553 |
| Matte & cement (b) | ... | ... | 10 952 | 18 796 | 14 682 |
| Unwrought | 306 892 | 288 811 | 264 045 | 322 017 | 335 983 |
| Unwrought alloys | ... | ... | 5 909 | 4 262 | 714 |
| Scrap | 70 753 | 72 102 | 76 959 | 67 327 | 104 469 |

Copper

Exports of Copper

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------|----------|----------|----------|-----------|-----------|
| Cuba | | | | | |
| Concentrates (b) | 2 593 | 3 378 | 3 108 | 2 783 | ... |
| Scrap (a) | 6 165 | 7 932 | 4 213 | 1 804 | 2 548 |
| Mexico | | | | | |
| Concentrates | 298 709 | 367 400 | 346 684 | 221 195 | 286 700 |
| Unwrought, unrefined | 21 967 | 10 209 | 28 270 | 49 891 | 45 470 |
| USA | | | | | |
| Ores & concentrates (b) | 174 348 | 124 751 | 192 406 | 360 494 | 258 235 |
| Unwrought | | | | | |
| Unrefined | 15 967 | 12 339 | 33 337 | 5 475 | 6 424 |
| Refined | 12 477 | 9 196 | 60 633 | 145 769 | 212 719 |
| Alloys | 3 838 | 9 787 | 8 856 | 6 641 | 9 272 |
| Scrap | 299 667 | 301 971 | 320 751 | 369 697 | 325 581 |
| Bolivia | | | | | |
| Ore | 1 668 | 45 | 2 189 | — | 2 199 |
| Brazil | | | | | |
| Unwrought, refined | 0 | — | 5 000 | 33 802 | 41 000 |
| Chile | | | | | |
| Ores & concentrates (b) | 273 900 | 280 800 | 241 700 | 317 800 | 259 000 |
| Matte & cement (b) | — | — | 2 200 | 7 900 | 700 |
| Unwrought | | | | | |
| Unrefined | 199 400 | 139 900 | 161 900 | 168 500 | 151 100 |
| Refined | 899 800 | 942 500 | 975 500 | 1 060 500 | 1 141 100 |
| Scrap | 2 900 | 3 800 | 3 100 | 2 800 | 2 400 |
| Colombia | | | | | |
| Ore | 1 705 | ... | — | — | ... |
| Peru | | | | | |
| Ore (f) | *273 500 | *269 300 | *208 000 | *202 600 | *169 400 |
| Unwrought | | | | | |
| Unrefined | 94 731 | 87 033 | 54 989 | 89 777 | 92 834 |
| Refined | 193 028 | 179 795 | 147 377 | 167 538 | 137 433 |
| China | | | | | |
| Unwrought | (f)*300 | 5 565 | 49 144 | 11 770 | 18 003 |
| Scrap (f) | *2 100 | *7 100 | *17 400 | *14 800 | *20 800 |
| Cyprus | | | | | |
| Cement copper | 1 148 | 304 | 600 | 955 | 1 080 |
| Scrap (j) | 388 | 756 | ... | 63 795 | 46 484 |
| Dubai | | | | | |
| Scrap | 6 025 | ... | ... | ... | ... |
| Hong Kong | | | | | |
| Unwrought | 1 630 | 3 791 | 32 887 | 6 599 | 5 483 |
| of which: Re-exports | 1 630 | 3 791 | 32 841 | 6 400 | 5 134 |
| Scrap | 27 948 | 39 955 | 62 367 | 69 626 | 80 879 |
| India (g) | | | | | |
| Ores & concentrates | 7 900 | 18 000 | 14 000 | ... | 14 322 |
| Indonesia | | | | | |
| Ores & concentrates | 298 584 | 250 770 | 299 665 | 321 745 | 397 648 |
| Iran (c) | | | | | |
| Ore | ... | 30 000 | ... | ... | ... |
| Unwrought (f) | *25 500 | *12 200 | *10 000 | *18 500 | *9 400 |
| Israel | | | | | |
| Scrap | 2 288 | 1 006 | 2 949 | 4 961 | 3 875 |
| Japan | | | | | |
| Unwrought | 85 084 | 73 067 | 78 494 | 68 625 | 81 710 |
| Scrap | 5 163 | 5 831 | 6 933 | 18 816 | 12 003 |
| Jordan | | | | | |
| Scrap | 1 060 | 238 | 1 529 | 2 831 | 1 483 |
| of which: Re-exports | 457 | 238 | 563 | 734 | 282 |
| Korea, Republic of | | | | | |
| Unwrought | 5 756 | 3 663 | 20 979 | 35 225 | 1 125 |
| Scrap | 1 180 | 443 | 1 274 | 2 080 | 1 919 |
| Malaysia | | | | | |
| Ore | 118 930 | 122 103 | 85 872 | 102 168 | 105 664 |
| Scrap | 14 637 | 14 551 | 17 922 | 24 617 | ... |
| Myanmar (g) | | | | | |
| Ores & concentrates | 46 003 | 37 000 | 14 800 | 11 320 | ... |
| Oman | | | | | |
| Unwrought | 16 309 | 14 128 | 18 137 | 15 999 | 12 124 |
| Pakistan (d) | | | | | |
| Scrap | 1 010 | 181 | 1 295 | 2 645 | 3 772 |

Exports of Copper

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------|---------|---------|---------|---------|---------|
| Philippines | | | | | |
| Ores & concentrates | 359 781 | 361 952 | 450 330 | 426 191 | 421 405 |
| Unwrought | 131 218 | 106 529 | 126 731 | 114 273 | 109 703 |
| Scrap | 8 150 | 8 150 | 2 702 | 3 960 | 27 999 |
| Saudi Arabia | | | | | |
| Unwrought | 2 277 | 3 189 | 2 911 | 3 192 | ... |
| Scrap | 19 453 | 23 961 | 23 224 | 22 830 | ... |
| Singapore | | | | | |
| Unwrought | 7 086 | 12 499 | 60 654 | 53 903 | 41 937 |
| of which: Re-exports | 6 999 | 12 403 | 60 603 | 53 591 | 39 273 |
| Scrap | 23 757 | 29 639 | 37 356 | 40 426 | 38 762 |
| Taiwan | | | | | |
| Unwrought | 49 | 664 | 2 972 | 2 983 | 5 327 |
| Scrap | 6 187 | 10 073 | 16 395 | 15 665 | 30 418 |
| Australia | | | | | |
| Ores & concentrates | 233 263 | 149 156 | 195 798 | 196 900 | 269 700 |
| Matte & cement (d) | 8 000 | — | ... | 440 | 120 |
| Unwrought | | | | | |
| Unrefined | — | 3 502 | 1 009 | 3 733 | 4 756 |
| Refined | 66 820 | 81 580 | 92 743 | 121 989 | 150 313 |
| Alloys (d) | 1 639 | 2 352 | 2 140 | 429 | 676 |
| Scrap (d) | 164 | 254 | 368 | 193 | 3 107 |
| New Zealand (d) | | | | | |
| Unwrought | 32 | 1 | 2 | 288 | 255 |
| Scrap | 744 | 1 260 | 2 499 | 2 567 | 2 406 |
| Papua New Guinea | | | | | |
| Ores & concentrates (b) | 178 774 | 216 731 | 221 891 | 226 000 | 155 624 |

Note(s):

- (1) In this table the term 'unwrought' copper corresponds to item 682.1 of the Standard International Trade Classification (Revision 3) and includes both unrefined (including blister) and refined copper
 - (2) The term 'unwrought' as used here includes alloys unless these are separately specified. The term 'scrap' includes scrap alloys
- (a) Imports into the Netherlands
 - (b) Cu content
 - (c) Years ended 20 March following that stated
 - (d) Years ended 30 June of that stated
 - (e) Including leach cathodes
 - (f) BGS estimates, based on known imports into certain countries
 - (g) Years ended 31 March following that stated
 - (h) Refined only
 - (i) Including matte and cement
 - (j) Re-exports

Copper

Imports of Copper

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|------------|------------|---------|---------|---------|
| United Kingdom | | | | | |
| Ore & matte | 10 | 68 | 801 | 950 | 2 065 |
| Unwrought | | | | | |
| Unrefined | 79 522 | 72 642 | 61 754 | 65 293 | 63 905 |
| Refined | 263 454 | 239 214 | 246 103 | 259 584 | 251 031 |
| Alloys | 1 141 | 1 331 | 4 610 | 1 508 | 3 036 |
| Scrap | 10 540 | 14 344 | 18 893 | 23 123 | 22 017 |
| Belgium-Luxembourg | | | | | |
| Ore | 3 722 | 912 | 1 434 | 2 368 | 4 968 |
| Unwrought | | | | | |
| Unrefined | (h)239 974 | (h)179 036 | ... | ... | 191 653 |
| Refined | 215 181 | 209 646 | ... | ... | 260 877 |
| Alloys | 8 940 | 5 837 | 5 561 | 16 920 | 8 421 |
| Scrap | 119 423 | 147 257 | 208 488 | 191 150 | 158 411 |
| Denmark | | | | | |
| Unwrought | 72 | 50 | 205 | 340 | 1 017 |
| Unwrought alloys | 1 933 | 1 892 | 1 402 | 1 972 | 1 967 |
| Scrap | 7 172 | 7 215 | 11 585 | 16 558 | 19 731 |
| France | | | | | |
| Ore | 79 | 93 | 4 566 | 137 | 50 |
| Burnt cupreous pyrites | 4 564 | 11 082 | ... | ... | ... |
| Matte & cement | 946 | 20 | 5 446 | 91 | 322 |
| Unwrought | | | | | |
| Unrefined | 22 301 | 19 025 | 15 137 | 20 732 | 20 921 |
| Refined | 334 529 | 353 544 | 379 216 | 411 534 | 429 752 |
| Alloys | 4 832 | 4 125 | 6 681 | 6 548 | 9 420 |
| Scrap | 43 114 | 43 973 | 52 634 | 67 093 | 58 396 |
| Germany, Federal Republic of | | | | | |
| Ore | 581 423 | 435 670 | 553 600 | 621 619 | 498 000 |
| Burnt cupreous pyrites | 45 961 | 32 289 | ... | ... | ... |
| Matte & cement | 8 543 | 12 064 | 12 892 | 8 543 | 17 569 |
| Unwrought | | | | | |
| Unrefined | 69 778 | 49 038 | 43 722 | 55 586 | 53 036 |
| Refined | 447 922 | 395 982 | 433 407 | 459 577 | 514 754 |
| Alloys | 35 958 | 43 848 | 40 682 | 52 923 | 64 831 |
| Scrap | 248 067 | 248 301 | 295 279 | 364 619 | 310 643 |
| Greece | | | | | |
| Matte & cement | 12 486 | 6 803 | 42 | — | ... |
| Unwrought | 27 492 | 37 248 | 53 120 | 51 226 | 54 775 |
| Unwrought alloys | 854 | 1 823 | 1 827 | 1 780 | 1 581 |
| Scrap | 8 | 452 | 825 | 1 633 | 664 |
| Irish Republic | | | | | |
| Unwrought | 179 | 185 | 551 | 194 | 329 |
| Scrap | 152 | 86 | 127 | 437 | 527 |
| Italy | | | | | |
| Unwrought | | | | | |
| Unrefined | 5 182 | 8 176 | 4 020 | 992 | 241 |
| Refined | 349 116 | 371 763 | 377 363 | 389 998 | 412 020 |
| Alloys | 15 648 | 21 085 | 16 199 | 17 559 | 24 179 |
| Scrap | 145 097 | 134 278 | 136 953 | 163 875 | 175 917 |
| Netherlands | | | | | |
| Unwrought | 23 095 | 24 086 | 22 036 | 20 508 | 23 539 |
| Unwrought alloys | 1 006 | 1 038 | 1 130 | 2 166 | 2 121 |
| Scrap | 57 512 | 62 487 | 57 453 | 71 478 | 78 218 |
| Portugal | | | | | |
| Unwrought | 12 146 | 29 943 | 25 833 | 24 105 | 25 830 |
| Scrap | 309 | 1 546 | 264 | 1 399 | 939 |
| Spain | | | | | |
| Ore | 249 641 | 346 867 | 381 180 | 367 532 | 393 745 |
| Matte & cement | 2 216 | 226 | 24 | 897 | 365 |
| Unwrought | | | | | |
| Unrefined | 18 290 | 2 301 | 25 | 2 173 | 3 122 |
| Refined | 31 471 | 13 597 | 7 554 | 21 460 | 21 406 |
| Alloys | 1 995 | 3 697 | 5 203 | 3 829 | 3 629 |
| Scrap | 29 976 | 32 943 | 49 944 | 50 704 | 42 090 |
| Austria | | | | | |
| Unwrought | | | | | |
| Unrefined | 5 021 | 4 373 | 3 850 | 2 824 | 746 |
| Refined | 5 777 | 2 813 | 6 023 | 2 817 | 7 598 |
| Alloys | 1 700 | 1 715 | 1 539 | 1 651 | 1 783 |
| Scrap | 31 960 | 45 299 | 49 652 | 32 225 | 24 662 |

Imports of Copper

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------------|---------|---------|---------|---------|---------|
| Bulgaria | | | | | |
| Unwrought (a) | *1 000 | *3 700 | ... | *600 | *1 000 |
| Czechoslovakia | | | | | |
| Unwrought | 65 000 | 69 000 | 35 000 | 32 000 | ... |
| Finland | | | | | |
| Ore | 187 820 | 236 919 | 249 107 | 209 136 | 279 755 |
| Unwrought | | | | | |
| Refined | 15 909 | 26 714 | 30 995 | 39 013 | 27 427 |
| Alloys | 686 | 524 | 1 030 | 2 111 | 1 808 |
| Scrap | 114 | 2 299 | 7 462 | 3 392 | 988 |
| German Democratic Republic | | | | | |
| Ores & concentrates (a) | *11 400 | *17 400 | *20 800 | *16 600 | *5 900 |
| Unwrought (a) | *51 800 | *58 500 | *76 400 | *67 000 | *64 600 |
| Scrap (a) | *24 000 | *25 200 | *24 900 | *25 300 | ... |
| Hungary | | | | | |
| Unwrought (c) | 36 600 | 41 953 | 32 038 | 21 275 | 14 958 |
| Scrap | 6 041 | 4 286 | 4 721 | 2 951 | 895 |
| Norway | | | | | |
| Matte | 584 | 27 | 12 | 228 | 0 |
| Unwrought | 290 | 133 | 343 | 105 | 302 |
| Unwrought alloys | 2 791 | 2 498 | 1 904 | 2 276 | 2 833 |
| Scrap | 56 | 309 | 71 509 | 715 | 1 578 |
| Poland | | | | | |
| Unwrought | 18 211 | 18 846 | 14 021 | 7 993 | 2 900 |
| Romania | | | | | |
| Unwrought (a) | *11 000 | *3 900 | *2 700 | *2 500 | *4 600 |
| Soviet Union | | | | | |
| Unwrought | *1 000 | *1 000 | *1 000 | ... | ... |
| Sweden | | | | | |
| Ore | 37 710 | 56 037 | 83 977 | 60 666 | 51 084 |
| Matte & cement | 7 012 | 5 219 | 3 423 | 1 957 | 26 |
| Unwrought | 57 149 | 46 551 | 61 407 | 65 599 | 62 607 |
| Unwrought alloys | 5 086 | 4 968 | 5 204 | 7 889 | 4 839 |
| Scrap | 10 559 | 19 951 | 15 945 | 9 148 | 15 074 |
| Switzerland | | | | | |
| Unwrought | | | | | |
| Refined | 13 707 | 7 594 | 6 583 | 7 695 | 7 239 |
| Alloys | 1 512 | 1 148 | 1 189 | 1 248 | 1 598 |
| Scrap | 6 263 | 4 064 | 4 106 | 5 288 | 8 188 |
| Turkey | | | | | |
| Ore | 42 614 | 150 | 812 | 89 | 12 |
| Unwrought | 54 346 | 73 108 | 47 978 | 62 230 | 55 915 |
| Scrap | 3 | 223 | 1 715 | 3 120 | 1 088 |
| Yugoslavia | | | | | |
| Unwrought | 51 686 | 34 302 | 22 831 | 20 683 | 8 190 |
| Unwrought alloys | 4 524 | 614 | 37 | 154 | 1 714 |
| Scrap | 231 | 423 | 21 | 525 | 730 |
| Algeria | | | | | |
| Unwrought | 1 158 | 418 | 298 | ... | ... |
| Egypt | | | | | |
| Unwrought (b) | 1 750 | 16 | 16 | ... | ... |
| Morocco | | | | | |
| Unwrought | 605 | 676 | 662 | 761 | 733 |
| South Africa | | | | | |
| Ores & concentrates | 100 | 110 | 5 555 | 8 068 | 8 099 |
| Matte & cement | ... | ... | 3 642 | 8 414 | 7 405 |
| Unwrought | 320 | 975 | 451 | 703 | 21 |
| Unwrought alloys | 120 | 121 | 136 | 228 | 438 |
| Scrap | 6 930 | 4 194 | 1 222 | 1 442 | 759 |
| Zambia | | | | | |
| Ores & concentrates (d) | 29 417 | 23 007 | 32 822 | 16 272 | 17 291 |
| Canada | | | | | |
| Ores & concentrates (d) | 70 673 | 50 510 | 41 464 | 40 693 | 30 167 |
| Unwrought | 20 894 | 16 584 | 7 719 | 17 290 | 9 456 |
| Unwrought alloys | 13 283 | 16 795 | 1 953 | 1 694 | 3 274 |
| Scrap | 65 768 | 69 322 | 91 107 | 97 174 | 65 540 |

Copper

Imports of Copper

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------|-------------|------------|------------|------------|-----------|
| Cuba | | | | | |
| Unwrought | 6 445 | 7 641 | 7 446 | 7 815 | ... |
| Mexico | | | | | |
| Unwrought & scrap | 26 418 | 40 442 | 45 889 | 50 704 | 27 450 |
| USA | | | | | |
| Ores & concentrates (d) | 4 722 | 4 712 | 4 332 | 46 516 | 91 493 |
| Matte (d) | 668 | 6 787 | 5 738 | 2 251 | 7 813 |
| Unwrought | | | | | |
| Unrefined | 48 936 | 45 218 | 132 735 | 80 866 | 44 668 |
| Refined | 491 690 | 505 283 | 382 320 | 300 109 | 261 672 |
| Alloys | 16 781 | 15 084 | 11 281 | 4 745 | 2 289 |
| Scrap | 111 626 | 77 285 | 87 180 | 110 897 | 134 615 |
| Argentina | | | | | |
| Unwrought, refined | 48 188 | 50 889 | 31 949 | 15 108 | 10 100 |
| Brazil | | | | | |
| Ores & concentrates | 261 304 | 340 529 | 378 252 | 350 214 | 350 612 |
| Unwrought | | | | | |
| Unrefined | 10 072 | 11 191 | 15 075 | 6 536 | 9 585 |
| Refined | 100 826 | 113 570 | 37 935 | 50 621 | 25 118 |
| Scrap | 8 884 | 19 348 | 3 622 | 3 868 | 1 967 |
| Colombia | | | | | |
| Unwrought | 711 | 256 | 347 | 2 125 | ... |
| Venezuela | | | | | |
| Unwrought | | | | | |
| Refined | 11 274 | 24 681 | 27 225 | 9 864 | 13 200 |
| Alloys | 910 | 1 152 | 2 144 | 446 | ... |
| China | | | | | |
| Ores & concentrates | (a)*244 700 | (f)199 572 | (f)172 999 | (f)178 166 | 242 197 |
| Unwrought | 171 106 | 75 482 | 84 368 | 70 082 | 40 251 |
| Scrap (a) | *5 200 | *8 000 | *20 100 | *52 300 | *65 700 |
| Hong Kong | | | | | |
| Unwrought | 2 356 | 9 577 | 30 542 | 9 207 | 7 097 |
| Scrap | 6 784 | 12 732 | 22 408 | 33 758 | 46 639 |
| India (e) | | | | | |
| Unwrought | 52 767 | 83 180 | 67 740 | 82 360 | 72 049 |
| Scrap | 40 198 | 31 836 | 67 783 | 29 676 | 80 201 |
| Indonesia | | | | | |
| Unwrought | 17 903 | 32 430 | 30 639 | 39 305 | 49 456 |
| Unwrought alloys | 391 | 289 | 382 | 293 | 958 |
| Japan | | | | | |
| Ores & concentrates | 3 036 896 | 2 981 054 | 3 435 547 | 3 372 960 | 3 522 535 |
| Matte & cement | 33 | 21 | 65 | 179 | 3 110 |
| Unwrought | 300 215 | 375 944 | 443 872 | 509 130 | 646 210 |
| Unwrought alloys | 2 819 | 4 481 | 4 979 | 6 084 | 6 841 |
| Scrap | 79 467 | 97 841 | 108 438 | 82 247 | 126 662 |
| Korea, Republic of | | | | | |
| Ore | 389 143 | 553 628 | 346 370 | 463 175 | 368 402 |
| Matte & cement | 18 897 | 9 941 | 25 114 | 13 086 | 8 487 |
| Unwrought | 99 682 | 120 011 | 147 960 | 115 233 | 176 006 |
| Scrap | 74 949 | 215 933 | 129 098 | 126 010 | 287 313 |
| Malaysia | | | | | |
| Unwrought | 8 827 | 19 027 | 32 878 | 48 495 | ... |
| Philippines | | | | | |
| Concentrates | — | 22 005 | 107 030 | 119 691 | 187 398 |
| Unwrought | 8 | 544 | 2 483 | 2 331 | 6 092 |
| Saudi Arabia | | | | | |
| Unwrought | 14 381 | 17 406 | 9 902 | 4 722 | ... |
| Singapore | | | | | |
| Unwrought | 5 660 | 12 775 | 77 952 | 55 594 | 66 018 |
| Scrap | 7 401 | 7 873 | 13 367 | 12 646 | 45 843 |
| Taiwan | | | | | |
| Ores & concentrates | 179 704 | 153 155 | 118 023 | 152 261 | 10 625 |
| Unwrought | 109 475 | 166 902 | 176 690 | 278 665 | 256 166 |
| Scrap | 42 507 | 49 693 | 30 479 | 30 445 | 15 333 |

Imports of Copper

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-----------------|--------|--------|--------|--------|--------|
| Thailand | | | | | |
| Unwrought | 20 228 | 27 303 | 29 594 | 34 184 | 53 725 |
| Scrap | 10 | 530 | 2 087 | 4 281 | 2 450 |
| Australia | | | | | |
| Scrap (g) | 893 | 1 676 | 2 982 | 2 616 | 3 034 |
| New Zealand (g) | | | | | |
| Unwrought | 1 627 | 1 481 | 3 195 | 6 007 | 4 416 |

Note(s):

- (1) In this table the term 'unwrought' copper corresponds to item 682.1 of the Standard International Trade Classification (Revision 3) and includes both unrefined (including blister) and refined copper
 - (2) The term 'unwrought' as used here includes alloys unless these are separately specified. The term 'scrap' includes scrap alloys
- (a) BGS estimates, based on known exports from certain countries
 - (b) Including matte and scrap
 - (c) Including semi-manufactures
 - (d) Cu content
 - (e) Years ended 31 March following that stated
 - (f) Including cement copper
 - (g) Years ended 30 June of that stated
 - (h) Including matte and cement

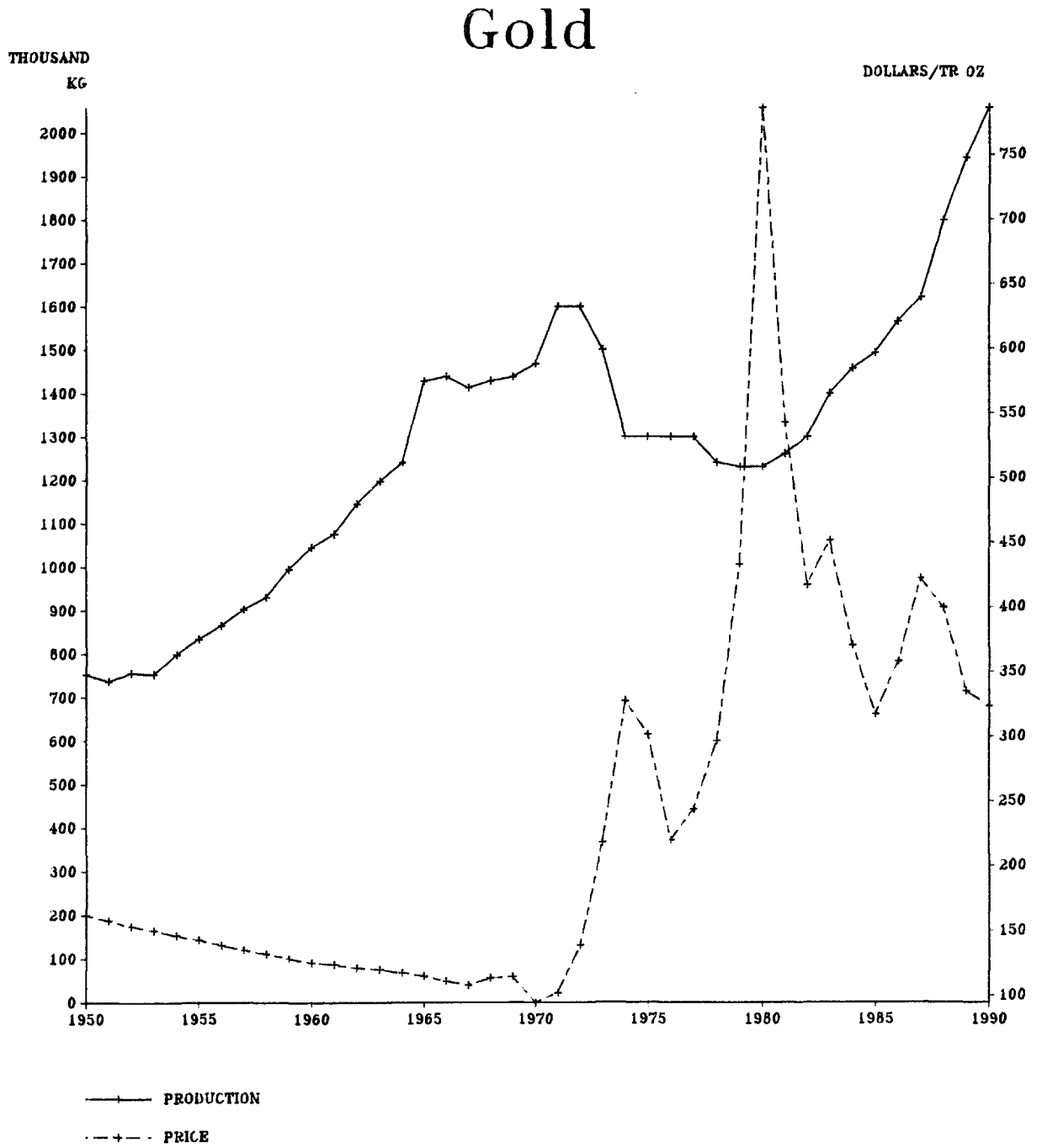


Figure 8 World mine production of gold compared with the annual average London price expressed in constant 1985 US dollars.

Mine Production of Gold

kilograms (metal content)

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|----------|----------|----------|----------|----------|
| France | 2 360 | 2 225 | 2 525 | 3 303 | 4 240 |
| Germany, Federal Republic of | *60 | *30 | *30 | *15 | — |
| Portugal | 303 | 320 | 317 | 294 | 364 |
| Spain | 4 092 | 5 505 | 5 571 | 7 719 | 6 730 |
| Finland | 501 | 708 | 594 | 1 785 | 1 271 |
| German Democratic Republic | *2 500 | *2 500 | *2 500 | *2 500 | — |
| Hungary | *600 | *600 | *600 | *500 | *500 |
| Romania | *5 000 | *5 000 | *5 000 | 6 000 | ... |
| Soviet Union | *275 000 | *275 000 | *280 000 | *285 000 | *250 000 |
| Sweden | 4 514 | 4 108 | 3 590 | 5 120 | 6 326 |
| Yugoslavia (d) | 4 498 | 5 348 | 4 620 | 4 349 | 8 190 |
| Botswana | 25 | 32 | 21 | 56 | 46 |
| Burkina Faso | 3 021 | 2 272 | 2 825 | 2 000 | 3 461 |
| Burundi | 31 | 30 | *30 | 19 | 9 |
| Central African Republic | 212 | 224 | 382 | 328 | 241 |
| Ethiopia (b) | 923 | 643 | 728 | 746 | *800 |
| Gabon | 55 | 79 | 138 | 81 | 150 |
| Ghana | 8 950 | 10 228 | 11 631 | 13 265 | 16 840 |
| Guinea | — | 74 | 324 | 1 202 | 1 745 |
| Kenya | 73 | 14 | 17 | 15 | 25 |
| Liberia (a) | 610 | 657 | 677 | 734 | *700 |
| Mali | *500 | 337 | 483 | 699 | 2 355 |
| Namibia | 184 | 172 | 240 | 336 | 1 444 |
| Rwanda | 6 | 8 | 16 | *25 | ... |
| Sierra Leone | 350 | 300 | 20 | 70 | *30 |
| South Africa | 640 026 | 600 229 | 620 177 | 607 474 | 603 292 |
| Sudan | 53 | 76 | 50 | 150 | 150 |
| Tanzania | 85 | 201 | 164 | 116 | 1 710 |
| Zaire | 1 958 | 4 365 | 3 301 | 2 100 | 4 512 |
| Zambia (c) | 58 | 350 | 262 | 149 | 129 |
| Zimbabwe | 14 853 | 14 693 | 14 965 | 16 003 | 16 921 |
| Canada | 102 899 | 117 227 | 135 889 | 159 527 | 165 453 |
| Costa Rica (e) | 362 | 336 | 368 | 92 | 72 |
| Dominican Republic | 8 879 | 7 798 | 6 335 | 5 355 | 4 354 |
| Honduras | 85 | 92 | 123 | 75 | ... |
| Mexico | 7 795 | 7 988 | 9 098 | 8 613 | 8 208 |
| Nicaragua | 893 | 948 | 881 | 1 399 | 1 200 |
| USA | 116 297 | 153 870 | 200 914 | 265 731 | 290 202 |
| Argentina | 944 | 982 | 962 | 1 150 | 1 200 |
| Bolivia | 763 | 2 806 | 4 891 | 3 602 | 4 173 |
| Brazil | 23 361 | 35 780 | 56 447 | 52 378 | 87 331 |
| Chile | 17 947 | 17 035 | 20 614 | 22 559 | 27 503 |
| Colombia | 39 996 | 26 546 | 29 020 | 29 506 | 29 353 |
| Ecuador | 9 870 | 9 400 | *9 500 | 9 333 | 10 700 |
| French Guiana | 326 | 520 | 522 | 544 | 870 |
| Guyana | 436 | 666 | 585 | 539 | 1 204 |
| Peru | 8 846 | 8 486 | 9 164 | 10 555 | *10 000 |
| Venezuela | 2 511 | 3 417 | 3 502 | 5 113 | 6 334 |
| China | *66 000 | *72 000 | *78 000 | *90 000 | *100 000 |
| India | 1 931 | 1 864 | 1 942 | 1 827 | *1 850 |
| Indonesia | 3 304 | 3 752 | 4 731 | 5 573 | 11 158 |
| Iran | ... | *400 | *400 | *400 | *500 |
| Japan | 10 280 | 8 590 | 7 308 | 6 097 | 7 303 |
| Korea, Dem. P.R. of | *5 000 | *5 000 | *5 000 | *5 000 | *5 000 |
| Korea, Republic of (d) | 4 649 | 7 600 | 11 121 | 14 270 | 20 760 |
| Malaysia | 2 749 | 3 516 | 2 928 | 2 860 | 2 595 |
| Myanmar | ... | ... | 309 | 426 | 784 |
| Philippines | 35 430 | 32 780 | 30 482 | 30 627 | 29 234 |
| Saudi Arabia | ... | ... | ... | 2 901 | 3 536 |
| Taiwan (d) | 910 | 536 | 237 | 269 | 72 |

Gold

Mine Production of Gold

kilograms (metal content)

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------|-----------|-----------|-----------|-----------|-----------|
| Australia | 75 079 | 110 696 | 156 950 | 203 563 | 244 237 |
| Fiji | 2 856 | 2 866 | 4 274 | 4 222 | 4 116 |
| New Zealand | 1 265 | 1 148 | 2 404 | 4 963 | 4 626 |
| Papua New Guinea | 37 305 | 35 937 | 38 089 | 31 137 | 34 280 |
| Solomon Islands | 98 | 74 | 50 | 39 | 53 |
| World total | 1 564 000 | 1 620 000 | 1 798 000 | 1 942 000 | 2 057 000 |

Note(s):

- (1) In several countries substantial amounts of gold produced in small operations are not recorded in the official statistics used when compiling this table
 - (2) In addition to the countries listed, Bulgaria, Cameroon, Czechoslovakia, Greece, Morocco, Norway, Oman and Thailand are believed to produce gold
- (a) Exports
 - (b) Years ended 6 July of that stated
 - (c) Contained in blister copper, refinery muds and electrolytic copper
 - (d) Metal production
 - (e) Central Bank purchases

Exports of Gold

Gold
kilograms

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|----------------|----------------|----------------|----------------|----------------|
| United Kingdom | | | | | |
| Metal | | | | | |
| Refined | 474 642 | 367 532 | 615 999 | 811 331 | 632 154 |
| Other | 6 239 | 6 102 | 5 204 | 22 091 | 15 034 |
| Waste & scrap | 2 954 | 3 747 | 2 862 | 156 276 | 248 638 |
| Belgium-Luxembourg | | | | | |
| Metal | 18 762 | 16 279 | 19 088 | 36 046 | 18 929 |
| Waste & scrap | £3 378 000 | £3 455 000 | £4 560 000 | £4 564 000 | £3 068 000 |
| Denmark | | | | | |
| Metal | 293 | 391 | 684 | 972 | 1 865 |
| of which: Re-exports | 251 | 375 | 426 | 248 | 1 124 |
| Waste & scrap | 8 045 | 40 855 | 6 777 | 4 964 | 5 507 |
| of which: Re-exports | 3 835 | 4 084 | 3 988 | 969 | 1 575 |
| France | | | | | |
| Metal | 24 911 | 26 044 | 28 773 | 40 779 | 40 916 |
| Waste & scrap | 122 384 | 78 681 | 370 010 | 535 107 | 962 268 |
| Germany, Federal Republic of | | | | | |
| Metal | 65 608 | 33 925 | 45 665 | 46 980 | 44 493 |
| Waste & scrap | 15 892 | 30 727 | 135 140 | 88 894 | 108 542 |
| Irish Republic | | | | | |
| Metal | £646 000 | £35 000 | £21 000 | £114 000 | £49 000 |
| Waste & scrap | £650 000 | £1 046 000 | £1 282 000 | £1 206 000 | £1 350 000 |
| Italy | | | | | |
| Metal | 2 774 | 30 561 | 4 719 | 11 846 | 5 500 |
| Netherlands | | | | | |
| Metal | 1 331 | 2 556 | 23 293 | 4 693 | 1 643 |
| Waste & scrap | 35 000 | 9 000 | 11 000 | 17 000 | 21 000 |
| Spain | | | | | |
| Metal | 3 793 | 1 404 | 183 | 903 | 2 195 |
| Austria | | | | | |
| Metal | 542 | 528 | 1 015 | 622 | 313 |
| Finland | | | | | |
| Metal | 892 | 1 367 | 1 405 | 1 699 | 1 914 |
| German Democratic Republic | | | | | |
| Metal (c) | *800 | *200 | *700 | *700 | *200 |
| Norway | | | | | |
| Metal | 318 | 726 | 696 | 607 | 776 |
| Waste & scrap | 155 | 145 | 65 | 78 | 154 |
| Soviet Union | | | | | |
| Metal (c) | *64 400 | *38 100 | *165 400 | *83 900 | *38 900 |
| Sweden | | | | | |
| Metal | 7 000 | 8 000 | 6 000 | 7 000 | 7 000 |
| Waste & scrap | 24 000 | 49 000 | 21 000 | 41 000 | 42 000 |
| Switzerland | | | | | |
| Metal | 921 911 | 671 605 | 841 276 | 1 111 541 | 1 104 637 |
| Waste & scrap | ... | ... | 63 351 | 374 894 | 35 907 |
| Ghana | | | | | |
| Metal | 8 364 | 10 092 | 10 981 | ... | ... |
| Liberia | | | | | |
| Metal | 610 | 657 | 677 | 734 | ... |
| Namibia | | | | | |
| Metal | 184 | 179 | 205 | 312 | 1 573 |
| Sierra Leone | | | | | |
| Metal | 193 | 310 | 40 | 200 | 10 |
| South Africa | | | | | |
| Metal | £5 210 000 000 | £5 265 000 000 | £4 888 000 000 | £4 684 000 000 | £4 130 000 000 |
| Zaire | | | | | |
| Metal | 1 952 | 3 352 | 2 910 | ... | ... |
| Zimbabwe | | | | | |
| Metal | 21 642 | 18 052 | 14 432 | ... | 18 454 |
| Canada | | | | | |
| Ores & concentrates (f) | 7 302 | 8 604 | 11 596 | 10 973 | 10 816 |
| Metal | 165 632 | 69 876 | 126 937 | 161 986 | 144 930 |
| Dominican Republic | | | | | |
| Metal | 8 879 | 7 798 | 6 335 | 5 355 | 4 354 |

Gold

Exports of Gold

kilograms

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--|---------|---------|------------|------------|------------|
| USA | | | | | |
| Ore (b) | 221 | 1 395 | 1 386 | 16 | 328 |
| Metal | | | | | |
| Unrefined | 14 898 | 20 446 | 20 614 | 43 071 | 88 275 |
| Refined | 359 817 | 78 838 | 300 965 | 124 938 | 142 460 |
| Other | 2 374 | 3 886 | 4 459 | 11 297 | 8 957 |
| Waste & scrap | 30 657 | 28 199 | 36 037 | 44 559 | 67 003 |
| Bolivia | | | | | |
| Ores & concentrates (b) | 248 | 1 226 | 1 873 | 1 924 | 2 101 |
| Metal | 362 | 1 370 | 2 380 | 1 677 | 3 156 |
| Chile | | | | | |
| Metal | 17 161 | 32 648 | 15 507 | 37 035 | 68 119 |
| Colombia | | | | | |
| Ore | 215 000 | ... | 296 250 | 435 000 | ... |
| Peru | | | | | |
| Metal | 662 | 66 | 24 | — | 713 |
| China | | | | | |
| Metal (c) | *11 200 | *11 200 | *1 100 | *1 900 | *2 200 |
| Hong Kong | | | | | |
| Metal (a) | 47 959 | 15 815 | 23 333 | 15 112 | 15 874 |
| Waste & scrap (a) | 5 068 | 2 337 | 1 470 | 1 038 | 3 044 |
| Indonesia | | | | | |
| Metal | 1 425 | 19 818 | 21 764 | 19 474 | 9 544 |
| Japan | | | | | |
| Metal | 5 827 | 11 525 | 11 241 | 18 136 | 30 995 |
| Jordan | | | | | |
| Metal (a) | 1 809 | 4 630 | 3 695 | 2 478 | 147 |
| Korea, Dem. P.R. of | | | | | |
| Metal (c) | *4 800 | *7 700 | *7 500 | *1 300 | *2 500 |
| Korea, Republic of | | | | | |
| Metal | 1 413 | 3 395 | 6 551 | 11 282 | 14 373 |
| Malaysia | | | | | |
| Metal | ... | 999 | 1 104 | 893 | ... |
| Waste & scrap | ... | 315 | 431 | 645 | ... |
| Philippines | | | | | |
| Ores & concentrates (b) | 12 273 | 6 596 | 8 529 | 9 181 | 7 515 |
| Singapore | | | | | |
| Metal | 4 129 | 4 555 | 4 624 | 5 176 | 20 127 |
| of which: Re-exports | 793 | 1 536 | 778 | 808 | 2 107 |
| Waste & scrap | 1 280 | 1 749 | 2 213 | 1 697 | 1 326 |
| Taiwan | | | | | |
| Waste & scrap | 19 462 | 197 | 12 339 | 41 621 | 42 830 |
| Australia | | | | | |
| Ores, concentrates & unrefined metal (b) | 2 796 | 1 403 | (d)4 362 | (d)5 800 | (d)8 800 |
| Refined metal | 55 889 | 84 999 | (e)138 353 | (e)168 886 | (e)230 200 |
| Fiji | | | | | |
| Metal | 2 899 | 2 992 | ... | ... | ... |
| New Zealand (g) | | | | | |
| Metal | 116 | 478 | 1 530 | 1 878 | 5 700 |
| Papua New Guinea | | | | | |
| Metal | 37 305 | 35 937 | 38 089 | 31 137 | 34 280 |

Note(s):

(1) In this table the term 'metal' includes both unwrought and partly worked gold and alloys but excludes gold coin

(a) Re-exports

(b) Au content

(c) BGS estimates, based on known imports into certain countries

(d) Excluding unrefined metal

(e) Including unrefined metal

(f) Au content of all ores and concentrates

(g) Years ended 30 June of that stated

Imports of Gold

Gold
kilograms

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|------------|-------------|-------------|-------------|-------------|
| United Kingdom | | | | | |
| Ores & concentrates | 1 930 | 2 879 | 12 892 | 2 031 | 15 913 |
| Metal | | | | | |
| Unrefined | 9 654 | 19 751 | 8 455 | 14 991 | 45 700 |
| Refined | 487 986 | 354 971 | 571 458 | 610 634 | 657 427 |
| Other | 28 075 | 33 060 | 23 709 | 57 616 | 49 219 |
| Waste & scrap | 161 604 | 205 799 | 165 158 | 282 175 | 145 639 |
| Belgium-Luxembourg | | | | | |
| Metal | 53 012 | 45 014 | 53 114 | 22 536 | 26 948 |
| Waste & scrap | £1 805 000 | £1 463 000 | £3 371 000 | £2 147 000 | £1 270 000 |
| Denmark | | | | | |
| Metal | 1 128 | 1 054 | 1 017 | 1 024 | 1 239 |
| Waste & scrap | 597 | 8 211 | 534 | 1 062 | 385 |
| France | | | | | |
| Metal | 51 030 | 92 643 | 134 364 | 124 270 | 199 052 |
| Waste & scrap | 27 107 | 1 548 | 64 789 | 255 308 | 638 516 |
| Germany, Federal Republic of | | | | | |
| Metal | 100 310 | 78 855 | 165 884 | 123 074 | 118 394 |
| Waste & scrap | 187 094 | 158 364 | 783 171 | 286 692 | 360 989 |
| Greece | | | | | |
| Metal | 2 643 | 1 635 | 2 413 | 2 160 | 2 821 |
| Irish Republic | | | | | |
| Metal | £4 128 000 | £4 021 000 | £4 030 000 | £3 320 000 | £3 940 000 |
| Italy | | | | | |
| Metal | 217 097 | 199 393 | 350 224 | 284 821 | 340 478 |
| Netherlands | | | | | |
| Metal | 5 040 | 3 621 | 3 936 | 3 858 | 5 770 |
| Waste & scrap | 10 000 | 7 000 | 1 000 | 1 000 | ... |
| Portugal | | | | | |
| Metal | 649 | 348 | 900 | 2 100 | 6 128 |
| Spain | | | | | |
| Metal | 3 769 | 5 932 | 9 436 | 11 957 | 18 911 |
| Waste & scrap | 2 000 | 25 | 406 | 1 000 | 1 000 |
| Austria | | | | | |
| Metal | 4 522 | 3 105 | 13 459 | 3 482 | 16 646 |
| Finland | | | | | |
| Metal | 756 | 745 | 753 | 1 133 | 962 |
| Malta | | | | | |
| Metal | 2 355 | 3 424 | 1 792 | 720 | ... |
| Norway | | | | | |
| Metal | 753 | 554 | 702 | 566 | 2 363 |
| Waste & scrap | 61 | 175 | 240 | 519 | 423 |
| Sweden | | | | | |
| Metal | £8 364 000 | £12 589 000 | £12 556 000 | £12 897 000 | £15 433 000 |
| Waste & scrap | £295 000 | £511 000 | £454 000 | £337 000 | £304 000 |
| Switzerland | | | | | |
| Metal | 1 195 002 | 909 709 | 968 810 | 1 202 144 | 1 403 258 |
| Waste & scrap | ... | ... | 64 199 | 35 840 | 66 809 |
| Yugoslavia | | | | | |
| Metal | ... | ... | £1 808 000 | £2 969 000 | £3 973 000 |
| Reunion | | | | | |
| Metal | 375 | 217 | 2 973 | 3 500 | ... |
| South Africa | | | | | |
| Metal | 200 | 150 | 184 | 96 | 125 |
| Waste & scrap | — | — | — | 496 | 15 996 |
| Tunisia | | | | | |
| Metal | 290 | 115 | — | 183 | 268 |
| Bermuda | | | | | |
| Metal | ... | 160 | 1 887 | ... | 162 |
| Canada | | | | | |
| Ores & concentrates (e) | 704 | 1 060 | 1 976 | 1 220 | 625 |
| Metal | 115 148 | 59 940 | 51 525 | 52 627 | 47 906 |
| USA | | | | | |
| Ore (c) | 2 288 | 2 259 | 3 976 | 2 427 | 5 625 |
| Metal | | | | | |
| Unrefined (a) | 59 731 | 43 058 | 32 672 | 54 818 | 29 955 |
| Refined | 429 252 | 75 367 | 57 597 | 96 967 | 64 755 |

Gold

Imports of Gold

kilograms

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|---------------------|--------------|--------------|-------------|-------------|--------------|
| Brazil | | | | | |
| Metal | 58 | 61 | 4 | 197 | 1 117 |
| Brunei | | | | | |
| Metal | 673 | 183 | ... | ... | ... |
| China | | | | | |
| Metal (d) | *650 | *2 700 | *9 900 | *5 500 | *4 900 |
| Cyprus | | | | | |
| Metal | 1 480 | 1 555 | ... | 2 892 | 2 481 |
| Hong Kong | | | | | |
| Metal | 51 259 | 157 268 | 464 257 | 439 173 | 180 779 |
| Waste & scrap | 61 | 459 | 287 | 609 | 327 |
| Indonesia | | | | | |
| Metal | 20 | — | 2 | 6 | 392 |
| Israel | | | | | |
| Metal | £104 863 000 | £100 356 000 | £47 904 000 | £57 098 000 | ... |
| Japan | | | | | |
| Metal | 607 830 | 239 217 | 293 784 | 284 272 | 302 938 |
| Waste & scrap | 1 666 | 1 821 | 2 246 | 2 260 | 1 926 |
| Jordan | | | | | |
| Metal | 3 647 | 1 042 | 3 304 | 1 527 | 1 201 |
| Korea, Republic of | | | | | |
| Ores & concentrates | 4 783 444 | 4 007 468 | 417 259 | 5 292 311 | 354 692 |
| Metal | 5 895 | 24 467 | 7 396 | 13 755 | 20 407 |
| Macao | | | | | |
| Metal | 17 | 93 | 1 680 | 1 927 | ... |
| Malaysia | | | | | |
| Metal | 7 507 | 6 324 | 22 592 | 71 274 | ... |
| Philippines | | | | | |
| Metal | 298 | 103 | 117 | 133 | 433 |
| Saudi Arabia | | | | | |
| Metal | 3 458 | 13 534 | 13 400 | 70 299 | ... |
| Singapore | | | | | |
| Metal | 3 878 | 4 850 | 6 466 | 7 817 | 11 811 |
| Waste & scrap | 561 | 800 | 398 | 411 | 467 |
| Taiwan | | | | | |
| Metal | 27 565 | 87 575 | 362 686 | 156 605 | 101 167 |
| Thailand | | | | | |
| Metal | 4 063 | 6 648 | 11 211 | 16 375 | 51 536 |
| Australia | | | | | |
| Metal (b) | £51 792 000 | £59 838 000 | £34 464 000 | £72 777 000 | £124 416 000 |
| New Zealand (b) | | | | | |
| Metal | 549 | 141 | 51 | 388 | 2 704 |

Note(s):

(1) In this table the term 'metal' includes both unwrought and partly worked gold and alloys but excludes gold coin

(a) Including waste and scrap

(b) Years ended 30 June of that stated

(c) Au content

(d) BGS estimates, based on known exports from certain countries

(e) Au content of all ores and concentrates

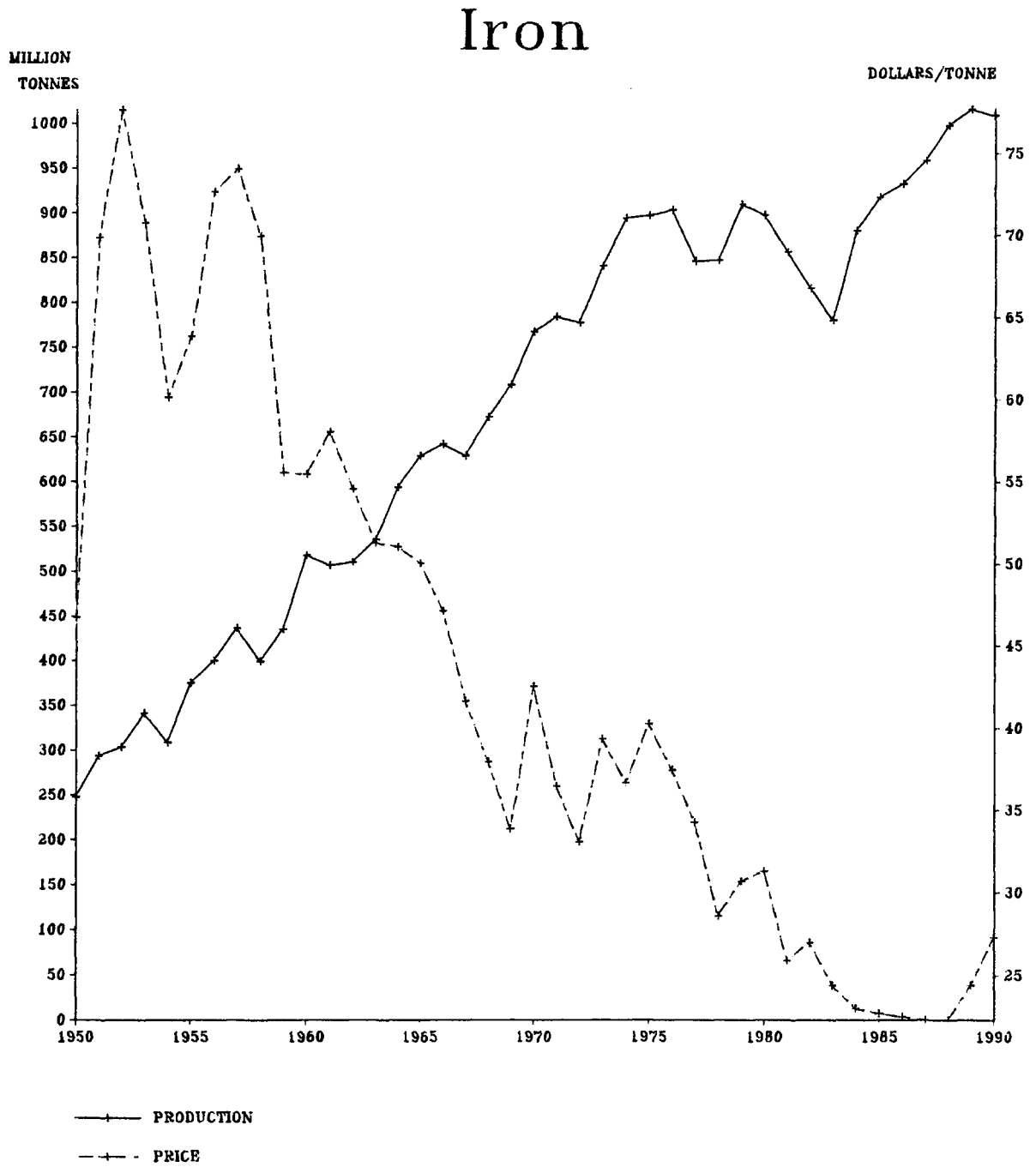


Figure 9 World production of iron ore compared with the yearly average price of Brazilian ore (64.5% Fe) f.o.b. North Sea ports, expressed in constant 1985 US dollars.

Production of Iron Ore

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------------------|-------------|-------------|-------------|---------------|---------------|
| United Kingdom | 289 000 | 262 700 | 224 100 | 34 300 | 55 400 |
| France | 12 436 000 | 11 225 000 | 9 869 000 | 9 187 000 | 8 720 000 |
| Germany, Federal Republic of (f) | 717 000 | 247 300 | 70 000 | 102 000 | 84 000 |
| Portugal (f) | 54 700 | 27 250 | 23 300 | 13 170 | 13 360 |
| Spain | 6 053 932 | 4 499 599 | 4 212 276 | 4 563 300 | 3 030 000 |
| Albania (b) | *1 150 000 | *1 200 000 | *1 200 000 | *1 200 000 | ... |
| Austria | 3 120 000 | 3 050 000 | 2 300 000 | 2 410 000 | 2 300 000 |
| Bulgaria | 2 179 000 | 1 850 000 | 1 826 000 | 1 613 000 | 1 079 293 |
| Czechoslovakia | 1 784 000 | 1 798 000 | 1 773 000 | 1 780 000 | 1 831 000 |
| Finland | 643 000 | 648 000 | 555 550 | 35 170 | 69 014 |
| Norway | 3 618 239 | 3 114 569 | 2 600 248 | 2 322 776 | 2 080 564 |
| Poland | 8 800 | 6 300 | 6 300 | 7 400 | *5 000 |
| Romania | 2 431 000 | 2 281 000 | 2 252 000 | 2 482 385 | 1 203 000 |
| Soviet Union | 250 000 000 | 251 000 000 | 250 000 000 | 241 000 000 | 236 000 000 |
| Sweden | 30 490 000 | 29 294 000 | 39 108 650 | 40 970 082 | *37 900 000 |
| Turkey | 5 248 789 | 5 365 794 | 5 480 916 | 4 518 174 | 4 924 874 |
| Yugoslavia | 6 618 122 | 5 983 000 | 5 545 155 | 5 079 691 | 4 132 000 |
| Algeria | 3 360 000 | 3 382 000 | 3 118 000 | 2 748 300 | 2 939 000 |
| Egypt | 1 998 813 | 2 047 578 | 2 112 026 | 2 562 351 | 2 405 000 |
| Liberia | 14 233 000 | 13 210 000 | 12 767 000 | 7 007 121 | 3 981 000 |
| Mauritania | 7 200 000 | 9 100 000 | 9 530 000 | 11 950 000 | 11 550 000 |
| Morocco | 195 600 | 279 378 | 156 416 | 158 780 | 50 000 |
| South Africa (c) | 24 482 538 | 22 008 032 | 25 247 678 | 29 958 256 | 30 290 945 |
| Tunisia | 310 000 | 295 000 | 325 117 | 279 994 | 290 708 |
| Zimbabwe | 1 115 000 | 1 328 393 | 1 020 900 | 1 142 995 | 1 258 582 |
| Canada (g) | 36 166 884 | 36 980 000 | 40 353 000 | 40 509 000 | 35 357 000 |
| Cuba (h) | 20 000 | 168 500 | 144 400 | 171 400 | ... |
| Mexico | 7 299 100 | 7 522 900 | 8 431 000 | 8 141 000 | 9 385 000 |
| USA | 39 486 000 | 47 648 000 | 57 515 000 | 59 032 000 | 56 408 000 |
| Argentina | 809 525 | 567 047 | 673 707 | 635 389 | *800 000 |
| Brazil (a) | 129 376 538 | 134 493 672 | 146 004 330 | 153 742 600 | 154 050 000 |
| Chile | 7 008 975 | 6 690 168 | 7 865 712 | 8 760 684 | 8 247 908 |
| Colombia | 523 082 | 610 521 | 614 727 | 567 353 | 628 257 |
| Peru | 5 025 998 | 5 100 017 | 4 158 132 | 4 490 237 | 3 308 249 |
| Venezuela | 16 753 406 | 17 782 079 | 18 931 793 | 18 398 000 | 20 365 844 |
| China | 149 450 000 | 161 430 000 | 167 700 000 | 171 854 000 | 179 344 000 |
| India | 51 610 000 | 49 411 000 | 49 961 000 | 51 434 000 | 53 700 000 |
| Indonesia (d) | 153 271 | 193 986 | 202 778 | 142 654 | 142 143 |
| Iran (e) | *2 800 000 | 3 000 000 | 4 300 000 | 5 600 000 | 5 500 000 |
| Japan | 289 731 | 263 367 | 99 418 | 41 425 | 34 092 |
| Korea, Dem. P.R. of | *8 000 000 | *8 000 000 | *9 500 000 | *9 500 000 | *9 500 000 |
| Korea, Republic of | 582 300 | 469 500 | 390 000 | 344 000 | 298 297 |
| Malaysia | 207 963 | 161 287 | 128 654 | 105 773 | 293 186 |
| Thailand | 37 330 | 97 026 | 99 257 | 177 373 | 128 626 |
| Australia | 94 014 818 | 101 747 638 | 96 064 000 | 105 810 000 | 110 508 000 |
| New Zealand (d) | 2 601 345 | 2 294 370 | 2 351 593 | 2 366 635 | 2 296 153 |
| World total | 932 000 000 | 958 000 000 | 997 000 000 | 1 015 000 000 | 1 008 000 000 |

Note(s):

(1) In addition to the countries listed, Vietnam is believed to produce iron ore

(a) Including beneficiated and direct shipping ore

(b) Nickeliferous iron ore

(c) Including by-product magnetite

(d) Including iron sand

(e) Years ended 20 March following that stated

(f) Including manganiferous iron ore

(g) Including by-product iron ore

(h) From nickel plant waste

Iron Ore

Exports of Iron Ore

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|------------|------------|-------------|-------------|-------------|
| United Kingdom | 1 008 | 1 225 | 2 108 | 1 528 | 2 442 |
| Belgium-Luxembourg | | | | | |
| Iron ore | 1 057 | 2 771 | 6 960 | 11 373 | 15 790 |
| Burnt pyrites | 149 601 | 190 202 | 186 342 | 95 257 | 101 117 |
| Denmark | | | | | |
| Iron ore | 4 870 | 2 541 | 1 814 | 1 678 | 4 265 |
| Burnt pyrites | 598 | 2 727 | 2 283 | 1 969 | — |
| France | 4 168 509 | 3 739 520 | 3 646 269 | 3 461 892 | 3 280 365 |
| Germany, Federal Republic of | | | | | |
| Iron ore | 4 591 | 5 808 | 20 202 | 6 853 | 18 752 |
| Burnt pyrites | 16 581 | 19 028 | 17 526 | 29 290 | 18 883 |
| Italy | | | | | |
| Iron ore | 2 520 | 382 | 297 | 535 | 375 |
| Burnt pyrites | 43 209 | 45 296 | 21 073 | 38 469 | 27 897 |
| Netherlands (b) | 47 741 | 105 180 | 222 890 | 127 896 | 82 842 |
| Spain | | | | | |
| Iron ore | 1 790 541 | 1 991 261 | 2 037 453 | 1 768 432 | 1 632 737 |
| Burnt pyrites | 4 889 | 20 303 | 30 658 | 36 358 | 70 961 |
| Norway | | | | | |
| Iron ore | 2 532 249 | 2 530 392 | 1 757 308 | 1 987 150 | 2 112 730 |
| Burnt pyrites | 33 109 | 28 230 | 36 385 | 31 807 | 36 845 |
| Soviet Union | 46 948 000 | 45 433 000 | 43 063 000 | 40 788 000 | 36 300 000 |
| Sweden | 17 219 000 | 16 762 000 | 17 626 000 | 17 473 000 | 16 398 000 |
| Yugoslavia | | | | | |
| Burnt pyrites | 29 143 | 67 714 | 62 528 | 46 518 | 73 120 |
| Algeria | 48 000 | 60 591 | 22 000 | 20 000 | 18 000 |
| Liberia | 14 383 060 | 13 510 130 | 13 779 000 | 12 747 000 | 3 887 000 |
| Mauritania | 8 929 000 | 9 002 000 | 10 004 000 | 11 138 000 | 11 356 000 |
| Morocco | | | | | |
| Iron ore | 337 | ... | 84 484 | 86 909 | 63 266 |
| Burnt pyrites | 119 701 | 108 181 | — | — | — |
| South Africa | 8 850 166 | 8 802 068 | 11 502 939 | 14 565 744 | 17 028 950 |
| Tunisia | 3 025 | 2 933 | 4 429 | 5 693 | 3 771 |
| Canada | 31 030 016 | 29 679 324 | 30 523 425 | 30 222 343 | 27 100 472 |
| USA (b) | 4 553 414 | 5 094 233 | 5 289 090 | 5 351 255 | 3 199 348 |
| Bolivia | 10 586 | — | 14 620 | 45 180 | 61 000 |
| Brazil | 91 134 817 | 95 331 958 | 112 814 864 | 118 472 323 | 113 496 703 |
| Chile | 4 650 488 | 5 384 125 | 6 681 784 | 7 017 429 | 6 909 717 |
| Peru | 4 209 247 | 4 428 860 | 4 560 643 | 4 047 700 | 3 305 201 |
| Venezuela | 10 026 746 | 11 699 908 | 12 289 357 | 14 434 960 | 13 620 000 |
| India (c) | 28 224 843 | 29 409 552 | 33 040 098 | 33 479 000 | 32 492 902 |
| Malaysia | 34 797 | 1 849 | 1 429 | 2 003 | 10 559 |
| Philippines | | | | | |
| Iron ore | 3 603 981 | 4 016 908 | 4 873 530 | 4 352 282 | 4 300 000 |
| Burnt pyrites | 7 917 | 10 408 | 10 298 | 114 | 32 214 |
| Australia | 79 677 812 | 78 257 560 | 94 855 000 | 104 480 000 | 96 156 000 |
| New Zealand (a) | 2 408 027 | 1 790 950 | 1 831 806 | 1 236 274 | 1 223 284 |

(a) Years ended 30 June of that stated

(b) Including burnt pyrites

(c) Years ended 31 March following that stated

Imports of Iron Ore

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------------------|---------------|---------------|---------------|-------------|-------------|
| United Kingdom | | | | | |
| Iron ore | 14 557 610 | 18 027 959 | 17 718 174 | 19 179 227 | 14 700 130 |
| Burnt pyrites | 249 267 | 168 170 | 216 312 | 283 826 | 235 746 |
| Belgium-Luxembourg | | | | | |
| Iron ore | 18 056 269 | 18 385 542 | 20 795 613 | 19 787 055 | 20 277 528 |
| Burnt pyrites | 52 264 | 59 736 | 55 473 | 60 198 | 70 935 |
| Denmark | | | | | |
| Iron ore | 3 391 | 7 657 | 2 670 | 6 311 | 2 733 |
| Burnt pyrites | 28 981 | 28 690 | 21 820 | 26 996 | 26 438 |
| France | | | | | |
| Iron ore | 16 190 547 | 15 055 320 | 18 738 262 | 19 907 292 | 18 692 622 |
| Burnt pyrites | 47 390 | 61 121 | 74 272 | 100 876 | 103 193 |
| Germany, Federal Republic of | | | | | |
| Iron ore | 41 632 480 | 39 583 086 | 45 169 473 | 47 170 629 | 43 729 850 |
| Burnt pyrites | 31 966 | 34 424 | 102 327 | 112 264 | 160 483 |
| Greece | | | | | |
| Burnt pyrites | — | 16 397 | 9 732 | 14 436 | 18 134 |
| Italy (a) | 17 600 602 | 16 522 832 | 16 413 191 | 18 324 063 | 17 202 319 |
| Netherlands (a) | 7 066 463 | 7 049 135 | 7 561 586 | 8 165 012 | 8 313 443 |
| Portugal | 542 935 | 764 088 | 477 569 | 688 421 | 449 480 |
| Spain | 4 286 832 | 5 766 867 | 5 555 921 | 6 935 369 | 6 704 810 |
| Albania (d) | *3 700 | *27 400 | *14 300 | *34 800 | *7 300 |
| Austria | | | | | |
| Iron ore | 3 201 141 | 3 310 712 | 4 164 338 | 4 192 117 | 3 891 887 |
| Burnt pyrites | 12 776 | 27 441 | 11 467 | 12 144 | 16 249 |
| Bulgaria | 2 248 384 | 2 308 000 | 2 112 000 | 1 922 000 | 1 964 000 |
| Czechoslovakia | 11 264 000 | 10 366 000 | 10 058 000 | 9 765 000 | 10 123 000 |
| Finland | 1 986 999 | 2 261 376 | 2 336 526 | 3 015 823 | 3 058 362 |
| German Democratic Republic (b) | 2 598 000 | 2 525 000 | 2 375 000 | 2 343 000 | *1 500 000 |
| Hungary | 3 414 036 | 3 403 301 | 2 326 326 | 2 250 759 | 1 691 551 |
| Iceland | 24 862 | 17 163 | 22 682 | 16 818 | 18 000 |
| Norway | 17 715 | 20 637 | 193 657 | 23 398 | 12 296 |
| Poland | 16 644 000 | 17 116 000 | 16 643 000 | 13 441 000 | 12 006 000 |
| Romania | 16 417 000 | 16 410 000 | 13 900 000 | 13 626 000 | 11 341 000 |
| Sweden | 68 000 | 70 000 | 129 000 | 255 000 | 268 000 |
| Switzerland (a) | 11 240 | 8 860 | 12 551 | 10 890 | 14 130 |
| Turkey | 2 525 965 | 1 891 532 | 1 798 326 | 2 525 097 | 1 972 000 |
| Yugoslavia | 1 360 490 | 1 094 588 | 1 485 638 | 2 307 006 | 1 285 196 |
| Egypt | 67 425 | 538 931 | 862 602 | ... | ... |
| Nigeria (a) | 340 758 | 6 104 | 143 000 | 180 000 | *200 000 |
| Tunisia | 70 689 | 63 066 | 46 511 | 88 202 | 66 619 |
| Canada | 5 367 245 | 5 212 743 | 4 791 064 | 5 367 879 | 4 112 971 |
| Mexico | 208 617 | 44 872 | 484 449 | 153 639 | 1 674 |
| Trinidad & Tobago | 400 061 | 614 986 | 473 870 | 1 337 544 | 944 411 |
| USA | | | | | |
| Iron ore | (a)17 017 575 | (a)16 867 561 | (a)20 126 541 | 19 476 815 | 18 081 620 |
| Burnt pyrites | ... | ... | ... | 120 505 | 8 |
| Argentina | 3 182 519 | 3 342 227 | 3 259 581 | 3 815 906 | 3 245 000 |
| Abu Dhabi | 37 073 | 21 000 | 40 | ... | 20 956 |
| China | 13 720 000 | 10 828 812 | 10 540 959 | 12 251 557 | 14 342 625 |
| Dubai | 14 650 | ... | ... | ... | ... |
| Indonesia | | | | | |
| Iron ore | 754 | 90 | 128 | 273 338 | 158 996 |
| Burnt pyrites | 1 668 893 | 961 471 | 766 433 | 1 492 461 | 1 779 175 |
| Japan | 115 233 834 | 112 034 416 | 123 376 880 | 127 709 237 | 125 290 037 |
| Korea, Republic of | | | | | |
| Iron ore | 11 941 199 | 18 011 094 | 20 227 910 | 21 685 214 | 21 153 918 |
| Burnt pyrites | — | 9 831 | — | — | 29 167 |
| Malaysia | 1 026 495 | 819 111 | 449 461 | 912 163 | *800 000 |
| Pakistan (c) | 1 311 662 | 1 217 042 | 1 344 432 | *1 200 000 | 1 308 249 |
| Philippines | 2 746 302 | 3 790 544 | 3 055 329 | 3 847 004 | 3 665 202 |

Iron Ore

Imports of Iron Ore

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|---------------|-----------|-----------|-----------|-----------|------------|
| Qatar | 722 454 | 613 705 | ... | 792 218 | 863 511 |
| Saudi Arabia | 1 384 625 | 1 479 835 | 1 245 122 | 1 651 680 | *1 700 000 |
| Singapore | 10 167 | 1 140 | 443 | 1 036 | 4 566 |
| Taiwan | | | | | |
| Iron ore | 5 358 016 | 6 140 854 | 8 477 333 | 8 370 538 | 7 761 819 |
| Burnt pyrites | 9 460 | 3 | — | 8 | 2 |
| Australia | 59 174 | 42 156 | 468 728 | 1 844 000 | 2 760 000 |

- (a) Including burnt pyrites
- (b) Fe content of concentrates
- (c) Years ended 30 June of that stated
- (d) BGS estimates, based on known exports from certain countries

Production of Pig Iron

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|-------------|-------------|-------------|-------------|-------------|
| United Kingdom | 9 685 500 | 12 017 400 | 13 055 900 | 12 637 800 | 12 319 200 |
| Belgium | 8 048 000 | 8 243 000 | 9 147 000 | 8 863 000 | 9 417 000 |
| France | 13 709 000 | 13 153 000 | 13 726 000 | 13 900 000 | 14 095 000 |
| Germany, Federal Republic of | 28 593 000 | 28 116 000 | 31 890 000 | 32 112 000 | 29 585 000 |
| Italy | 11 916 398 | 11 334 904 | 11 348 608 | 11 761 396 | 11 852 303 |
| Luxembourg | 2 649 700 | 2 305 100 | 2 519 200 | 2 683 800 | 2 685 200 |
| Netherlands | 4 628 200 | 4 574 700 | 4 993 800 | 5 163 100 | 4 959 900 |
| Portugal | 423 181 | 430 860 | 444 900 | 377 000 | 339 000 |
| Spain | 4 865 000 | 4 804 125 | 4 690 581 | 5 535 000 | 5 482 000 |
| Austria | 3 348 600 | 3 450 714 | 3 664 805 | 3 822 549 | 3 452 333 |
| Bulgaria | 1 606 287 | 1 657 647 | 1 483 000 | 1 499 000 | 1 142 607 |
| Czechoslovakia | 9 573 000 | 9 788 000 | 9 706 000 | 9 911 000 | 9 667 000 |
| Finland | 1 977 641 | 2 063 326 | 2 173 328 | 2 284 000 | 2 283 000 |
| German Democratic Republic | 2 737 600 | 2 754 500 | 2 786 000 | 2 732 400 | 2 163 000 |
| Hungary | 2 054 347 | 2 107 000 | 2 093 000 | 1 954 000 | 1 697 000 |
| Norway | 560 743 | 377 671 | 390 751 | 240 350 | — |
| Poland | 10 478 000 | 10 476 000 | 9 929 000 | 9 488 000 | 8 352 000 |
| Romania | 9 329 000 | 8 673 000 | 8 941 000 | 9 052 000 | 6 355 000 |
| Soviet Union | 113 840 000 | 113 877 000 | 114 558 000 | 114 000 000 | 110 167 000 |
| Sweden | 2 627 553 | 2 574 033 | 2 683 122 | 2 817 933 | 2 736 000 |
| Switzerland | 79 000 | 70 000 | 70 000 | 70 000 | *70 000 |
| Turkey | 3 926 128 | 4 437 873 | 4 916 000 | 3 931 000 | 4 827 000 |
| Yugoslavia | 3 063 000 | 2 868 000 | 2 916 000 | 2 899 000 | 2 313 000 |
| Algeria | 1 246 000 | 1 477 500 | 1 500 000 | 1 301 000 | 1 036 500 |
| Egypt | 112 705 | 146 764 | 131 598 | 112 410 | 108 024 |
| Nigeria | 108 638 | 130 772 | 140 000 | 130 000 | 112 000 |
| South Africa | 5 774 000 | 6 317 000 | 6 171 000 | 6 543 000 | 6 257 000 |
| Tunisia | 144 600 | 161 700 | 132 300 | 154 400 | 146 000 |
| Zimbabwe | 643 735 | 556 624 | 545 000 | 520 000 | 521 131 |
| Canada | 9 248 530 | 9 719 289 | 9 498 264 | 10 138 904 | 7 346 127 |
| Mexico | 5 157 884 | 5 262 520 | 5 364 271 | 5 393 487 | 6 189 919 |
| Trinidad & Tobago | 337 200 | 441 200 | 548 000 | 674 800 | 681 600 |
| USA | 40 176 000 | 43 824 000 | 50 571 000 | 50 687 000 | 49 668 000 |
| Argentina | 2 557 900 | 2 785 326 | 2 662 700 | 3 336 325 | 2 967 771 |
| Brazil | 20 555 073 | 21 145 872 | 23 649 551 | 24 620 700 | 21 401 000 |
| Chile | 591 208 | 616 757 | 775 961 | 678 623 | 675 406 |
| Colombia | 319 797 | 329 387 | 309 040 | 297 346 | 322 900 |
| Paraguay | — | 50 278 | 62 724 | 61 364 | 57 600 |
| Peru | 271 912 | 235 581 | 214 329 | 254 482 | 155 400 |
| Venezuela | 3 430 915 | 3 624 899 | 3 194 734 | 2 901 458 | 3 399 700 |
| China | 50 640 000 | 55 030 000 | 57 040 000 | 58 200 000 | 62 380 000 |
| India | 10 566 000 | 10 893 000 | 11 735 000 | 12 080 000 | 12 645 000 |
| Iran (a) | 250 000 | 250 000 | 250 000 | *250 000 | *250 000 |
| Japan | 74 651 000 | 73 418 000 | 79 295 000 | 80 197 000 | 80 144 351 |
| Korea, Dem. P.R. of | *5 800 000 | *5 900 000 | *5 900 000 | *5 900 000 | *5 900 000 |
| Korea, Republic of | 9 016 679 | 10 868 949 | 12 577 754 | 14 948 751 | 15 333 742 |
| Pakistan | 895 437 | 903 000 | 926 488 | 910 000 | *910 000 |
| Taiwan | 197 536 | 87 179 | 25 092 | 29 904 | 59 570 |
| Australia | 5 889 000 | 5 569 000 | 5 730 000 | 6 094 000 | 6 125 000 |
| World total | 498 300 000 | 509 900 000 | 537 100 000 | 544 100 000 | 530 700 000 |

Note(s):

(1) The data in this table include sponge iron and direct reduced iron (DRI), where these have been separately identified

(a) Years ended 20 March following that stated

Production of Steel Ingots and Castings

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|-------------|-------------|-------------|-------------|-------------|
| United Kingdom | 14 725 000 | 17 413 700 | 18 950 000 | 18 740 000 | 17 840 700 |
| Belgium | 9 767 551 | 9 786 422 | 11 220 797 | 10 952 815 | 11 419 219 |
| Denmark | 632 000 | 606 000 | 650 000 | 624 000 | 610 000 |
| France | 17 865 000 | 17 693 000 | 19 122 000 | 19 335 000 | 19 015 000 |
| Germany, Federal Republic of | 37 533 000 | 36 577 000 | 41 023 000 | 41 073 000 | 38 434 000 |
| Greece | 1 010 000 | 907 000 | 959 000 | 957 000 | 999 000 |
| Irish Republic | 208 000 | 220 000 | 271 000 | 324 000 | 330 000 |
| Italy | 22 881 951 | 22 858 742 | 23 760 369 | 25 212 942 | 25 467 000 |
| Luxembourg | 3 705 300 | 3 301 860 | 3 660 890 | 3 720 920 | 3 560 290 |
| Netherlands | 5 283 000 | 5 082 100 | 5 517 900 | 5 680 600 | 5 411 800 |
| Portugal | 738 082 | 749 171 | 812 000 | 762 000 | 699 000 |
| Spain | 11 882 000 | 11 691 441 | 11 886 000 | 12 765 000 | 12 935 000 |
| Austria | 4 291 895 | 4 301 165 | 4 560 072 | 4 717 595 | 4 241 448 |
| Bulgaria | 2 965 248 | 3 045 000 | 2 875 000 | 2 899 000 | 2 184 453 |
| Czechoslovakia | 15 112 000 | 15 356 000 | 15 379 000 | 15 465 000 | 14 877 000 |
| Finland | 1 700 729 | 1 765 872 | 1 802 900 | 1 877 641 | 1 899 130 |
| German Democratic Republic | 7 967 200 | 8 242 700 | 8 131 200 | 7 828 800 | 5 546 000 |
| Hungary | 3 713 000 | 3 621 000 | 3 583 000 | 3 356 000 | 2 963 000 |
| Norway | 836 747 | 848 623 | 897 441 | 685 241 | 376 416 |
| Poland | 17 144 000 | 17 145 000 | 16 873 000 | 15 094 000 | 13 633 000 |
| Romania | 14 276 000 | 13 885 000 | 14 314 000 | 14 415 000 | 10 356 000 |
| Soviet Union | 160 550 000 | 161 887 000 | 163 037 000 | 160 096 000 | 154 414 000 |
| Sweden | 4 710 000 | 4 703 000 | 4 779 000 | 4 697 000 | 4 454 000 |
| Switzerland | 1 075 000 | 866 000 | 988 000 | 1 064 000 | 1 105 000 |
| Turkey | 5 946 682 | 6 999 709 | 8 009 073 | 7 854 000 | 9 322 000 |
| Yugoslavia | 4 519 331 | 4 366 087 | 4 487 156 | 4 500 111 | 3 608 000 |
| Algeria | 1 120 000 | 1 378 000 | 1 301 000 | 943 000 | 767 000 |
| Angola | *10 000 | *10 000 | *10 000 | *10 000 | ... |
| Egypt | 1 013 000 | 1 433 000 | 2 025 000 | 2 114 000 | 2 235 000 |
| Nigeria | 134 067 | 136 552 | 139 344 | *120 000 | *130 000 |
| South Africa | 8 895 000 | 8 693 000 | 8 522 000 | 8 973 000 | 8 619 000 |
| Tunisia | 181 400 | 188 200 | 158 600 | 176 000 | 176 800 |
| Zimbabwe | 679 989 | 615 507 | 598 000 | 569 000 | 580 318 |
| Canada | 14 081 405 | 14 737 047 | 14 865 714 | 15 458 139 | 12 280 736 |
| Cuba | 411 500 | 401 500 | 320 500 | 314 200 | 270 000 |
| Dominican Republic | 100 043 | 87 800 | 75 327 | 55 000 | ... |
| Mexico | 7 225 118 | 7 642 259 | 7 778 655 | 7 850 822 | 8 725 613 |
| Trinidad & Tobago | 327 000 | 375 600 | 361 200 | 340 100 | 364 500 |
| USA | 74 032 000 | 80 876 000 | 90 650 000 | 88 852 000 | 89 726 000 |
| Argentina | 3 235 211 | 3 632 800 | 3 623 546 | 3 882 758 | 3 635 635 |
| Brazil | 21 233 346 | 22 227 856 | 24 656 918 | 25 055 100 | 20 566 600 |
| Chile | 706 217 | 726 149 | 908 900 | 799 681 | 771 300 |
| Colombia | 631 989 | 689 498 | 712 274 | 711 368 | 701 200 |
| Paraguay | — | 13 167 | 62 273 | 54 679 | 48 000 |
| Peru | 486 201 | 495 516 | 429 689 | 363 881 | 270 000 |
| Uruguay | 30 987 | 30 428 | 29 971 | 37 150 | 38 000 |
| Venezuela | 3 402 262 | 3 297 499 | 3 165 192 | 2 941 824 | 2 998 000 |
| Bangladesh (b) | 95 514 | 82 081 | 70 036 | 86 274 | 75 029 |
| China | 52 200 000 | 56 280 000 | 59 430 000 | 61 587 000 | 66 350 000 |
| Hong Kong | *120 000 | *120 000 | *120 000 | *150 000 | *150 000 |
| India | 11 332 000 | 11 984 000 | 12 682 000 | 12 542 000 | *12 800 000 |
| Indonesia | 1 729 000 | 2 059 000 | 2 054 000 | 2 383 000 | 2 892 000 |
| Iran | 850 000 | 875 000 | 978 000 | 1 081 000 | 1 425 000 |
| Israel | 110 000 | 116 000 | 99 000 | 100 000 | 135 000 |
| Japan | 98 275 000 | 98 513 000 | 105 681 000 | 107 908 000 | 110 331 331 |
| Jordan | *136 000 | 217 000 | *200 000 | 176 500 | ... |
| Korea, Dem. P.R. of | *6 600 000 | *6 730 000 | *6 830 000 | *6 930 000 | *7 000 000 |
| Korea, Republic of | 14 501 548 | 16 782 000 | 19 118 000 | 21 873 000 | 23 125 000 |
| Malaysia | *450 000 | *680 000 | *925 000 | *1 125 000 | *1 200 000 |
| Pakistan | 752 000 | 828 000 | *1 200 000 | *1 200 000 | *1 200 000 |
| Philippines | *400 000 | *450 000 | *500 000 | *550 000 | *600 000 |
| Qatar | 507 000 | 491 000 | 527 000 | 563 000 | 572 000 |
| Saudi Arabia | 1 100 000 | 1 365 000 | 1 614 000 | 1 768 000 | 1 790 000 |
| Singapore | 390 000 | 441 000 | 432 000 | 495 000 | 489 000 |
| Syria | *70 000 | *70 000 | *70 000 | *70 000 | *70 000 |

Production of Steel Ingots and Castings

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|---------------|-------------|-------------|-------------|-------------|-------------|
| Taiwan | 5 545 000 | 5 915 000 | 8 288 000 | 9 047 000 | 9 747 000 |
| Thailand | 463 000 | 534 172 | 552 000 | 689 421 | 684 678 |
| Vietnam | 64 400 | 69 500 | 74 100 | *75 000 | ... |
| Australia (a) | 6 703 000 | 6 125 000 | 6 399 000 | 6 735 000 | 6 666 000 |
| New Zealand | 291 063 | 315 000 | 538 000 | 718 000 | 791 000 |
| World total | 712 000 000 | 733 000 000 | 776 000 000 | 782 000 000 | 767 000 000 |

Note(s):

(1) The figures in this table refer to crude steel and cast semi-manufactures are not included

(a) Including recovery from scrap

(b) Years ended 30 June of that stated

Production of Ferro-alloys

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--|---------|---------|----------|---------|----------|
| United Kingdom | | | | | |
| Ferro-manganese | 99 500 | 92 400 | 107 300 | 142 700 | 143 400 |
| Belgium | | | | | |
| Ferro-manganese | *87 000 | *90 000 | *95 000 | *95 000 | *90 000 |
| France | | | | | |
| Blast furnace ferro-alloys | | | | | |
| Spiegeleisen & ferro-manganese | 273 602 | 295 821 | 323 945 | 346 295 | 319 930 |
| Electric furnace ferro-alloys (h) | | | | | |
| Ferro-chrome & ferro-silico-chrome | 161 | 55 | 12 000 | 17 000 | 25 000 |
| Ferro-silico-manganese | 16 723 | 18 441 | *60 000 | 67 000 | 62 000 |
| Ferro-silicon | 195 913 | 154 659 | *196 000 | 125 390 | 117 490 |
| Ferro-titanium & Fe-W,Fe-Mo,Fe-V (a) | 2 414 | 611 | (c)... | 2 600 | 4 300 |
| Other ferro-alloys | 84 752 | 57 446 | *60 000 | *42 500 | *23 200 |
| Silicon metal | 71 557 | *70 000 | 70 000 | 72 000 | 63 500 |
| Germany, Federal Republic of | | | | | |
| Blast furnace ferro-alloys | | | | | |
| Spiegeleisen & ferro-manganese (g) | 256 000 | 196 000 | 274 000 | 305 000 | *300 000 |
| Electric furnace ferro-alloys | | | | | |
| Ferro-chrome | *60 000 | *50 000 | *60 000 | *65 000 | *55 000 |
| Ferro-manganese & ferro-silico-manganese | *35 000 | *25 000 | *35 000 | *45 000 | *35 000 |
| Ferro-silicon | *50 000 | *40 000 | *50 000 | *55 000 | *45 000 |
| Other ferro-alloys | *61 000 | *57 000 | *62 000 | *66 000 | *56 000 |
| Greece | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-chrome | 38 259 | 43 287 | 44 147 | 43 579 | *45 000 |
| Ferro-nickel | 39 700 | 35 400 | 50 500 | 41 200 | *60 500 |
| Italy | | | | | |
| Blast furnace ferro-alloys | | | | | |
| Spiegeleisen | 1 151 | 491 | 251 | — | — |
| Ferro-manganese | 48 002 | 19 469 | 27 169 | 26 738 | 30 842 |
| Electric furnace ferro-alloys | | | | | |
| Ferro-chrome | 55 939 | 59 045 | 77 123 | 81 331 | 53 000 |
| Ferro-manganese | 11 653 | 17 067 | 12 280 | 14 220 | 11 000 |
| Ferro-silico-manganese | 66 083 | 75 192 | 66 959 | 46 868 | 84 000 |
| Ferro-silicon | 62 799 | 47 075 | 51 131 | 65 171 | 40 000 |
| Ferro-titanium & ferro-silico-titanium | 2 508 | 2 861 | 2 636 | 1 653 | 2 000 |
| Calcium silicide | 11 514 | 17 097 | 15 047 | 11 153 | 14 000 |
| Silicon metal | 18 904 | 16 500 | *18 000 | *19 000 | 13 000 |
| Portugal | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-manganese | *20 000 | *17 000 | *10 000 | 13 170 | *12 000 |
| Ferro-silico-manganese | *10 000 | *8 000 | *5 000 | ... | ... |
| Ferro-silicon | *5 000 | *2 000 | ... | ... | ... |
| Ferro-tungsten | 24 | — | — | — | ... |
| Silicon metal | *7 000 | *3 000 | *2 500 | ... | ... |
| Spain | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-chrome | *14 000 | *16 000 | *15 000 | *16 000 | *15 100 |
| Ferro-manganese | *45 000 | *50 000 | *48 000 | *50 000 | *52 220 |
| Ferro-silico-manganese | *35 000 | *35 000 | *38 000 | *40 000 | *38 440 |
| Ferro-silicon | *35 000 | *40 000 | *36 000 | *38 000 | *37 500 |
| Other ferro-alloys | *3 000 | *5 000 | *5 000 | *5 000 | *5 000 |
| Silicon metal | 11 000 | 11 800 | 10 700 | 11 500 | *9 000 |
| Albania | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-chrome | *46 000 | *46 000 | 38 700 | 38 800 | 24 000 |
| Austria | | | | | |
| Electric furnace ferro-alloys | 12 000 | 15 000 | 20 000 | 15 000 | *12 000 |
| Bulgaria | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-manganese & ferro-silico-manganese | *32 000 | *31 000 | *31 000 | *30 000 | *30 000 |
| Ferro-silicon | *15 000 | *10 000 | *15 000 | *14 000 | *14 000 |
| Other ferro-alloys | *1 000 | *1 000 | *1 000 | *1 000 | *1 000 |
| Czechoslovakia | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-chrome | 28 231 | 29 018 | 29 183 | 29 844 | 31 866 |
| Ferro-manganese | 57 593 | 59 252 | 60 766 | 63 518 | 64 205 |
| Ferro-silico-manganese | *34 000 | *33 000 | *31 000 | *28 000 | *28 000 |
| Ferro-silicon | 21 090 | 21 030 | 22 730 | 20 997 | 20 474 |
| Other ferro-alloys | *8 000 | *9 000 | *10 000 | *10 000 | *8 000 |
| Silicon metal | *5 000 | *5 000 | *5 000 | *5 000 | *5 000 |

Production of Ferro-alloys

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--|------------|------------|------------|------------|------------|
| Finland | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-chrome & ferro-silico-chrome | 145 271 | 155 019 | 154 827 | 135 997 | 155 495 |
| German Democratic Republic | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-chrome | *22 000 | *22 000 | *23 000 | *22 000 | *21 000 |
| Ferro-manganese & ferro-silico-manganese | *68 000 | *68 000 | *69 000 | *68 000 | *65 000 |
| Ferro-silicon | *26 000 | *26 000 | *26 000 | *26 000 | *24 000 |
| Other ferro-alloys | *15 600 | *15 600 | *16 400 | *15 600 | *12 000 |
| Silicon metal | *3 400 | *3 400 | *3 600 | *3 400 | *3 000 |
| Hungary | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-silicon | 10 237 | 9 342 | 10 074 | 10 224 | 11 270 |
| Other ferro-alloys | *2 000 | *2 000 | *1 000 | *1 000 | *1 000 |
| Silicon metal | *2 000 | *2 000 | *2 000 | *2 000 | *2 000 |
| Iceland | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-silicon | 66 787 | 60 184 | 70 061 | 72 008 | 62 791 |
| Norway | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-manganese | 195 257 | 193 748 | 231 903 | 200 761 | 213 266 |
| Ferro-silico-manganese | 233 490 | 214 456 | 232 465 | 243 816 | 228 310 |
| Ferro-silicon | 335 041 | 369 761 | 382 279 | 401 116 | 397 520 |
| Silicon metal | 86 838 | 81 460 | 88 854 | 100 194 | 76 601 |
| Poland | | | | | |
| Blast furnace ferro-alloys | | | | | |
| Spiegeleisen | 1 700 | 2 500 | 1 078 | 906 | 140 |
| Ferro-manganese | 95 500 | 95 300 | 91 117 | 90 267 | 71 000 |
| Electric furnace ferro-alloys | | | | | |
| Ferro-chrome | 36 200 | 35 900 | 36 316 | 28 222 | 13 700 |
| Ferro-manganese & ferro-silico-manganese | 3 700 | 4 800 | 4 066 | 1 427 | 5 400 |
| Ferro-silicon | 78 500 | 77 100 | 82 114 | 83 210 | 88 600 |
| Other ferro-alloys | *60 000 | *60 000 | 65 632 | 60 718 | 33 100 |
| Silicon metal | *10 500 | *10 000 | *10 000 | *10 000 | *10 000 |
| Romania | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-chrome | *44 000 | *42 000 | *42 000 | *42 000 | *42 000 |
| Ferro-manganese | *82 000 | *81 000 | *80 000 | *80 000 | *80 000 |
| Ferro-silico-manganese | *40 000 | *39 000 | *40 000 | *40 000 | *40 000 |
| Ferro-silicon | *51 000 | *50 000 | *50 000 | *50 000 | *50 000 |
| Silicon metal | *4 500 | *4 500 | *4 500 | *4 500 | *4 500 |
| Soviet Union | | | | | |
| Blast furnace ferro-alloys | | | | | |
| Spiegeleisen | 20 000 | 19 000 | 18 000 | 18 000 | *17 000 |
| Ferro-manganese | 601 000 | 593 000 | 604 000 | 609 000 | *600 000 |
| Electric furnace ferro-alloys | | | | | |
| Ferro-chrome | *798 400 | *806 200 | *925 400 | *860 800 | *850 000 |
| Ferro-silico-chrome | *13 000 | *13 500 | *14 000 | *14 000 | *14 000 |
| Ferro-manganese | *436 800 | *437 800 | *453 500 | *414 100 | *410 000 |
| Ferro-silico-manganese | *200 000 | *200 000 | *200 000 | *200 000 | *200 000 |
| Ferro-phosphorus | 26 000 | 25 000 | 25 000 | 29 000 | *25 000 |
| Ferro-silicon | *1 831 600 | *1 867 400 | *1 911 800 | *1 872 600 | *1 860 000 |
| Other ferro-alloys | *240 000 | *240 000 | *250 000 | *250 000 | *250 000 |
| Silicon metal | *65 000 | *65 000 | *65 000 | *65 000 | *65 000 |
| Sweden | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-chrome | 126 388 | 109 352 | 143 055 | 133 984 | 111 027 |
| Ferro-silico-chrome | 17 024 | 4 029 | — | — | — |
| Ferro-silicon | 20 103 | 19 949 | 20 622 | 20 996 | 18 736 |
| Silicon metal | 19 156 | 21 145 | 17 059 | 13 421 | ... |
| Switzerland | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-silicon | *3 000 | *3 000 | *3 000 | *3 000 | *3 000 |
| Silicon metal | *2 000 | *2 000 | *2 000 | *2 000 | *2 000 |
| Turkey | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-chrome | *50 000 | *53 000 | 54 030 | 59 715 | 62 439 |
| Ferro-silicon | 4 876 | 4 400 | 5 200 | 4 970 | 5 225 |

Production of Ferro-alloys

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------------|----------|----------|----------|-----------|------------|
| Yugoslavia | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-chrome | 66 022 | 56 276 | 93 349 | 90 429 | 82 687 |
| Ferro-silico-chrome | 7 513 | 6 240 | 3 688 | 3 815 | 4 199 |
| Ferro-manganese | 39 230 | 38 041 | 45 078 | 33 869 | 31 822 |
| Ferro-silico-manganese | 41 330 | 42 528 | 46 804 | 52 737 | 60 601 |
| Ferro-nickel | 8 647 | 9 556 | 15 047 | 17 102 | 11 850 |
| Ferro-silicon | 99 625 | 98 843 | 120 522 | 122 153 | 103 188 |
| Other ferro-alloys | 6 715 | 8 071 | 11 450 | 11 199 | 10 462 |
| Silicon metal | 31 312 | 31 915 | 25 830 | 15 897 | 12 661 |
| Egypt | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-silicon | 7 221 | 7 702 | 7 806 | *7 800 | *7 800 |
| South Africa | | | | | |
| Ferro-chrome (i) | 924 630 | 965 071 | 993 685 | 1 035 973 | 1 022 026 |
| Ferro-manganese | 337 213 | 315 110 | 446 894 | 403 153 | 403 559 |
| Ferro-silico-manganese | 270 521 | 281 790 | 247 701 | 258 000 | 279 000 |
| Ferro-silicon | 83 256 | 82 519 | 87 247 | 92 804 | 78 150 |
| Other ferro-alloys | 626 | *1 000 | *1 000 | *1 000 | *1 000 |
| Silicon metal | 34 954 | 34 046 | 38 960 | 36 301 | 35 731 |
| Zimbabwe | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-chrome | 187 454 | 186 947 | 224 000 | 173 000 | 222 102 |
| Ferro-silico-chrome | 52 298 | 21 000 | 29 000 | 25 000 | 16 612 |
| Ferro-manganese | 8 029 | 8 500 | 2 620 | 6 250 | 1 100 |
| Ferro-silicon | ... | ... | ... | 2 290 | 1 640 |
| Canada | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-manganese (f) | *120 000 | *170 000 | *190 000 | *185 000 | *185 000 |
| Ferro-silicon | 144 053 | *100 000 | 111 622 | *120 000 | *120 000 |
| Silicon metal | *30 000 | *30 000 | *30 000 | *30 000 | *30 000 |
| Dominican Republic | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-nickel | 57 565 | 85 567 | 77 209 | 82 260 | 75 514 |
| Mexico | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-chrome | 2 670 | 6 300 | 9 295 | 2 569 | 275 |
| Ferro-silico-magnesium | 1 308 | 420 | 550 | — | — |
| Ferro-manganese | 156 359 | 161 331 | 165 487 | 168 042 | 186 329 |
| Ferro-silico-manganese | 60 532 | 80 123 | 80 223 | 98 852 | 70 685 |
| Ferro-silicon | 17 650 | 18 060 | 16 553 | 9 474 | 6 998 |
| Other ferro-alloys | 102 | 281 | 149 | 79 | 87 |
| USA | | | | | |
| Ferro-chrome | 86 920 | 104 817 | 109 504 | 137 997 | (i)108 932 |
| Ferro-silico-chrome (e) | 8 704 | 1 899 | 10 141 | 8 847 | ... |
| Ferro-manganese (d)(f) | 106 474 | 102 462 | (c)... | (c)... | (c)... |
| Ferro-phosphorus | 52 750 | 36 458 | 60 220 | 53 546 | 46 018 |
| Ferro-silicon | 307 936 | 324 096 | 449 328 | 475 255 | 433 726 |
| Other ferro-alloys (b) | 65 416 | 32 365 | 167 803 | 118 273 | 145 225 |
| Silicon metal | 112 394 | 135 559 | 149 094 | 136 531 | 140 792 |
| Argentina | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-manganese | 19 782 | 21 407 | 19 737 | 24 441 | 23 787 |
| Ferro-silico-manganese | 12 977 | 11 746 | 11 610 | 21 160 | 21 536 |
| Ferro-silicon | 22 979 | 23 998 | 30 539 | 35 667 | 17 509 |
| Other ferro-alloys | 5 272 | 6 790 | 5 952 | 5 805 | 7 124 |
| Silicon metal | *5 000 | 13 900 | 15 800 | ... | ... |

Production of Ferro-alloys

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------------|----------|----------|----------|----------|-----------|
| Brazil | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-calcium-silicon | 23 715 | 25 673 | 31 519 | 33 020 | 27 520 |
| Ferro-chrome | 109 392 | 105 394 | 130 024 | 113 267 | 83 753 |
| Ferro-silico-chrome | 9 512 | 8 079 | 9 177 | 8 938 | 4 973 |
| Ferro-silico-magnesium | 13 053 | 17 575 | 17 000 | 15 864 | 10 340 |
| Ferro-manganese | 164 093 | 155 252 | 180 588 | 180 668 | 170 504 |
| Ferro-silico-manganese | 177 568 | 188 022 | 193 490 | 208 262 | 216 779 |
| Ferro-molybdenum | 511 | 422 | 427 | 332 | 69 |
| Ferro-nickel | 34 296 | 35 496 | 33 930 | 34 997 | 34 257 |
| Ferro-niobium | 17 391 | 10 880 | 19 106 | 16 378 | 16 643 |
| Ferro-phosphorus | 1 496 | 1 784 | 1 469 | 1 928 | 1 278 |
| Ferro-silicon | 217 715 | 231 159 | 267 538 | 286 994 | 229 408 |
| Ferro-titanium | 755 | 80 | 549 | 430 | 125 |
| Ferro-vanadium | 439 | 88 | 261 | 302 | 44 |
| Other ferro-alloys | 1 025 | 521 | 926 | 1 414 | 509 |
| Silicon metal | 37 077 | 39 982 | 79 287 | 116 779 | 131 614 |
| Chile | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-manganese | 6 225 | 6 614 | 6 899 | 7 250 | *7 300 |
| Ferro-silico-manganese | 1 465 | 1 232 | 681 | 180 | ... |
| Ferro-molybdenum | 1 397 | 1 325 | 1 191 | 2 990 | *3 000 |
| Ferro-silicon | 3 732 | 4 655 | 5 686 | 6 370 | *6 400 |
| Colombia | | | | | |
| Ferro-nickel | 45 500 | 46 389 | 41 672 | 41 454 | 43 847 |
| Venezuela | | | | | |
| Ferro-silico-manganese | 28 573 | 28 000 | 33 760 | 32 387 | *30 000 |
| Ferro-silicon | 50 743 | 52 188 | 51 363 | 54 873 | *55 000 |
| China | | | | | |
| Ferro-manganese | *466 400 | *510 300 | *495 000 | *550 000 | (c)... |
| Ferro-silicon | *466 200 | *591 200 | *787 600 | *900 000 | (c)... |
| Other ferro-alloys | *664 400 | *744 500 | *801 400 | *932 000 | 2 441 500 |
| India | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-chrome | 84 096 | 93 944 | 140 262 | 133 522 | *145 000 |
| Ferro-silico-chrome | 9 493 | 12 321 | 2 769 | 11 384 | *12 000 |
| Ferro-manganese | 179 910 | 173 259 | 138 331 | 149 139 | *160 000 |
| Ferro-silico-manganese | 24 782 | 37 504 | 52 895 | 75 469 | *75 000 |
| Ferro-silicon | 50 096 | 50 747 | 46 721 | 73 751 | *75 000 |
| Other ferro-alloys | 617 | 528 | 445 | 386 | *400 |
| Silicon metal | 642 | 1 445 | 686 | *800 | *850 |
| Indonesia | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-nickel | 22 554 | 8 354 | 26 852 | 26 058 | 26 089 |
| Japan | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-calcium-silicon | 2 005 | 1 419 | 1 360 | 808 | 574 |
| Ferro-chrome | 286 925 | 272 298 | 304 642 | 333 978 | 303 838 |
| Ferro-manganese | 359 044 | 332 286 | 378 351 | 394 055 | 452 434 |
| Ferro-silico-manganese | 148 429 | 91 896 | 106 970 | 122 192 | 77 465 |
| Ferro-molybdenum | 1 894 | 2 032 | 2 656 | 2 784 | 3 366 |
| Ferro-nickel | 200 311 | 203 143 | 242 276 | 275 341 | 234 311 |
| Ferro-niobium | 862 | 714 | 649 | 737 | 984 |
| Ferro-silicon | 107 236 | 73 706 | 73 767 | 74 936 | 62 599 |
| Ferro-tungsten | 122 | 96 | 91 | 77 | 46 |
| Ferro-vanadium | 2 867 | 2 639 | 3 776 | 3 127 | 3 706 |
| Other ferro-alloys | 2 015 | 1 384 | 1 761 | 3 578 | 3 462 |
| Korea, Dem. P.R. of | | | | | |
| Ferro-manganese | *70 000 | *70 000 | *70 000 | *70 000 | *70 000 |
| Ferro-silicon | *30 000 | *30 000 | *30 000 | *30 000 | *30 000 |
| Other ferro-alloys | *20 000 | *20 000 | *20 000 | *20 000 | *20 000 |
| Korea, Republic of | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-manganese | 53 721 | 58 044 | 75 924 | 85 329 | 84 000 |
| Ferro-silicon | 30 939 | 12 646 | 8 909 | 4 582 | 2 000 |
| Other ferro-alloys | 66 499 | 90 382 | 89 966 | 101 818 | 99 000 |

Production of Ferro-alloys

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------------|---------|---------|---------|---------|---------|
| Philippines | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-chrome | *55 000 | ... | ... | *19 500 | *22 000 |
| Ferro-silicon | *20 000 | ... | ... | *9 000 | *10 000 |
| Taiwan | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-manganese | 20 040 | 16 971 | 25 822 | 30 623 | 43 631 |
| Ferro-silico-manganese | 31 630 | 28 309 | 30 745 | 26 510 | 20 587 |
| Ferro-silicon | 20 456 | 11 266 | 19 601 | 19 277 | 15 501 |
| Australia | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-manganese | 61 000 | 51 000 | 58 000 | *60 000 | *60 000 |
| Ferro-silico-manganese | 23 000 | 43 000 | 44 000 | *45 000 | *45 000 |
| Ferro-silicon | 19 000 | 18 000 | *18 000 | *20 000 | *20 000 |
| New Caledonia | | | | | |
| Electric furnace ferro-alloys | | | | | |
| Ferro-nickel | 130 492 | 108 170 | 136 203 | 132 261 | 117 800 |

(a) Ti, W, Mo, V content of ferro-titanium, ferro-tungsten, ferro-molybdenum and ferro-vanadium

(b) Including ferro-boron and other complex boron additive alloys, ferro-nickel, ferro-molybdenum, ferro-tungsten, ferro-vanadium, spiegeleisen, ferro-zirconium and other miscellaneous alloys

(c) Included with 'other ferro-alloys'

(d) Including manganese metal

(e) Including other chromium alloys and chromium metal

(f) Including ferro-silico- manganese

(g) Including ferro-silicon

(h) Including alumino-thermic ferro-alloys

(i) Including ferro-silico -chrome

Exports of Iron, Steel and Ferro-alloys

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--|-----------|-----------|-----------|-----------|-----------|
| United Kingdom | | | | | |
| Pig iron | 19 983 | 30 992 | 22 888 | 20 470 | 21 069 |
| Sponge & powder | 750 | 990 | 5 360 | 5 048 | 3 831 |
| Ferro-aluminium,Fe-Si-Al & Fe-Si-Mn-Al | 2 512 | 3 567 | (c)... | (c)... | (c)... |
| Ferro-chrome | 525 | 953 | 648 | 850 | 776 |
| Ferro-manganese | 12 749 | 13 990 | 9 756 | 38 238 | 41 389 |
| Ferro-silico-manganese | 146 | 419 | 2 820 | 673 | 181 |
| Ferro-molybdenum | 5 172 | 4 298 | 6 661 | 6 853 | 5 282 |
| Ferro-nickel | 11 | 0 | 8 | 76 | 5 |
| Ferro-niobium & ferro-niobium-tantalum | 32 | 147 | 486 | 804 | 811 |
| Ferro-silicon | 3 301 | 2 547 | 2 387 | 2 072 | 1 670 |
| Ferro-titanium & ferro-silico-titanium | 7 277 | 8 390 | 11 857 | 11 241 | 11 244 |
| Ferro-tungsten & ferro-silico-tungsten | 86 | 11 | 1 | 21 | 4 |
| Ferro-vanadium | 158 | 146 | 38 | 60 | 231 |
| Other ferro-alloys | 2 919 | 3 659 | 5 716 | 5 931 | 8 341 |
| Ingots, blooms, billets | 1 070 498 | 1 664 869 | 1 690 357 | 1 485 518 | 1 309 675 |
| Scrap | 3 816 871 | 3 306 206 | 3 607 032 | 3 227 433 | 3 198 385 |
| Belgium-Luxembourg | | | | | |
| Pig iron | 5 756 | 10 629 | 15 065 | 19 596 | 13 135 |
| Spiegeleisen | 1 426 | 68 | 31 | 0 | 32 |
| Sponge & powder | 1 108 | 972 | 4 599 | 3 408 | 2 200 |
| Ferro-chrome | 876 | 2 118 | 3 651 | 4 982 | 2 130 |
| Ferro-manganese | 17 370 | 21 297 | 24 332 | 45 843 | 22 624 |
| Ferro-silico-manganese, Fe-Mo & Fe-V | 16 545 | 27 267 | (a)13 529 | (a)8 940 | (a)3 609 |
| Ferro-silicon | 900 | 4 370 | 3 121 | 3 802 | 2 439 |
| Ferro-titanium & ferro-silico-titanium | 945 | 834 | 1 321 | 745 | 330 |
| Ferro-tungsten & ferro-silico-tungsten | 91 | 6 | 7 | — | 5 |
| Other ferro-alloys | 1 686 | 1 517 | 1 183 | 411 | 426 |
| Ingots, blooms, billets | 626 130 | 751 506 | 665 459 | 579 510 | 834 846 |
| Scrap | 658 309 | 704 546 | 912 898 | 1 049 884 | 869 401 |
| Denmark | | | | | |
| Ingots, blooms, billets | 5 842 | 2 531 | 2 428 | 1 019 | 6 109 |
| Scrap | 182 773 | 224 017 | 298 246 | 278 990 | 310 713 |
| France | | | | | |
| Pig iron | 10 880 | 54 082 | 54 513 | 40 340 | 10 350 |
| Spiegeleisen | 919 | 189 | 480 | 356 | 678 |
| Sponge & powder | 193 | 253 | 1 116 | 2 931 | 1 357 |
| Ferro-aluminium,Fe-Si-Al & Fe-Si-Mn-Al | 553 | 386 | (c)... | (c)... | (c)... |
| Ferro-chrome | 9 344 | 16 784 | 48 263 | 12 895 | 21 658 |
| Ferro-silico-chrome | 2 | 9 | 9 | 4 | 136 |
| Ferro-silico-magnesium | 7 324 | 9 364 | 9 389 | 10 240 | 7 289 |
| Ferro-manganese | 29 316 | 21 076 | 31 963 | 21 586 | 25 657 |
| Ferro-silico-manganese | 21 860 | 14 830 | 26 290 | 45 002 | 51 138 |
| Ferro-molybdenum | 990 | 2 388 | 2 199 | 2 433 | 3 272 |
| Ferro-nickel | 33 280 | 6 352 | 3 720 | 4 325 | 3 240 |
| Ferro-silicon | 67 533 | 54 391 | 46 946 | 40 739 | 29 007 |
| Ferro-titanium & ferro-silico-titanium | 313 | 312 | 464 | 490 | 776 |
| Ferro-vanadium | 706 | 171 | 2 | 1 | 30 |
| Ferro-silico-zirconium | 1 822 | 1 939 | 1 809 | 1 221 | 197 |
| Other ferro-alloys | 22 241 | 21 956 | 29 693 | 28 785 | 23 813 |
| Ingots, blooms, billets | 771 978 | 855 421 | 966 753 | 887 352 | 1 072 482 |
| Scrap | 3 161 685 | 3 228 411 | 3 691 713 | 4 260 050 | 3 674 956 |
| Germany, Federal Republic of | | | | | |
| Pig iron | 500 459 | 499 016 | 389 558 | 408 299 | 599 402 |
| Spiegeleisen | 1 970 | 99 | — | — | — |
| Sponge & powder | 33 962 | 37 888 | 40 202 | 38 199 | 29 962 |
| Ferro-chrome | 39 721 | 54 345 | 44 660 | 49 274 | 53 371 |
| Ferro-silico-chrome | 5 056 | 4 346 | 3 980 | 4 230 | 4 336 |
| Ferro-silico-magnesium | ... | ... | 5 630 | 6 628 | 5 441 |
| Ferro-manganese | 69 208 | 67 426 | 81 314 | 95 635 | 79 251 |
| Ferro-silico-manganese | 4 002 | 3 715 | 5 482 | 7 156 | 8 754 |
| Ferro-molybdenum | 345 | 196 | 214 | 261 | 401 |
| Ferro-nickel | 797 | 226 | 1 067 | 306 | 1 114 |
| Ferro-niobium | 515 | 484 | 927 | 913 | 591 |
| Ferro-phosphorus | ... | ... | 4 342 | 6 342 | 6 586 |
| Ferro-silicon | 65 658 | 64 482 | 80 618 | 70 524 | 66 481 |
| Ferro-titanium & ferro-silico-titanium | 396 | 636 | 1 211 | 1 311 | 1 011 |
| Ferro-tungsten & ferro-silico-tungsten | 25 | 78 | 33 | 28 | 41 |
| Ferro-vanadium | 2 463 | 3 020 | 2 977 | 2 672 | 2 498 |
| Other ferro-alloys | 10 330 | 8 259 | 2 147 | 3 933 | 2 620 |
| Silicon metal | 7 820 | 7 700 | 7 684 | 5 910 | 5 740 |
| Ingots, blooms, billets | 1 569 902 | 1 350 840 | 1 818 774 | 1 477 699 | 1 080 407 |
| Scrap | 3 674 154 | 4 521 210 | 4 891 361 | 5 054 061 | 5 198 929 |

Exports of Iron, Steel and Ferro-alloys

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|---|-----------|-----------|-----------|-----------|-----------|
| Greece | | | | | |
| Ferro-chrome | 43 315 | 51 460 | 30 609 | 46 605 | 25 120 |
| Ferro-nickel | 67 113 | 52 278 | — | ... | ... |
| Irish Republic | | | | | |
| Scrap | 40 751 | 26 249 | 32 411 | 33 827 | 26 054 |
| Italy | | | | | |
| Pig iron | 60 506 | 17 285 | 34 970 | 48 104 | 37 895 |
| Sponge & powder | 982 | 889 | 3 256 | 8 545 | 9 551 |
| Ferro-chrome | 24 396 | 18 210 | 25 221 | 34 721 | 15 681 |
| Ferro-silico-chrome | 46 | 1 295 | 1 439 | 298 | 1 089 |
| Ferro-silico-magnesium | 3 743 | 1 944 | 1 215 | (c)... | (c)... |
| Ferro-manganese | 334 | 3 606 | 5 120 | 4 125 | 3 974 |
| Ferro-silico-manganese | 5 197 | 9 856 | 3 291 | 9 463 | 13 541 |
| Ferro-molybdenum | 38 | 21 | — | 9 | 7 |
| Ferro-silicon | 11 306 | 10 122 | 16 969 | 22 008 | 6 427 |
| Ferro-titanium & ferro-silico-titanium | 1 435 | 2 253 | 1 518 | 1 909 | 1 222 |
| Ferro-vanadium | 18 | 74 | — | 40 | ... |
| Other ferro-alloys | 3 817 | 4 737 | 3 567 | 4 808 | 12 340 |
| Silicon metal | 8 938 | 6 256 | 5 224 | 6 200 | 4 348 |
| Ingots, blooms, billets | 261 791 | 95 047 | 169 148 | 366 385 | 484 524 |
| Scrap | 7 274 | 15 701 | 27 517 | 29 334 | 19 496 |
| Netherlands | | | | | |
| Pig iron | 17 966 | 9 806 | 3 737 | 2 045 | 828 |
| Sponge & powder | 37 | 502 | 215 | 586 | 452 |
| Ferro-chrome | 14 881 | 7 159 | — | 4 750 | 3 355 |
| Ferro-manganese | 103 | 1 125 | 112 | 3 117 | 132 |
| Ferro-silico-manganese | 285 | 279 | 303 | — | — |
| Ferro-molybdenum | 532 | 224 | 387 | 475 | 464 |
| Ferro-silicon | 2 730 | 1 224 | 363 | 959 | 325 |
| Ferro-titanium & ferro-silico-titanium | 2 297 | 2 294 | 1 375 | 1 571 | 208 |
| Ferro-vanadium | — | — | 58 | 46 | — |
| Other ferro-alloys | 397 | 325 | 1 208 | 721 | 203 |
| Ingots, blooms, billets | 1 335 080 | 1 352 641 | 1 539 677 | 1 118 510 | 1 152 225 |
| Scrap | 1 991 940 | 2 225 779 | 2 649 981 | 2 815 350 | 2 620 517 |
| Portugal | | | | | |
| Ferro-manganese | 21 404 | 9 812 | (c)... | (c)... | 477 |
| Ferro-silico-manganese | 43 957 | 213 | (c)... | (c)... | (c)... |
| Ferro-silicon | 5 252 | 12 | (c)... | (c)... | 8 139 |
| Ferro-tungsten | 28 | — | (c)... | (c)... | (c)... |
| Other ferro-alloys | — | 2 655 | 4 025 | 266 | 348 |
| Scrap | 10 645 | 6 635 | 13 340 | 21 023 | 14 776 |
| Spain | | | | | |
| Pig iron | 31 460 | 742 | 61 304 | 62 568 | 8 559 |
| Ferro-aluminium, Fe-Si-Al & Fe-Si-Mn-Al | 123 | 515 | (c)... | (c)... | (c)... |
| Ferro-chrome | 9 907 | 13 949 | 13 716 | 9 064 | 2 620 |
| Ferro-manganese | 22 083 | 13 103 | 14 268 | 24 190 | 20 441 |
| Ferro-silico-manganese | 7 076 | 7 132 | 8 470 | 12 386 | 21 074 |
| Ferro-molybdenum | 2 388 | 2 027 | 6 | 5 | 4 |
| Ferro-silicon | 3 620 | 4 579 | 13 700 | 11 392 | 9 826 |
| Ferro-titanium & ferro-silico-titanium | 249 | 0 | 2 | 7 | 43 |
| Other ferro-alloys | 1 189 | 1 284 | 1 219 | 493 | 168 |
| Silicon metal | 3 272 | 2 379 | 1 666 | 1 542 | 213 |
| Ingots, blooms, billets | 570 874 | 650 790 | 578 933 | 169 533 | 81 121 |
| Scrap | 1 628 | 15 790 | 56 960 | 28 897 | 22 644 |
| Albania | | | | | |
| Ferro-chrome | 26 000 | 26 000 | 38 000 | 39 000 | 24 000 |
| Austria | | | | | |
| Pig iron | 502 | 157 | 44 | 69 | 6 904 |
| Ferro-alloys | 12 857 | 13 322 | 18 792 | 19 638 | 22 049 |
| Ingots & blooms | 10 026 | 13 870 | 15 145 | 16 801 | 13 957 |
| Scrap | 22 305 | 92 200 | 47 222 | 95 982 | 342 438 |
| Bulgaria | | | | | |
| Pig iron | 52 307 | 67 300 | 6 000 | ... | 7 000 |
| Ferro-alloys | 12 000 | 15 000 | 8 000 | 16 000 | ... |
| Ingots, blooms, billets | 375 345 | 269 000 | 273 000 | 142 000 | ... |
| Scrap (f) | *44 400 | *63 700 | *98 800 | *55 700 | *16 000 |

Exports of Iron, Steel and Ferro-alloys

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------------|-------------|-------------|------------|------------|------------|
| Czechoslovakia | | | | | |
| Ferro-chrome (f) | *700 | *400 | *600 | *2 500 | *2 300 |
| Ferro-manganese (f) | *18 900 | *16 800 | *15 000 | *15 200 | *15 100 |
| Other ferro-alloys (f) | *4 900 | *4 900 | *2 000 | *2 600 | *6 000 |
| Blooms | 533 000 | 610 000 | 676 000 | 615 000 | ... |
| Scrap (f) | *101 500 | *96 800 | *247 700 | *206 600 | *172 100 |
| Finland | | | | | |
| Ferro-chrome & ferro-silico-chrome | 90 199 | 89 530 | 90 148 | 77 338 | 105 199 |
| Ingots, blooms, billets | (f)*123 800 | (f)*165 400 | 183 501 | 143 228 | 117 487 |
| Scrap | 359 | 252 | 1 660 | 1 265 | 1 765 |
| German Democratic Republic | | | | | |
| Pig iron | 6 000 | 7 000 | 5 000 | 5 000 | *5 000 |
| Ferro-silicon (f) | *7 700 | *5 300 | *10 000 | *9 800 | *18 100 |
| Other ferro-alloys (f) | *1 600 | *1 300 | *500 | *1 600 | *8 300 |
| Ingots, blooms, billets (f) | *593 100 | *798 000 | *970 800 | *932 500 | *792 400 |
| Scrap (f) | *24 600 | *40 600 | *86 800 | *115 400 | *108 300 |
| Hungary | | | | | |
| Pig iron | — | — | — | 42 484 | 18 329 |
| Ferro-alloys | 400 | 4 229 | 7 746 | 10 044 | 11 964 |
| Ingots, blooms, billets | 22 798 | 3 893 | 9 969 | 15 528 | 51 617 |
| Scrap | 6 382 | 106 850 | 151 311 | 111 472 | 220 356 |
| Iceland | | | | | |
| Ferro-silicon | 64 990 | 71 656 | 73 236 | 64 192 | 67 150 |
| Scrap | 2 527 | 7 668 | 4 508 | 3 655 | 4 435 |
| Malta | | | | | |
| Scrap | 5 427 | 10 566 | 9 803 | 10 713 | ... |
| Norway | | | | | |
| Pig iron | 22 718 | 13 663 | 31 149 | 52 146 | 50 132 |
| Ferro-chrome | — | 4 | — | 4 077 | 55 126 |
| Ferro-manganese | 162 265 | 176 850 | 204 475 | 168 475 | 173 402 |
| Ferro-silico-manganese | 202 090 | 215 810 | 199 570 | 222 649 | 197 615 |
| Ferro-silicon | 339 711 | 334 761 | 365 882 | 361 468 | 400 627 |
| Other ferro-alloys | 11 515 | 11 125 | 13 313 | 15 531 | 14 598 |
| Silicon metal | 80 612 | 81 066 | 75 166 | 80 682 | 73 841 |
| Ingots, blooms, billets | 40 906 | 122 281 | 70 100 | 19 377 | 10 184 |
| Scrap | 7 704 | 11 897 | 21 373 | 19 977 | 12 146 |
| Poland | | | | | |
| Pig iron & ferro-alloys | 1 628 | 5 578 | 201 160 | 302 171 | 798 830 |
| Ingots, blooms, billets | 108 000 | 163 000 | 287 000 | 378 400 | 1 423 000 |
| Scrap | 73 883 | 96 980 | 346 956 | 439 935 | ... |
| Romania | | | | | |
| Ingots, blooms, billets (f) | *12 700 | *8 000 | *56 200 | *14 500 | *5 800 |
| Soviet Union | | | | | |
| Pig iron | 5 517 000 | 5 963 000 | 6 141 000 | 6 517 000 | *6 000 000 |
| Ferro-alloys | 770 000 | 756 000 | 850 000 | 871 000 | ... |
| Ingots, blooms, billets (f) | *1 802 600 | *1 572 700 | *1 934 000 | *1 692 200 | *1 421 000 |
| Scrap | 4 087 898 | 3 900 000 | 3 240 000 | 2 737 000 | *2 700 000 |
| Sweden | | | | | |
| Pig iron | 8 549 | 3 358 | 12 193 | 13 808 | 5 270 |
| Sponge & powder | 104 867 | 117 315 | 119 908 | 120 896 | 124 890 |
| Ferro-chrome | 85 276 | 78 862 | 96 031 | 99 347 | 93 305 |
| Ferro-silico-chrome | 2 073 | 3 774 | — | — | 0 |
| Ferro-manganese | 2 009 | 488 | 867 | 762 | 792 |
| Ferro-silico-manganese | 464 | 233 | 146 | 86 | 91 |
| Ferro-molybdenum | 58 | 18 | 27 | 229 | 90 |
| Ferro-niobium | 13 | 23 | 14 | 22 | 59 |
| Ferro-silicon | 11 480 | 12 507 | 14 931 | 13 681 | 13 301 |
| Ferro-titanium | 34 | 81 | 11 | 53 | 17 |
| Ferro-vanadium | 21 | 16 | 42 | 66 | 55 |
| Other ferro-alloys | 198 | 113 | 163 | 140 | 163 |
| Silicon metal | 17 318 | ... | 14 554 | 12 229 | ... |
| Ingots, blooms, billets | 554 951 | 402 238 | 430 403 | 330 964 | 239 482 |
| Scrap | 28 585 | 44 426 | 87 491 | 141 806 | 122 257 |
| Switzerland | | | | | |
| Pig iron | 406 | 211 | 1 618 | 1 160 | 528 |
| Sponge & powder | 590 | 574 | 620 | 582 | 515 |
| Ferro-silicon | 133 | 84 | 81 | 39 | 84 |
| Other ferro-alloys | 158 | 163 | 278 | 634 | 158 |
| Ingots, blooms, billets | 26 101 | 26 292 | 25 477 | 7 049 | 16 234 |
| Scrap | 60 949 | 87 361 | 78 092 | 66 836 | 66 058 |

Exports of Iron, Steel and Ferro-alloys

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-----------------------------|----------|-----------|------------|-----------|-----------|
| Turkey | | | | | |
| Pig iron | 137 348 | 121 762 | 101 548 | 31 890 | 179 091 |
| Ferro-chrome | 45 460 | 41 224 | 59 451 | 46 238 | 64 488 |
| Ingots, blooms, billets | 726 953 | 633 442 | 1 280 185 | 1 123 806 | 1 229 900 |
| Scrap | 4 797 | 5 169 | 7 407 | 4 431 | 6 586 |
| Yugoslavia | | | | | |
| Pig iron | 8 461 | 35 236 | 8 409 | 23 810 | 35 941 |
| Ferro-chrome | 46 404 | 37 588 | 69 806 | 73 894 | 78 409 |
| Ferro-manganese | 5 883 | 9 542 | 15 244 | 7 897 | 14 604 |
| Ferro-silico-manganese | 29 168 | 38 561 | 33 741 | 43 110 | 54 834 |
| Ferro-nickel | (c)... | (c)... | 12 818 | 15 650 | 11 479 |
| Ferro-silicon | 58 357 | 69 697 | 77 417 | 84 635 | 74 991 |
| Other ferro-alloys | 6 607 | 13 499 | 4 351 | 5 066 | 4 158 |
| Silicon metal | 24 835 | 26 879 | 18 463 | 9 654 | 8 687 |
| Ingots, blooms, billets | 168 051 | 204 997 | 141 314 | 70 621 | 111 971 |
| Scrap | 163 879 | 450 501 | 489 426 | 237 178 | 253 691 |
| Algeria | | | | | |
| Pig iron | 64 365 | 69 812 | ... | ... | ... |
| Scrap | 148 415 | 150 638 | 142 267 | ... | ... |
| Ivory Coast | | | | | |
| Scrap | 20 317 | ... | 11 233 | ... | ... |
| Morocco | | | | | |
| Scrap | 52 087 | 62 799 | 91 430 | 96 144 | 84 052 |
| Senegal | | | | | |
| Scrap | 11 211 | 7 116 | 7 893 | 13 150 | ... |
| South Africa | | | | | |
| Pig iron (f) | *631 000 | *388 500 | *397 000 | *211 600 | *133 800 |
| Ferro-chrome | 878 971 | 829 869 | 964 445 | 950 479 | 923 934 |
| Ferro-manganese | 502 247 | 570 170 | 625 500 | 497 500 | 504 900 |
| Ferro-silicon | 40 069 | 37 462 | 40 601 | 24 373 | 26 376 |
| Silicon metal | 29 985 | 27 050 | 38 636 | 34 646 | 30 241 |
| Ingots, blooms, billets (f) | *478 600 | *663 900 | *425 000 | *410 000 | *499 700 |
| Scrap (f) | *145 800 | *70 400 | *55 200 | *62 800 | *30 200 |
| Sudan | | | | | |
| Scrap | 3 510 | ... | ... | ... | ... |
| Tunisia | | | | | |
| Scrap | 1 457 | 244 | 16 198 | 1 805 | 5 220 |
| Zimbabwe | | | | | |
| Pig iron | 605 | 7 807 | 801 | ... | 89 |
| Ferro-chrome | 186 397 | 210 636 | 195 442 | ... | 195 699 |
| Ferro-silico-chrome | 25 041 | 31 329 | 24 213 | ... | 22 084 |
| Ingots, blooms, billets | 158 255 | 283 662 | 261 351 | ... | 210 814 |
| Scrap | 6 101 | 8 915 | 9 501 | ... | 3 755 |
| Canada | | | | | |
| Pig iron | 519 606 | 448 251 | 358 237 | 418 406 | 215 177 |
| Sponge | 37 000 | 52 104 | (g)216 634 | (g)50 524 | (g)39 445 |
| Ferro-chrome | (c)... | (c)... | 1 661 | 38 | 573 |
| Ferro-manganese | 45 132 | 23 103 | 26 592 | 21 893 | 15 041 |
| Ferro-silicon | 45 953 | 28 316 | 30 249 | 32 505 | 53 532 |
| Other ferro-alloys | 11 889 | 10 046 | 6 656 | 2 558 | 8 321 |
| Silicon metal | ... | ... | 20 638 | 16 564 | 14 811 |
| Ingots, blooms, billets | 233 428 | 104 756 | 180 608 | 293 291 | 327 343 |
| Scrap | 921 367 | 1 086 832 | 1 682 288 | 899 642 | 1 371 712 |
| Cuba | | | | | |
| Scrap | 163 011 | 168 868 | ... | ... | ... |
| Dominican Republic | | | | | |
| Ferro-nickel | 53 903 | 78 372 | 82 878 | 81 852 | 78 094 |
| Mexico | | | | | |
| Ferro-manganese | 42 077 | (c)... | 43 025 | 34 372 | (c)... |
| Ferro-silico-manganese | 33 674 | (c)... | 42 148 | 46 971 | (c)... |
| Other ferro-alloys | 376 | 39 643 | 4 986 | 4 284 | 76 624 |
| Ingots, blooms, billets | 120 265 | 179 960 | 77 400 | 247 142 | ... |
| Scrap | 23 709 | 44 053 | 21 124 | 30 297 | ... |
| Trinidad & Tobago | | | | | |
| Sponge | 53 211 | 70 345 | 151 568 | 233 157 | 442 035 |
| Ingots, blooms, billets | 28 280 | 17 708 | 47 546 | 13 705 | 9 976 |

Exports of Iron, Steel and Ferro-alloys

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|---|------------|-----------|-----------|------------|------------|
| USA | | | | | |
| Pig iron | 45 795 | 50 642 | 66 539 | 13 962 | 16 767 |
| Sponge & powder | 10 586 | 15 469 | 17 157 | 23 217 | 62 875 |
| Ferro-chrome & ferro-silico-chrome | 6 674 | 6 166 | 9 913 | 11 413 | 10 414 |
| Ferro-manganese | 3 956 | 2 686 | 3 219 | 8 301 | 8 105 |
| Ferro-silico-manganese | 1 787 | 746 | 4 406 | 5 127 | 2 707 |
| Ferro-molybdenum | 172 | 75 | 88 | 128 | 328 |
| Ferro-phosphorus | 34 833 | 31 508 | 19 380 | 22 588 | 6 003 |
| Ferro-silicon | 10 345 | 13 880 | 26 684 | 50 460 | 52 109 |
| Ferro-vanadium | 445 | 442 | 571 | 512 | 350 |
| Other ferro-alloys | 9 329 | 17 643 | 11 899 | 7 971 | 7 964 |
| Silicon metal | 4 919 | 8 341 | 9 674 | 4 976 | 9 478 |
| Ingots, blooms, billets | 54 187 | 67 190 | 55 914 | 355 376 | 452 642 |
| Scrap | 10 619 159 | 9 408 257 | 9 167 339 | 11 189 000 | 11 610 081 |
| Argentina | | | | | |
| Ferro-silicon | 9 041 | 14 121 | 16 202 | ... | ... |
| Other ferro-alloys | 799 | 2 390 | 5 414 | ... | ... |
| Ingots, blooms, billets | 369 795 | 132 360 | 177 639 | 410 836 | ... |
| Brazil | | | | | |
| Pig iron | 2 367 010 | 2 047 420 | 2 538 069 | 2 992 389 | 3 490 235 |
| Ferro-chrome | 20 121 | 14 980 | 37 007 | 24 099 | 16 477 |
| Ferro-manganese | 45 508 | 50 049 | 50 727 | 28 985 | 65 291 |
| Ferro-nickel | 4 694 | 2 208 | 10 412 | 12 038 | 15 960 |
| Ferro-niobium | 12 331 | 11 069 | 14 352 | 15 996 | 13 539 |
| Fe-silico-spiegeleisen & silico-manganese | 70 300 | 55 208 | 60 419 | 66 859 | 91 975 |
| Ferro-silicon | 129 262 | 176 349 | 211 397 | 223 528 | 199 899 |
| Other ferro-alloys | 10 179 | 19 939 | 19 902 | 14 545 | 27 283 |
| Silicon metal | 26 222 | 30 267 | 65 996 | 90 086 | 116 773 |
| Ingots, blooms, billets | 2 459 002 | 3 420 355 | 4 669 658 | 5 624 235 | 3 522 523 |
| Chile | | | | | |
| Ferro-alloys | 5 456 | 5 376 | 7 512 | 8 680 | 5 881 |
| Ingots, blooms, billets | 66 793 | 37 413 | 22 740 | 1 998 | 68 282 |
| Colombia | | | | | |
| Ferro-nickel | 32 211 | ... | 41 461 | 33 838 | ... |
| Venezuela | | | | | |
| Sponge & powder | 259 921 | 216 212 | 376 762 | 659 390 | ... |
| Ferro-silicon | 58 173 | 45 459 | 40 305 | 36 392 | ... |
| Ingots, blooms, billets | 98 250 | 217 146 | 140 240 | 192 578 | ... |
| Bahrain | | | | | |
| Scrap | 32 852 | 49 983 | 33 164 | 40 468 | ... |
| Brunei | | | | | |
| Scrap | 5 389 | 4 370 | ... | ... | ... |
| China | | | | | |
| Pig iron | (f)*9 000 | 561 887 | 2 337 078 | 532 537 | 380 000 |
| Ferro-alloys | (f)*54 000 | 264 974 | 459 869 | 193 259 | 244 386 |
| Ingots, blooms, billets | (f)*100 | 131 | 17 752 | 77 067 | ... |
| Scrap | (f)*3 000 | 100 072 | 685 994 | 185 007 | ... |
| Cyprus | | | | | |
| Scrap (b) | 13 309 | 4 543 | ... | 33 822 | 14 644 |
| Dubai | | | | | |
| Scrap | 56 714 | ... | ... | ... | ... |
| Hong Kong | | | | | |
| Pig iron (b) | 71 | 97 | 4 735 | 337 | 1 651 |
| Ferro-manganese (b) | 496 | 1 540 | 4 297 | 8 585 | 10 340 |
| Ferro-silicon (b) | 3 483 | 30 135 | 82 494 | 38 408 | 42 066 |
| Other ferro-alloys (b) | 1 662 | 6 524 | 9 753 | 18 697 | 33 079 |
| Ingots, blooms, billets | 24 842 | 13 174 | 34 934 | 7 444 | 1 643 |
| of which: Re-exports | 24 842 | 7 657 | 6 601 | 3 670 | 1 643 |
| Scrap | 275 389 | 345 259 | 428 310 | 474 286 | 479 971 |
| India (d) | | | | | |
| Pig iron | 449 | 606 | 871 | ... | 719 |
| Ferro-chrome | — | 76 007 | 89 973 | ... | 63 619 |
| Ferro-manganese | — | 1 614 | 3 400 | ... | 19 574 |
| Scrap | 37 969 | 33 577 | 35 483 | ... | 87 124 |
| Indonesia | | | | | |
| Sponge & powder | 96 392 | 75 117 | 138 315 | 53 686 | 67 990 |
| Ferro-nickel | ... | ... | ... | 25 238 | 27 709 |
| Ferro-silicon | 168 | 151 | 829 | 4 322 | 2 646 |
| Ingots, blooms, billets | 8 | 26 524 | 41 180 | 31 452 | 55 531 |
| Scrap | 6 624 | 2 877 | 5 025 | 421 | 847 |

Exports of Iron, Steel and Ferro-alloys

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-----------------------------|-----------|---------|---------|----------|---------|
| Iran | | | | | |
| Pig iron (f) | ... | *21 000 | *75 100 | *123 700 | *56 100 |
| Israel | | | | | |
| Scrap (f) | *5 500 | *3 600 | *2 500 | *2 800 | *10 700 |
| Japan | | | | | |
| Pig iron | 1 055 582 | 28 598 | 21 787 | 3 536 | 702 |
| Sponge & powder | 9 166 | 11 520 | 11 771 | 14 986 | 18 917 |
| Ferro-chrome | 3 433 | 4 883 | 4 450 | 1 123 | 2 811 |
| Ferro-manganese | 6 857 | 19 122 | 12 849 | 15 055 | 5 631 |
| Ferro-silico-manganese | 16 | — | 1 000 | 2 498 | 1 069 |
| Ferro-nickel | 7 100 | 1 885 | 15 | 62 | — |
| Ferro-silicon | 1 091 | 1 345 | 4 868 | 2 764 | 3 780 |
| Ferro-vanadium | 94 | 67 | 25 | 188 | 145 |
| Other ferro-alloys | 3 152 | 4 718 | 5 589 | 5 553 | 4 605 |
| Ingots, blooms, billets | 221 429 | 250 411 | 159 424 | 146 584 | 42 728 |
| Scrap | 461 048 | 377 397 | 415 616 | 586 786 | 396 403 |
| Korea, Dem. P.R. of | | | | | |
| Pig iron (f) | *103 600 | *96 800 | *64 400 | *47 600 | *32 800 |
| Ingots, blooms, billets (f) | *18 200 | *37 100 | *27 200 | *20 900 | *53 200 |
| Scrap (f) | *25 200 | *20 500 | *24 800 | *21 300 | *19 900 |
| Korea, Republic of | | | | | |
| Pig iron | 1 021 | 2 017 | 76 397 | 238 | 827 |
| Ferro-manganese | 5 | 5 | — | 2 209 | 1 429 |
| Ferro-silico-manganese | — | — | — | 1 622 | 940 |
| Other ferro-alloys | 3 051 | 114 | 302 | 300 | 752 |
| Ingots, blooms, billets | 167 788 | 193 060 | 353 291 | 804 078 | 331 064 |
| Scrap | 71 525 | 42 157 | 40 440 | 19 272 | 39 576 |
| Kuwait | | | | | |
| Scrap | 75 619 | 33 119 | 30 839 | 29 220 | ... |
| Macao | | | | | |
| Scrap | 4 984 | 7 735 | 6 090 | 6 131 | ... |
| Malaysia | | | | | |
| Sponge & powder | *354 850 | 605 817 | 428 005 | 402 152 | ... |
| Scrap | 45 990 | 44 419 | 80 913 | 75 276 | *60 000 |
| Pakistan (e) | | | | | |
| Pig iron | 119 911 | 235 058 | — | 20 550 | ... |
| Scrap | 20 844 | 660 | 1 709 | 3 842 | 2 091 |
| Philippines | | | | | |
| Ferro-silicon | 10 079 | 10 225 | 8 415 | 3 762 | 2 384 |
| Other ferro-alloys | 55 971 | 50 821 | 61 514 | 64 695 | 61 183 |
| Scrap | 850 | 1 313 | 1 974 | 1 673 | 2 538 |
| Saudi Arabia | | | | | |
| Scrap | 122 511 | 69 381 | 124 161 | 139 781 | ... |
| Singapore | | | | | |
| Pig iron | 1 100 | 652 | 922 | 583 | 5 934 |
| of which: Re-exports | 1 095 | 641 | 853 | 583 | 5 641 |
| Ferro-alloys | 549 | 1 119 | 2 682 | 8 484 | 9 379 |
| of which: Re-exports | 549 | 1 119 | 2 682 | 8 484 | 9 377 |
| Ingots & blooms | 5 014 | 24 169 | 311 | 1 786 | 3 099 |
| of which: Re-exports | 3 326 | 11 705 | 291 | 1 669 | 2 586 |
| Scrap | 90 776 | 155 625 | 265 389 | 238 193 | 299 875 |
| Sri Lanka | | | | | |
| Scrap | 40 988 | 30 941 | 19 423 | 28 699 | 60 719 |
| Taiwan | | | | | |
| Pig iron | 3 371 | 1 511 | 1 581 | 580 | 701 |
| Ferro-chrome | 2 | 3 | 1 186 | 2 568 | 2 460 |
| Ferro-manganese | 60 | 100 | 1 | 274 | 62 |
| Ferro-silicon | 458 | 208 | 318 | 1 694 | 627 |
| Other ferro-alloys | 915 | 1 448 | 3 494 | 237 | 53 |
| Ingots, blooms, billets | 31 406 | 50 714 | 280 814 | 302 749 | 204 646 |
| Scrap | 280 941 | 97 755 | 75 239 | 51 724 | 68 427 |
| Thailand | | | | | |
| Scrap | 5 701 | 4 925 | 6 318 | 7 216 | *7 000 |

Exports of Iron, Steel and Ferro-alloys

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------|---------|---------|---------|---------|-----------|
| Australia | | | | | |
| Pig iron | 26 221 | 164 939 | 24 789 | 24 000 | — |
| Ferro-manganese | 43 863 | 47 499 | 34 349 | 29 000 | 43 000 |
| Other ferro-alloys | 41 549 | 37 525 | 44 507 | 47 000 | 57 000 |
| Ingots, blooms, billets | 495 738 | 522 596 | 329 582 | 375 000 | 704 000 |
| Scrap | 557 811 | 873 716 | 999 747 | 875 000 | 1 173 000 |
| Fiji | | | | | |
| Scrap | 743 | 1 975 | ... | ... | ... |
| of which: Re-exports | 311 | 722 | ... | ... | ... |
| New Caledonia | | | | | |
| Ferro-nickel | 130 400 | 121 400 | 131 500 | 126 100 | 126 479 |
| New Zealand (e) | | | | | |
| Ingots, blooms, billets | 66 576 | 84 294 | 95 845 | 53 403 | 2 057 |
| Scrap | 2 612 | 3 308 | 2 412 | 30 265 | 10 000 |

Note(s):

- (1) In this table the term 'ingots, blooms, billets' corresponds to items 672.4,6,7 and 8 of the Standard International Trade Classification (Revision 3) which includes those of alloy and high carbon steel
- (a) Excluding ferro-molybdenum and ferro-vanadium
- (b) Re-exports
- (c) Included with 'other ferro-alloys'
- (d) Years ended 31 March following that stated
- (e) Years ended 30 June of that stated
- (f) BGS estimates, based on known imports into certain countries
- (g) Including powder

Imports of Iron, Steel and Ferro-alloys

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--|-----------|-----------|-----------|-----------|-----------|
| United Kingdom | | | | | |
| Pig iron | 118 121 | 105 419 | 192 706 | 225 051 | 207 495 |
| Sponge & powder | 13 122 | 17 158 | 19 739 | 18 444 | 16 927 |
| Ferro-chrome & ferro-silico-chrome | 95 648 | 110 093 | 103 334 | 112 025 | 69 764 |
| Ferro-manganese | 53 492 | 36 954 | 67 918 | 53 097 | 45 685 |
| Ferro-silico-manganese | 30 471 | 20 978 | 32 285 | 39 086 | 35 809 |
| Ferro-molybdenum | 276 | 663 | 600 | 638 | 502 |
| Ferro-nickel | 21 454 | 22 307 | 17 757 | 19 347 | 19 439 |
| Ferro-niobium | 575 | 559 | 536 | 459 | 472 |
| Ferro-phosphorus | ... | ... | 3 887 | 3 606 | 2 945 |
| Ferro-silicon | 66 170 | 77 547 | 74 087 | 86 594 | 99 511 |
| Ferro-titanium & ferro-silico-titanium | 955 | 727 | 929 | 625 | 1 464 |
| Ferro-tungsten & ferro-silico-tungsten | 83 | 114 | 94 | 89 | 189 |
| Ferro-vanadium | 519 | 666 | 565 | 821 | 631 |
| Other ferro-alloys | 10 439 | 13 424 | 11 535 | 7 897 | 7 244 |
| Silicon metal | 37 503 | 40 938 | 43 027 | 41 663 | 44 337 |
| Ingots, blooms, billets | 242 711 | 200 524 | 344 972 | 387 079 | 341 848 |
| Scrap | 44 839 | 72 635 | 91 733 | 102 726 | 81 876 |
| Belgium-Luxembourg | | | | | |
| Pig iron | 121 731 | 132 428 | 254 260 | 325 015 | 106 487 |
| Spiegeleisen | 1 532 | 425 | 109 | 54 | 42 |
| Sponge & powder | 1 631 | 1 859 | 10 331 | 11 047 | 8 742 |
| Ferro-aluminium,Fe-Si-Al & Fe-Si-Mn-Al | 404 | 540 | (d)... | (d)... | (d)... |
| Ferro-chrome | 45 552 | 41 663 | 70 994 | 83 259 | 95 093 |
| Ferro-silico-chrome | 2 253 | 2 774 | 2 455 | 2 667 | 2 806 |
| Ferro-manganese | 47 342 | 59 331 | 64 233 | 50 938 | 47 496 |
| Ferro-silico-manganese | 40 049 | 47 411 | 44 216 | 38 859 | 44 363 |
| Ferro-molybdenum | 709 | 906 | 1 389 | 2 101 | 2 882 |
| Ferro-nickel | 5 243 | 3 818 | 9 037 | 13 818 | 20 934 |
| Ferro-niobium | ... | ... | 395 | 586 | 530 |
| Ferro-phosphorus | ... | ... | 28 247 | 6 260 | 518 |
| Ferro-silicon | 28 639 | 31 098 | 31 673 | 34 749 | 36 955 |
| Ferro-titanium & ferro-silico-titanium | 510 | 509 | 623 | 838 | 402 |
| Ferro-vanadium | 112 | 62 | 128 | 279 | 487 |
| Other ferro-alloys | 3 534 | 3 916 | 4 720 | 6 844 | 5 354 |
| Ingots, blooms, billets | 446 328 | 557 653 | 1 702 942 | 1 130 849 | 909 382 |
| Scrap | 1 221 785 | 1 583 802 | 1 902 586 | 1 974 729 | 1 885 114 |
| Denmark | | | | | |
| Pig iron | 75 989 | 77 687 | 113 331 | 120 269 | 109 313 |
| Sponge & powder | 1 375 | 887 | 2 073 | 2 550 | 2 624 |
| Ferro-aluminium,Fe-Si-Al & Fe-Si-Mn-Al | 254 | 533 | (d)... | (d)... | (d)... |
| Ferro-chrome & ferro-silico-chrome | 85 | 73 | 47 | 149 | 113 |
| Ferro-manganese | 1 618 | 1 285 | 1 901 | 2 360 | 2 523 |
| Ferro-silico-manganese | 6 247 | 4 678 | 5 863 | 4 842 | 2 807 |
| Ferro-silicon | 3 165 | 2 998 | 3 696 | 4 475 | 3 629 |
| Other ferro-alloys | 199 | 223 | 578 | 1 288 | 1 155 |
| Ingots, blooms, billets | 6 707 | 14 187 | 19 460 | 102 633 | 40 542 |
| Scrap | 121 242 | 89 288 | 116 745 | 105 855 | 74 306 |
| France | | | | | |
| Pig iron | 370 163 | 385 667 | 278 480 | 272 949 | 313 046 |
| Spiegeleisen | 1 973 | 143 | 255 | 10 | 57 |
| Sponge & powder | 11 200 | 12 495 | 14 155 | 16 429 | 13 811 |
| Ferro-aluminium,Fe-Si-Al & Fe-Si-Mn-Al | 343 | 685 | (d)... | (d)... | (d)... |
| Ferro-chrome | 168 118 | 195 857 | 181 077 | 180 031 | 210 925 |
| Ferro-silico-chrome | 500 | 1 639 | 225 | 107 | 205 |
| Ferro-silico-magnesium | 1 731 | 2 185 | 2 776 | 5 144 | 4 357 |
| Ferro-manganese | 64 310 | 59 384 | 64 119 | 86 508 | 83 503 |
| Ferro-silico-manganese | 58 888 | 53 572 | 51 409 | 45 141 | 43 734 |
| Ferro-molybdenum | 1 565 | 2 422 | 2 093 | 2 086 | 2 704 |
| Ferro-nickel | 79 875 | 41 838 | 54 373 | 47 359 | 46 932 |
| Ferro-niobium | ... | ... | 1 035 | 1 094 | 1 025 |
| Ferro-phosphorus | ... | ... | 2 874 | 3 423 | 3 244 |
| Ferro-silicon | 34 761 | 45 945 | 57 591 | 59 029 | 70 176 |
| Ferro-titanium & ferro-silico-titanium | 2 065 | 2 782 | 1 882 | 2 582 | 3 554 |
| Ferro-tungsten & ferro-silico-tungsten | 325 | 644 | 596 | 601 | 335 |
| Ferro-vanadium | 1 037 | 919 | 1 103 | 851 | 725 |
| Other ferro-alloys | 1 871 | 1 732 | 4 605 | 6 541 | 6 516 |
| Silicon metal | 8 181 | 9 850 | 13 067 | 13 662 | 13 619 |
| Ingots, blooms, billets | 673 186 | 626 393 | 585 446 | 551 950 | 477 143 |
| Scrap | 354 205 | 518 960 | 800 987 | 866 003 | 998 821 |

Imports of Iron, Steel and Ferro-alloys

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--|-----------|-----------|-----------|-----------|-----------|
| Germany, Federal Republic of | | | | | |
| Pig iron | 271 986 | 263 039 | 237 191 | 278 108 | 286 490 |
| Spiegeleisen | 1 109 | 491 | 384 | — | — |
| Sponge & powder | 21 124 | 25 438 | 29 846 | 30 771 | 27 751 |
| Ferro-chrome | 273 340 | 326 987 | 363 146 | 391 344 | 327 314 |
| Ferro-silico-chrome | 16 545 | 14 048 | 20 807 | 19 147 | 12 002 |
| Ferro-silico-magnesium | ... | ... | 2 527 | 4 414 | 4 121 |
| Ferro-manganese | 106 140 | 98 155 | 109 637 | 99 084 | 126 247 |
| Ferro-silico-manganese | 111 817 | 114 860 | 124 442 | 117 149 | 104 628 |
| Ferro-molybdenum | 5 962 | 5 954 | 7 285 | 8 098 | 7 934 |
| Ferro-nickel | 88 157 | 62 913 | 82 134 | 96 373 | 89 529 |
| Ferro-niobium | 3 055 | 2 401 | 2 532 | 2 579 | 2 158 |
| Ferro-phosphorus | ... | ... | 11 321 | 14 376 | 11 673 |
| Ferro-silicon | 213 950 | 198 127 | 217 871 | 209 066 | 224 201 |
| Ferro-titanium & ferro-silico-titanium | 4 510 | 4 603 | 5 434 | 5 390 | 5 120 |
| Ferro-tungsten & ferro-silico-tungsten | 691 | 645 | 1 343 | 1 400 | 1 479 |
| Ferro-vanadium | 2 032 | 1 772 | 2 068 | 2 692 | 2 720 |
| Other ferro-alloys | 7 499 | 9 519 | 8 445 | 9 480 | 6 365 |
| Silicon metal | 66 822 | 74 370 | 76 658 | 85 348 | 83 578 |
| Ingots, blooms, billets | 1 315 906 | 1 449 815 | 1 802 890 | 1 971 363 | 1 870 893 |
| Scrap | 1 383 917 | 1 195 750 | 1 477 132 | 1 336 498 | 1 117 563 |
| Greece | | | | | |
| Pig iron | 19 761 | 20 187 | 10 000 | 83 692 | 95 474 |
| Ferro-manganese | 5 343 | 3 795 | — | 6 507 | 4 991 |
| Ferro-silico-manganese | 6 525 | 5 913 | 3 710 | 7 157 | 8 261 |
| Ferro-silicon | 3 901 | 2 897 | 2 200 | 3 858 | 3 501 |
| Other ferro-alloys | 452 | 597 | 1 338 | 333 | 625 |
| Ingots, blooms, billets | 417 482 | 508 589 | 310 438 | 846 680 | 654 854 |
| Scrap | 455 302 | 734 234 | 425 451 | 428 486 | 525 949 |
| Irish Republic | | | | | |
| Pig iron | 1 046 | 558 | 3 027 | 322 | 553 |
| Ferro-alloys | 2 984 | 3 469 | 3 904 | 4 793 | 4 513 |
| Ingots, blooms, billets | 467 | 6 817 | 2 412 | 1 868 | 2 813 |
| Scrap | 121 979 | 148 594 | 179 594 | 220 254 | 217 004 |
| Italy | | | | | |
| Pig iron | 398 276 | 451 190 | 670 820 | 896 775 | 1 025 362 |
| Spiegeleisen | 197 | 713 | 136 | 134 | 351 |
| Sponge & powder | 27 318 | 103 428 | 205 139 | 282 626 | 305 122 |
| Ferro-aluminium,Fe-Si-Al & Fe-Si-Mn-Al | 1 218 | 1 465 | (d)... | (d)... | (d)... |
| Ferro-chrome | 99 031 | 93 267 | 90 748 | 98 759 | 96 745 |
| Ferro-silico-chrome | 1 826 | 1 706 | 1 488 | 1 237 | 977 |
| Ferro-silico-magnesium | 2 201 | 2 646 | 3 013 | (d)... | (d)... |
| Ferro-manganese | 90 052 | 89 408 | 93 278 | 90 884 | 78 210 |
| Ferro-silico-manganese | 23 545 | 28 627 | 38 200 | 59 610 | 51 761 |
| Ferro-molybdenum | 2 403 | 2 376 | 2 489 | 2 776 | 2 953 |
| Ferro-nickel | 21 719 | 21 329 | 20 595 | 16 441 | 16 078 |
| Ferro-niobium | 1 290 | 1 155 | 1 165 | 1 187 | 761 |
| Ferro-silicon | 55 361 | 59 002 | 60 269 | 61 169 | 65 562 |
| Ferro-titanium & ferro-silico-titanium | 737 | 830 | 807 | 1 125 | 1 010 |
| Ferro-tungsten & ferro-silico-tungsten | 147 | 264 | 230 | 340 | 259 |
| Ferro-vanadium | 1 121 | 827 | 1 087 | 821 | 887 |
| Other ferro-alloys | 1 299 | 2 096 | 4 976 | 12 480 | 11 359 |
| Silicon metal | 14 107 | 18 400 | 16 261 | 22 499 | 19 144 |
| Ingots, blooms, billets | 1 265 566 | 1 222 883 | 2 001 890 | 1 799 746 | 1 788 367 |
| Scrap | 4 746 375 | 4 911 165 | 5 064 738 | 5 746 755 | 5 809 352 |
| Netherlands | | | | | |
| Pig iron | 49 702 | 48 433 | 63 364 | 67 384 | 61 336 |
| Sponge & powder | 1 792 | 2 872 | 2 054 | 4 797 | 4 691 |
| Ferro-chrome | 16 083 | 7 988 | 1 913 | 7 442 | 8 084 |
| Ferro-silico-chrome | 95 | 56 | 83 | — | 72 |
| Ferro-manganese | 17 046 | 14 274 | 18 764 | 17 969 | 17 450 |
| Ferro-silico-manganese | 6 486 | 6 987 | 7 261 | 6 360 | 7 050 |
| Ferro-molybdenum | 563 | 278 | 459 | 431 | 544 |
| Ferro-nickel | 254 | 67 | 109 | 36 | 100 |
| Ferro-niobium | ... | ... | 63 | 94 | 104 |
| Ferro-phosphorus | ... | ... | 461 | 281 | 254 |
| Ferro-silicon | 7 972 | 4 847 | 7 340 | 9 411 | 8 085 |
| Ferro-titanium & ferro-silico-titanium | 2 369 | 2 425 | 1 599 | 1 787 | 288 |
| Ferro-tungsten & ferro-silico-tungsten | 117 | 190 | — | — | — |
| Ferro-vanadium | 81 | 54 | 113 | 67 | 62 |
| Other ferro-alloys | 1 097 | 1 243 | 1 380 | 2 006 | 1 368 |
| Silicon metal | 4 333 | 5 651 | 6 935 | 5 432 | 8 824 |
| Ingots, blooms, billets | 118 474 | 100 037 | 86 257 | 79 324 | 77 461 |
| Scrap | 849 807 | 1 014 012 | 768 885 | 1 114 052 | 1 173 659 |

Imports of Iron, Steel and Ferro-alloys

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--|-----------|-----------|-----------|-----------|-----------|
| Portugal | | | | | |
| Pig iron | 7 630 | 16 223 | 21 673 | 10 401 | 16 967 |
| Ferro-silicon | 991 | 3 253 | 3 502 | 3 164 | 6 328 |
| Other ferro-alloys | 899 | 1 309 | 8 977 | 9 307 | 11 090 |
| Ingots, blooms, billets | 4 426 | 3 746 | 8 557 | 12 271 | 14 450 |
| Scrap | 104 453 | 124 615 | 181 385 | 150 013 | 82 398 |
| Spain | | | | | |
| Pig iron | 140 230 | 114 700 | 138 379 | 175 041 | 204 566 |
| Sponge & powder | 62 981 | 47 262 | 35 009 | 36 238 | 60 077 |
| Ferro-chrome | 71 371 | 80 627 | 68 969 | 79 635 | 100 362 |
| Ferro-silico-chrome | 1 620 | 2 080 | 2 094 | 998 | 1 184 |
| Ferro-manganese | 6 635 | 14 129 | 9 065 | 8 472 | 15 893 |
| Ferro-silico-manganese | 11 392 | 14 535 | 9 995 | 4 929 | 19 450 |
| Ferro-molybdenum | 108 | 197 | 724 | 884 | 1 362 |
| Ferro-nickel | 24 850 | 24 632 | 24 597 | 19 459 | 32 041 |
| Ferro-niobium | ... | ... | 119 | 144 | 145 |
| Ferro-phosphorus | ... | ... | 1 175 | 1 909 | 1 398 |
| Ferro-silicon | 11 975 | 11 089 | 5 429 | 20 498 | 16 234 |
| Ferro-titanium & ferro-silico-titanium | 200 | 227 | 401 | 694 | 699 |
| Ferro-tungsten & ferro-silico-tungsten | 47 | 62 | 81 | 56 | 29 |
| Ferro-vanadium | 418 | 206 | 261 | 274 | 283 |
| Other ferro-alloys | 10 174 | 2 387 | 4 165 | 5 213 | 4 728 |
| Silicon metal | 17 | 308 | 1 354 | 813 | 1 903 |
| Ingots, blooms, billets | 408 032 | 145 783 | 95 725 | 247 317 | 94 572 |
| Scrap | 4 341 976 | 4 284 658 | 4 472 483 | 4 475 559 | 4 332 121 |
| Albania | | | | | |
| Ferro-alloys (g) | *2 900 | *2 300 | *2 500 | *2 800 | *1 000 |
| Austria | | | | | |
| Pig iron | 35 479 | 33 157 | 42 274 | 66 875 | 49 187 |
| Sponge & powder | 5 372 | 6 036 | 6 686 | 6 602 | 6 909 |
| Ferro-chrome | 19 373 | 17 823 | 22 202 | 21 969 | 19 428 |
| Ferro-silico-chrome | (d)... | (d)... | 655 | 641 | 401 |
| Ferro-manganese | 18 945 | 18 777 | 23 887 | 23 899 | 22 182 |
| Ferro-silico-manganese | (d)... | (d)... | 6 907 | 5 103 | 5 419 |
| Ferro-molybdenum | 175 | 189 | 191 | 274 | 354 |
| Ferro-nickel | 2 602 | 2 770 | 1 305 | 1 369 | 1 456 |
| Ferro-niobium & ferro-niobium-tantalum | 318 | 268 | 275 | 306 | 46 |
| Ferro-silicon | 16 966 | 14 085 | 21 452 | 20 732 | 19 642 |
| Ferro-titanium | 704 | 455 | 487 | 414 | 311 |
| Ferro-tungsten | 176 | 444 | 648 | 888 | 795 |
| Ferro-vanadium | 105 | 69 | 177 | 286 | 137 |
| Other ferro-alloys | 8 874 | 8 622 | 1 955 | 2 092 | 1 733 |
| Silicon metal | ... | ... | 4 201 | 4 544 | 4 924 |
| Ingots & blooms | 163 273 | 100 163 | 222 415 | 204 440 | 328 694 |
| Scrap | 115 029 | 68 523 | 101 539 | 88 183 | 54 561 |
| Bulgaria | | | | | |
| Pig iron | 425 398 | 482 935 | 368 458 | 260 931 | 309 000 |
| Ferro-chrome | 8 940 | (d)... | (d)... | (d)... | ... |
| Ferro-manganese | 3 169 | 4 000 | 3 000 | 6 000 | ... |
| Ferro-silicon | 9 375 | (d)... | (d)... | (d)... | ... |
| Other ferro-alloys | 5 323 | 25 000 | 24 000 | 25 000 | ... |
| Ingots, blooms, billets | 257 000 | 310 000 | ... | 232 000 | ... |
| Czechoslovakia | | | | | |
| Pig iron | 808 000 | 717 000 | 675 000 | 671 000 | 668 000 |
| Ferro-chrome & ferro-silico-chrome (g) | *900 | *1 700 | *1 000 | *1 200 | *500 |
| Ferro-titanium & ferro-silico-titanium (g) | *700 | *800 | *800 | *600 | *400 |
| Other ferro-alloys (g) | *118 900 | *115 400 | *120 300 | *120 700 | *120 200 |
| Ingots, blooms, billets | 165 000 | 113 000 | 153 000 | 14 000 | ... |
| Scrap (g) | *43 200 | *19 700 | *13 900 | *13 600 | *9 900 |
| Finland | | | | | |
| Pig iron | 14 382 | 12 982 | 8 937 | 18 638 | 52 285 |
| Sponge & powder | 499 | 327 | 1 696 | 531 | 638 |
| Ferro-chrome & ferro-silico-chrome | 1 446 | 1 944 | 1 863 | 1 992 | 2 163 |
| Ferro-manganese | 4 496 | 4 355 | 5 955 | 8 811 | 10 802 |
| Ferro-silico-manganese | 13 988 | 22 515 | 16 472 | 21 700 | 20 023 |
| Ferro-molybdenum | 490 | 624 | 639 | 784 | 844 |
| Ferro-nickel | (d)... | (d)... | 24 091 | 19 704 | 30 718 |
| Ferro-silicon | 7 660 | 9 994 | 8 422 | 10 826 | 13 123 |
| Ferro-titanium | 275 | 487 | 387 | 343 | 419 |
| Ferro-vanadium | 217 | 205 | 211 | 199 | 289 |
| Other ferro-alloys | 15 512 | 31 100 | 979 | 959 | 1 025 |
| Ingots, blooms, billets | 5 650 | 30 197 | 76 839 | 162 894 | 150 928 |
| Scrap | 63 336 | 54 853 | 16 096 | 33 499 | 45 774 |

Imports of Iron, Steel and Ferro-alloys

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-----------------------------------|-----------|-----------|-----------|-----------|------------|
| German Democratic Republic | | | | | |
| Pig iron | 1 145 800 | 1 339 600 | 1 280 100 | 1 300 800 | *1 300 000 |
| Sponge & powder (g) | *15 600 | *18 800 | *14 100 | *11 800 | *6 500 |
| Ferro-manganese | 74 000 | 73 000 | ... | ... | ... |
| Other ferro-alloys | 6 000 | 11 000 | ... | ... | ... |
| Ingots, blooms, billets | 107 000 | 131 000 | ... | ... | ... |
| Scrap | 986 000 | 903 000 | 900 000 | 900 000 | *900 000 |
| Hungary | | | | | |
| Pig iron | 254 297 | 261 512 | 351 122 | 344 366 | 213 605 |
| Ferro-chrome | 11 183 | 13 393 | 11 250 | (d)... | 10 409 |
| Ferro-manganese | 42 250 | 36 292 | 36 416 | (d)... | 30 675 |
| Ferro-molybdenum | 315 | 436 | 200 | 278 | 52 |
| Ferro-silicon | 7 424 | 6 871 | 8 146 | (d)... | 13 257 |
| Other ferro-alloys | 14 697 | 14 170 | 14 662 | 66 528 | ... |
| Scrap | 8 330 | 14 307 | 5 046 | 80 103 | 602 886 |
| Malta | | | | | |
| Ingots, blooms, billets | 6 342 | 5 275 | 6 124 | 6 786 | ... |
| Norway | | | | | |
| Pig iron | 4 781 | 3 460 | 2 249 | 4 573 | 5 601 |
| Sponge & powder | 749 | 785 | 2 560 | 2 449 | 696 |
| Ferro-chrome | 830 | 652 | 719 | 1 021 | 854 |
| Ferro-manganese | 0 | 3 130 | 2 001 | 9 741 | 3 704 |
| Ferro-silico-manganese | 310 | 2 401 | 2 691 | 3 | 309 |
| Ferro-silicon | 995 | 630 | 1 477 | 2 928 | 1 625 |
| Other ferro-alloys | 255 | 304 | 399 | 430 | 578 |
| Ingots, blooms, billets | 5 320 | 3 072 | 7 673 | 61 256 | 170 550 |
| Scrap | 6 145 | 32 528 | 163 664 | 60 767 | 22 605 |
| Poland | | | | | |
| Pig iron & ferro-alloys | 1 477 696 | 1 420 314 | 1 369 961 | 1 292 699 | 1 361 240 |
| Ingots, blooms, billets | 16 000 | 16 000 | 29 000 | 23 000 | 11 400 |
| Scrap | 3 444 | 5 116 | 2 241 | 3 040 | 1 315 |
| Romania | | | | | |
| Pig iron | 100 100 | 99 800 | 93 000 | 98 000 | 95 000 |
| Sponge & powder (g) | *3 700 | *5 000 | *3 300 | *1 100 | *500 |
| Ferro-alloys | 162 200 | 133 600 | 126 300 | 138 400 | ... |
| Ingots, blooms, billets | 309 000 | ... | ... | ... | ... |
| Soviet Union | | | | | |
| Pig iron | 30 426 | 29 574 | 105 894 | — | — |
| Sponge & powder (g) | *1 900 | *100 | *300 | *300 | ... |
| Ferro-alloys | 29 163 | 29 726 | 29 340 | 13 528 | ... |
| Scrap (g) | *44 100 | *59 900 | *54 000 | *44 000 | ... |
| Sweden | | | | | |
| Pig iron | 56 967 | 51 193 | 70 591 | 50 633 | 43 400 |
| Sponge & powder | 1 178 | 1 678 | 2 983 | 6 059 | 3 511 |
| Ferro-chrome | 43 258 | 50 593 | 44 625 | 41 554 | 46 068 |
| Ferro-silico-chrome | 100 | 2 611 | 2 455 | 2 453 | 1 379 |
| Ferro-manganese | 26 464 | 25 963 | 31 104 | 27 035 | 24 953 |
| Ferro-silico-manganese | 17 559 | 11 926 | 17 366 | 14 755 | 11 478 |
| Ferro-molybdenum | 1 388 | 1 431 | 2 033 | 3 478 | 3 292 |
| Ferro-nickel | 13 403 | 14 049 | 9 275 | 12 179 | 12 863 |
| Ferro-niobium | 213 | 291 | 266 | 371 | 368 |
| Ferro-silicon | 17 400 | 22 515 | 24 146 | 23 284 | 22 838 |
| Ferro-titanium | 1 442 | 1 475 | 1 886 | 1 391 | 1 634 |
| Ferro-tungsten | 326 | 372 | 697 | 860 | 705 |
| Ferro-vanadium | 1 120 | 1 105 | 1 098 | 1 151 | 1 040 |
| Other ferro-alloys | 1 539 | 1 227 | 2 426 | 2 798 | 2 944 |
| Ingots, blooms, billets | 48 909 | 136 936 | 122 357 | 119 821 | 87 187 |
| Scrap | 704 779 | 789 422 | 801 197 | 625 494 | 246 897 |
| Switzerland | | | | | |
| Pig iron | 42 237 | 34 282 | 42 596 | 46 556 | 46 886 |
| Sponge & powder | 4 858 | 4 478 | 4 941 | 5 255 | 5 313 |
| Ferro-aluminium | 377 | 557 | 373 | 573 | 806 |
| Ferro-manganese | (d)... | (d)... | 4 568 | 4 646 | 5 372 |
| Ferro-silico-manganese | (d)... | (d)... | 6 375 | 7 664 | 7 318 |
| Ferro-silicon | 7 963 | 6 814 | 7 157 | 6 691 | 6 071 |
| Other ferro-alloys | 15 156 | 14 648 | 2 099 | 2 272 | 2 693 |
| Silicon metal | 256 | 364 | 2 214 | 3 759 | 4 421 |
| Ingots, blooms, billets | 51 123 | 14 451 | 97 977 | 121 259 | 124 340 |
| Scrap | 323 815 | 136 487 | 85 587 | 152 116 | 135 922 |

Imports of Iron, Steel and Ferro-alloys

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--|-----------|-----------|-----------|-----------|-----------|
| Turkey | | | | | |
| Pig iron | 116 372 | 127 185 | 149 754 | 192 152 | 148 094 |
| Sponge & powder | 1 115 | 25 575 | 32 793 | 24 125 | 19 894 |
| Ferro-manganese | 21 007 | 41 707 | 35 965 | 51 081 | 32 047 |
| Ferro-silico-manganese | 25 502 | 28 049 | 31 892 | 27 975 | 48 830 |
| Ferro-silicon | 14 487 | 27 035 | 24 783 | 29 276 | 32 409 |
| Other ferro-alloys | 1 668 | 1 290 | 1 286 | 5 466 | 4 718 |
| Ingots, blooms, billets | 920 934 | 1 553 498 | 871 221 | 1 005 176 | 521 941 |
| Scrap | 1 798 755 | 2 831 269 | 3 036 709 | 4 422 413 | 3 649 790 |
| Yugoslavia | | | | | |
| Pig iron | 63 326 | 25 381 | 39 119 | 111 241 | 93 256 |
| Sponge & powder | 1 985 | 1 999 | 1 866 | 2 104 | 1 584 |
| Ferro-chrome | 1 172 | 432 | 6 067 | 3 481 | 2 970 |
| Ferro-silico-chrome | 982 | 18 | 677 | 3 053 | 3 963 |
| Ferro-manganese | 1 714 | 1 078 | 1 561 | 2 997 | 6 856 |
| Ferro-molybdenum | 989 | 656 | — | — | — |
| Ferro-phosphorus | 482 | 682 | — | — | — |
| Ferro-silicon | 838 | 1 268 | 959 | 4 286 | 5 013 |
| Ferro-tungsten | 114 | 197 | — | — | — |
| Ferro-vanadium | 406 | 332 | — | — | — |
| Other ferro-alloys | 2 250 | 910 | 2 851 | 2 982 | 2 527 |
| Ingots, blooms, billets | 1 358 043 | 808 842 | 699 687 | 718 371 | 720 305 |
| Scrap | 673 068 | 704 528 | 749 456 | 665 019 | 412 800 |
| Algeria | | | | | |
| Pig iron | 22 478 | 9 691 | ... | ... | ... |
| Ferro-chrome | 320 | — | ... | ... | ... |
| Ferro-manganese | 4 495 | 2 170 | 7 322 | ... | ... |
| Ferro-silico-manganese | 179 | 170 | (d)... | ... | ... |
| Ferro-niobium | 221 | 440 | (d)... | ... | ... |
| Ferro-silicon | 4 029 | 2 784 | 5 687 | ... | ... |
| Ferro-vanadium | — | 50 | (d)... | ... | ... |
| Other ferro-alloys | 74 | 14 | 729 | ... | ... |
| Ingots, blooms, billets | 10 166 | 9 289 | ... | ... | ... |
| Egypt | | | | | |
| Pig iron | 20 783 | 10 | ... | ... | ... |
| Ferro-alloys | 5 465 | 16 479 | 12 265 | ... | ... |
| Ingots & billets | 93 930 | *33 500 | ... | ... | ... |
| Scrap | 1 539 | 1 992 | 11 772 | ... | ... |
| Kenya | | | | | |
| Ingots & blooms | 39 158 | 48 039 | 52 614 | ... | ... |
| Scrap | 6 108 | 4 683 | 435 | ... | ... |
| Liberia | | | | | |
| Pig iron | 1 951 | 2 967 | ... | ... | ... |
| Mauritius | | | | | |
| Pig iron & ingots | 21 034 | 15 905 | 25 410 | 33 073 | ... |
| Morocco | | | | | |
| Pig iron | 911 | 2 042 | 3 318 | 1 512 | 3 339 |
| Ferro-chrome | 31 | ... | 60 | 80 | 69 |
| Ferro-manganese & ferro-silico-manganese | 132 | 153 | 186 | 126 | 188 |
| Ferro-silicon | 128 | 192 | 197 | 122 | 92 |
| Ingots, blooms, billets | 231 273 | 289 084 | 371 698 | 440 491 | 412 117 |
| Scrap | 3 266 | 2 000 | 36 | 81 | 2 320 |
| Nigeria | | | | | |
| Pig iron | 167 | 628 | ... | ... | ... |
| Ferro-manganese | 4 501 | 2 515 | 3 000 | ... | ... |
| Other ferro-alloys | 685 | 457 | ... | ... | ... |
| Ingots & blooms | 92 176 | 139 614 | ... | ... | ... |
| Rwanda | | | | | |
| Ingots | 31 017 | 31 336 | 36 578 | ... | ... |
| South Africa | | | | | |
| Sponge & powder | 2 314 | 2 148 | ... | ... | ... |
| Ferro-chrome | 3 585 | 7 354 | ... | ... | ... |
| Ferro-silico-magnesium | 793 | 524 | ... | ... | ... |
| Ferro-molybdenum | 763 | 694 | 699 | ... | ... |
| Ferro-silicon | — | 324 | ... | ... | ... |
| Ferro-titanium & ferro-silico-titanium | 300 | 538 | ... | ... | ... |
| Other ferro-alloys | 1 451 | 2 370 | ... | ... | ... |
| Ingots & blooms | 995 | 221 | ... | ... | ... |
| Scrap | 9 900 | 10 757 | ... | ... | ... |

Imports of Iron, Steel and Ferro-alloys

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|---|-----------|-----------|-----------|-----------|-----------|
| Tanzania | | | | | |
| Pig iron & ferro-alloys | ... | 487 | 6 381 | 1 747 | ... |
| Ingots & blooms | 4 149 | 3 697 | 3 802 | 17 228 | ... |
| Tunisia | | | | | |
| Pig iron | 553 | 1 376 | 2 351 | 3 202 | 5 640 |
| Ferro-alloys | 1 734 | 871 | 1 719 | 1 829 | 1 778 |
| Ingots, blooms, billets | 38 415 | 39 386 | 79 214 | 28 188 | 46 601 |
| Scrap | 538 | 1 753 | 598 | 3 022 | 2 183 |
| Zimbabwe | | | | | |
| Ferro-manganese | 1 720 | 137 | 147 | ... | 546 |
| Ferro-silicon | 1 392 | 867 | 669 | ... | 31 |
| Other ferro-alloys | 112 | 138 | 131 | ... | 59 |
| Canada | | | | | |
| Pig iron | 11 814 | 9 794 | 9 022 | 15 196 | 3 667 |
| Sponge & powder | 6 637 | 7 060 | 8 555 | 5 989 | 5 752 |
| Ferro-chrome | 39 038 | 44 118 | 48 879 | 48 550 | 43 202 |
| Ferro-silico-chrome | (d)... | (d)... | 2 914 | 2 441 | 1 192 |
| Ferro-manganese & spiegeleisen | 20 283 | 39 606 | 35 346 | 44 840 | 29 364 |
| Fe-silico-manganese & silico-spiegeleisen | 6 773 | 13 301 | 17 260 | 13 096 | 17 143 |
| Ferro-molybdenum | 348 | 223 | 345 | 1 150 | 581 |
| Ferro-nickel | (d)... | (d)... | 3 060 | 2 993 | 2 524 |
| Ferro-niobium | (d)... | (d)... | 1 196 | 1 066 | 1 108 |
| Ferro-silicon | 13 552 | 12 367 | 20 275 | 20 925 | 20 504 |
| Ferro-titanium & ferro-silico-titanium | 461 | 545 | 643 | 438 | 533 |
| Ferro-vanadium | 165 | 208 | 271 | 371 | 300 |
| Other ferro-alloys | 13 319 | 14 324 | 10 081 | 7 059 | 4 623 |
| Ingots, blooms, billets | 254 633 | 725 656 | 1 346 115 | 653 858 | 277 327 |
| Scrap | 747 194 | 775 830 | 1 185 699 | 1 460 467 | 1 002 519 |
| Costa Rica | | | | | |
| Ingots, blooms, billets | 43 989 | 45 233 | 56 805 | 65 020 | 71 324 |
| Cuba | | | | | |
| Pig iron | 284 210 | 271 324 | 184 792 | 239 544 | ... |
| Scrap (b) | 88 755 | 55 699 | — | ... | ... |
| Dominican Republic | | | | | |
| Ingots, blooms, billets | 10 342 | ... | ... | ... | ... |
| Scrap | 36 969 | ... | ... | ... | ... |
| El Salvador | | | | | |
| Ingots, blooms, billets | 14 885 | 19 933 | 21 119 | 10 361 | 13 047 |
| Scrap | 8 | 1 302 | 3 241 | ... | ... |
| Guatemala | | | | | |
| Ingots, blooms, billets | 11 652 | 26 576 | 23 952 | 28 317 | 33 884 |
| Honduras | | | | | |
| Ingots, blooms, billets | 2 496 | 220 | ... | ... | ... |
| Jamaica | | | | | |
| Ingots, blooms, billets | 853 | 16 468 | 23 307 | 32 030 | 12 086 |
| Mexico | | | | | |
| Pig iron | 8 630 | 9 171 | 28 882 | 51 073 | ... |
| Sponge & powder | 1 689 | 2 059 | 2 662 | 368 467 | ... |
| Ferro-alloys | 4 218 | 6 565 | 10 228 | 16 444 | 22 225 |
| Ingots, blooms, billets | 139 233 | 3 855 | 7 554 | 7 876 | ... |
| Scrap | 453 934 | 464 079 | 834 539 | 656 304 | 568 400 |
| Nicaragua | | | | | |
| Ingots, blooms, billets | 35 072 | 38 579 | 40 508 | 41 723 | ... |
| Panama | | | | | |
| Ingots, blooms, billets | 12 495 | 24 564 | ... | 6 946 | 8 744 |
| USA | | | | | |
| Pig iron | 269 382 | 323 774 | 640 456 | 443 115 | 347 384 |
| Sponge & powder | 88 527 | 56 239 | 176 327 | 226 000 | 384 483 |
| Ferro-chrome | 351 522 | 295 017 | 422 813 | 343 734 | 415 882 |
| Ferro-silico-chrome | 5 896 | 7 581 | 9 710 | 6 803 | 3 801 |
| Ferro-manganese | 352 072 | 333 531 | 485 566 | 429 982 | 379 728 |
| Ferro-silico-manganese | 177 419 | 173 618 | 207 098 | 229 687 | 222 742 |
| Ferro-molybdenum | 789 | 1 515 | 2 288 | 1 410 | 1 401 |
| Ferro-nickel | 36 713 | 41 178 | 40 440 | 33 889 | 41 767 |
| Ferro-niobium | 2 395 | 2 803 | 2 957 | 3 880 | 2 919 |
| Ferro-silicon | 204 288 | 209 120 | 210 759 | 174 688 | 237 757 |
| Ferro-titanium & ferro-silico-titanium | 618 | 1 293 | 1 552 | 2 008 | 1 960 |
| Ferro-tungsten & ferro-silico-tungsten | 244 | 407 | 899 | 552 | 659 |
| Ferro-vanadium | 678 | 385 | 134 | 697 | 305 |
| Ferro-zirconium | 456 | 182 | 676 | 443 | — |
| Silicon metal | 29 079 | 31 162 | 42 191 | 45 204 | 66 344 |
| Ingots, blooms, billets | 1 955 161 | 2 096 366 | 2 111 496 | 1 997 432 | 2 146 494 |
| Scrap | 643 627 | 750 994 | 927 024 | 1 015 614 | 1 291 535 |

Imports of Iron, Steel and Ferro-alloys

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------|---------------|-----------|---------|---------|-----------|
| Argentina | | | | | |
| Pig iron | — | — | 111 282 | 2 000 | — |
| Ferro-chrome | 2 170 | 3 792 | 2 799 | (d)... | ... |
| Ferro-manganese | 1 302 | 2 912 | 3 917 | (d)... | ... |
| Ferro-silicon | 190 | 61 | 204 | (d)... | ... |
| Other ferro-alloys | 175 | 226 | 141 | 5 053 | ... |
| Blooms & billets | ... | ... | 119 674 | ... | ... |
| Scrap | 1 067 | 670 | 2 507 | ... | ... |
| Brazil | | | | | |
| Sponge & powder | 2 061 | 1 789 | 3 182 | ... | 2 762 |
| Ferro-chrome | 750 | 1 336 | 199 | 2 228 | 13 293 |
| Other ferro-alloys | 367 | 302 | 474 | 1 210 | 6 143 |
| Ingots, blooms, billets | 463 999 | 422 064 | 338 | 320 | 950 |
| Scrap | 490 596 | 145 920 | 86 587 | 252 000 | 143 080 |
| Colombia | | | | | |
| Ferro-chrome | 554 | ... | 705 | 589 | ... |
| Ferro-manganese | 5 866 | 8 600 | 7 181 | 5 844 | ... |
| Ferro-silico-manganese | 1 224 | ... | 3 420 | 1 862 | ... |
| Ferro-silicon | 2 209 | ... | 2 935 | 3 125 | ... |
| Other ferro-alloys | 613 | ... | 833 | 2 920 | ... |
| Ingots, blooms, billets | 11 620 | 6 833 | 4 972 | 49 972 | ... |
| Scrap | 90 021 | 210 071 | 157 008 | 204 887 | ... |
| Ecuador | | | | | |
| Ingots, blooms, billets | 140 386 | 121 167 | 155 198 | 153 190 | ... |
| Peru | | | | | |
| Ferro-chrome | 480 | 454 | 167 | 523 | ... |
| Ferro-manganese | 1 962 | 1 869 | 1 821 | 1 306 | ... |
| Ferro-silico-manganese | 812 | 1 896 | 607 | 3 | ... |
| Ferro-silicon | 880 | 402 | 565 | 275 | ... |
| Scrap | 64 396 | 90 151 | 63 456 | 66 800 | 67 400 |
| Suriname | | | | | |
| Ferro-alloys | 3 024 | 5 907 | 2 125 | 5 099 | ... |
| Ingots, blooms, billets | 2 212 | 1 793 | 2 058 | 2 712 | ... |
| Scrap | 3 360 | 8 197 | 2 600 | 6 759 | ... |
| Uruguay | | | | | |
| Ferro-alloys | 817 | 644 | 598 | ... | ... |
| Ingots, blooms, billets | 12 520 | 19 507 | 9 551 | 9 009 | ... |
| Venezuela | | | | | |
| Sponge & powder | 53 871 | 128 066 | 111 696 | 331 422 | ... |
| Ferro-chrome | 875 | 698 | 852 | 701 | ... |
| Ferro-manganese | 35 416 | 41 028 | 37 948 | 30 403 | ... |
| Ferro-vanadium | 530 | 1 110 | 373 | 522 | ... |
| Other ferro-alloys | 644 | 1 056 | 1 102 | 285 | ... |
| Silicon metal | 1 098 | 2 109 | 4 180 | 3 921 | ... |
| Ingots, blooms, billets | 4 342 | 30 977 | 46 623 | 97 818 | ... |
| Scrap | 539 226 | 277 273 | 383 797 | 122 027 | ... |
| Abu Dhabi | | | | | |
| Scrap | 1 129 | 3 997 | 10 690 | ... | 7 600 |
| Bahrain | | | | | |
| Blooms & billets | 34 903 | 30 468 | 30 122 | 49 531 | ... |
| China | | | | | |
| Pig iron | (g)*2 515 100 | 1 472 680 | 869 911 | 686 053 | 1 310 000 |
| Ferro-alloys | (g)*1 200 | 993 | 710 | 5 499 | ... |
| Ingots, blooms, billets | 1 612 340 | 364 781 | 151 137 | 193 479 | 280 000 |
| Scrap | (g)*649 500 | 497 583 | 154 393 | 119 923 | 180 000 |
| Cyprus | | | | | |
| Pig iron | 1 519 | 502 | ... | 1 940 | 1 077 |
| Hong Kong | | | | | |
| Pig iron | 3 768 | 6 961 | 7 892 | 3 711 | 2 332 |
| Ferro-manganese | 1 998 | 2 442 | 8 731 | 8 923 | 12 189 |
| Ferro-silicon | 4 677 | 34 911 | 96 300 | 35 836 | 39 514 |
| Other ferro-alloys | 3 220 | 7 770 | 13 433 | 21 319 | 36 455 |
| Ingots, blooms, billets | 173 778 | 127 032 | 189 684 | 108 297 | 139 318 |
| Scrap | 33 669 | 43 600 | 86 071 | 76 445 | 81 961 |

Imports of Iron, Steel and Ferro-alloys

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--|-----------|-----------|-----------|-----------|-----------|
| India (e) | | | | | |
| Pig iron | 44 810 | 87 322 | 164 771 | 356 000 | 244 744 |
| Sponge & powder | 67 654 | 55 255 | 157 716 | ... | 56 426 |
| Ferro-chrome & ferro-silico-chrome | 4 600 | 833 | 48 | ... | 207 |
| Ferro-manganese & ferro-silico-manganese | 267 | 241 | 95 | ... | 273 |
| Ferro-nickel | 29 854 | 55 370 | 20 545 | ... | 16 119 |
| Ferro-silicon | 7 342 | 442 | 858 | ... | 1 930 |
| Other ferro-alloys | 1 298 | 481 | 1 295 | ... | 980 |
| Ingots, blooms, billets | 360 857 | 161 350 | 39 109 | ... | 32 913 |
| Scrap | 2 103 291 | 1 870 497 | 2 120 305 | 2 046 000 | 3 152 368 |
| Indonesia | | | | | |
| Pig iron | 72 239 | 18 287 | 125 082 | 176 604 | 168 259 |
| Sponge & powder | 21 491 | 54 130 | 75 903 | 105 593 | 158 786 |
| Ferro-manganese | 15 696 | 13 647 | 6 760 | 21 438 | 17 719 |
| Ferro-silico-manganese | 5 248 | 6 493 | 9 754 | 11 298 | 13 841 |
| Ferro-silicon | 3 847 | 3 933 | 331 | 1 401 | 7 879 |
| Other ferro-alloys | 5 621 | 6 266 | 355 | 343 | 810 |
| Ingots, blooms, billets | 92 912 | 206 872 | 321 261 | 362 889 | 756 620 |
| Scrap | 475 559 | 461 513 | 584 708 | 703 413 | 1 177 669 |
| Iran (f) | | | | | |
| Pig iron | 9 754 | 585 | 20 | 41 | ... |
| Ferro-alloys | 1 143 | 3 130 | 5 743 | 15 269 | ... |
| Ingots, blooms, billets | 532 132 | 681 774 | 307 003 | 643 651 | ... |
| Israel | | | | | |
| Pig iron (g) | *400 | *100 | *500 | *1 200 | *800 |
| Ferro-alloys (g) | *1 000 | *1 000 | *700 | *700 | *1 500 |
| Ingots, blooms, billets | 68 920 | 81 899 | 41 537 | 63 703 | 253 872 |
| Scrap (g) | *4 800 | *6 000 | *1 400 | *1 200 | *1 400 |
| Japan | | | | | |
| Pig iron | 920 870 | 1 301 780 | 2 823 811 | 2 212 128 | 3 184 495 |
| Sponge & powder | 46 091 | 137 217 | 39 395 | 48 563 | 81 140 |
| Ferro-chrome | 372 513 | 427 711 | 473 707 | 477 080 | 441 672 |
| Ferro-silico-chrome | 10 356 | 7 166 | 17 511 | 14 018 | 6 690 |
| Ferro-manganese | 7 125 | 27 425 | 27 383 | 21 786 | 43 268 |
| Ferro-silico-manganese | 176 821 | 150 740 | 158 410 | 274 282 | 195 282 |
| Ferro-molybdenum | 1 065 | 1 018 | 1 486 | 1 322 | 1 600 |
| Ferro-nickel | 38 700 | 29 935 | 48 664 | 52 073 | 41 941 |
| Ferro-niobium | 1 925 | 1 779 | 3 360 | 3 590 | 3 516 |
| Ferro-phosphorus | ... | ... | 8 198 | 7 838 | 6 591 |
| Ferro-silicon | 350 069 | 387 454 | 539 846 | 406 901 | 476 482 |
| Ferro-titanium & ferro-silico-titanium | ... | ... | 2 569 | 1 968 | 2 260 |
| Ferro-tungsten & ferro-silico-tungsten | 160 | 368 | 488 | 743 | 835 |
| Ferro-vanadium | 366 | 186 | 595 | 238 | 431 |
| Other ferro-alloys | 9 485 | 10 201 | 14 309 | 13 124 | 12 130 |
| Silicon metal | 103 926 | 113 498 | 132 840 | 135 422 | 131 310 |
| Ingots, blooms, billets | 335 399 | 437 507 | 559 218 | 727 731 | 1 022 601 |
| Scrap | 3 223 714 | 2 358 164 | 1 790 558 | 1 157 107 | 1 048 189 |
| Jordan | | | | | |
| Pig iron | 21 399 | 16 647 | 3 348 | 14 952 | 219 |
| Ingots, blooms, billets | 173 742 | 131 856 | 169 992 | 136 463 | 185 433 |
| Scrap | 1 810 | 3 797 | 1 256 | 1 244 | 9 961 |
| Korea, Dem. P.R. of | | | | | |
| Ferro-manganese (g) | *800 | *6 700 | *1 500 | *2 000 | *7 400 |
| Other ferro-alloys (g) | *11 500 | *18 200 | *16 400 | *7 600 | *7 900 |
| Korea, Republic of | | | | | |
| Pig iron | 386 108 | 672 919 | 2 780 749 | 1 063 395 | 980 970 |
| Sponge & powder | 4 083 | 5 837 | 7 510 | 18 983 | 101 305 |
| Ferro-chrome | 10 431 | 13 752 | 16 290 | 60 775 | 76 931 |
| Ferro-manganese | 1 124 | 4 409 | 3 743 | 4 296 | 7 868 |
| Ferro-silico-manganese | ... | ... | ... | 2 572 | 4 420 |
| Ferro-molybdenum | 582 | 541 | 946 | 1 030 | 919 |
| Ferro-nickel | 725 | 364 | 946 | 18 882 | 18 541 |
| Ferro-silicon | 15 834 | 43 395 | 68 440 | 63 890 | 67 781 |
| Ferro-vanadium | 262 | 319 | 492 | 226 | 377 |
| Other ferro-alloys | 3 857 | 4 878 | 6 847 | 3 838 | 5 354 |
| Silicon metal | 2 627 | 4 465 | 4 554 | 4 988 | 6 921 |
| Ingots & blooms | 393 137 | 927 978 | 631 587 | 394 082 | 1 135 774 |
| Scrap | 3 115 164 | 3 518 698 | 3 892 465 | 4 062 390 | 3 875 997 |

Imports of Iron, Steel and Ferro-alloys

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------|-----------|---------|-----------|-----------|-----------|
| Malaysia | | | | | |
| Pig iron | 1 087 | 917 | 46 597 | 66 165 | ... |
| Spiegeleisen | 226 | 2 059 | 3 015 | 4 070 | ... |
| Ferro-manganese | 5 927 | 5 193 | 17 221 | 7 611 | ... |
| Ferro-silico-manganese | (d)... | (d)... | 5 396 | 5 851 | ... |
| Ferro-silicon | 4 088 | 2 345 | 4 424 | 6 074 | ... |
| Other ferro-alloys | 4 282 | 5 416 | 1 047 | 2 199 | ... |
| Ingots, blooms, billets | 46 575 | 129 454 | 127 858 | 149 860 | ... |
| Scrap | 4 218 | 221 707 | 488 551 | 718 172 | ... |
| Pakistan (a) | | | | | |
| Pig iron | 738 | 689 | 1 431 | ... | 3 321 |
| Ferro-manganese | 6 896 | 9 650 | 16 611 | ... | 15 464 |
| Ferro-silicon | 4 084 | 5 007 | 10 775 | ... | 8 664 |
| Other ferro-alloys | 1 265 | 54 370 | 1 503 | ... | 1 869 |
| Ingots, blooms, billets | 6 144 | 29 279 | 25 905 | ... | 35 031 |
| Scrap | 168 286 | 255 039 | 659 009 | ... | 321 846 |
| Philippines | | | | | |
| Pig iron | 21 989 | 69 810 | 73 395 | 55 660 | 63 759 |
| Ferro-manganese | 1 431 | 2 297 | 3 963 | 5 674 | 2 524 |
| Ferro-silico-manganese | — | — | 1 219 | 3 373 | 918 |
| Ferro-silicon | 108 | 554 | 159 | 329 | 1 037 |
| Other ferro-alloys | 184 | 563 | 325 | 720 | 590 |
| Ingots, blooms, billets | 281 008 | 466 537 | 552 892 | 843 766 | 669 499 |
| Scrap | 85 243 | 108 994 | 93 803 | 152 045 | 64 679 |
| Qatar | | | | | |
| Scrap | 8 060 | 9 973 | 13 812 | 13 041 | 3 242 |
| Saudi Arabia | | | | | |
| Pig iron | 17 998 | 7 927 | 1 850 | 45 728 | ... |
| Ingots, blooms, billets | 28 732 | 6 180 | 11 166 | 5 758 | ... |
| Scrap | 1 052 | 36 263 | 540 553 | 191 021 | ... |
| Singapore | | | | | |
| Pig iron | 53 909 | 72 285 | 115 846 | 174 822 | 72 838 |
| Sponge & powder | 4 781 | 467 | 2 117 | 4 440 | 19 313 |
| Ferro-manganese | 3 183 | 1 960 | 1 184 | 3 876 | 2 403 |
| Ferro-silicon | 2 718 | 3 958 | 4 347 | 11 995 | 9 618 |
| Other ferro-alloys | 4 898 | 5 627 | 9 890 | 330 | 384 |
| Ingots & blooms | 240 236 | 169 840 | 172 602 | 260 686 | 164 955 |
| Scrap | 209 091 | 126 698 | 182 054 | 196 577 | 220 910 |
| Sri Lanka | | | | | |
| Ingots, blooms, billets | 20 291 | 41 888 | 32 358 | ... | 39 685 |
| Syria | | | | | |
| Pig iron | 3 601 | 1 731 | ... | ... | ... |
| Ingots, blooms, billets | 60 660 | 14 425 | ... | ... | ... |
| Scrap | 18 369 | 23 502 | ... | ... | ... |
| Taiwan | | | | | |
| Pig iron | 304 148 | 629 271 | 738 696 | 583 082 | 578 375 |
| Sponge & powder | 10 636 | 8 278 | 9 028 | 16 063 | 114 042 |
| Ferro-chrome | 29 886 | 15 904 | 51 194 | 41 341 | 35 182 |
| Ferro-manganese | 8 936 | 18 865 | 23 895 | 18 982 | 21 120 |
| Ferro-silico-manganese | ... | ... | ... | 3 991 | 12 430 |
| Ferro-molybdenum | ... | ... | ... | 328 | 434 |
| Ferro-silicon | 11 894 | 19 406 | 33 591 | 23 556 | 36 207 |
| Other ferro-alloys | 824 | 887 | 1 454 | 2 031 | 1 820 |
| Silicon metal | 2 699 | 3 280 | 5 331 | ... | 11 266 |
| Ingots, blooms, billets | 454 773 | 966 982 | 2 130 564 | 2 251 534 | 2 461 379 |
| Scrap | 1 225 472 | 943 592 | 1 255 740 | 1 552 971 | 1 286 723 |
| Thailand | | | | | |
| Pig iron | 6 971 | 38 655 | 92 954 | 80 216 | 103 869 |
| Sponge & powder | 9 046 | 4 567 | 18 242 | 11 542 | 14 304 |
| Ferro-chrome | 197 | 121 | 697 | 333 | 505 |
| Ferro-manganese | 2 980 | 3 586 | 6 769 | 6 723 | 6 783 |
| Ferro-silico-manganese | 2 265 | 1 321 | 1 277 | 817 | 901 |
| Ferro-silicon | 3 525 | 4 870 | 7 609 | 6 009 | 6 452 |
| Other ferro-alloys | 515 | 437 | 225 | 335 | 380 |
| Ingots, blooms, billets | 55 | 47 247 | 160 568 | 268 682 | 979 645 |
| Scrap | 555 114 | 903 323 | 1 158 249 | 1 081 294 | 1 101 356 |

Imports of Iron, Steel and Ferro-alloys

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------------|----------|----------|----------|---------|--------|
| Australia | | | | | |
| Pig iron (a) | 3 200 | 7 801 | 5 185 | 15 984 | 26 571 |
| Sponge & powder (a) | 4 075 | 3 692 | 4 590 | 4 528 | 4 702 |
| Ferro-chrome (a) | 15 611 | 11 436 | 12 201 | 9 459 | 4 748 |
| Ferro-manganese (a) | (c)8 864 | (c)3 285 | (c)4 780 | 3 712 | 5 058 |
| Ferro-silico-manganese (a) | 838 | 462 | 646 | 292 | 205 |
| Ferro-molybdenum (a) | 162 | 196 | 314 | 178 | 18 453 |
| Ferro-nickel (a) | 1 192 | 905 | 1 102 | (d)... | (d)... |
| Ferro-silicon (a) | 12 893 | 13 211 | 10 792 | 14 098 | 21 508 |
| Other ferro-alloys (a) | (c)1 672 | (c)1 354 | (c)1 930 | 2 042 | 2 022 |
| Ingots & billets | 24 729 | 122 794 | 132 649 | 185 000 | 71 000 |
| Scrap (a) | 714 | 1 508 | 13 772 | 1 967 | 2 019 |
| Fiji | | | | | |
| Ingots, blooms, billets | 10 813 | 3 963 | ... | ... | ... |
| New Zealand (a) | | | | | |
| Pig iron | 577 | 117 | 100 | 96 | 5 473 |
| Ferro-manganese | 434 | 1 260 | 1 388 | 1 018 | 1 749 |
| Ferro-silicon | 1 191 | 1 636 | 1 806 | 2 353 | 2 213 |
| Other ferro-alloys | 2 426 | 1 642 | 1 677 | 2 021 | 2 012 |
| Ingots, blooms, billets | 558 | 44 | 10 350 | 116 | 17 170 |
| Scrap | 5 120 | 3 366 | 3 066 | 71 | 223 |

Note(s):

(1) In this table the term 'ingots, blooms, billets' corresponds to items 672.4,6,7 and 8 of the Standard International Trade Classification (Revision 3) which includes those of alloy and high carbon steel

(a) Years ended 30 June of that stated

(b) Exports from the Soviet Union

(c) Including powder

(d) Included with 'other ferro-alloys'

(e) Years ended 31 March following that stated

(f) Years ended 20 March following that stated

(g) BGS estimates, based on known exports from certain countries

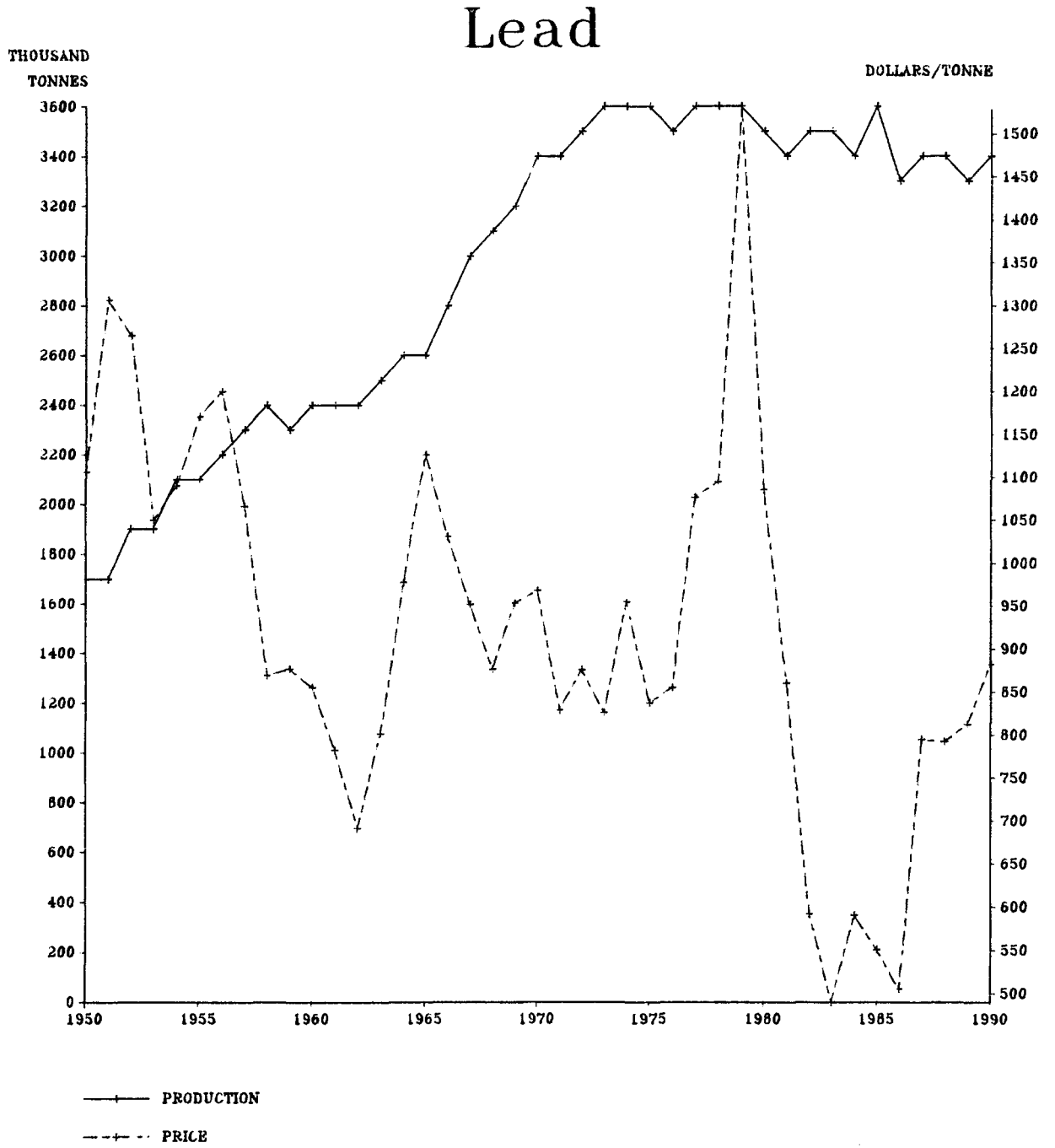


Figure 10 World mine production of lead compared with the annual average price of pig lead in New York, according to *American Metal Market*, expressed in constant 1985 US dollars.

Mine Production of Lead

tonnes (metal content)

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------------------|-----------|-----------|-----------|-----------|-----------|
| United Kingdom | 648 | 691 | 1 185 | 2 161 | 1 377 |
| France | 2 478 | 2 199 | 2 000 | 1 060 | 1 200 |
| Germany, Federal Republic of (a) | 22 200 | 24 500 | 17 900 | 9 300 | 8 600 |
| Greece | 20 873 | 20 600 | 25 900 | 24 500 | 26 200 |
| Irish Republic | 36 400 | 33 800 | 32 500 | 32 100 | 35 300 |
| Italy | 11 119 | 12 202 | 16 503 | 14 600 | 15 600 |
| Spain | 82 057 | 81 629 | 74 672 | 62 783 | 61 500 |
| Austria | 5 699 | 6 437 | 3 315 | 2 345 | 2 187 |
| Bulgaria | 69 500 | 60 700 | 60 000 | 49 500 | 45 200 |
| Czechoslovakia | 2 944 | 2 849 | 2 814 | 2 670 | 2 997 |
| Finland | 1 980 | 2 401 | 1 924 | 2 552 | 2 424 |
| Greenland | 17 000 | 21 000 | 23 000 | 24 000 | 16 000 |
| Norway | 3 366 | 3 071 | 2 957 | 3 841 | 3 017 |
| Poland | 42 500 | 48 800 | 64 000 | 65 900 | 61 300 |
| Romania | *36 300 | *30 200 | *32 800 | *23 600 | *15 300 |
| Soviet Union | *520 000 | *510 000 | *520 000 | *500 000 | *490 000 |
| Sweden | 91 729 | 95 141 | 91 579 | 88 967 | 98 259 |
| Turkey | 9 626 | 9 094 | 10 212 | 14 138 | 12 300 |
| Yugoslavia | 116 944 | 106 670 | 103 286 | 105 161 | 99 148 |
| Algeria | 3 500 | 2 000 | 2 300 | 1 700 | 1 100 |
| Congo | 400 | 430 | 760 | — | — |
| Morocco | 77 152 | 75 185 | 72 076 | 67 329 | 66 900 |
| Namibia | 23 326 | 23 692 | 24 446 | 23 389 | 19 386 |
| Nigeria | *100 | *100 | — | — | 100 |
| South Africa | 97 778 | 93 642 | 90 233 | 78 171 | 69 417 |
| Tunisia | 1 900 | 2 100 | 2 200 | 1 700 | 1 780 |
| Zambia | 15 375 | 12 380 | 12 356 | 12 300 | 12 094 |
| Canada | 349 281 | 423 207 | 366 564 | 276 065 | 241 277 |
| Honduras | 6 454 | 3 728 | 11 195 | 5 416 | 4 200 |
| Mexico | 182 672 | 177 161 | 171 317 | 163 017 | 174 139 |
| USA | 353 100 | 318 700 | 393 700 | 420 200 | 495 200 |
| Argentina | 26 868 | 26 069 | 28 549 | 26 650 | 24 200 |
| Bolivia | 3 121 | 9 118 | 12 531 | 15 728 | 19 913 |
| Brazil | 13 558 | 11 472 | 13 802 | 16 050 | 14 400 |
| Chile | 1 501 | 829 | 1 359 | 1 241 | 1 120 |
| Peru (a) | 194 378 | 203 950 | 149 037 | 192 213 | 188 937 |
| China | 226 800 | 267 300 | 311 600 | 341 400 | 315 300 |
| India | 25 000 | 29 000 | 23 300 | 25 000 | 25 500 |
| Iran (b) | 22 000 | 20 000 | 17 000 | 10 500 | 9 300 |
| Japan | 34 998 | 28 024 | 22 090 | 18 595 | 18 727 |
| Korea, Dem. P.R. of | *85 000 | *90 000 | *90 000 | *70 000 | *60 000 |
| Korea, Republic of | 11 864 | 13 998 | 14 457 | 16 535 | 10 169 |
| Myanmar | 6 600 | 4 600 | 6 000 | 5 200 | 2 300 |
| Thailand | 38 369 | 34 286 | 42 998 | 36 008 | 32 431 |
| Australia | 447 673 | 489 150 | 462 170 | 495 000 | 565 000 |
| World total | 3 300 000 | 3 400 000 | 3 400 000 | 3 300 000 | 3 400 000 |

(a) Recoverable

(b) Years ended 20 March following that stated

Lead

Production of Refined Lead

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|-----------|-----------|-----------|-----------|-----------|
| United Kingdom | 328 630 | 346 954 | 373 845 | 349 983 | 329 378 |
| Belgium (a) | 98 313 | 108 030 | 126 561 | 109 442 | 106 809 |
| France | 230 403 | 245 924 | 257 916 | 267 300 | 260 000 |
| Germany, Federal Republic of | 366 600 | 340 400 | 345 100 | 349 900 | 348 700 |
| Greece | 19 300 | 2 700 | 15 100 | 8 099 | — |
| Irish Republic | 10 000 | 10 000 | 11 700 | 12 000 | 15 000 |
| Italy | 132 374 | 168 300 | 177 700 | 180 800 | 170 900 |
| Netherlands | 35 700 | 40 300 | 39 500 | 41 500 | 44 100 |
| Portugal | 6 000 | 7 000 | 7 000 | 7 000 | 5 000 |
| Spain | 124 900 | 122 700 | 120 800 | 113 300 | 124 000 |
| Austria | 18 807 | 22 841 | 25 047 | 24 042 | 24 114 |
| Bulgaria | *96 000 | *100 600 | *101 000 | *101 500 | *66 600 |
| Czechoslovakia | 23 602 | 26 008 | 26 045 | 26 008 | 23 665 |
| German Democratic Republic | 66 500 | 62 100 | 39 600 | 40 100 | 45 500 |
| Poland | 88 300 | 89 800 | 90 700 | 78 200 | 64 800 |
| Romania | 38 400 | 32 000 | 30 500 | 27 800 | 22 000 |
| Soviet Union | *790 000 | *775 000 | *795 000 | *750 000 | *730 000 |
| Sweden | 87 604 | 92 858 | 85 373 | 75 396 | 76 137 |
| Switzerland | 2 500 | 2 500 | 1 500 | 1 500 | 5 700 |
| Turkey | 9 600 | 10 000 | 11 000 | 7 000 | 9 000 |
| Yugoslavia | 113 154 | 112 417 | 109 888 | 97 237 | 82 000 |
| Algeria | 4 000 | 4 000 | 4 000 | 4 000 | 5 000 |
| Kenya | 2 000 | 2 100 | 2 200 | 2 300 | 2 400 |
| Morocco | 55 300 | 64 900 | 71 000 | 66 200 | 66 900 |
| Namibia | 40 047 | 40 634 | 44 447 | 44 183 | 35 129 |
| Nigeria | ... | 2 300 | 3 800 | 3 700 | 4 900 |
| South Africa | 29 700 | 34 500 | 36 200 | 36 900 | 31 200 |
| Tunisia | 2 349 | 1 622 | — | — | — |
| Zambia | 6 648 | 7 979 | 6 385 | 4 600 | 4 700 |
| Zimbabwe | *3 000 | *3 000 | *3 000 | *3 000 | *1 000 |
| Canada | 257 680 | 230 661 | 268 076 | 242 845 | 183 645 |
| Jamaica | *800 | *500 | *1 000 | *1 000 | — |
| Mexico | 198 900 | 193 800 | 188 100 | 180 000 | 182 900 |
| Trinidad & Tobago | *1 400 | *700 | — | *1 000 | *1 500 |
| USA (b) | 931 800 | 1 031 800 | 1 090 500 | 1 253 100 | 1 291 500 |
| Argentina | 30 657 | 32 173 | 28 840 | 24 500 | 20 000 |
| Brazil | 71 642 | 71 720 | 71 092 | 64 516 | 56 624 |
| Colombia | *4 000 | *4 500 | *5 000 | *5 000 | *5 000 |
| Peru | 67 400 | 70 792 | 56 523 | 73 402 | 69 305 |
| Venezuela | 19 000 | 18 500 | 13 100 | 14 200 | 14 000 |
| China | 239 600 | 246 400 | 241 400 | 341 400 | 363 900 |
| India | 26 831 | 30 466 | 28 722 | 34 729 | 41 700 |
| Indonesia | 6 000 | 7 000 | 7 000 | 10 000 | 16 000 |
| Iran | 8 000 | 10 000 | 10 000 | 9 000 | 10 000 |
| Japan | 361 452 | 338 500 | 339 971 | 333 359 | 328 897 |
| Korea, Dem. P.R. of | *65 000 | *55 000 | *45 000 | *70 000 | *65 000 |
| Korea, Republic of | 52 174 | 89 926 | 92 444 | 66 013 | 62 761 |
| Malaysia | 12 000 | 9 000 | 15 000 | 16 000 | 16 000 |
| Myanmar | 5 948 | 4 093 | 3 198 | 2 717 | *2 800 |
| Pakistan | *2 000 | *2 000 | *2 000 | *3 000 | *3 000 |
| Philippines | 7 000 | 9 200 | 11 400 | 13 600 | 12 100 |
| Sri Lanka | *1 000 | *1 000 | *1 000 | *500 | *500 |
| Taiwan | 53 500 | 66 400 | 67 300 | 58 200 | 26 600 |
| Thailand | 9 122 | 11 366 | 15 614 | 18 711 | 15 861 |
| United Arab Emirates | *1 500 | *1 500 | *1 000 | *2 000 | *2 000 |
| Australia | 171 039 | 216 660 | 179 864 | 210 000 | 225 000 |
| New Zealand | 4 000 | 4 000 | 5 000 | 5 000 | 5 000 |
| World total | 5 400 000 | 5 600 000 | 5 800 000 | 5 900 000 | 5 700 000 |

Note(s):

(1) Figures relate to both primary and secondary refined lead and include the lead content of antimonial lead. Metal recovered from secondary materials by remelting alone is excluded

(a) Including alloys

(b) Excluding Pb content of primary antimonial lead

Exports of Lead

Lead
tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|---------|---------|----------|----------|----------|
| United Kingdom | | | | | |
| Ores & concentrates | 3 189 | 1 658 | 1 290 | 5 295 | 1 424 |
| Unwrought | 89 494 | 87 348 | 93 038 | 80 270 | 88 530 |
| Unwrought alloys | 30 204 | 25 322 | 17 912 | 29 127 | 29 476 |
| Scrap | 14 783 | 21 394 | 17 177 | 29 320 | 20 663 |
| Belgium-Luxembourg | | | | | |
| Unwrought | 47 823 | 54 935 | 55 869 | 62 218 | 43 424 |
| Unwrought alloys | 10 236 | 9 633 | 5 662 | 6 919 | 7 038 |
| Scrap | 7 445 | 23 362 | 19 025 | 19 341 | 14 077 |
| Denmark | | | | | |
| Unwrought | 2 444 | 174 | 935 | 464 | 134 |
| Unwrought alloys | 852 | 174 | 371 | 445 | 1 009 |
| Scrap | 14 362 | 13 275 | 14 122 | 13 980 | 14 392 |
| France | | | | | |
| Unwrought | 34 821 | 53 054 | 51 760 | 52 180 | 40 707 |
| Unwrought alloys | 23 017 | 27 865 | 24 115 | 21 396 | 21 670 |
| Scrap | 7 105 | 8 330 | 5 456 | 12 692 | 9 389 |
| Germany, Federal Republic of | | | | | |
| Ore | 9 822 | 10 770 | 4 729 | 237 | — |
| Unwrought | 65 938 | 53 555 | 64 406 | 55 935 | 41 861 |
| Unwrought alloys | 33 062 | 34 238 | 31 422 | 28 336 | 29 896 |
| Scrap | 11 496 | 11 604 | 9 725 | 11 020 | 14 813 |
| Greece | | | | | |
| Ore | 38 800 | 33 000 | — | ... | ... |
| Unwrought (a) | 3 442 | 3 064 | 1 000 | 10 098 | 52 |
| Irish Republic | | | | | |
| Ores & concentrates | 60 400 | 56 218 | 49 516 | 58 501 | 59 881 |
| Unwrought (a) | 14 | 83 | 353 | 103 | 74 |
| Scrap | 2 062 | 3 761 | 3 651 | 4 596 | 4 776 |
| Italy | | | | | |
| Ore | 14 498 | 16 512 | 14 418 | 30 518 | 19 660 |
| Unwrought | 2 754 | 16 047 | 38 983 | 25 434 | 10 360 |
| Unwrought alloys | 7 700 | 4 448 | 2 359 | 1 530 | 2 561 |
| Scrap | 96 | 153 | 702 | 1 392 | 1 287 |
| Netherlands | | | | | |
| Unwrought | 8 660 | 12 160 | 6 382 | 7 220 | 5 585 |
| Unwrought alloys | 11 710 | 10 462 | 9 731 | 13 012 | 12 093 |
| Scrap | 17 203 | 16 173 | 20 917 | 21 649 | 26 534 |
| Portugal | | | | | |
| Ore | 1 029 | 1 065 | 987 | 992 | 1 140 |
| Spain | | | | | |
| Ore | 42 215 | 65 913 | 69 589 | 59 890 | 56 468 |
| Unwrought (a) | 22 500 | 18 250 | 14 219 | 18 077 | 19 600 |
| Scrap | 121 | 3 976 | 824 | 796 | 825 |
| Austria | | | | | |
| Unwrought | 1 126 | 1 935 | (a)7 272 | (a)4 658 | (a)4 830 |
| Scrap | 4 565 | 4 227 | 1 601 | 3 554 | 10 727 |
| Bulgaria | | | | | |
| Unwrought (a)(f) | *7 000 | *6 800 | *8 900 | *5 200 | *4 500 |
| Czechoslovakia | | | | | |
| Ores & concentrates (f) | *6 100 | *5 600 | *5 800 | *5 800 | *6 300 |
| Finland | | | | | |
| Ore | 3 927 | 4 850 | 4 277 | 5 677 | 2 629 |
| Unwrought (a) | 228 | 660 | 184 | 316 | 183 |
| Scrap | 1 415 | 6 709 | 9 751 | 11 546 | 13 934 |
| Greenland | | | | | |
| Ores & concentrates | 26 955 | 27 925 | 34 314 | 35 564 | 27 573 |
| Hungary | | | | | |
| Scrap | 1 860 | 1 813 | 1 837 | 1 332 | 3 650 |
| Norway | | | | | |
| Ore | 7 180 | 6 026 | 4 378 | 6 680 | 6 567 |
| Scrap | 7 171 | 8 308 | 9 080 | 10 166 | 9 797 |
| Poland | | | | | |
| Ores & concentrates | ... | 5 768 | 17 011 | 24 078 | ... |
| Unwrought | ... | 5 424 | 10 810 | 7 310 | 8 265 |
| Soviet Union | | | | | |
| Unwrought (a)(f) | *25 800 | *21 300 | *19 800 | *30 900 | *38 100 |
| Sweden | | | | | |
| Ore | 58 060 | 56 820 | 60 885 | 71 419 | 80 334 |
| Unwrought | 50 648 | 52 213 | 57 117 | 36 806 | 40 601 |
| Unwrought alloys | 15 140 | 14 072 | 12 415 | 12 314 | 11 077 |
| Scrap | 573 | 2 217 | 3 379 | 875 | 253 |

Lead

Exports of Lead

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------|---------|---------|------------|------------|-----------|
| Switzerland | | | | | |
| Unwrought | 2 088 | 2 855 | (a)3 484 | (a)2 111 | (a)1 584 |
| Scrap | 16 008 | 11 232 | 14 799 | 14 526 | 13 402 |
| Turkey | | | | | |
| Ore (e) | — | 1 954 | 2 909 | 6 810 | 5 303 |
| Yugoslavia | | | | | |
| Concentrates | 734 | 727 | 7 000 | 17 038 | 16 039 |
| Unwrought | 22 989 | 21 051 | (a)21 757 | (a)27 897 | (a)31 015 |
| Unwrought alloys | 1 806 | 2 787 | ... | ... | ... |
| Algeria | | | | | |
| Ore | 3 153 | 3 471 | 4 800 | 3 300 | ... |
| Ivory Coast | | | | | |
| Scrap | 1 014 | ... | 145 | ... | ... |
| Morocco | | | | | |
| Ore | 35 243 | 30 556 | 43 487 | 31 663 | 30 432 |
| Unwrought | 55 679 | 63 410 | 62 528 | 62 004 | 59 596 |
| Namibia | | | | | |
| Unwrought | 41 547 | 41 537 | 42 534 | 44 652 | 35 583 |
| South Africa | | | | | |
| Concentrates (b) | 102 637 | 90 790 | 91 470 | 81 541 | 82 508 |
| Unwrought (f) | *11 400 | *13 900 | *13 400 | *12 000 | *10 300 |
| Scrap (f) | *2 300 | *1 500 | *200 | *100 | *50 |
| Tunisia | | | | | |
| Ore | 3 000 | 2 000 | 5 000 | 1 500 | 3 700 |
| Unwrought | — | 60 | 240 | 1 055 | (a)922 |
| Scrap | 2 923 | 1 592 | 407 | 980 | 1 429 |
| Zambia | | | | | |
| Unwrought | 1 623 | 6 229 | 3 528 | 1 103 | — |
| Canada | | | | | |
| Ore (b) | 118 375 | 207 938 | (g)199 830 | (g)168 743 | 209 000 |
| Unwrought | 111 852 | 100 206 | 199 588 | 123 357 | 116 133 |
| Scrap | 25 565 | 21 971 | 9 214 | 15 686 | 17 950 |
| Honduras | | | | | |
| Ores & concentrates (b) | 6 454 | 3 728 | 11 195 | 5 416 | ... |
| Mexico | | | | | |
| Ores & concentrates | 5 618 | 15 770 | 12 567 | 6 671 | 3 080 |
| Unwrought | 108 736 | 86 602 | 105 228 | 94 399 | 107 527 |
| Scrap | 1 907 | 3 099 | 2 291 | 1 402 | ... |
| USA | | | | | |
| Ores & concentrates (b) | 4 380 | 106 596 | 143 007 | 173 762 | 175 235 |
| of which: Re-exports | — | 97 832 | 122 105 | 116 724 | 118 635 |
| Unwrought | 8 874 | 3 425 | 6 419 | 23 846 | 53 134 |
| Unwrought alloys | 2 342 | 1 041 | 1 137 | 4 725 | 7 048 |
| Scrap | 65 031 | 52 944 | 81 888 | 51 933 | 72 000 |
| Argentina | | | | | |
| Ores & concentrates | 17 079 | 19 727 | 9 812 | 25 942 | ... |
| Bolivia | | | | | |
| Ore | 26 720 | 14 312 | 19 600 | 35 055 | 34 779 |
| Chile | | | | | |
| Ores & concentrates | 2 111 | 137 | 5 291 | 1 489 | 1 147 |
| Peru | | | | | |
| Ores & concentrates | 201 657 | 253 224 | 179 574 | 206 436 | 219 750 |
| Unwrought (a) | 48 848 | 42 804 | 31 749 | 57 001 | 58 480 |
| China | | | | | |
| Ore | ... | 79 756 | 58 829 | 19 198 | 1 978 |
| Unwrought (a) | ... | 23 460 | 11 856 | 1 839 | 37 980 |
| Dubai | | | | | |
| Scrap | 5 924 | ... | ... | ... | ... |
| Hong Kong | | | | | |
| Unwrought | 436 | 11 561 | 5 691 | 2 071 | 17 380 |
| of which: Re-exports | 429 | 11 537 | 5 627 | 1 926 | 17 035 |
| Scrap | 2 502 | 3 523 | 3 266 | 3 476 | 2 737 |
| Iran (c) | | | | | |
| Ore | 23 100 | 30 000 | 19 675 | 19 130 | ... |
| Japan | | | | | |
| Unwrought (a) | 25 379 | 17 113 | 1 286 | 1 407 | 1 425 |
| Scrap | 2 893 | 18 201 | 23 998 | 23 971 | 25 528 |

Exports of Lead

Lead
tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------|---------|---------|---------|----------|----------|
| Korea, Dem. P.R. of | | | | | |
| Unwrought (a)(f) | *15 500 | *14 100 | *11 500 | *6 000 | *4 800 |
| Korea, Republic of | | | | | |
| Ore | — | 4 606 | — | 4 560 | 12 350 |
| Unwrought (a) | 9 186 | 8 713 | 3 504 | 5 493 | 4 635 |
| Scrap | 1 | 710 | 1 068 | 1 234 | 2 433 |
| Myanmar (d) | | | | | |
| Unwrought | 6 304 | 4 571 | 3 350 | 1 243 | ... |
| Saudi Arabia | | | | | |
| Scrap | 1 653 | 5 346 | 17 638 | 20 124 | ... |
| Singapore | | | | | |
| Unwrought (a) | 5 584 | 8 608 | 23 072 | 7 494 | 16 897 |
| of which: Re-exports | 5 443 | 8 216 | 22 113 | 6 688 | 16 859 |
| Scrap | 5 103 | 9 690 | 8 131 | 7 535 | 5 210 |
| of which: Re-exports | 961 | 921 | 519 | 164 | 357 |
| Taiwan | | | | | |
| Unwrought | 8 241 | 4 234 | 4 422 | 8 650 | 3 521 |
| Unwrought alloys | 15 232 | 11 796 | 26 458 | 10 654 | 13 170 |
| Thailand | | | | | |
| Ore | 54 110 | 51 247 | 59 665 | 48 984 | 34 379 |
| Australia | | | | | |
| Ores & concentrates | 217 787 | 125 863 | 181 000 | 114 000 | 126 000 |
| Unwrought | | | | | |
| Base bullion (b) | 184 920 | 178 300 | 191 112 | *175 000 | *188 000 |
| Refined (a) | 111 929 | 133 150 | 159 387 | 140 000 | 176 117 |
| Scrap (h) | 20 152 | 30 993 | 37 312 | 30 737 | 28 868 |

Note(s):

(1) In this table the term 'unwrought' lead corresponds to item 685.1 of the Standard International Trade Classification (Revision 3) and comprises base bullion, pigs, unwrought bars, etc.

(a) Including alloys

(b) Pb content

(c) Years ended 20 March following that stated

(d) Years ended 31 March following that stated

(e) Complex lead-zinc ore

(f) BGS estimates, based on known imports into certain countries

(g) Including Pb content of zinc concentrates

(h) Years ended 30 June of that stated

Lead

Imports of Lead

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------------|---------|---------|-----------|-----------|-----------|
| United Kingdom | | | | | |
| Ores & concentrates | 36 200 | 25 382 | 39 222 | 30 117 | 37 158 |
| Unwrought | 181 203 | 183 831 | 210 321 | 216 033 | 185 666 |
| Unwrought alloys | 1 830 | 2 804 | 5 466 | 3 276 | 5 072 |
| Scrap | 3 819 | 10 456 | 8 837 | 8 704 | 16 192 |
| Belgium-Luxembourg | | | | | |
| Ore | 76 144 | 107 072 | 114 018 | 101 958 | 101 231 |
| Unwrought | 49 740 | 30 810 | 24 451 | 27 099 | 22 577 |
| Unwrought alloys | 11 639 | 10 315 | 12 109 | 10 341 | 9 602 |
| Scrap | 6 218 | 10 317 | 12 357 | 12 383 | 12 098 |
| Denmark | | | | | |
| Unwrought | 8 502 | 9 329 | 4 595 | 2 566 | 2 175 |
| Unwrought alloys | 11 024 | 6 080 | 4 033 | 2 797 | 3 667 |
| Scrap | 339 | 323 | 152 | 680 | 826 |
| France | | | | | |
| Ore | 182 378 | 183 927 | 190 105 | 186 920 | 175 294 |
| Unwrought | 27 830 | 32 412 | 34 823 | 35 299 | 37 043 |
| Unwrought alloys | 9 245 | 10 148 | 12 081 | 12 391 | 17 414 |
| Scrap | 14 644 | 20 640 | 21 444 | 31 541 | 40 087 |
| Germany, Federal Republic of | | | | | |
| Ore | 194 054 | 226 010 | 235 442 | 222 361 | 205 979 |
| Unwrought | 121 939 | 79 908 | 87 138 | 109 792 | 112 265 |
| Unwrought alloys | 25 727 | 27 855 | 25 476 | 28 071 | 30 235 |
| Scrap | 50 542 | 44 995 | 30 397 | 29 934 | 27 641 |
| Greece | | | | | |
| Ore | 9 009 | 12 501 | — | — | — |
| Unwrought (a) | 1 937 | 4 877 | 6 844 | 9 707 | 17 601 |
| Irish Republic | | | | | |
| Unwrought (a) | 1 251 | 1 297 | 1 030 | 1 940 | 4 553 |
| Scrap | 7 359 | 8 473 | 10 141 | 13 106 | 11 371 |
| Italy | | | | | |
| Ore | 30 945 | 70 867 | 96 713 | 112 015 | 79 409 |
| Unwrought | 122 387 | 93 310 | 102 477 | 95 800 | 107 619 |
| Unwrought alloys | 18 424 | 16 310 | 14 230 | 13 278 | 15 783 |
| Scrap | 18 122 | 18 507 | 16 168 | 7 697 | 9 118 |
| Netherlands | | | | | |
| Unwrought | 28 733 | 26 918 | 28 876 | 29 601 | 32 898 |
| Unwrought alloys | 8 177 | 9 104 | 5 808 | 5 767 | 6 179 |
| Scrap | 19 257 | 14 021 | 19 317 | 19 554 | 20 185 |
| Portugal | | | | | |
| Unwrought (a) | 21 609 | 23 773 | 27 839 | 21 805 | 22 991 |
| Scrap | 6 235 | 53 | — | 4 | 5 |
| Spain | | | | | |
| Ore | 50 319 | 40 866 | 57 867 | 58 214 | 42 335 |
| Unwrought | 4 327 | 8 895 | 4 785 | 7 199 | 6 083 |
| Unwrought alloys | 4 573 | 4 475 | 5 364 | 5 868 | 6 567 |
| Scrap | 40 | 698 | 6 865 | 7 880 | 11 680 |
| Austria | | | | | |
| Ore | 4 124 | 1 152 | 6 884 | 17 947 | 17 836 |
| Unwrought | 38 516 | 31 476 | (a)36 714 | (a)38 902 | (a)41 770 |
| Scrap | 6 333 | 3 787 | 3 023 | 2 637 | 3 453 |
| Bulgaria | | | | | |
| Ore (f) | *7 800 | *18 000 | *21 600 | *22 500 | *11 400 |
| Czechoslovakia | | | | | |
| Unwrought (a) | 25 000 | 23 000 | 20 000 | 18 000 | ... |
| Finland | | | | | |
| Unwrought | 10 742 | 12 926 | 7 869 | 8 081 | 9 231 |
| Unwrought alloys | 5 030 | 5 029 | 4 221 | 5 146 | 4 572 |
| German Democratic Republic | | | | | |
| Unwrought (a)(f) | *11 500 | *10 900 | *30 700 | *20 800 | *11 300 |
| Scrap (f) | *1 700 | *9 700 | *5 500 | *11 300 | *3 800 |
| Hungary | | | | | |
| Unwrought & semi-manufactures | 6 729 | 5 225 | 9 267 | 7 416 | 5 072 |
| Norway | | | | | |
| Unwrought | 7 658 | 6 317 | 6 865 | 8 283 | 4 539 |
| Unwrought alloys | 6 573 | 7 151 | 3 300 | 3 415 | 1 888 |
| Poland | | | | | |
| Unwrought | 3 041 | 2 838 | — | ... | ... |
| Soviet Union | | | | | |
| Ore (f) | *43 600 | *25 400 | *17 200 | *14 300 | *12 800 |
| Unwrought (a)(f) | *5 600 | *12 600 | *13 400 | ... | ... |

Imports of Lead

Lead
tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------------|---------|---------|-----------|----------|----------|
| Sweden | | | | | |
| Ore | — | — | 3 301 | 1 | — |
| Unwrought | 1 479 | 594 | 2 228 | 1 395 | 2 819 |
| Unwrought alloys | 2 346 | 3 197 | 658 | 986 | 936 |
| Scrap | 16 378 | 18 551 | 23 287 | 17 359 | 20 007 |
| Switzerland | | | | | |
| Unwrought | 10 186 | 8 075 | (a)9 803 | (a)7 174 | (a)7 893 |
| Turkey | | | | | |
| Unwrought (a) | 12 862 | 13 629 | 15 753 | 10 039 | 13 714 |
| Scrap | 4 021 | 2 773 | 2 036 | 2 345 | 713 |
| Yugoslavia | | | | | |
| Concentrates | 37 133 | 12 042 | 33 696 | 6 044 | 6 173 |
| Unwrought (a) | 14 422 | 10 878 | 18 083 | 32 121 | 26 938 |
| Scrap | 1 859 | 3 905 | 1 272 | 3 127 | 7 144 |
| Algeria | | | | | |
| Unwrought | 14 265 | 11 430 | (a)10 350 | ... | ... |
| Unwrought alloys | 2 761 | 4 784 | ... | ... | ... |
| Egypt | | | | | |
| Unwrought & scrap | 8 085 | 16 368 | 19 071 | ... | ... |
| Kenya | | | | | |
| Unwrought (a) | 56 | 98 | 246 | ... | ... |
| Madagascar | | | | | |
| Unwrought (a) | 115 | 208 | 100 | 174 | 81 |
| Morocco | | | | | |
| Ore | ... | ... | ... | 36 052 | 29 519 |
| Unwrought alloys | 1 901 | ... | 283 | 205 | 177 |
| Mozambique | | | | | |
| Unwrought | 1 | 394 | ... | ... | ... |
| Namibia | | | | | |
| Concentrates (b) | 160 | 34 986 | 24 820 | 19 771 | 20 997 |
| Nigeria | | | | | |
| Unwrought (a) | 317 | 1 283 | 1 000 | ... | ... |
| South Africa | | | | | |
| Ore | 14 867 | 15 110 | 30 971 | 21 493 | 31 298 |
| Unwrought | 1 200 | 1 378 | 2 421 | 455 | 223 |
| Unwrought alloys | ... | ... | 1 218 | 308 | 38 |
| Scrap | 300 | 296 | 3 088 | 1 387 | 5 271 |
| Tunisia | | | | | |
| Unwrought | 2 709 | 3 038 | 3 713 | 4 079 | (a)3 764 |
| Canada | | | | | |
| Ores & concentrates (b)(g) | ... | ... | 14 565 | 28 392 | 45 105 |
| Unwrought | 4 244 | 12 559 | 14 690 | 11 130 | 11 682 |
| Scrap | 61 530 | 74 152 | 36 741 | 26 660 | 34 831 |
| Cuba | | | | | |
| Unwrought | 2 106 | 2 200 | 2 100 | 1 500 | — |
| Mexico | | | | | |
| Unwrought & scrap | 1 331 | 2 344 | 4 530 | 1 750 | ... |
| USA | | | | | |
| Ores & concentrates (b) | 86 747 | 229 858 | 235 034 | 204 802 | 134 154 |
| Unwrought | | | | | |
| Base bullion | 161 | 10 905 | 6 586 | 5 189 | 2 864 |
| Other | 123 919 | 174 430 | 132 073 | 96 674 | 78 802 |
| Alloys | 17 575 | 14 457 | 16 268 | 21 319 | 12 819 |
| Scrap | 2 269 | 6 088 | 6 938 | 11 261 | 12 251 |
| Brazil | | | | | |
| Ore | 30 120 | 38 095 | 25 047 | 38 503 | 34 031 |
| Unwrought (a) | 3 410 | 15 581 | 2 642 | 2 261 | 2 638 |
| Scrap | 16 308 | 25 192 | 31 135 | 18 865 | 31 291 |
| Chile | | | | | |
| Unwrought (a) | 1 596 | 2 005 | 2 563 | 1 877 | 1 774 |
| Colombia | | | | | |
| Unwrought (a) | 1 424 | 1 400 | 2 633 | 2 616 | 2 511 |
| Uruguay | | | | | |
| Unwrought | 1 312 | 1 926 | 1 848 | ... | ... |
| Venezuela | | | | | |
| Unwrought (a) | 8 790 | 9 018 | 8 721 | 5 503 | ... |
| Scrap | 3 164 | 5 756 | 6 217 | 1 244 | ... |

Lead

Imports of Lead

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------|-----------|---------|---------|---------|---------|
| China | | | | | |
| Unwrought (a) | (f)*6 200 | 4 575 | 4 577 | 36 374 | 1 772 |
| Scrap (f) | *1 100 | *1 500 | *2 400 | *6 200 | *6 000 |
| Hong Kong | | | | | |
| Unwrought (a) | 5 072 | 12 006 | 7 781 | 5 544 | 18 327 |
| Scrap | 681 | 524 | 1 461 | 2 241 | 3 949 |
| India (c) | | | | | |
| Unwrought | 39 946 | 24 297 | 35 007 | ... | 38 829 |
| Unwrought alloys | 9 261 | 13 465 | 2 316 | ... | 1 073 |
| Scrap | 3 170 | 2 579 | 9 949 | ... | 7 107 |
| Indonesia | | | | | |
| Unwrought | 7 853 | 8 620 | 10 070 | 10 126 | 12 996 |
| Unwrought alloys | 7 291 | 6 888 | 5 269 | 4 172 | 2 498 |
| Scrap | 161 | — | 752 | 11 988 | 35 822 |
| Iran (d) | | | | | |
| Unwrought | 5 017 | 11 330 | 6 673 | ... | ... |
| Israel | | | | | |
| Unwrought | 2 108 | 3 340 | 1 318 | 1 041 | ... |
| Japan | | | | | |
| Ore | 273 829 | 294 728 | 279 537 | 298 964 | 279 535 |
| Unwrought | 46 966 | 39 398 | 51 991 | 59 917 | 71 499 |
| Unwrought alloys | 23 380 | 10 006 | 23 783 | 23 176 | 27 542 |
| Korea, Dem. P.R. of | | | | | |
| Unwrought (a)(f) | *6 900 | *8 900 | *4 400 | *2 100 | *1 600 |
| Korea, Republic of | | | | | |
| Unwrought | 38 917 | 37 649 | 76 109 | 85 701 | 93 117 |
| Unwrought alloys | 16 115 | 10 030 | 11 072 | 11 287 | 14 263 |
| Scrap | 39 382 | 45 891 | 53 902 | 41 971 | 47 711 |
| Malaysia | | | | | |
| Unwrought (a) | 11 659 | 13 552 | 14 798 | 20 492 | ... |
| Scrap | 1 053 | 1 755 | 4 558 | 2 541 | ... |
| Pakistan (e) | | | | | |
| Unwrought (a) | 1 942 | 3 935 | 3 525 | ... | 5 159 |
| Philippines | | | | | |
| Unwrought (a) | 4 532 | 8 739 | 4 723 | 8 362 | 3 769 |
| Scrap | 4 307 | 9 069 | 12 394 | 13 959 | 15 243 |
| Singapore | | | | | |
| Unwrought (a) | 9 674 | 16 206 | 26 405 | 12 247 | 37 190 |
| Scrap | 133 | 1 425 | 3 913 | 4 387 | 3 044 |
| Syria | | | | | |
| Unwrought & scrap | 1 454 | 1 176 | 1 200 | ... | ... |
| Taiwan | | | | | |
| Unwrought | 14 514 | 16 525 | 16 317 | 23 634 | 58 325 |
| Unwrought alloys | 1 640 | 4 422 | 2 608 | 2 752 | 5 706 |
| Scrap | 89 536 | 79 653 | 80 956 | 72 741 | 34 251 |
| Thailand | | | | | |
| Unwrought | 8 276 | 12 643 | 12 037 | 13 879 | 12 747 |
| Unwrought alloys | 1 376 | 811 | 939 | 1 437 | 1 591 |
| Scrap | 1 095 | 3 686 | 11 790 | 11 212 | 7 592 |
| Australia | | | | | |
| Ores & concentrates (e) | 9 100 | 21 175 | 59 489 | 27 551 | 21 793 |
| New Zealand (e) | | | | | |
| Unwrought (a) | 4 346 | 4 144 | 3 544 | 3 321 | 2 406 |

Note(s):

(1) In this table the term 'unwrought' lead corresponds to item 685.1 of the Standard International Trade Classification (Revision 3) and comprises base bullion, pigs, unwrought bars, etc.

(a) Including alloys

(b) Pb content

(c) Years ended 31 March following that stated

(d) Years ended 20 March following that stated

(e) Years ended 30 June of that stated

(f) BGS estimates, based on known exports from certain countries

(g) Including Pb content of zinc concentrates

Production of Lithium Minerals

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------|---------|---------|---------|---------|---------|
| Portugal Lepidolite | 1 800 | 9 380 | 14 109 | 18 264 | 7 614 |
| Soviet Union | *55 000 | *55 000 | *55 000 | *55 000 | *55 000 |
| Namibia | 855 | 927 | 1 642 | 1 398 | 1 268 |
| Zimbabwe | 32 760 | 14 959 | 15 073 | 20 647 | 19 053 |
| Canada | *8 200 | *11 300 | *11 300 | *8 700 | *9 200 |
| USA (a)(b) | *4 000 | *4 000 | *4 000 | *4 500 | ... |
| Argentina | 184 | 178 | 119 | 104 | ... |
| Brazil | | | | | |
| Amblygonite | 49 | 52 | 25 | ... | ... |
| Lepidolite | 30 | — | — | ... | ... |
| Petalite | 1 614 | 2 946 | 1 115 | ... | ... |
| Spodumene | 366 | 505 | 331 | ... | ... |
| Chile (c) | 4 458 | 6 139 | 7 332 | 7 508 | 9 082 |
| China | *15 000 | *15 000 | *15 000 | *15 000 | *15 000 |
| Australia Spodumene | 8 530 | 16 621 | 27 396 | *30 000 | *35 000 |
| World total (a) | *7 200 | *7 400 | *7 900 | *8 600 | *8 700 |

(a) Li content

(b) Mostly spodumene

(c) Carbonate

Lithium

Exports of Lithium

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|--------|--------|--------|--------|--------|
| United Kingdom | | | | | |
| Oxides | ... | 199 | 201 | 221 | 275 |
| Carbonate | 286 | 432 | 548 | 734 | 594 |
| Belgium-Luxembourg | | | | | |
| Oxides | 50 | — | 99 | — | 41 |
| France | | | | | |
| Oxides | 21 | 36 | 100 | 3 | 1 |
| Germany, Federal Republic of | | | | | |
| Metal | 54 | 49 | ... | ... | ... |
| Oxides | 694 | 909 | 712 | 745 | 724 |
| Carbonate | 1 462 | 1 444 | 1 371 | 1 819 | 1 685 |
| Netherlands | | | | | |
| Oxides | 18 | — | 17 | 40 | 18 |
| Carbonate | 62 | 132 | 64 | 61 | 36 |
| Spain | | | | | |
| Lithium minerals | 9 | 96 | 392 | 187 | — |
| Soviet Union | | | | | |
| Oxides (a) | *100 | *180 | *20 | *140 | *340 |
| Carbonate (a) | *150 | *400 | *300 | *400 | *600 |
| Yugoslavia | | | | | |
| Carbonate | ... | ... | 138 | 130 | 17 |
| South Africa | | | | | |
| Lithium minerals (a) | *1 500 | *100 | *400 | ... | ... |
| Zimbabwe | | | | | |
| Lithium minerals | 22 837 | 18 053 | 17 976 | ... | 20 149 |
| USA | | | | | |
| Oxides | 2 897 | 2 917 | 3 788 | 4 731 | 3 147 |
| Carbonate | 5 253 | 5 783 | 7 168 | 9 068 | 9 333 |
| Chile | | | | | |
| Carbonate | 4 487 | 6 063 | 7 153 | 8 102 | 8 228 |
| China | | | | | |
| Oxides (a) | *500 | *600 | *800 | *600 | *1 000 |
| Carbonate (a) | *1 100 | *1 300 | *1 400 | *1 000 | *1 600 |
| Australia | | | | | |
| Lithium minerals (b) | ... | ... | ... | 29 593 | 35 664 |

(a) BGS estimates, based on known imports into certain countries

(b) Years ended 30 June of that stated

Imports of Lithium

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|--------|--------|--------|-------|-------|
| United Kingdom | | | | | |
| Metal | 36 | 51 | ... | ... | ... |
| Oxides | 510 | 625 | 630 | 692 | 764 |
| Carbonate | 1 160 | 1 742 | 2 066 | 1 958 | 1 932 |
| Belgium-Luxembourg | | | | | |
| Oxides | 187 | 225 | 198 | 151 | 143 |
| Carbonate | 237 | 249 | 271 | 312 | 326 |
| France | | | | | |
| Metal | 41 | 7 | ... | ... | ... |
| Oxides | 329 | 415 | 388 | 378 | 371 |
| Carbonate | 596 | 578 | 624 | 778 | 805 |
| Germany, Federal Republic of | | | | | |
| Metal | 24 | 22 | ... | ... | ... |
| Oxides | 1 668 | 1 515 | 1 631 | 966 | 779 |
| Carbonate | 5 068 | 5 034 | 4 368 | 5 972 | 5 490 |
| Italy | | | | | |
| Metal | 1 | 45 | ... | ... | ... |
| Oxides | 267 | 396 | 369 | 154 | 184 |
| Carbonate | 527 | 702 | 626 | 926 | 956 |
| Netherlands | | | | | |
| Oxides | 83 | 68 | 65 | 165 | 181 |
| Carbonate | 466 | 514 | 469 | 513 | 666 |
| Spain | | | | | |
| Lithium minerals | 567 | 803 | 325 | 606 | 622 |
| Oxides | 95 | 206 | 127 | 139 | 197 |
| Carbonate | 289 | 282 | 313 | 415 | 333 |
| Finland | | | | | |
| Carbonate | ... | ... | 93 | 97 | 121 |
| Sweden | | | | | |
| Carbonate | ... | ... | 100 | 101 | 98 |
| Yugoslavia | | | | | |
| Carbonate | ... | ... | 168 | 134 | 37 |
| South Africa | | | | | |
| Lithium minerals | 600 | 623 | ... | ... | ... |
| Oxides | 100 | 151 | 138 | 102 | 135 |
| Canada | | | | | |
| Carbonate | 953 | 1 260 | 1 522 | 1 561 | 1 587 |
| USA | | | | | |
| Lithium minerals | 12 010 | 16 487 | 14 361 | ... | ... |
| Brazil | | | | | |
| Oxides | 388 | 471 | 503 | ... | 256 |
| Carbonate | 36 | 118 | 237 | ... | 291 |
| Japan | | | | | |
| Metal | 50 | 81 | ... | ... | ... |
| Oxides | 885 | 888 | 935 | 1 020 | 1 036 |
| Carbonate | 2 431 | 3 096 | 3 318 | 3 933 | 3 835 |
| Korea, Republic of | | | | | |
| Oxides | 287 | 588 | 152 | 129 | 149 |
| Carbonate | 166 | 309 | 513 | 455 | 621 |
| Taiwan | | | | | |
| Carbonate | ... | ... | ... | 216 | 230 |
| Australia | | | | | |
| Oxides (a) | 174 | 145 | 221 | 141 | 159 |

(a) Years ended 30 June of that stated

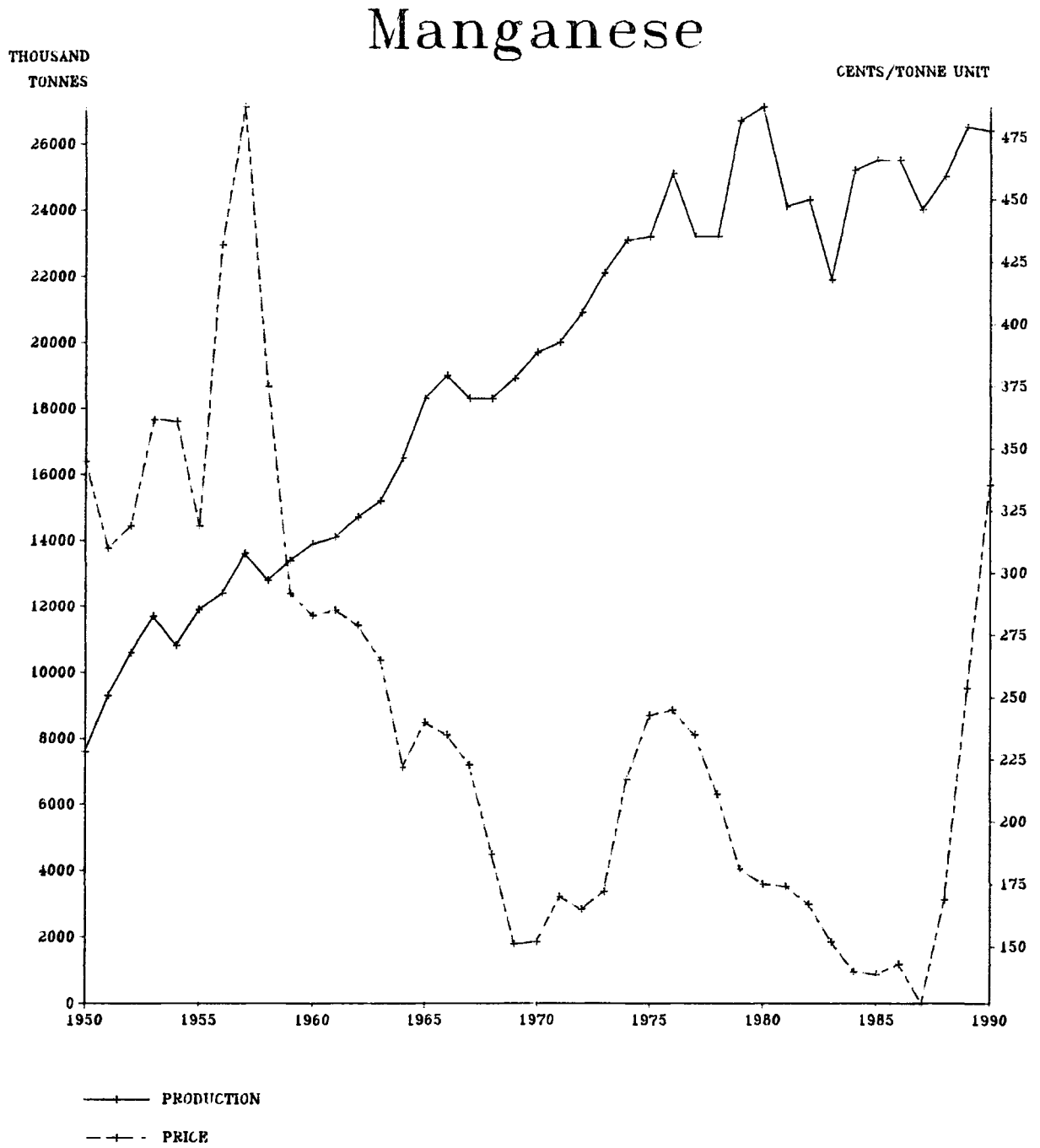


Figure 11 World production of manganese ore compared with the yearly average price of Indian (46%–48% Mn) ore c.i.f. US ports expressed in constant 1985 US dollars.

Production of Manganese Ore

| Country | | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------|----------|------------|------------|------------|------------|------------|
| Greece | (50%) | 4 560 | 4 024 | 3 725 | 3 034 | 3 000 |
| Italy | (30%) | 6 396 | 3 802 | 9 701 | 5 899 | 6 654 |
| Austria (e) | | 58 945 | 57 486 | 44 273 | 46 483 | 43 141 |
| Bulgaria | (30%) | 37 000 | 38 000 | 35 000 | 32 000 | *37 000 |
| Czechoslovakia | (17%)(d) | *900 | *900 | *900 | *900 | *900 |
| Hungary | (30%) | 62 172 | 69 964 | 80 983 | 84 247 | 60 000 |
| Romania | (22%) | 67 000 | *65 000 | *65 000 | *60 000 | *55 000 |
| Soviet Union | (35%) | 9 300 000 | 9 400 000 | 9 100 000 | 9 100 000 | 8 500 000 |
| Turkey | (40%) | 7 770 | *7 000 | *7 000 | *7 000 | *7 000 |
| Yugoslavia | (34%) | 41 280 | 41 297 | 40 100 | 38 770 | 51 000 |
| Gabon | (50%) | 2 440 000 | 2 403 000 | 2 254 000 | 2 593 000 | *2 600 000 |
| Ghana | (40%) | 259 300 | 253 600 | 230 900 | 334 200 | 246 869 |
| Morocco | (50%) | 40 334 | 42 500 | 30 100 | 32 000 | *32 000 |
| South Africa | | | | | | |
| Metallurgical | (40%) | 4 091 305 | 3 148 002 | 3 896 810 | 4 805 343 | 4 318 306 |
| Chemical | (55%) | 190 647 | 146 310 | 125 717 | 78 680 | 83 784 |
| Zaire | (45%) | 913 | ... | ... | ... | ... |
| Zambia | (45%) | 554 | — | 502 | 351 | 721 |
| Mexico | (38%) | 459 000 | 385 300 | 443 600 | 397 000 | 358 000 |
| USA | (10%)(a) | 12 991 | 17 315 | ... | ... | ... |
| Argentina | (30%) | 9 886 | 6 393 | 9 339 | 5 532 | ... |
| Brazil | (40%)(b) | 2 696 799 | 2 067 385 | 1 990 646 | *2 000 000 | *2 500 000 |
| Chile | (33%) | 31 631 | 31 803 | 43 655 | 43 806 | 39 697 |
| China | (30%) | 2 700 000 | 2 600 000 | 3 200 000 | 3 330 000 | 4 060 000 |
| India | (35%)(c) | 1 284 081 | 1 275 111 | 1 332 629 | 1 334 214 | *1 360 000 |
| Indonesia | (50%) | 7 985 | 9 360 | 10 278 | 9 076 | 9 417 |
| Iran | (30%)(f) | 34 000 | 30 000 | 31 000 | 35 000 | *35 000 |
| Japan | (26%) | 5 905 | — | 80 | — | — |
| Philippines | (48%) | 780 | 445 | 2 251 | 1 326 | 14 600 |
| Thailand | (45%) | 4 888 | 9 148 | 7 947 | 11 044 | 16 652 |
| Australia | (48%) | 1 648 921 | 1 853 279 | 1 976 087 | 2 124 000 | 1 931 000 |
| World total | | 25 500 000 | 24 000 000 | 25 000 000 | 26 500 000 | 26 400 000 |

Note(s):

- (1) Estimated average manganese content is given in parentheses for each country, relating where possible to the later years
 - (2) In addition to the countries listed, Colombia, Cuba and Vietnam are believed to produce manganese ore
- (a) Shipments of manganiferous iron ore only
- (b) Including beneficiated and direct shipping ore
- (c) Including ore grading 54% to less than 35% Mn
- (d) Manganiferous iron ore
- (e) Mn content of domestic iron ore
- (f) Years ended 20 March following that stated

Manganese

Exports of Manganese

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|-----------|-----------|-----------|-------------|-------------|
| United Kingdom | | | | | |
| Ore (a) | 235 | 323 | 419 | 778 | 394 |
| Metal | (c)*600 | (c)*500 | 1 813 | 2 520 | 1 697 |
| Belgium-Luxembourg | | | | | |
| Ore | 877 | 737 | 1 431 | 4 282 | 335 |
| Metal | 1 960 | 1 760 | 1 778 | 2 206 | 2 489 |
| France | | | | | |
| Ore (a) | 95 250 | 107 069 | 95 584 | 94 956 | 52 873 |
| Metal | 4 014 | 5 575 | 7 294 | 6 823 | 4 825 |
| Germany, Federal Republic of | | | | | |
| Ore (a) | 1 000 | 2 172 | 2 934 | 5 978 | 11 066 |
| Metal | 193 | 461 | 407 | 1 012 | 1 502 |
| Greece | | | | | |
| Ore | 501 | — | 20 | — | — |
| Italy | | | | | |
| Ore (a) | 1 747 | 484 | 667 | 572 | ... |
| Netherlands | | | | | |
| Ore | 41 166 | 51 917 | 57 035 | 56 447 | 45 429 |
| Metal | 1 241 | 1 100 | 1 313 | 1 780 | 1 983 |
| Portugal | | | | | |
| Ore | — | 19 468 | — | 4 240 | 8 348 |
| Bulgaria | | | | | |
| Ore | 7 000 | 11 100 | 12 200 | 14 000 | ... |
| Hungary | | | | | |
| Ore | 9 081 | 12 035 | 8 400 | ... | ... |
| Norway | | | | | |
| Ore | 505 | 5 | 10 000 | 8 000 | 31 027 |
| Soviet Union | | | | | |
| Ore | 1 101 000 | 714 000 | 982 000 | 895 000 | ... |
| Sweden | | | | | |
| Metal | 113 | 119 | 273 | 150 | 60 |
| Turkey | | | | | |
| Ore | 602 | 28 | — | 10 271 | 11 671 |
| Yugoslavia | | | | | |
| Ore | 6 995 | 1 060 | — | 946 | 5 046 |
| Gabon | | | | | |
| Ore | 2 550 898 | 2 290 300 | 2 380 000 | ... | 420 764 |
| Ghana | | | | | |
| Ore | 277 000 | 239 000 | 295 000 | (c)*231 900 | (c)*217 500 |
| Morocco | | | | | |
| Ore | 50 738 | 43 927 | 47 371 | 45 843 | 44 584 |
| South Africa | | | | | |
| Ore | 2 415 694 | 1 561 846 | 2 735 023 | 2 974 999 | 2 160 002 |
| Metal | 27 166 | 31 109 | ... | 36 500 | 32 200 |
| Mexico | | | | | |
| Ore | 123 670 | 158 132 | 169 127 | 127 227 | 65 256 |
| USA | | | | | |
| Ore | 41 554 | 70 743 | 67 498 | 51 880 | 82 928 |
| Metal | 4 840 | 5 626 | 9 496 | 5 350 | 6 100 |
| Brazil | | | | | |
| Ore | 759 875 | 715 842 | 1 048 546 | 1 034 735 | 923 917 |
| China | | | | | |
| Ore | (c)*4 300 | 41 182 | 40 250 | 28 769 | ... |
| Metal (c) | *1 300 | *1 800 | *3 500 | *7 000 | *12 000 |
| India (d) | | | | | |
| Ore (b) | 221 918 | 225 781 | 307 656 | ... | 317 504 |
| Indonesia | | | | | |
| Ore (a) | 4 959 | 5 000 | 5 720 | 16 020 | 67 027 |
| Japan | | | | | |
| Ore | (b)1 293 | (b)1 853 | 929 | 55 | 80 |

Exports of Manganese

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------|-----------|-----------|-----------|------------|------------|
| Singapore | | | | | |
| Ore | 23 565 | 21 772 | 15 833 | 9 598 | 9 699 |
| of which: Re-exports | 23 565 | 21 772 | 15 833 | 9 598 | 6 411 |
| Australia | | | | | |
| Ore | 1 144 579 | 1 306 000 | 1 553 000 | *1 620 000 | *1 600 000 |

Note(s):

(1) Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

(a) Including manganiferous iron ore

(b) Including ferruginous manganese ore

(c) BGS estimates, based on known imports into certain countries

(d) Years ended 31 March following that stated

Manganese

Imports of Manganese

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|---------|---------|-----------|---------|---------|
| United Kingdom | | | | | |
| Ore (b) | 159 482 | 120 550 | 195 457 | 275 509 | 318 303 |
| Metal | 4 831 | 2 484 | 2 859 | 4 574 | 4 274 |
| Belgium-Luxembourg | | | | | |
| Ore | 199 138 | 75 549 | 232 668 | 308 522 | 164 337 |
| Metal | 2 994 | 3 421 | 3 207 | 3 439 | 3 166 |
| Denmark | | | | | |
| Ore | 575 | 543 | 410 | 477 | 184 |
| Metal | 39 | 17 | 57 | 833 | 1 672 |
| France | | | | | |
| Ore (b) | 760 987 | 702 453 | 1 485 591 | 850 594 | 754 626 |
| Metal | 1 183 | 2 124 | 2 198 | 3 376 | 3 274 |
| Germany, Federal Republic of | | | | | |
| Ore (b) | 473 126 | 378 627 | 514 446 | 546 351 | 368 591 |
| Metal | 6 344 | 5 489 | 7 150 | 9 113 | 9 581 |
| Greece | | | | | |
| Ore | 589 | 15 | 82 | 24 | 22 751 |
| Metal | 138 | 160 | 278 | 181 | 229 |
| Irish Republic | | | | | |
| Ore (b) | 34 758 | 26 343 | 27 467 | 36 977 | 22 729 |
| Italy | | | | | |
| Ore (b) | 329 736 | 452 653 | 280 344 | 390 049 | 348 450 |
| Metal | 1 664 | 1 836 | 2 680 | 1 978 | 2 248 |
| Netherlands | | | | | |
| Ore | 130 177 | 124 983 | 53 425 | 55 961 | 71 157 |
| Metal | 2 004 | 1 710 | 2 203 | 2 362 | 2 263 |
| Portugal | | | | | |
| Ore (c) | 126 764 | 92 572 | 2 410 | 2 166 | 10 258 |
| Spain | | | | | |
| Ore | 244 299 | 202 286 | 199 519 | 328 520 | 262 314 |
| Metal | 674 | 614 | 679 | 782 | 959 |
| Austria | | | | | |
| Ore | 437 | 472 | 270 | 528 | 801 |
| Metal | ... | ... | 402 | 429 | 429 |
| Bulgaria | | | | | |
| Ore | 82 500 | 65 000 | 46 700 | 20 000 | ... |
| Czechoslovakia | | | | | |
| Ore | 332 000 | 438 000 | 484 000 | 871 000 | 951 000 |
| Finland | | | | | |
| Ore | 2 265 | 2 218 | 1 266 | 16 828 | 17 830 |
| German Democratic Republic | | | | | |
| Ore (a) | 30 200 | 23 800 | 27 400 | 26 600 | ... |
| Hungary | | | | | |
| Ore | 440 | 420 | 140 | ... | 260 |
| Norway | | | | | |
| Ore | 817 544 | 628 173 | 847 235 | 724 558 | 713 174 |
| Metal | 1 315 | 1 641 | 1 263 | 1 355 | 1 294 |
| Poland | | | | | |
| Ore | 670 843 | 682 259 | 693 211 | 575 223 | ... |
| Romania | | | | | |
| Ore | 196 000 | 212 000 | 205 000 | 205 000 | ... |
| Sweden | | | | | |
| Ore | 12 121 | 11 139 | 11 683 | 13 398 | 217 |
| Metal | 1 726 | 2 064 | 1 593 | 2 040 | 1 254 |
| Turkey | | | | | |
| Ore | 840 | 1 618 | 1 496 | 1 107 | 1 408 |
| Yugoslavia | | | | | |
| Ore | 132 548 | 88 173 | 138 587 | 128 877 | 131 645 |
| Ivory Coast | | | | | |
| Ore | 3 030 | ... | 2 750 | ... | ... |
| Kenya | | | | | |
| Ore (b) | 3 550 | 2 363 | 3 150 | ... | ... |
| South Africa | | | | | |
| Ore | 3 050 | 3 931 | 5 381 | 6 780 | 8 631 |
| Zimbabwe | | | | | |
| Ore | 23 550 | 18 419 | 248 | ... | 8 896 |
| Canada | | | | | |
| Ore (a) | 94 914 | 80 957 | 124 282 | 79 047 | 62 831 |
| Metal | 2 655 | 2 085 | 4 086 | 5 225 | 4 268 |
| Mexico | | | | | |
| Ore | 112 353 | 44 669 | 140 333 | 167 578 | ... |

Imports of Manganese

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|---------------------|--------------|--------------|--------------|--------------|--------------|
| Trinidad & Tobago | | | | | |
| Ore | 4 040 | 3 158 | 2 111 | 3 071 | 2 |
| USA | | | | | |
| Ore | 415 884 | 301 732 | 443 581 | 587 818 | 308 650 |
| Metal | 8 844 | 8 132 | 10 957 | 14 731 | 12 972 |
| Argentina | | | | | |
| Ore | 50 578 | 60 353 | 78 395 | 66 312 | ... |
| Brazil | | | | | |
| Ore | 2 106 | 0 | 32 749 | ... | 11 |
| Metal | 1 364 | 1 605 | 1 710 | ... | 959 |
| Colombia | | | | | |
| Ore | 3 951 | 12 600 | 9 576 | 3 359 | ... |
| Peru | | | | | |
| Ore | 1 099 | 662 | 580 | 66 | ... |
| Venezuela | | | | | |
| Ore | 48 006 | 62 259 | 80 413 | 64 702 | ... |
| China | | | | | |
| Ore | ... | 235 999 | 276 690 | 424 803 | ... |
| Hong Kong | | | | | |
| Ore | 341 | 665 | 629 | 580 | 959 |
| India (e) | | | | | |
| Ore | 3 954 | 1 152 | 4 860 | ... | 3 471 |
| Metal | 130 | 567 | 1 095 | ... | 4 978 |
| Indonesia | | | | | |
| Ore (b) | 1 170 | 1 998 | 1 680 | 1 370 | 2 803 |
| Iran | | | | | |
| Ore (d) | *3 500 | ... | *1 000 | ... | ... |
| Israel | | | | | |
| Ore (d) | *1 400 | *1 500 | *1 300 | *1 300 | *1 700 |
| Japan | | | | | |
| Ore | (c)1 806 871 | (c)1 580 662 | (b)1 922 113 | (b)1 939 002 | (b)1 646 743 |
| Metal | ... | ... | 9 893 | 10 739 | 13 687 |
| Korea, Dem. P.R. of | | | | | |
| Ore (d) | *55 600 | *61 000 | *134 500 | *49 000 | ... |
| Korea, Republic of | | | | | |
| Ore | 222 831 | 373 880 | 391 811 | 508 323 | 393 118 |
| Metal | ... | ... | 697 | 823 | 891 |
| Malaysia | | | | | |
| Ore | 985 | 1 170 | 933 | 985 | ... |
| Pakistan (f) | | | | | |
| Ore | 33 187 | 27 722 | 173 | ... | 587 |
| Philippines | | | | | |
| Ore (b) | 3 040 | 3 594 | 3 209 | 22 244 | 20 224 |
| Saudi Arabia | | | | | |
| Ore | 27 929 | 26 124 | 19 509 | 8 535 | ... |
| Singapore | | | | | |
| Ore | 28 846 | 45 512 | 51 062 | 26 180 | 80 014 |
| Sri Lanka | | | | | |
| Ore | 104 | 1 299 | 198 | ... | — |
| Taiwan | | | | | |
| Ore | 119 241 | 131 704 | 170 943 | 196 032 | 141 392 |
| Australia | | | | | |
| Ore (f) | 1 207 | 1 618 | 2 035 | 2 393 | 1 008 |
| Metal (f) | 892 | 732 | 1 794 | 2 634 | 1 346 |

Note(s):

(1) Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

(a) Mn content

(b) Including manganiferous iron ore

(c) Including ferruginous manganese ore

(d) BGS estimates, based on known exports from certain countries

(e) Years ended 31 March following that stated

(f) Years ended 30 June of that stated

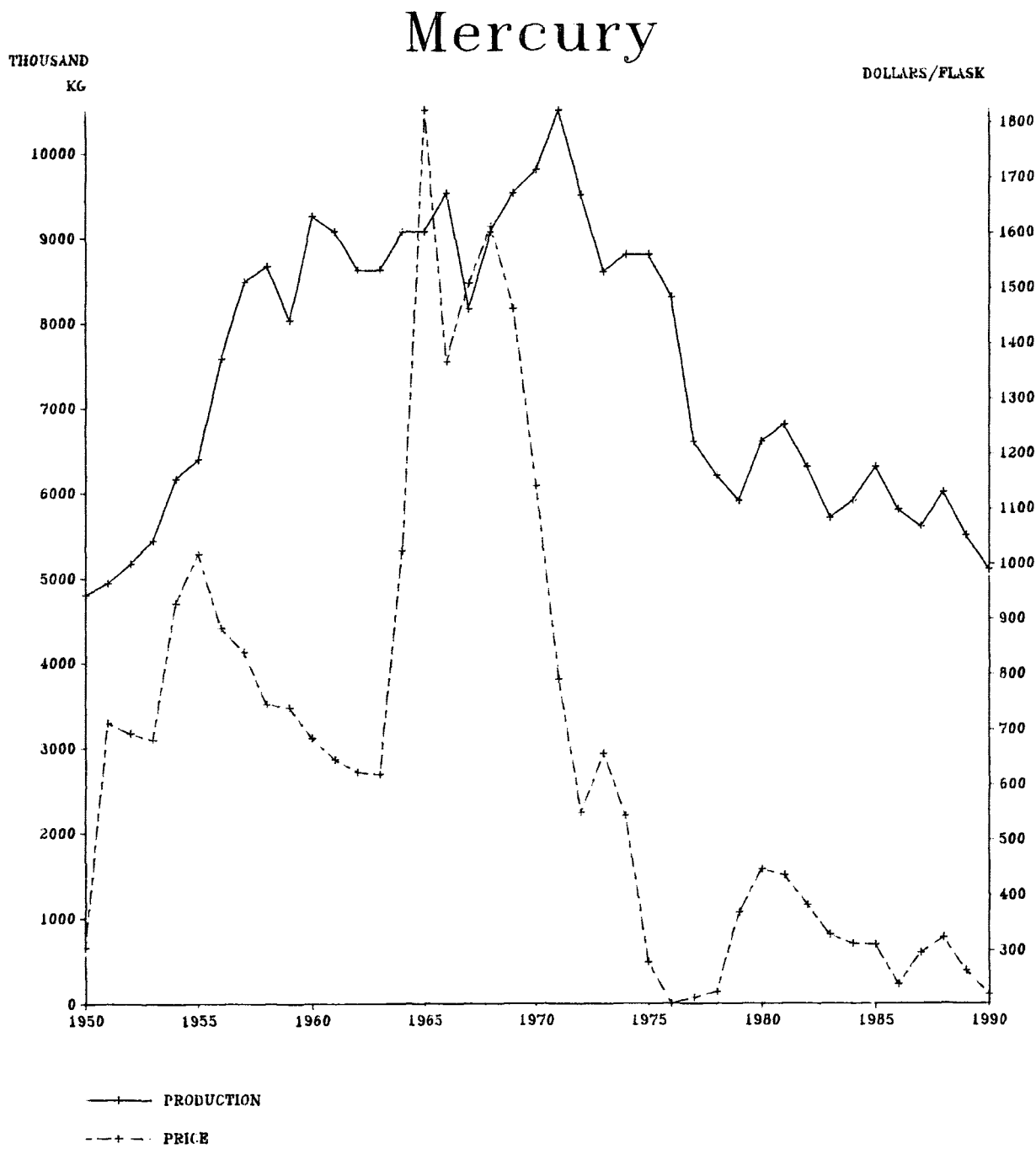


Figure 12 World production of mercury compared with the annual average price in the USA according to *Metals Week*, expressed in constant 1985 US dollars.

Production of Mercury

Mercury
kilograms

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------|------------|------------|------------|------------|------------|
| Spain | 1 470 379 | 1 570 971 | 1 614 586 | 967 083 | 962 000 |
| Czechoslovakia | 168 000 | 164 000 | 168 000 | 131 000 | 126 000 |
| Finland | 87 021 | 217 134 | 97 026 | 202 470 | 109 176 |
| Soviet Union | *1 500 000 | *1 650 000 | *1 650 000 | *1 500 000 | *1 400 000 |
| Turkey | 261 649 | 210 519 | 97 359 | 96 000 | 47 000 |
| Yugoslavia | 75 000 | 67 000 | 70 000 | 51 000 | 37 000 |
| Algeria | 756 000 | 705 000 | 662 000 | 587 000 | 637 000 |
| Mexico | 185 000 | 124 000 | 345 000 | *345 000 | *345 000 |
| USA (a) | 483 000 | 34 000 | 379 000 | 414 000 | 460 000 |
| China | *850 000 | *900 000 | *900 000 | 1 208 000 | 930 000 |
| World total | 5 800 000 | 5 600 000 | 6 000 000 | 5 500 000 | 5 100 000 |

(a) Excluding byproduct mercury-producing mines

Mercury

Exports of Mercury

kilograms

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|-------------|-------------|-------------|----------|----------|
| United Kingdom | 20 479 | 64 487 | 66 572 | 128 462 | 176 377 |
| Belgium-Luxembourg | 11 400 | 3 000 | 2 600 | 5 400 | 36 500 |
| Denmark | 1 100 | 7 100 | 4 200 | 1 700 | 6 200 |
| France | 87 900 | 32 400 | 323 800 | 105 000 | 38 000 |
| Germany, Federal Republic of | 111 700 | 137 700 | 72 900 | 121 800 | 75 600 |
| Italy | 3 000 | 54 900 | 38 700 | 68 000 | 21 000 |
| Netherlands | 23 000 | 50 000 | 96 000 | 74 000 | 154 000 |
| Spain | 1 089 000 | 702 000 | 699 000 | 696 000 | 475 000 |
| Austria | 2 800 | 1 700 | 2 900 | 700 | 700 |
| Finland | 81 000 | 224 000 | 94 000 | 188 000 | 103 000 |
| Norway | 30 000 | 73 000 | 63 000 | 29 000 | 259 000 |
| Sweden | 11 000 | 7 000 | 8 000 | 59 000 | 45 000 |
| Switzerland | 5 206 | 19 845 | 2 960 | 3 832 | 32 575 |
| Turkey | 181 459 | 100 740 | 182 812 | 306 011 | ... |
| Yugoslavia | 39 000 | 22 000 | 27 000 | 5 000 | 2 000 |
| Algeria | 569 500 | 607 501 | 528 000 | ... | ... |
| Canada | ... | ... | 48 701 | 14 | 33 165 |
| Mexico | 155 346 | 137 000 | 142 377 | 91 189 | 22 000 |
| USA | (a)*167 000 | (a)*185 000 | (a)*137 000 | 222 560 | 311 622 |
| China (a) | *577 000 | *1 232 000 | *841 000 | *320 000 | *294 000 |
| Hong Kong (b) | 93 730 | 242 503 | 80 993 | 73 468 | 116 121 |
| Japan | 272 485 | 200 365 | 191 150 | 205 027 | 103 997 |
| Singapore | 5 680 | 21 445 | 2 542 | 5 844 | 7 405 |
| of which: Re-exports | 5 680 | 21 445 | 2 542 | 5 844 | 7 304 |

(a) BGS estimates, based on known imports into certain countries

(b) Re-exports

Imports of Mercury

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------------------|----------|----------|---------|---------|---------|
| United Kingdom | 417 712 | 435 615 | 311 020 | 89 178 | 51 090 |
| Belgium-Luxembourg | 211 700 | 115 200 | 161 500 | 91 700 | 74 000 |
| Denmark | 7 100 | 14 900 | 6 300 | 6 800 | 3 700 |
| France | 188 000 | 123 400 | 130 700 | 129 000 | 107 000 |
| Germany, Federal Republic of | 412 400 | 343 400 | 256 100 | 263 500 | 188 700 |
| Greece | 4 000 | 1 000 | 3 091 | 6 000 | 4 000 |
| Irish Republic | 18 500 | 1 400 | 7 452 | 14 385 | 48 521 |
| Italy | 179 329 | 144 300 | 194 300 | 189 000 | 92 000 |
| Netherlands | 33 000 | 83 000 | 104 000 | 110 000 | 106 000 |
| Portugal | 15 100 | 7 600 | 10 000 | 27 000 | 15 000 |
| Spain | 18 000 | 98 000 | 198 000 | 33 000 | 79 000 |
| Austria | 5 500 | 7 000 | 7 300 | 3 800 | 5 900 |
| Finland | ... | 2 000 | 2 000 | ... | 1 000 |
| German Democratic Republic (a) | *50 000 | *335 000 | ... | *30 000 | *10 000 |
| Hungary | 57 000 | 60 000 | 65 000 | 70 000 | 27 000 |
| Norway | 3 000 | 8 000 | 4 000 | ... | ... |
| Poland (a) | ... | ... | *15 000 | ... | ... |
| Romania (a) | *203 000 | *69 000 | ... | *3 000 | *15 000 |
| Sweden | 47 000 | 11 000 | 31 000 | 13 000 | 14 000 |
| Switzerland | 37 384 | 17 691 | 16 025 | 18 154 | 15 781 |
| Yugoslavia | 10 000 | 23 000 | 48 000 | 29 000 | 48 000 |
| Egypt | 19 000 | 18 000 | 16 000 | ... | ... |
| Morocco | 3 261 | ... | 4 293 | 466 | 9 296 |
| South Africa | 30 000 | 114 200 | 58 368 | 96 700 | 119 040 |
| Tunisia | 11 027 | 10 706 | 10 368 | 11 636 | 6 357 |
| Canada | 77 000 | 33 000 | 36 238 | 32 442 | 53 890 |
| USA | 695 914 | 653 302 | 326 563 | 131 219 | 14 951 |
| Argentina | 212 000 | 45 000 | 57 000 | ... | ... |
| Brazil | 222 349 | 271 412 | 202 970 | ... | 219 106 |
| Colombia | 37 088 | ... | 30 408 | 59 110 | ... |
| Peru | 27 318 | 44 814 | 25 114 | 65 000 | ... |
| Uruguay | 4 500 | 33 700 | 4 300 | ... | ... |
| Venezuela | 47 558 | 104 149 | 66 416 | 23 114 | ... |
| Hong Kong | 123 626 | 253 964 | 158 219 | 80 363 | 128 746 |
| India (d) | 286 508 | 237 753 | 298 897 | ... | 426 515 |
| Indonesia | 179 190 | 192 285 | 55 207 | 77 402 | 41 583 |
| Iran (b) | 4 694 | 4 170 | 38 309 | 25 651 | ... |
| Israel (a) | *400 | *1 500 | *300 | *3 000 | *1 000 |
| Japan | 29 647 | 75 309 | 39 911 | 61 955 | 33 830 |
| Korea, Dem. P.R. of (a) | *5 000 | ... | *1 000 | *3 000 | *3 000 |
| Korea, Republic of | 19 579 | 28 509 | 33 791 | 31 178 | 27 161 |
| Malaysia | 6 000 | 8 520 | 4 260 | 27 550 | ... |
| Myanmar (d) | 3 099 | 6 096 | ... | 203 | ... |
| Pakistan (c) | 49 418 | 109 429 | 45 092 | ... | 61 035 |
| Philippines | 55 013 | 65 966 | 132 451 | 62 370 | 92 729 |
| Saudi Arabia | 565 533 | — | 87 975 | 32 218 | ... |
| Singapore | 31 552 | 45 335 | 55 576 | 150 733 | 18 742 |
| Sri Lanka | 1 359 | 917 | 400 | ... | 1 339 |
| Taiwan | 9 723 | 8 511 | 18 321 | 18 418 | 10 808 |
| Thailand | 13 874 | 11 269 | 11 193 | ... | ... |
| Australia (c) | 48 067 | 64 589 | 60 574 | 83 339 | 73 558 |

(a) BGS estimates, based on known exports from certain countries

(b) Years ended 20 March following that stated

(c) Years ended 30 June of that stated

(d) Years ended 31 March following that stated

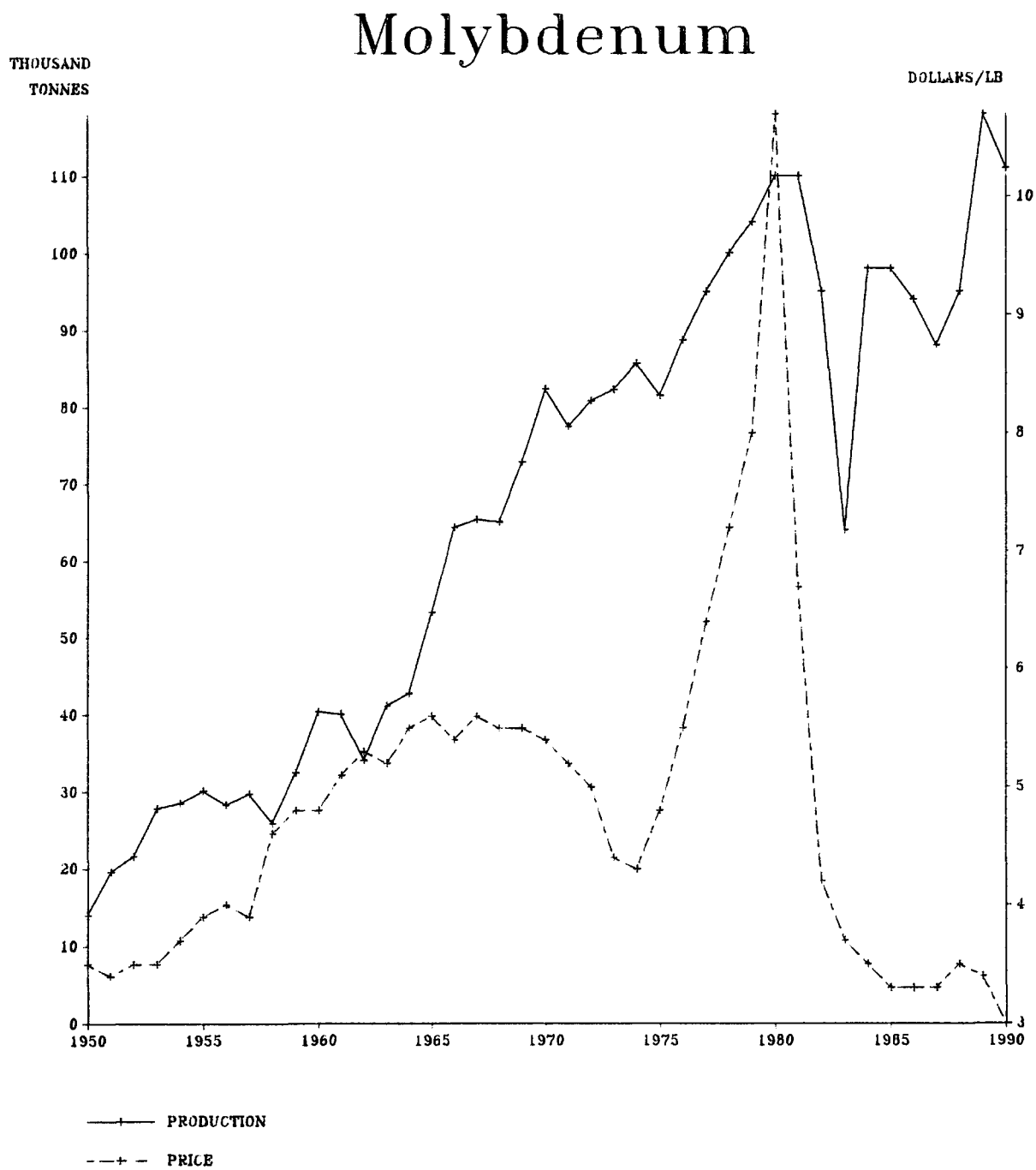


Figure 13 World mine production of molybdenum compared with the weighted annual average producer price in the USA of molybdenum contained in technical-grade molybdc oxide, expressed in constant 1985 US dollars.

Mine Production of Molybdenum

Molybdenum
tonnes (metal content)

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------|---------|---------|---------|---------|---------|
| Bulgaria | *190 | *200 | *200 | *190 | 231 |
| Soviet Union | *11 400 | *11 500 | *11 500 | *11 500 | *11 000 |
| Turkey | *100 | *100 | *100 | *100 | *100 |
| Niger | *20 | 8 | *15 | *13 | *10 |
| Canada | 11 251 | 12 509 | 12 494 | 14 073 | 13 477 |
| Mexico | 3 350 | 4 400 | 4 456 | 4 189 | 3 114 |
| USA | 42 627 | 34 073 | 43 051 | 63 105 | 61 611 |
| Chile | 16 581 | 16 941 | 15 515 | 16 550 | 13 830 |
| Peru | 3 491 | 3 352 | 2 370 | 2 880 | 2 510 |
| China | *2 000 | *2 000 | *2 000 | *2 000 | *2 000 |
| Iran | *900 | *1 200 | *1 200 | *1 200 | *1 200 |
| Japan | *100 | *100 | *100 | *100 | *100 |
| Korea, Republic of | 317 | 327 | 144 | 132 | *140 |
| Mongolia | 1 519 | 1 526 | 1 547 | 1 574 | 2 011 |
| World total | 94 000 | 88 000 | 95 000 | 118 000 | 111 000 |

Note(s):

(1) In addition to the countries listed, Australia, India, Democratic P.R. of Korea and Romania are believed to produce molybdenum

Molybdenum

Exports of Molybdenum

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|---------|--------|--------|--------|---------|
| United Kingdom | | | | | |
| Ores & concentrates | 2 894 | 2 269 | 2 551 | 2 465 | 3 060 |
| Metal | 629 | 763 | 489 | 347 | 397 |
| Oxides | 1 109 | 1 044 | 459 | 676 | 557 |
| Belgium-Luxembourg | | | | | |
| Ores & concentrates | 11 346 | 12 890 | 16 519 | 16 102 | 17 695 |
| Metal | 141 | 142 | 151 | 139 | 196 |
| Oxides | 36 | 53 | 55 | 76 | 195 |
| France | | | | | |
| Ores & concentrates | 4 961 | 2 115 | 1 267 | 1 273 | 693 |
| Metal | 290 | 295 | 310 | 293 | 271 |
| Germany, Federal Republic of | | | | | |
| Ores & concentrates | 4 045 | 3 417 | 2 213 | 2 057 | 2 499 |
| Metal | 636 | 849 | 874 | 949 | 861 |
| Oxides | 1 191 | 761 | 566 | 394 | 493 |
| Italy | | | | | |
| Metal | 64 | 35 | 55 | 237 | 153 |
| Netherlands | | | | | |
| Ores & concentrates | 13 699 | 8 694 | 15 953 | 17 403 | 15 984 |
| Metal | 220 | 422 | 266 | 355 | 200 |
| Oxides | 945 | 1 455 | 2 211 | 1 193 | 1 451 |
| Austria | | | | | |
| Metal | 1 267 | 1 266 | 1 640 | 1 651 | 1 656 |
| Sweden | | | | | |
| Ores & concentrates | 1 687 | 2 747 | 1 725 | 2 647 | 2 952 |
| Metal | 7 | 13 | 21 | 3 | 3 |
| Canada | | | | | |
| Ores & concentrates (a) | 11 368 | 14 253 | 13 978 | 16 140 | 11 062 |
| Mexico | | | | | |
| Ores & concentrates (a) | 2 875 | 4 237 | 4 542 | 4 656 | ... |
| USA | | | | | |
| Ores & concentrates (a) | 22 295 | 18 430 | 23 500 | 51 270 | 41 568 |
| Metal | 1 289 | 1 596 | 1 654 | 1 672 | 1 356 |
| Chile | | | | | |
| Ores & concentrates | 29 039 | 25 813 | 24 815 | 24 468 | *25 000 |
| Peru | | | | | |
| Ores & concentrates | 6 839 | 6 203 | 4 279 | *5 000 | *4 000 |
| China | | | | | |
| Ores & concentrates (b) | *12 300 | *7 600 | *3 300 | *1 300 | *900 |
| Metal (b) | *70 | *40 | *90 | *60 | *130 |
| Japan | | | | | |
| Metal | 63 | 81 | 62 | 93 | 91 |
| Korea, Republic of | | | | | |
| Ores & concentrates | 308 | 126 | — | — | — |

Note(s):

(1) Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

(a) Mo content

(b) BGS estimates based on known imports into certain countries

Imports of Molybdenum

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|--------|--------|--------|--------|--------|
| United Kingdom | | | | | |
| Ores & concentrates | 19 248 | 15 756 | 19 882 | 23 196 | 18 224 |
| Metal | 278 | 315 | 337 | 295 | 377 |
| Oxides | 237 | 135 | 256 | 146 | 160 |
| Belgium-Luxembourg | | | | | |
| Ores & concentrates | 21 874 | 24 787 | 28 512 | 31 950 | 32 706 |
| Metal | 211 | 480 | 292 | 339 | 205 |
| Oxides | 147 | 180 | 190 | 122 | 160 |
| France | | | | | |
| Ores & concentrates | 7 446 | 8 632 | 9 614 | 9 406 | 9 993 |
| Metal | 248 | 233 | 391 | 408 | 510 |
| Oxides | 124 | 157 | 140 | 152 | 126 |
| Germany, Federal Republic of | | | | | |
| Ores & concentrates | 17 817 | 16 305 | 17 329 | 16 450 | 15 929 |
| Metal | 1 033 | 828 | 1 272 | 1 375 | 1 284 |
| Oxides | 120 | 107 | 544 | 448 | 361 |
| Italy | | | | | |
| Ores & concentrates | 2 742 | 2 870 | 2 789 | 2 631 | 2 697 |
| Metal | 218 | 195 | 182 | 194 | 129 |
| Oxides | 65 | 32 | 173 | 76 | 37 |
| Netherlands | | | | | |
| Ores & concentrates | 22 961 | 15 985 | 17 697 | 25 577 | 22 205 |
| Metal | 116 | 202 | 163 | 260 | 167 |
| Oxides | 30 | 27 | 10 | 18 | 18 |
| Spain | | | | | |
| Ores & concentrates | 5 236 | 4 991 | 2 720 | 2 609 | 2 335 |
| Metal | 52 | 43 | 56 | 53 | 56 |
| Austria | | | | | |
| Ores & concentrates | ... | ... | 9 542 | 9 969 | 8 977 |
| Metal | 117 | 121 | 130 | 256 | 307 |
| Oxides | 2 066 | 1 706 | 2 852 | 2 486 | 2 419 |
| Czechoslovakia | | | | | |
| Ores & concentrates (a) | *900 | *800 | *1 900 | *2 000 | *1 600 |
| Finland | | | | | |
| Ores & concentrates | 326 | 1 074 | 1 245 | 1 256 | 1 792 |
| Metal | 1 | 4 | 6 | 10 | 14 |
| Sweden | | | | | |
| Ores & concentrates | 7 246 | 7 402 | 7 870 | 7 577 | 8 122 |
| Metal | 186 | 262 | 274 | 372 | 266 |
| Oxides | 96 | 236 | 234 | 243 | 201 |
| Switzerland | | | | | |
| Metal | 20 | 23 | 17 | 17 | 17 |
| Yugoslavia | | | | | |
| Metal | 24 | 20 | 20 | 26 | 24 |
| South Africa | | | | | |
| Metal | 13 | 15 | 19 | 12 | 15 |
| Oxides | 361 | 481 | 518 | 355 | 326 |
| Canada | | | | | |
| Metal | (b)52 | (b)161 | 159 | 59 | 77 |
| Oxides | 202 | 193 | 188 | 124 | 176 |
| USA | | | | | |
| Ores & concentrates | 789 | 1 784 | 668 | 620 | 1 055 |
| Metal | 373 | 444 | 473 | 512 | 417 |
| Oxides | 810 | 4 142 | 721 | 422 | 643 |
| Argentina | | | | | |
| Oxides | 479 | 677 | 805 | 841 | ... |
| Brazil | | | | | |
| Ores & concentrates | 2 493 | 3 093 | 3 094 | ... | 250 |
| Metal | 75 | 60 | 68 | ... | ... |
| Oxides | 484 | 740 | 615 | ... | 295 |

Molybdenum

Imports of Molybdenum

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------|--------|--------|--------|--------|--------|
| Japan | | | | | |
| Ores & concentrates | 18 024 | 17 115 | 22 987 | 23 106 | 24 408 |
| Metal | 290 | 380 | 662 | 606 | 528 |
| Oxides | 414 | 468 | 351 | 352 | 335 |
| Korea, Republic of | | | | | |
| Ores & concentrates | 263 | 522 | 13 520 | 559 | 745 |
| Metal | 28 | 32 | 58 | 182 | 358 |
| Philippines | | | | | |
| Metal | 2 | 4 | 9 | 35 | 21 |
| Singapore | | | | | |
| Metal | 1 | 4 | 7 | 164 | 49 |
| Taiwan | | | | | |
| Metal | 85 | 105 | 127 | 134 | 139 |
| Australia | | | | | |
| Ores & concentrates (c) | 151 | 88 | 85 | 21 | 113 |
| Metal (c) | 6 | 7 | 42 | 128 | 104 |
| Oxides (c) | — | — | 190 | 127 | 86 |

Note(s):

(1) Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

(a) BGS estimates, based on known exports from certain countries

(b) Exports from the USA

(c) Years ended 30 June of that stated

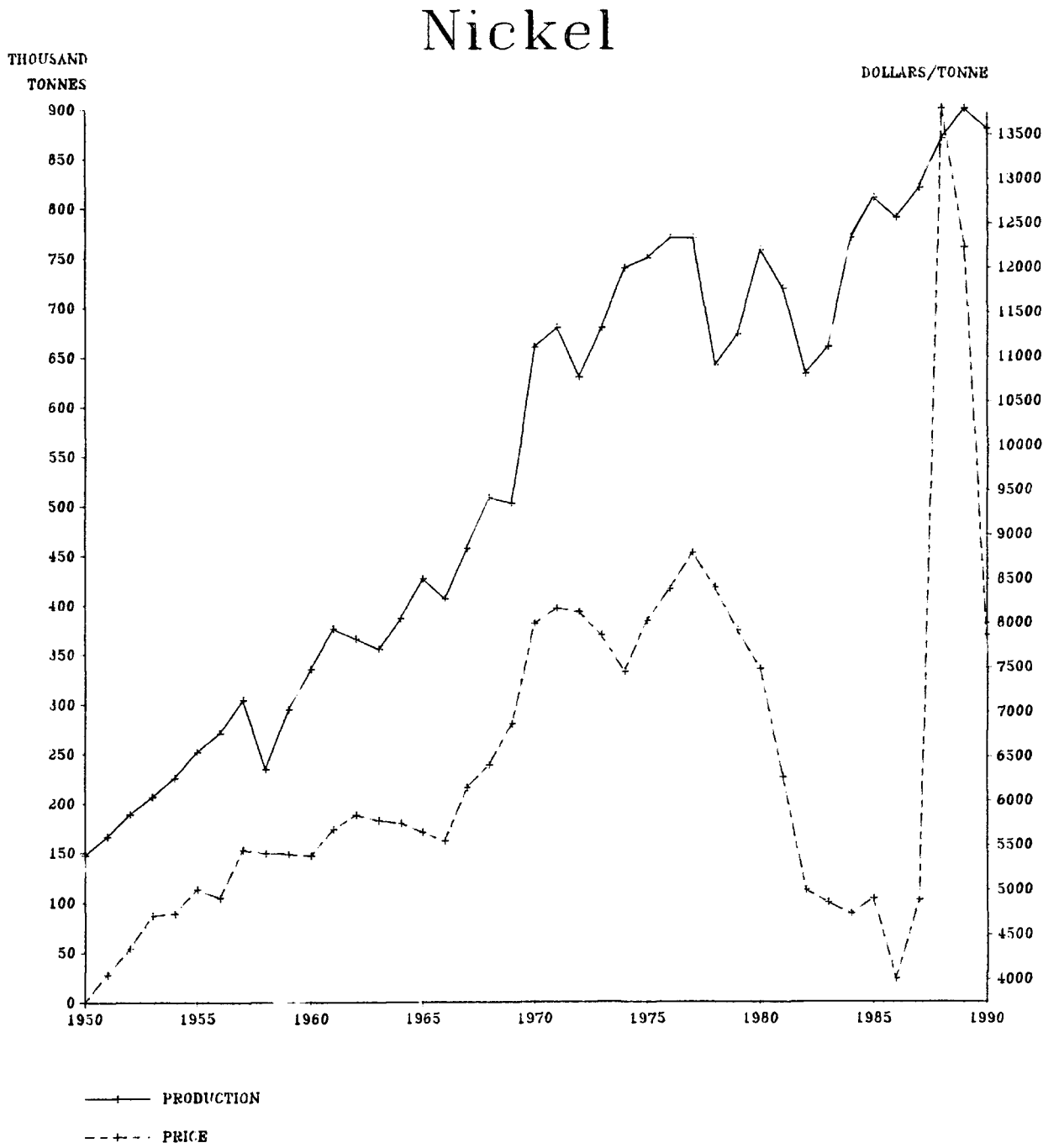


Figure 14 World mine production of nickel compared with the annual average price of refined nickel in the UK according to *Metal Bulletin* and, from 1980, the LME cash price, expressed in constant 1985 US dollars.

Mine Production of Nickel

tonnes (metal content)

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------------|------------|----------|----------|----------|----------|
| Greece (d) | 10 324 | 9 200 | 13 131 | 10 719 | 15 730 |
| Albania | 7 876 | 9 238 | 10 139 | 11 204 | 8 843 |
| Finland | 11 403 | 10 038 | 11 070 | 9 958 | 9 986 |
| German Democratic Republic | *1 700 | 1 689 | 1 367 | 1 479 | 872 |
| Norway | 467 | 386 | 382 | 445 | 3 100 |
| Soviet Union | *185 000 | *195 000 | *205 000 | *205 000 | *212 000 |
| Yugoslavia | *3 200 | *3 500 | *5 600 | *6 300 | *4 900 |
| Botswana | 18 972 | 16 528 | 22 539 | 21 309 | 19 022 |
| South Africa (a) | 28 762 | 29 248 | 29 217 | 27 899 | 28 133 |
| Zimbabwe | 9 732 | 10 393 | 11 489 | 11 634 | 11 442 |
| Canada | (b)163 639 | 193 391 | 216 589 | 200 899 | 199 434 |
| Cuba | 33 524 | 35 221 | 42 145 | 44 765 | *41 500 |
| Dominican Republic (d) | 21 900 | 32 500 | 29 300 | 31 300 | 28 700 |
| USA | 1 066 | — | — | — | 330 |
| Brazil | 21 240 | 22 092 | 18 667 | 23 540 | 23 490 |
| Colombia | 20 980 | 22 800 | 19 200 | 24 900 | 22 100 |
| China | *24 000 | *26 000 | *26 000 | *26 000 | *28 000 |
| Indonesia | 67 300 | 57 200 | 59 800 | 59 600 | 53 800 |
| Myanmar (e) | *50 | *50 | *100 | *100 | *100 |
| Philippines | 12 745 | 8 510 | 10 349 | 18 049 | 15 800 |
| Australia | 76 739 | 74 554 | 62 639 | 66 000 | 67 000 |
| New Caledonia (c) | 64 518 | 57 470 | 71 242 | 96 150 | 85 048 |
| World total | 790 000 | 820 000 | 870 000 | 900 000 | 880 000 |

(a) Refined nickel and nickel in matte

(b) Refined nickel and nickel in oxide and salts plus nickel in matte and concentrate exported

(c) Ni and Co content

(d) Ni content of ferro-nickel

(e) Ni content of nickel speiss. Years ended 31 March following that stated

Nickel

Smelter/Refinery Production of Nickel

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------------|----------|----------|----------|----------|----------|
| United Kingdom | 30 900 | 29 500 | 28 000 | 26 100 | 26 500 |
| France | 8 241 | 6 690 | 9 124 | 8 632 | 8 540 |
| Greece | 10 300 | 9 200 | 13 131 | 16 088 | 15 730 |
| Albania | 4 000 | 4 000 | 5 000 | 5 500 | 4 000 |
| Czechoslovakia | *3 800 | *3 700 | 3 500 | 2 500 | 2 600 |
| Finland | 16 243 | 17 689 | 16 343 | 13 090 | 17 136 |
| German Democratic Republic | 3 000 | 3 100 | 2 600 | 2 700 | 1 300 |
| Norway | 38 202 | 44 564 | 52 545 | 54 885 | 57 812 |
| Soviet Union | *195 000 | *210 000 | *215 000 | *225 000 | *230 000 |
| Yugoslavia | 3 200 | 3 500 | 5 600 | 6 300 | 4 900 |
| South Africa | 25 400 | 27 000 | 27 200 | 30 000 | 28 000 |
| Zimbabwe | 16 400 | 16 700 | 18 300 | 18 800 | 18 800 |
| Canada | 124 200 | 131 300 | 135 200 | 129 100 | 126 800 |
| Cuba | 16 671 | 18 186 | 23 831 | 26 261 | *24 000 |
| Dominican Republic (a) | 21 989 | 29 100 | 32 400 | 28 900 | 30 600 |
| USA | 1 498 | — | — | 347 | 3 701 |
| Brazil | 13 465 | 13 862 | 13 101 | 13 727 | 13 419 |
| Colombia | 18 018 | 19 344 | 16 877 | 16 955 | 18 425 |
| China | 23 800 | 25 500 | 25 500 | 34 300 | 33 200 |
| Indonesia | 4 500 | 1 700 | 4 900 | 5 000 | 5 000 |
| Japan | 92 990 | 94 175 | 100 620 | 105 820 | 101 638 |
| Philippines | 1 153 | — | — | — | — |
| Taiwan | 8 500 | 8 200 | 10 500 | 10 000 | 10 400 |
| Australia | 42 097 | 44 529 | 37 400 | 42 900 | 46 700 |
| New Caledonia | 33 001 | 29 531 | 37 352 | 36 285 | 32 278 |
| World total | 760 000 | 790 000 | 830 000 | 860 000 | 860 000 |

Note(s):

(1) Data relate to refined nickel plus the nickel content of ferro-nickel and nickel oxide

(a) Shipments of ferro-nickel (Ni content)

Exports of Nickel

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|---------|---------|---------|---------|---------|
| United Kingdom | | | | | |
| Mattes, sinters etc. | 682 | 1 285 | 762 | 450 | 255 |
| Unwrought | 15 610 | 16 786 | 15 999 | 11 818 | 14 327 |
| Unwrought alloys | 1 840 | 1 779 | 2 565 | 2 682 | 3 799 |
| Scrap | 4 629 | 5 030 | 4 185 | 4 772 | 5 070 |
| Oxides | 79 | 98 | 218 | 109 | 66 |
| Belgium-Luxembourg | | | | | |
| Unwrought | 50 | 59 | 461 | 1 684 | 273 |
| Unwrought alloys | 263 | 312 | 908 | 871 | 516 |
| Scrap | 739 | 991 | 1 396 | 1 206 | 2 191 |
| Denmark | | | | | |
| Scrap | 30 | 87 | 612 | 303 | 110 |
| France | | | | | |
| Unwrought | 6 051 | 5 754 | 6 510 | 6 006 | 6 371 |
| Unwrought alloys | 889 | 1 086 | 528 | 256 | 1 666 |
| Scrap | 3 109 | 2 865 | 4 582 | 3 863 | 4 118 |
| Oxides | 8 | 15 | 66 | 15 | 9 |
| Germany, Federal Republic of | | | | | |
| Mattes, sinters etc. | 1 727 | 1 187 | 1 | 0 | 143 |
| Unwrought | 2 985 | 5 838 | 6 215 | 4 825 | 4 661 |
| Unwrought alloys | 3 405 | 3 589 | 3 142 | 2 924 | 3 723 |
| Scrap | 5 668 | 6 492 | 9 989 | 8 041 | 9 765 |
| Oxides | 98 | 95 | 88 | 68 | 107 |
| Irish Republic | | | | | |
| Unwrought (a) | 35 | 7 | 260 | 90 | 99 |
| Scrap | 161 | 208 | 330 | 315 | 410 |
| Italy | | | | | |
| Unwrought (a) | 113 | 378 | 845 | 484 | 1 631 |
| Scrap | 163 | 281 | 602 | 472 | 309 |
| Netherlands | | | | | |
| Mattes, sinters etc. (b) | *3 700 | *5 400 | *4 200 | *6 500 | *7 800 |
| Unwrought (a) | 500 | 650 | 400 | 1 558 | 365 |
| Scrap | 4 684 | 3 433 | 6 740 | 6 367 | 5 500 |
| Oxides (b) | *500 | *200 | *150 | *300 | *250 |
| Spain | | | | | |
| Scrap | 96 | 64 | 166 | 349 | 125 |
| Albania | | | | | |
| Unwrought | 1 500 | 1 500 | 1 500 | 1 900 | 2 000 |
| Austria | | | | | |
| Scrap | 214 | 104 | 123 | 311 | 184 |
| Finland | | | | | |
| Ores & concentrates | ... | ... | 6 039 | 31 448 | 26 296 |
| Unwrought | 15 086 | 13 309 | 10 458 | 9 456 | 10 515 |
| Oxides | ... | ... | 311 | 456 | 474 |
| Norway | | | | | |
| Ore | 11 871 | 8 991 | 6 914 | 11 513 | 21 578 |
| Unwrought | 37 917 | 44 125 | 50 789 | 54 824 | 58 605 |
| Scrap | 108 | 91 | 86 | 100 | 85 |
| Soviet Union | | | | | |
| Mattes, sinters etc. (b) | *200 | *400 | *7 900 | *15 700 | *27 300 |
| Unwrought (a)(b) | *39 100 | *56 800 | *62 000 | *72 600 | *76 200 |
| Sweden | | | | | |
| Unwrought (a) | 52 | 78 | 1 802 | 133 | 95 |
| Scrap | 655 | 740 | 642 | 769 | 542 |
| Switzerland | | | | | |
| Unwrought | (g)44 | (g)122 | (a)662 | (a)194 | (a)63 |
| Scrap | 295 | 369 | 440 | 302 | 276 |
| Yugoslavia | | | | | |
| Scrap | 70 | 83 | 14 | 1 | 80 |
| Botswana | | | | | |
| Mattes, sinters etc. | 51 290 | 49 016 | *60 000 | 53 400 | 48 500 |
| South Africa | | | | | |
| Unwrought (a) | 18 300 | 17 741 | 17 737 | 16 412 | 21 167 |
| Scrap (b) | *200 | *400 | *500 | *1 100 | *1 900 |
| Zimbabwe | | | | | |
| Unwrought (a) | 14 326 | 15 832 | 16 928 | ... | 13 740 |

Exports of Nickel

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------------------|-----------|-----------|-----------|-----------|-----------|
| Canada | | | | | |
| Ores, concentrates, mattes etc. (c) | 71 712 | 77 275 | 67 888 | 65 517 | 68 671 |
| Unwrought | 86 057 | 96 165 | ... | (a)62 674 | (a)65 861 |
| Scrap | 6 253 | 7 663 | 7 155 | 7 936 | 5 594 |
| Cuba | | | | | |
| Oxide, sinter & sulphide (e) | 34 913 | 36 130 | *43 900 | *46 600 | *43 200 |
| USA | | | | | |
| Unwrought (a) | 1 961 | 1 825 | 2 080 | 3 977 | 4 426 |
| Scrap | 9 538 | 10 489 | 11 626 | 14 753 | 21 458 |
| China | | | | | |
| Unwrought (a)(b) | *2 200 | *9 700 | *5 200 | *3 000 | *500 |
| Hong Kong | | | | | |
| Unwrought (f) | 4 865 | 6 228 | 4 979 | 5 301 | 2 509 |
| Scrap | 387 | 956 | 526 | 252 | 56 |
| Oxides (f) | 162 | 76 | 39 | 81 | 101 |
| Indonesia | | | | | |
| Ore | 963 198 | 992 877 | 1 253 611 | 1 081 531 | 1 364 752 |
| Mattes, sinters etc. | 54 315 | 49 496 | 58 769 | 38 166 | 35 069 |
| Israel | | | | | |
| Scrap (b) | *300 | *100 | *400 | *400 | *300 |
| Japan | | | | | |
| Unwrought (a) | 181 | 228 | 544 | 128 | 147 |
| Oxides | ... | ... | 163 | 186 | 245 |
| Philippines | | | | | |
| Ores & concentrates | 420 809 | 483 417 | 489 055 | 601 144 | 511 054 |
| Unwrought (a) | 2 566 | — | — | — | — |
| Singapore | | | | | |
| Unwrought (f) | 2 399 | 1 483 | 2 436 | 5 521 | 633 |
| Scrap | 280 | 142 | 97 | 140 | 174 |
| of which: Re-exports | 16 | 30 | 38 | 12 | 7 |
| Taiwan | | | | | |
| Unwrought | 356 | 1 140 | 2 431 | (a)1 403 | (a)1 421 |
| Scrap | 1 506 | 2 180 | 3 891 | 3 111 | 3 041 |
| Australia (d) | *71 800 | *68 400 | *61 800 | *55 900 | *68 400 |
| New Caledonia | | | | | |
| Ores | 1 074 502 | 1 019 729 | 1 301 864 | 1 950 752 | 1 933 390 |
| Mattes, sinters etc. | 12 900 | 9 900 | 14 000 | 14 600 | 17 900 |
| New Zealand | | | | | |
| Scrap (h) | 41 | 162 | 22 | 591 | 80 |

Note(s):

- (1) In this table the term 'unwrought' nickel corresponds to item 683.1 of the Standard International Trade Classification (Revision 3) which excludes all electro-plating anodes
- (2) Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys
- (a) Including alloys
- (b) BGS estimates, based on known imports into certain countries
- (c) Ni content
- (d) BGS estimates; unwrought metal and Ni content of ores, concentrates, matte etc., based on known imports into certain countries
- (e) Ni-Co content (mainly nickel)
- (f) Re-exports
- (g) Including mattes, sinters etc.
- (h) Years ended 30 June of that stated

Imports of Nickel

Nickel
tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------------------|---------|--------|---------|---------|---------|
| United Kingdom | | | | | |
| Mattes, sinters etc. | 38 008 | 39 957 | 46 834 | 41 792 | 48 861 |
| Unwrought | 14 024 | 17 031 | 15 248 | 17 140 | 18 018 |
| Unwrought alloys | 2 060 | 1 127 | 2 326 | 1 836 | 990 |
| Scrap | 3 197 | 4 503 | 6 332 | 6 493 | 6 372 |
| Oxides | 598 | 2 709 | 2 695 | 818 | 195 |
| Belgium-Luxembourg | | | | | |
| Ore | 1 087 | 2 350 | 2 273 | 2 317 | 1 459 |
| Mattes, sinters etc. | 1 943 | 1 791 | 4 445 | 6 358 | 7 826 |
| Unwrought | 3 141 | 5 418 | 9 238 | 9 133 | 8 240 |
| Unwrought alloys | 646 | 1 228 | 128 | 65 | 116 |
| Scrap | 304 | 627 | 1 390 | 2 388 | 572 |
| Oxides | 746 | 274 | 126 | 163 | 166 |
| Denmark | | | | | |
| Unwrought | 178 | 244 | 109 | 111 | 120 |
| Unwrought alloys | 38 | 5 | 31 | 6 | 11 |
| France | | | | | |
| Mattes, sinters etc. | 13 534 | 11 697 | 14 019 | 14 083 | 13 404 |
| Unwrought | 14 798 | 22 712 | 20 375 | 23 963 | 27 423 |
| Unwrought alloys | 3 755 | 4 872 | 4 687 | 3 033 | 4 455 |
| Scrap | 669 | 580 | 837 | 1 167 | 2 042 |
| Oxides | 146 | 61 | 173 | 204 | 288 |
| Germany, Federal Republic of | | | | | |
| Mattes, sinters etc. | 11 186 | 13 104 | 14 585 | 11 936 | 11 196 |
| Unwrought (a) | 46 071 | 57 342 | 56 399 | 57 458 | 57 383 |
| Scrap | 6 062 | 6 987 | 11 775 | 12 508 | 8 046 |
| Oxides | 558 | 280 | 331 | 271 | 378 |
| Greece | | | | | |
| Unwrought | 120 | 203 | 105 | 194 | 99 |
| Irish Republic | | | | | |
| Unwrought (a) | 585 | 398 | 515 | 615 | 653 |
| Italy | | | | | |
| Mattes, sinters etc. | 4 927 | 6 743 | 6 978 | 10 520 | 11 158 |
| Unwrought | 17 254 | 15 616 | 16 258 | 15 420 | 14 297 |
| Unwrought alloys | 1 133 | 849 | 698 | 1 342 | 1 319 |
| Scrap | 87 | 220 | 119 | 42 | 44 |
| Oxides | 1 836 | 440 | 110 | 114 | 120 |
| Netherlands | | | | | |
| Mattes, sinters etc. (e) | *8 600 | *5 900 | *11 700 | *3 200 | *3 700 |
| Unwrought | 2 973 | 1 834 | 1 472 | 2 924 | 1 373 |
| Unwrought alloys | 142 | 83 | 62 | 756 | 14 |
| Scrap | 2 776 | 2 773 | 3 138 | 2 962 | 2 797 |
| Oxides | 141 | 145 | 196 | 211 | 200 |
| Portugal | | | | | |
| Unwrought (a) | 347 | 331 | 279 | 267 | 286 |
| Spain | | | | | |
| Mattes, sinters etc. | 1 591 | 1 503 | 503 | 426 | 342 |
| Unwrought (a) | 4 863 | 4 270 | 7 895 | 10 766 | 11 040 |
| Austria | | | | | |
| Mattes, sinters etc. | 907 | 405 | 672 | 835 | 843 |
| Unwrought (a) | 3 030 | 2 814 | 2 735 | 2 370 | 2 709 |
| Scrap | 155 | 949 | 626 | 271 | 201 |
| Czechoslovakia | | | | | |
| Unwrought (a) | 5 473 | 7 460 | 5 352 | 6 092 | 8 123 |
| Finland | | | | | |
| Ore | 10 971 | 12 516 | 7 582 | 11 286 | 26 917 |
| Mattes, sinters etc. | 9 267 | 4 514 | 5 778 | 5 417 | 6 040 |
| Unwrought (a) | 2 735 | 2 313 | 3 140 | 4 045 | 3 051 |
| Scrap | 3 839 | 3 216 | 5 761 | 5 738 | 4 754 |
| Norway | | | | | |
| Mattes, sinters etc. | 101 073 | 92 110 | 119 220 | 110 432 | 128 467 |
| Unwrought (a) | 153 | 64 | 19 | 53 | 302 |
| Sweden | | | | | |
| Ore | 18 | — | 2 866 | 2 212 | 1 055 |
| Mattes, sinters etc. | 3 513 | 3 515 | 2 319 | 1 872 | 2 330 |
| Unwrought | 10 042 | 10 628 | 13 622 | 12 412 | 12 123 |
| Unwrought alloys | 306 | 177 | 554 | 1 371 | 410 |
| Scrap | 6 709 | 6 048 | 11 013 | 11 029 | 8 492 |

Nickel

Imports of Nickel

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|-----------|-----------|-----------|-----------|-----------|
| Switzerland | | | | | |
| Unwrought | (f)1 382 | (f)1 157 | (a)664 | (a)1 087 | (a)1 407 |
| Scrap | 29 | 29 | 85 | 51 | 64 |
| Yugoslavia | | | | | |
| Unwrought (a) | 2 395 | 1 627 | 1 681 | 884 | 988 |
| South Africa | | | | | |
| Mattes, sinters etc. | 628 | 469 | 2 | 351 | — |
| Canada | | | | | |
| Ores & concentrates (b) | (g)38 331 | (g)23 533 | 1 202 | 716 | 33 |
| Mattes, sinters etc. | ... | ... | 4 207 | 2 522 | 13 085 |
| Unwrought (a) | 3 451 | 3 348 | 1 682 | 3 786 | 4 084 |
| Scrap | ... | ... | 14 544 | 13 480 | 9 314 |
| Mexico | | | | | |
| Mattes, sinters etc. | 1 896 | 2 228 | 1 702 | 1 325 | 1 852 |
| USA | | | | | |
| Slurry, mattes, sinters etc. | 4 518 | 5 335 | 6 687 | 303 | 1 055 |
| Unwrought (a) | 91 717 | 103 314 | 106 867 | 111 608 | 108 940 |
| Scrap | 6 164 | 6 865 | 8 384 | 10 280 | 7 945 |
| Oxides | 712 | 804 | 806 | 749 | 615 |
| Argentina | | | | | |
| Unwrought | 538 | 844 | 322 | 253 | ... |
| Brazil | | | | | |
| Unwrought (a) | 1 915 | 1 712 | 1 493 | ... | 2 821 |
| Colombia | | | | | |
| Unwrought | 280 | 200 | 164 | 284 | ... |
| Venezuela | | | | | |
| Unwrought | 493 | 327 | 243 | 184 | ... |
| China | | | | | |
| Unwrought (a) | ... | 209 | 2 471 | 526 | 400 |
| Hong Kong | | | | | |
| Unwrought | 7 052 | 6 220 | 7 026 | 6 079 | 3 836 |
| India (c) | | | | | |
| Mattes, sinters etc. | 1 120 | 3 884 | 3 265 | ... | 5 408 |
| Unwrought | 2 862 | 5 322 | 6 052 | ... | 4 571 |
| Unwrought alloys | 1 331 | 750 | 58 | ... | 14 |
| Scrap | 1 067 | 632 | 969 | ... | 401 |
| Japan | | | | | |
| Ore | 2 885 823 | 2 926 857 | 3 265 651 | 3 827 905 | 3 337 710 |
| Mattes, sinters etc. | 58 312 | 54 610 | 62 658 | 59 923 | 62 291 |
| Unwrought | 24 024 | 42 352 | 34 093 | 37 973 | 44 069 |
| Unwrought alloys | 325 | 261 | 235 | 282 | 314 |
| Scrap | 2 219 | 3 089 | 3 578 | 2 241 | 3 843 |
| Korea, Dem. P.R. of | | | | | |
| Unwrought (a)(e) | *600 | *1 900 | *600 | *100 | *150 |
| Korea, Republic of | | | | | |
| Unwrought | 5 839 | 4 961 | 5 259 | 8 165 | 6 571 |
| Scrap | 284 | 554 | 2 077 | 1 781 | 2 439 |
| Malaysia | | | | | |
| Unwrought (a) | 133 | 111 | 170 | 158 | ... |
| Singapore | | | | | |
| Unwrought | 3 726 | 1 493 | 4 042 | 3 355 | 671 |
| Scrap | 182 | 284 | 208 | 185 | 277 |
| Taiwan | | | | | |
| Mattes, sinters etc. | 11 514 | 11 256 | 17 539 | 9 923 | 6 035 |
| Unwrought | 6 535 | 6 364 | 3 900 | (a)7 061 | (a)11 153 |
| Scrap | 1 223 | 383 | 155 | 7 | 14 |
| Oxides | ... | ... | 300 | 335 | 398 |
| Thailand | | | | | |
| Unwrought (a) | 517 | 775 | 567 | 2 788 | 927 |

Imports of Nickel

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------------|------|-------|------|------|------|
| Australia | | | | | |
| Mattes, sinters etc. (d) | 590 | 1 416 | 0 | 107 | 508 |
| Unwrought (d) | 627 | 1 287 | 282 | 76 | 170 |
| Unwrought alloys (d) | 34 | 50 | 257 | 243 | 334 |
| Scrap (d) | 161 | 355 | 243 | 160 | 70 |
| New Zealand (d) | | | | | |
| Unwrought (a) | 65 | 64 | 25 | 45 | 67 |

Note(s):

- (1) In this table the term 'unwrought' nickel corresponds to item 683.1 of the Standard International Trade Classification (Revision 3) which excludes all electro-plating anodes
- (2) Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys
- (a) Including alloys
- (b) Ni content
- (c) Years ended 31 March following that stated
- (d) Years ended 30 June of that stated
- (e) BGS estimates, based on known exports from certain countries
- (f) Including mattes, sinters etc.
- (g) Including scrap

Petroleum

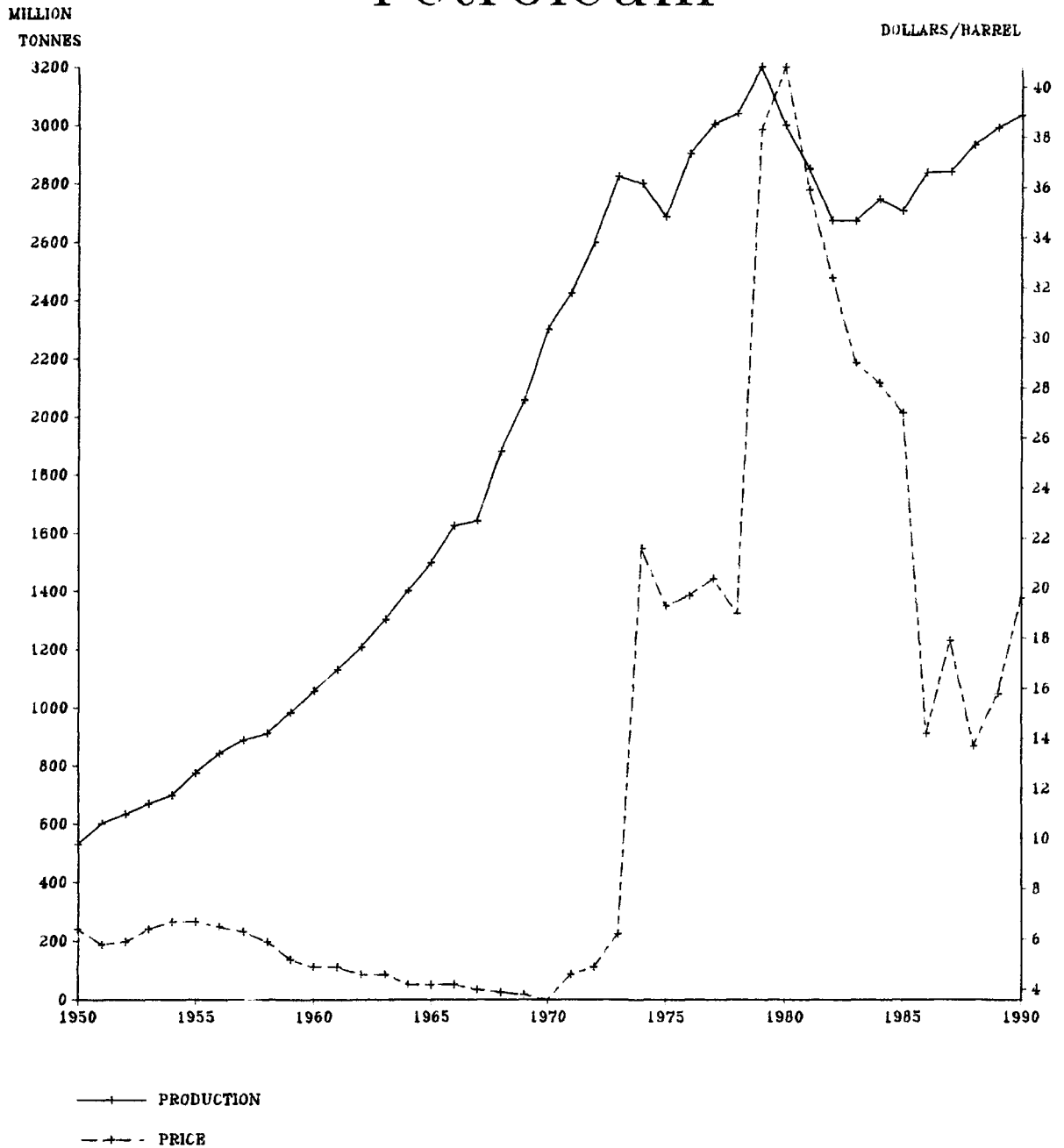


Figure 15 World production of crude petroleum compared with the weighted yearly average price of crude f.o.b. OPEC countries and, from 1979, the average spot price of Dubai, Brent and Alaskan crude, expressed in constant 1985 US dollars.

Production of Crude Petroleum

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|-------------|-------------|-------------|-------------|-------------|
| United Kingdom | 121 253 000 | 117 658 000 | 109 455 000 | 87 407 000 | 88 010 000 |
| Denmark (e) | 3 238 459 | 4 552 394 | 4 700 061 | 5 416 303 | 5 933 019 |
| France | 2 948 000 | 3 234 621 | 3 358 000 | 3 243 000 | 3 023 000 |
| Germany, Federal Republic of | 4 017 000 | 3 800 000 | 3 937 000 | 3 770 000 | 3 606 000 |
| Greece | 1 347 837 | 1 238 153 | 1 141 922 | 926 593 | 825 000 |
| Italy | 2 510 564 | 3 904 542 | 4 839 213 | 4 568 424 | 4 623 694 |
| Netherlands | 4 628 000 | 4 291 000 | 3 909 000 | 3 391 000 | 3 533 000 |
| Spain | 1 805 115 | 1 639 994 | 1 482 034 | 1 038 008 | 795 000 |
| Albania | *3 000 000 | *3 000 000 | 2 482 000 | 2 135 000 | 1 986 000 |
| Austria | 1 115 924 | 1 060 367 | 1 175 186 | 1 157 891 | 1 148 593 |
| Bulgaria | 93 000 | 85 000 | 77 000 | 73 000 | 60 000 |
| Czechoslovakia | 142 000 | 147 000 | 143 000 | 144 000 | 123 000 |
| German Democratic Republic | *60 000 | *60 000 | *60 000 | *60 000 | — |
| Hungary | 2 005 000 | 1 914 000 | 1 947 000 | 1 966 000 | 1 974 000 |
| Norway | 42 483 000 | 49 316 000 | 56 125 000 | 74 528 000 | 81 745 000 |
| Poland | 167 000 | 149 000 | 163 000 | 159 000 | 163 000 |
| Romania | 10 125 000 | 9 504 000 | 9 389 000 | 9 173 000 | 7 930 000 |
| Soviet Union | 614 753 000 | 624 177 000 | 624 324 000 | 607 121 000 | 571 000 000 |
| Turkey | 2 393 806 | 2 629 263 | 2 563 891 | 2 876 087 | 3 773 000 |
| Yugoslavia | 4 140 489 | 3 867 000 | 3 681 147 | 3 392 445 | 3 145 000 |
| Algeria | 48 826 000 | 48 000 000 | 49 357 000 | 51 370 000 | 56 673 000 |
| Angola | 14 102 000 | 17 968 000 | 24 606 000 | 25 000 000 | 25 780 000 |
| Benin | 350 000 | 350 000 | 250 000 | 200 000 | 160 000 |
| Cameroon | 9 090 000 | 8 602 000 | 8 688 000 | 8 642 000 | 8 292 000 |
| Congo | 5 610 000 | 6 316 848 | 7 038 074 | 7 969 388 | 7 578 000 |
| Egypt | 40 237 000 | 43 178 000 | 44 523 000 | 42 626 000 | 43 407 000 |
| Gabon | 8 384 000 | 7 980 000 | 8 812 000 | 10 998 000 | 13 754 000 |
| Ivory Coast | 1 350 000 | 1 200 000 | 548 000 | 350 000 | 215 000 |
| Libya | 49 900 000 | 46 790 000 | 49 250 000 | 53 694 000 | 65 990 000 |
| Nigeria | 72 200 000 | 63 670 000 | 68 530 000 | 83 129 000 | 90 736 000 |
| Tunisia | 5 249 000 | 5 005 000 | 4 908 000 | 4 916 000 | 4 502 000 |
| Zaire | 1 619 809 | 1 559 836 | 1 464 000 | 1 358 000 | 1 441 000 |
| Barbados | 76 743 | 68 181 | 58 617 | 53 430 | 62 369 |
| Canada | 77 981 100 | 81 322 400 | 85 596 900 | 82 606 600 | 82 371 500 |
| Cuba | 938 000 | 894 500 | 716 800 | 718 400 | 736 000 |
| Guatemala | 255 251 | 191 167 | 185 182 | 192 165 | 188 681 |
| Mexico | 129 268 989 | 135 267 715 | 133 903 176 | 133 947 324 | 136 484 511 |
| Trinidad & Tobago | 8 701 325 | 7 995 579 | 7 793 355 | 7 694 712 | 7 756 000 |
| USA | 424 977 000 | 408 771 000 | 398 538 000 | 372 736 000 | 360 104 000 |
| Argentina | 22 982 800 | *22 800 000 | *24 000 000 | *24 500 000 | *25 800 000 |
| Bolivia | 930 400 | 1 000 800 | 840 470 | 868 306 | 914 639 |
| Brazil | 30 286 000 | 29 765 000 | 29 407 000 | 31 511 000 | 33 377 000 |
| Chile | 1 770 015 | 1 583 985 | 1 295 716 | 1 169 392 | 1 038 015 |
| Colombia | 15 629 000 | 19 835 000 | 19 358 000 | 20 839 000 | 22 647 000 |
| Ecuador | 14 727 997 | 8 893 681 | 15 418 451 | 14 199 445 | *14 500 000 |
| Peru | 8 748 524 | 8 064 014 | 6 982 151 | 6 425 929 | 6 345 000 |
| Suriname | 114 035 | 136 518 | 199 500 | 225 619 | *240 000 |
| Venezuela | 93 744 112 | 95 256 500 | 99 600 000 | 99 800 000 | 111 800 000 |
| Abu Dhabi | 41 220 856 | 43 015 775 | 34 563 636 | *45 000 000 | *50 000 000 |
| Bahrain | 2 115 301 | 2 099 590 | 2 141 257 | 2 128 825 | 2 084 000 |
| Brunei | 7 532 000 | 7 015 000 | 6 352 000 | 6 449 000 | 6 544 000 |
| China (a) | 130 688 000 | 134 140 000 | 137 046 000 | 137 640 000 | 138 310 000 |
| Dubai | 18 900 000 | 19 600 000 | 18 903 000 | 20 706 000 | 20 902 000 |
| India | 31 157 000 | 30 128 000 | 31 580 000 | 33 693 000 | 33 309 000 |
| Indonesia | 67 111 405 | 63 384 096 | 64 127 282 | 62 929 479 | 70 185 234 |
| Iran | 94 500 000 | 114 700 000 | 112 900 000 | 144 347 000 | 157 084 000 |
| Iraq | 85 500 000 | 102 400 000 | 127 700 000 | 139 185 000 | 100 681 000 |
| Israel | 13 136 | 15 143 | 19 522 | 16 876 | 11 494 |
| Japan | 676 223 | 645 200 | 631 180 | 584 736 | 576 581 |
| Kuwait | 71 516 000 | 61 439 000 | 71 504 000 | 91 886 000 | 58 729 000 |
| Malaysia | 26 200 000 | 24 600 000 | 26 700 000 | 28 800 000 | 30 600 000 |
| Myanmar (d) | 1 113 300 | 831 700 | 643 900 | 737 800 | *778 000 |
| Neutral Zone (c) | 17 900 000 | 20 200 000 | 16 600 000 | 19 300 000 | 14 300 000 |

Production of Crude Petroleum

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-----------------|---------------|---------------|---------------|---------------|---------------|
| Oman | 27 864 157 | 28 982 542 | 30 905 619 | 31 887 616 | 34 097 108 |
| Pakistan | 2 008 496 | 2 030 343 | 2 213 000 | 2 530 000 | 2 925 000 |
| Philippines | 345 000 | 289 000 | 300 000 | 257 700 | 237 093 |
| Qatar | 16 600 000 | 15 900 000 | 16 900 000 | 19 300 000 | 21 200 000 |
| Ras al Khaimah | 550 000 | 490 000 | 500 000 | 498 000 | 498 000 |
| Saudi Arabia | 240 253 165 | 212 200 000 | 256 500 000 | 257 300 000 | 327 100 000 |
| Sharjah | 3 130 000 | 3 130 000 | 1 927 000 | 1 681 000 | 1 802 000 |
| Syria | 9 660 000 | 12 000 000 | 14 160 000 | 16 998 000 | 20 292 000 |
| Taiwan | 96 000 | *100 000 | 125 000 | 140 000 | 100 000 |
| Thailand | 1 430 000 | 1 600 000 | 1 500 000 | 1 153 200 | 1 294 495 |
| Vietnam | *40 000 | 175 000 | 747 000 | 1 022 000 | 2 482 000 |
| Australia | 27 151 450 | 29 076 240 | 27 492 622 | 25 937 279 | 30 547 662 |
| New Zealand (b) | 1 353 830 | 1 291 930 | 1 555 310 | 1 743 600 | 1 796 880 |
| World total | 2 837 000 000 | 2 840 000 000 | 2 933 000 000 | 2 994 000 000 | 3 035 000 000 |

Note(s):

(1) The figures shown in this table exclude natural gasoline

(a) Including oil from shale and coal

(b) Petroleum condensate

(c) Neutral zone of Kuwait and Saudi Arabia

(d) Years ended 31 March following that stated

(e) Sales

Production of Natural Gas

million m³

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|---------|---------|---------|---------|---------|
| United Kingdom | 45 304 | 47 641 | 45 758 | 44 755 | 49 549 |
| Belgium | 37 | 38 | 27 | 20 | — |
| France | 4 217 | 3 875 | 3 207 | 3 073 | 2 960 |
| Germany, Federal Republic of | 13 865 | 15 871 | 14 783 | 14 650 | 14 554 |
| Irish Republic | 1 679 | 1 669 | 2 017 | 2 300 | 2 320 |
| Italy | 15 893 | 16 218 | 16 511 | 16 766 | 17 000 |
| Netherlands | 74 037 | 74 247 | 65 610 | 71 715 | 72 238 |
| Spain | 384 | 750 | 952 | 1 623 | 1 330 |
| Albania | *450 | *450 | *800 | *700 | *700 |
| Austria | 1 112 | 1 167 | 1 265 | 1 323 | 1 288 |
| Bulgaria | 17 | 13 | 10 | 9 | 14 |
| Czechoslovakia | 751 | 785 | 944 | 865 | 1 227 |
| German Democratic Republic | 13 169 | 13 075 | 11 936 | 10 262 | *8 500 |
| Hungary | 7 022 | 7 126 | 6 272 | 6 176 | 4 932 |
| Norway | 28 102 | 29 868 | 29 778 | 30 745 | 27 642 |
| Poland | 5 824 | 5 781 | 5 713 | 5 368 | 3 866 |
| Romania | 39 371 | 37 418 | 36 804 | 32 951 | 29 200 |
| Soviet Union | 686 000 | 727 000 | 770 000 | 796 000 | 815 300 |
| Yugoslavia | 2 447 | 2 887 | 3 015 | 2 871 | 2 659 |
| Algeria | 39 400 | 39 400 | 44 900 | 48 400 | 50 640 |
| Angola | 400 | 450 | 450 | 430 | 460 |
| Egypt | 5 680 | 6 280 | 6 920 | 7 740 | 8 110 |
| Gabon | 60 | 70 | 100 | 90 | 100 |
| Libya | 5 600 | 5 000 | 5 500 | 6 000 | 6 200 |
| Morocco | 91 | 74 | 83 | 63 | 60 |
| Nigeria | 3 590 | 3 700 | 3 800 | 4 700 | 3 710 |
| Tunisia | 423 | 375 | 340 | 363 | 304 |
| Canada | 91 608 | 99 381 | 113 724 | 119 623 | 122 424 |
| Mexico | 25 848 | *26 000 | 26 046 | *26 100 | 26 730 |
| Trinidad & Tobago | 4 394 | 4 569 | 4 956 | 5 050 | *5 500 |
| USA (e) | 452 822 | 468 253 | 482 112 | 488 749 | 504 900 |
| Argentina | 15 903 | 18 905 | 22 315 | 22 590 | *20 000 |
| Bolivia | 2 691 | 2 678 | 2 783 | 2 934 | 3 004 |
| Brazil | 2 677 | 2 770 | 2 932 | 3 221 | 3 309 |
| Chile | 988 | 960 | 1 248 | 1 806 | 1 921 |
| Colombia | *3 800 | *3 700 | *3 800 | *3 800 | *4 000 |
| Peru | 890 | 865 | 810 | 704 | *600 |
| Venezuela | 19 074 | 18 587 | 18 794 | 18 660 | 21 401 |
| Abu Dhabi | 10 140 | 12 610 | 12 920 | 15 600 | 15 270 |
| Afghanistan (c) | 2 900 | 2 800 | 3 000 | 300 | 300 |
| Bahrain | 5 804 | 5 846 | 6 169 | 6 435 | 6 170 |
| Bangladesh (d) | 3 020 | 3 549 | 4 113 | 4 413 | 4 754 |
| Brunei | 8 170 | 8 151 | 8 469 | 8 300 | 9 020 |
| China | 13 760 | 13 890 | 14 260 | 15 049 | 15 298 |
| Dubai | 2 300 | 2 600 | 2 440 | 2 280 | 2 890 |
| India | 6 628 | 6 334 | 8 833 | 8 778 | *9 500 |
| Indonesia | 46 124 | 49 044 | 52 461 | 52 400 | 61 137 |
| Iran | 15 200 | 16 000 | 20 000 | 22 200 | 23 710 |
| Iraq | 1 550 | 3 750 | 5 730 | 6 100 | 4 180 |
| Israel | 40 | 45 | 41 | 38 | 33 |
| Japan | 2 105 | 2 168 | 2 097 | 2 010 | 2 043 |
| Kuwait (a) | 5 730 | 5 300 | 6 490 | 8 160 | 5 230 |
| Malaysia | 14 950 | 15 500 | 16 450 | 17 160 | 18 520 |
| Myanmar (b) | 1 119 | 1 187 | 1 107 | 1 125 | 850 |
| Oman | 1 383 | 1 523 | 1 595 | 1 644 | 1 749 |
| Pakistan | 11 113 | 11 633 | 12 594 | 13 450 | 14 290 |
| Qatar | 5 695 | 6 136 | 6 470 | 6 090 | 6 720 |
| Ras al Khaimah | 310 | 350 | 300 | 200 | 40 |
| Saudi Arabia (a) | 25 200 | 26 800 | 29 100 | 29 800 | 30 500 |
| Sharjah | 2 270 | 3 750 | 2 980 | 3 900 | 3 900 |
| Syria | 220 | 620 | 720 | 1 000 | 2 920 |
| Taiwan | 1 023 | 1 057 | 1 157 | 1 158 | 1 129 |
| Thailand | 3 617 | 5 059 | 5 993 | 5 986 | 6 520 |

Production of Natural Gasmillion m³

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------|------------------|------------------|------------------|------------------|------------------|
| Australia | (f)14 714 | (f)15 023 | 15 383 | 17 806 | 20 620 |
| New Zealand | 4 495 | 4 317 | 4 700 | 4 809 | 4 793 |
| World total | 1 800 000 | 1 900 000 | 2 000 000 | 2 100 000 | 2 100 000 |

Note(s):

(1) So far as possible the figures in this table exclude flared or reinjected gas

(a) Including one-half of the output of the Neutral Zone

(b) Years ended 31 March following that stated

(c) Years ended 20 March following that stated

(d) Years ended 30 June of that stated

(e) Dry gas

(f) Including ethane

Exports of Crude Petroleum

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|-------------|-------------|-------------|--------------|--------------|
| United Kingdom | 81 883 124 | 80 616 236 | 63 804 707 | 49 228 876 | 54 162 184 |
| Denmark | 841 022 | 1 741 057 | 1 801 566 | 2 385 236 | 2 727 597 |
| France | 102 | 20 644 | 132 669 | 18 945 | 20 594 |
| Germany, Federal Republic of | 1 155 040 | 1 101 194 | 1 175 249 | 1 155 060 | 1 100 013 |
| Greece | 739 868 | 1 105 000 | 450 000 | 419 310 | 416 623 |
| Italy | 187 764 | 619 306 | 626 155 | 741 036 | 814 846 |
| Netherlands | 1 362 432 | 1 024 625 | 930 293 | 1 051 752 | 1 316 126 |
| Hungary | 863 000 | 2 076 000 | 2 483 000 | ... | ... |
| Norway | 35 375 520 | 41 746 707 | 48 104 368 | 65 133 948 | 68 331 921 |
| Soviet Union | 129 475 000 | 136 607 000 | 144 196 000 | 127 330 000 | 108 600 000 |
| Sweden | 133 000 | 140 000 | — | 56 000 | — |
| Algeria | 25 101 495 | 25 555 165 | 27 266 000 | *30 000 000 | *30 000 000 |
| Angola | 11 412 000 | 16 967 000 | 20 592 000 | 21 100 000 | 22 000 000 |
| Benin | *356 000 | *264 000 | *275 000 | ... | ... |
| Cameroon | 194 020 | 769 858 | 1 117 000 | *1 000 000 | *900 000 |
| Congo | 5 512 859 | 3 388 758 | 4 520 920 | 6 665 717 | 6 900 000 |
| Egypt | 7 248 746 | 10 023 000 | 7 086 378 | *7 700 000 | *7 400 000 |
| Gabon | 7 452 000 | 6 872 000 | 7 229 000 | 8 650 000 | *12 000 000 |
| Ivory Coast | 230 688 | ... | — | ... | ... |
| Libya | 52 977 000 | 40 217 000 | 44 189 000 | 42 000 000 | *49 000 000 |
| Nigeria | 56 790 657 | 53 354 442 | 55 136 000 | 75 300 000 | *76 500 000 |
| Tunisia | 4 049 073 | 3 711 464 | 3 186 593 | 4 350 989 | 3 256 706 |
| Zaire | 1 583 650 | 1 588 824 | 1 451 700 | ... | ... |
| Bahamas (b) | 9 052 524 | 8 607 368 | 6 836 821 | 9 110 554 | ... |
| Canada | 30 665 913 | 32 635 978 | 37 376 510 | 34 170 001 | 31 977 809 |
| Cuba (b) | 1 450 000 | *1 500 000 | *1 300 000 | ... | ... |
| Guatemala | 252 468 | 154 569 | 134 516 | 155 167 | 188 681 |
| Mexico | 68 203 787 | 69 536 100 | 65 303 238 | 67 749 332 | 66 036 000 |
| Netherlands Antilles | 488 000 | 552 000 | 1 229 000 | 2 058 000 | 1 924 000 |
| Trinidad & Tobago | 4 497 870 | 3 881 794 | 3 638 257 | 3 713 463 | 4 471 381 |
| USA | 810 248 | 952 386 | 629 038 | 503 984 | 1 068 654 |
| Argentina | 131 730 | 83 200 | 200 984 | ... | ... |
| Colombia | 4 523 000 | 7 499 000 | 7 785 588 | 8 809 001 | 9 897 000 |
| Ecuador | 8 817 027 | 5 400 000 | 7 400 000 | 7 200 000 | 7 700 000 |
| Peru | 654 786 | 152 967 | 249 322 | 48 480 | ... |
| Venezuela | 49 666 000 | 53 757 000 | 50 900 000 | 51 600 000 | 65 000 000 |
| Brunei | 6 965 954 | 6 815 332 | 6 200 000 | 6 310 000 | 7 100 000 |
| China | 28 500 000 | 27 225 373 | 26 045 339 | 24 388 350 | 23 990 000 |
| Indonesia | 44 454 043 | 39 133 463 | 36 653 795 | 39 147 075 | 37 855 428 |
| Iran (a) | *58 214 000 | *73 315 000 | *60 153 000 | *77 781 000 | *83 480 000 |
| Iraq | 67 191 000 | 76 279 000 | 95 947 000 | *111 000 000 | *78 000 000 |
| Kuwait | 33 591 000 | 21 387 000 | 20 787 000 | *43 000 000 | *32 500 000 |
| Malaysia | 19 297 000 | 18 111 170 | 19 937 235 | 21 456 162 | 21 210 000 |
| Oman | 25 487 000 | 26 792 000 | 28 800 000 | 29 400 000 | 31 200 000 |
| Qatar | 14 093 000 | 12 231 000 | 14 639 000 | 15 938 578 | 16 510 630 |
| Saudi Arabia | 164 060 513 | 121 105 806 | 153 239 867 | 157 880 887 | *240 000 000 |
| Singapore | 184 347 | 111 289 | 1 551 062 | 185 460 | 19 059 |
| of which: Re-exports | 89 900 | 97 893 | 1 476 407 | 14 764 | 488 |
| Syria | 3 968 469 | 4 280 051 | 3 794 152 | 6 949 194 | 9 300 000 |
| United Arab Emirates | 56 161 000 | 62 016 000 | 66 730 000 | *80 500 000 | *85 500 000 |
| Australia | 4 015 600 | 5 670 400 | 5 596 000 | 4 067 600 | 9 175 200 |
| New Zealand (c) | 357 491 | 92 979 | 214 346 | 290 597 | 659 949 |

(a) BGS estimates, based on known imports into certain countries

(b) Re-exports

(c) Years ended 30 June of that stated

Imports of Crude Petroleum

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|-------------|-------------|-------------|-------------|-------------|
| United Kingdom | 32 182 351 | 33 109 328 | 32 885 988 | 36 339 792 | 43 748 921 |
| Belgium-Luxembourg | 21 493 630 | 23 872 531 | 23 207 014 | 24 608 187 | 23 562 511 |
| Denmark | 4 302 879 | 4 286 750 | 4 476 516 | 4 226 890 | 4 079 612 |
| France | 66 440 317 | 63 054 333 | 66 351 077 | 66 676 889 | 70 267 015 |
| Germany, Federal Republic of | 66 569 034 | 63 840 159 | 72 036 951 | 66 326 900 | 72 400 222 |
| Greece | 10 455 080 | 16 639 408 | 4 200 010 | 7 095 710 | 8 008 909 |
| Irish Republic | 1 400 472 | 1 528 804 | 1 348 043 | 1 429 924 | 1 989 428 |
| Italy | 72 403 264 | 67 023 444 | 63 393 108 | 67 978 000 | 72 710 934 |
| Netherlands | 46 940 080 | 48 512 517 | 51 394 231 | 51 285 070 | 49 659 179 |
| Portugal | 8 163 307 | 7 890 708 | 7 947 544 | 9 823 383 | 10 595 000 |
| Spain | 40 434 467 | 44 850 096 | 45 019 884 | 49 918 012 | 49 350 695 |
| Austria | 6 187 679 | 6 232 912 | 5 630 832 | 5 943 879 | 6 796 999 |
| Bulgaria | 12 500 000 | 12 972 000 | 13 196 000 | 12 918 000 | *11 000 000 |
| Czechoslovakia | 17 800 000 | 17 760 000 | 17 014 000 | 17 632 000 | 13 581 000 |
| Finland | 9 934 967 | 10 685 513 | 8 937 400 | 8 840 411 | 8 973 190 |
| German Democratic Republic | 22 250 000 | 20 949 000 | 20 514 000 | 21 040 000 | 17 800 000 |
| Hungary | 7 560 547 | 8 499 143 | 7 261 969 | 6 320 991 | 6 224 091 |
| Norway | 2 111 984 | 2 781 082 | 1 187 345 | 929 749 | 1 624 245 |
| Poland | 14 139 000 | 14 169 000 | 14 966 000 | 14 985 000 | 13 008 000 |
| Romania | 17 047 000 | 21 366 000 | 20 957 000 | 21 809 000 | 16 020 000 |
| Soviet Union | 14 567 000 | 13 990 000 | 19 845 000 | 13 700 000 | 9 600 000 |
| Sweden | 16 372 054 | 15 411 383 | 14 414 742 | 15 781 358 | 16 928 391 |
| Switzerland | 3 917 551 | 3 895 006 | 3 845 408 | 3 013 434 | 3 054 292 |
| Turkey | 16 742 477 | 19 691 963 | 21 636 806 | 18 584 000 | 19 842 000 |
| Yugoslavia | 11 213 144 | 11 092 210 | 12 061 042 | 11 688 739 | 11 995 890 |
| Ethiopia | 749 628 | 778 513 | 767 275 | 759 758 | 702 734 |
| Ghana | 848 404 | 884 622 | 885 000 | ... | ... |
| Ivory Coast | 1 996 728 | 2 407 356 | 1 941 717 | *1 800 000 | *1 900 000 |
| Kenya | 2 006 049 | 2 102 564 | 2 010 836 | 2 100 000 | 2 130 000 |
| Liberia | 375 000 | 365 000 | 370 000 | ... | ... |
| Madagascar | 113 379 | 244 099 | 250 000 | 154 185 | 207 861 |
| Morocco | 4 507 338 | 4 836 221 | 5 001 294 | 5 644 575 | 5 838 151 |
| Senegal | 840 337 | 859 800 | 1 165 046 | 1 619 112 | ... |
| Sierra Leone | 243 000 | 240 000 | 250 000 | ... | ... |
| Somalia | 245 000 | *248 000 | *250 000 | ... | ... |
| South Africa | 17 500 000 | 16 000 000 | 16 000 000 | ... | ... |
| Sudan | *610 000 | *610 000 | *620 000 | ... | ... |
| Tanzania | 534 384 | 509 773 | 624 705 | 703 963 | ... |
| Tunisia | 412 867 | 423 199 | 4 | 553 150 | 396 058 |
| Zaire | *110 000 | *117 000 | *115 000 | ... | ... |
| Zambia | 700 000 | 698 429 | 636 542 | 7 273 | 1 293 674 |
| Bahamas | 9 091 436 | 8 443 299 | 4 772 058 | 9 304 173 | ... |
| Barbados | 141 339 | 167 023 | 185 754 | 209 904 | ... |
| Canada | 18 396 615 | 19 856 397 | 21 415 133 | 25 816 113 | 29 051 388 |
| Costa Rica | 638 118 | 634 243 | 602 869 | 677 744 | 422 169 |
| Cuba | 7 366 000 | 7 894 000 | 8 343 000 | *8 500 000 | *8 500 000 |
| Dominican Republic | 1 761 772 | *1 700 000 | *1 750 000 | ... | ... |
| El Salvador | 829 927 | 701 005 | 710 125 | 563 858 | 438 932 |
| Guatemala | 202 091 | 522 043 | *500 000 | *500 000 | 545 018 |
| Honduras | 218 693 | 294 373 | 389 816 | 461 416 | ... |
| Jamaica | 2 390 222 | 659 335 | 739 822 | 877 547 | 1 154 950 |
| Martinique | 410 064 | 551 342 | 493 023 | 595 164 | 862 404 |
| Netherlands Antilles | 7 729 000 | 9 867 000 | 10 458 000 | 9 924 000 | 11 195 000 |
| Nicaragua | 524 185 | *530 000 | *530 000 | ... | ... |
| Panama | 969 217 | 1 347 741 | 951 948 | 955 927 | 1 209 192 |
| Trinidad & Tobago | 34 | 248 729 | 673 632 | 307 490 | 736 724 |
| USA | 219 298 518 | 234 068 069 | 253 234 119 | 285 449 511 | 298 113 272 |
| Brazil | 29 777 240 | 30 945 630 | 31 700 745 | 29 180 116 | 28 245 531 |
| Chile | 2 569 194 | 2 962 172 | 4 226 840 | 4 633 645 | 5 379 166 |
| Paraguay | 205 265 | 255 079 | 243 108 | 300 210 | ... |
| Uruguay | 1 360 237 | 1 131 831 | 1 155 122 | ... | ... |

Imports of Crude Petroleum

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|---------------------------|-------------|-------------|-------------|-------------|-------------|
| Bahrain | 9 958 000 | 10 054 000 | 10 100 000 | *10 700 000 | *11 000 000 |
| Bangladesh (a) | 1 008 001 | 1 000 449 | 1 212 079 | 1 018 546 | ... |
| China | 456 000 | *500 000 | 854 536 | 3 262 838 | 2 920 000 |
| Cyprus | 602 545 | 615 889 | 707 000 | 680 197 | 624 485 |
| India (b) | 15 475 575 | 17 930 000 | 17 810 000 | *19 000 000 | 20 637 000 |
| Indonesia | 3 826 943 | 4 184 629 | 4 309 647 | 4 657 022 | 6 586 034 |
| Israel | 7 360 000 | 6 696 000 | 7 271 000 | 7 184 000 | 7 288 000 |
| Japan | 167 840 928 | 164 125 425 | 171 247 941 | 183 249 914 | 201 320 242 |
| Jordan | 2 285 058 | 2 537 871 | 2 482 403 | 2 453 260 | 2 688 111 |
| Korea, Dem. P.R. of | *2 700 000 | *2 800 000 | *2 500 000 | ... | ... |
| Korea, Republic of | 28 837 773 | 29 241 798 | 32 942 770 | 40 067 228 | 41 297 050 |
| Lebanon | *1 120 000 | *1 250 000 | *1 235 000 | ... | ... |
| Malaysia | 1 933 480 | 1 563 128 | 1 526 793 | 1 020 056 | ... |
| Pakistan | 3 727 075 | 3 714 220 | 3 809 857 | ... | 3 515 677 |
| Philippines | 7 027 203 | 8 945 688 | 9 473 386 | 9 777 864 | 10 730 785 |
| Singapore | 32 385 635 | 31 489 670 | 34 885 597 | 37 344 978 | 43 129 467 |
| Sri Lanka | 1 638 547 | 1 778 853 | 1 720 591 | ... | 1 663 556 |
| Syria | 2 283 195 | 2 786 617 | *1 979 000 | 785 000 | — |
| Taiwan | 17 163 675 | 19 244 855 | 19 952 499 | 21 388 499 | 20 545 150 |
| Thailand | 7 703 742 | 8 160 754 | 8 040 644 | 10 503 857 | 10 119 567 |
| Yemen, People's Dem. Rep. | 106 926 | 9 390 | ... | ... | ... |
| Australia | 6 714 000 | 7 254 000 | 8 197 000 | 12 447 000 | 10 832 000 |
| New Zealand (a) | 713 958 | 1 599 407 | 2 305 756 | 2 619 645 | 3 290 907 |

(a) Years ended 30 June of that stated

(b) Years ended 31 March following that stated

Mine Production of Platinum Group Metals

kilograms (metal content)

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-----------------------------------|----------|----------|----------|----------|----------|
| Finland | | | | | |
| Platinum (a) | 107 | 69 | 54 | 67 | 72 |
| Palladium (a) | 96 | 120 | 106 | 107 | 104 |
| German Democratic Republic | | | | | |
| Platinum (a) | *2 000 | *2 000 | ... | ... | ... |
| Palladium (a) | *350 | *350 | ... | ... | ... |
| Soviet Union | | | | | |
| Platinum | *30 300 | *31 100 | *32 000 | *32 000 | *31 000 |
| Palladium | *91 000 | *93 300 | *95 500 | *95 500 | *93 000 |
| Yugoslavia | | | | | |
| Platinum (a) | 30 | 22 | 23 | 23 | 21 |
| Palladium (a) | 85 | 132 | 142 | 199 | 130 |
| Ethiopia (c) | 2 | 1 | 2 | *2 | *2 |
| South Africa | *123 200 | *131 300 | *133 300 | *135 800 | *138 500 |
| Zimbabwe | | | | | |
| Platinum | 26 | 18 | 28 | 25 | 21 |
| Palladium | 35 | 29 | 45 | 43 | 31 |
| Canada (b) | | | | | |
| Platinum | 5 242 | 4 700 | 5 393 | 4 244 | 4 829 |
| Palladium | 5 486 | 4 919 | 5 643 | 4 442 | 5 044 |
| Other platinum metals | 1 462 | 1 311 | 1 505 | 1 184 | 1 336 |
| USA | | | | | |
| Platinum | (d)500 | *1 030 | *1 490 | *1 680 | *2 050 |
| Palladium | ... | *2 580 | *3 980 | *5 100 | *6 170 |
| Colombia | 447 | 680 | 810 | 973 | 1 322 |
| Japan | | | | | |
| Platinum (a) | 663 | 753 | 647 | 1 031 | 1 425 |
| Palladium (a) | 1 453 | 1 417 | 1 170 | 821 | 1 047 |
| Australia | | | | | |
| Platinum | 115 | 84 | 73 | *100 | *100 |
| Palladium | 428 | 451 | 360 | *400 | *400 |
| World total | 263 000 | 276 000 | 285 000 | 286 000 | 289 000 |

Note(s):

- (1) Wherever possible, figures relate to quantities of platinum group metals thought to be recovered from ores originating in the Country stated
 - (2) Figures for metal production are only given for countries where recovery is thought to be based predominantly on domestic materials or on imported materials which have not been recorded as mine production elsewhere in the table
 - (3) In addition to the countries listed, Bulgaria, China, Indonesia, Papua New Guinea and Philippines are believed to produce platinum group metals
- (a) Metal production
(b) Platinum metals content of concentrates (produced from Ni-Cu ores), residues and matte exported
(c) Years ended 6 July of that stated
(d) Including palladium

Exports of Platinum Group Metals

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------------------|------------|------------|------------|------------|------------|
| United Kingdom | | | | | |
| Platinum | 33 277 | 27 388 | 37 487 | 34 473 | 45 347 |
| Palladium | 20 252 | 14 865 | 32 795 | 30 086 | 30 371 |
| Other platinum metals | 11 311 | 6 485 | 5 796 | 9 580 | 6 169 |
| Waste & scrap | 290 | 25 925 | 1 198 | 3 773 | 1 550 |
| Belgium-Luxembourg | | | | | |
| Platinum | 3 770 | 2 405 | 3 646 | 3 730 | 3 760 |
| Platinum metals | 7 696 | 6 880 | 16 201 | 11 397 | 11 154 |
| Waste & scrap | £4 400 000 | £3 384 000 | £4 433 000 | £5 360 000 | £4 576 000 |
| Denmark | | | | | |
| Platinum & platinum metals | 99 | 57 | 285 | 81 | 453 |
| Waste & scrap | 285 | 1 810 | 373 | 1 574 | 918 |
| of which: Re-exports | 207 | 1 638 | 274 | 468 | ... |
| France | | | | | |
| Platinum | 3 471 | 4 417 | 6 930 | 7 164 | 6 595 |
| Platinum metals | 4 942 | 7 066 | 4 370 | 5 070 | 6 778 |
| Waste & scrap | 28 203 | 179 129 | 449 | 171 352 | 14 163 |
| Germany, Federal Republic of | | | | | |
| Platinum | 9 393 | 13 189 | 15 183 | 17 119 | 15 546 |
| Palladium | 4 878 | 5 192 | 8 490 | 9 293 | 10 727 |
| Other platinum metals | 4 824 | 5 546 | 2 377 | 2 192 | 2 326 |
| Waste & scrap | 999 | 277 | 20 545 | 42 588 | 36 628 |
| Irish Republic | | | | | |
| Platinum & platinum metals | 614 | 997 | 2 006 | 608 | 284 |
| Italy | | | | | |
| Platinum | 2 253 | 966 | 1 200 | ... | 1 577 |
| Platinum metals | 1 968 | 2 105 | 662 | ... | 441 |
| Netherlands | | | | | |
| Platinum | 1 263 | 1 232 | 1 560 | 1 872 | 2 040 |
| Platinum metals | 571 | 534 | 482 | 313 | 206 |
| Waste & scrap | 6 000 | 8 000 | 18 000 | 10 000 | 3 000 |
| Portugal | | | | | |
| Platinum & platinum metals | 300 | 399 | 400 | 400 | 330 |
| Spain | | | | | |
| Platinum & platinum metals | 149 | 78 | 330 | 97 | 1 246 |
| Austria | | | | | |
| Platinum & platinum metals | 467 | 740 | 1 201 | 766 | 1 255 |
| Czechoslovakia | | | | | |
| Waste & scrap (a) | *17 100 | *22 500 | ... | *14 100 | *13 600 |
| Finland | | | | | |
| Platinum & platinum metals | 547 | 12 | 3 | 13 | 10 |
| Norway | | | | | |
| Platinum & platinum metals | 1 601 | 1 975 | 1 579 | 2 465 | 3 307 |
| Soviet Union | | | | | |
| Platinum & platinum metals (a) | *58 500 | *78 000 | *81 700 | *76 200 | *89 400 |
| Sweden | | | | | |
| Platinum & platinum metals | £1 334 000 | £749 000 | £1 307 000 | £2 608 000 | £2 833 000 |
| Switzerland | | | | | |
| Platinum & platinum metals | 28 470 | 37 741 | 63 335 | 42 238 | 44 636 |
| Waste & scrap | ... | ... | 59 614 | 12 332 | 11 525 |
| Yugoslavia | | | | | |
| Platinum & platinum metals | £564 000 | £1 463 000 | £614 000 | £431 000 | £296 000 |
| Waste & scrap | £648 000 | £3 354 000 | £3 311 000 | £309 000 | £5 407 000 |
| South Africa | | | | | |
| Platinum & platinum metals (d) | 120 433 | 130 171 | 130 854 | 137 123 | 134 354 |
| Waste & scrap (a) | *800 | *3 500 | *20 700 | *4 600 | *19 100 |
| Canada | | | | | |
| Ores & concentrates (b) | 9 062 | 7 763 | 12 494 | 10 148 | 10 323 |
| Platinum metals | 3 662 | 4 506 | 4 657 | 9 772 | 7 060 |
| Waste & scrap | 7 519 | 6 696 | ... | ... | 931 |
| USA | | | | | |
| Ores & concentrates (b) | 1 157 | 172 | 156 | 173 | 415 |
| Platinum | 3 773 | 5 675 | 9 524 | 9 299 | 9 047 |
| of which: Re-exports | 877 | 3 114 | 1 898 | 884 | 1 537 |
| Palladium | 6 608 | 6 855 | 9 106 | 13 155 | 11 247 |
| of which: Re-exports | 1 146 | 1 132 | 718 | 150 | 360 |
| Other platinum metals | 3 679 | 6 205 | 4 379 | 1 717 | 2 232 |
| of which: Re-exports | 990 | 1 847 | 1 002 | 53 | 480 |
| Waste & scrap | 11 730 | 10 545 | 12 103 | 15 064 | 34 487 |

Exports of Platinum Group Metals

kilograms

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|---|---------|-------|-------|--------|--------|
| Colombia Platinum | 1 010 | ... | 728 | 4 | ... |
| China Platinum & platinum metals | (a)*400 | 1 227 | 158 | 871 | ... |
| Hong Kong Platinum & platinum metals (c) | 619 | 2 642 | 2 067 | 1 101 | 1 131 |
| Japan Platinum | 659 | 388 | 7 188 | 3 055 | 5 021 |
| Platinum metals | 1 632 | 2 268 | 1 639 | 1 451 | 2 180 |
| Korea, Republic of Waste & scrap | 60 | 8 741 | 3 979 | 6 335 | 6 362 |
| Singapore Platinum & platinum metals (c) | 56 | 369 | 218 | 869 | 904 |
| Taiwan Platinum & platinum metals | 2 411 | 839 | 4 539 | 11 425 | 11 519 |
| Australia Platinum & platinum metals (e) | 762 | 546 | 929 | 1 271 | 744 |

Note(s):

- (1) In this table the term 'Platinum' and/or 'Platinum metals' includes unwrought, partly worked and alloys
- (a) BGS estimates, based on known imports into certain countries
- (b) Platinum metals content
- (c) Re-exports
- (d) Sales
- (e) Years ended 30 June of that stated

Imports of Platinum Group Metals

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------------------|------------|------------|-------------|-------------|-------------|
| United Kingdom | | | | | |
| Ores & concentrates | ... | ... | 75 240 | 46 787 | 49 487 |
| Platinum | 10 322 | 10 425 | 26 437 | 29 225 | 35 654 |
| Palladium | 13 058 | 10 575 | 28 438 | 17 242 | 21 916 |
| Other platinum metals | 3 608 | 5 004 | 4 342 | 4 923 | 6 288 |
| Waste & scrap | 18 858 | 18 577 | 35 456 | 382 547 | 310 763 |
| Belgium-Luxembourg | | | | | |
| Platinum | 1 456 | 1 268 | 1 519 | 1 282 | 3 398 |
| Platinum metals | 556 | 477 | 719 | 718 | 1 817 |
| Waste & scrap | £9 254 000 | £8 533 000 | £11 211 000 | £13 772 000 | £17 605 000 |
| Denmark | | | | | |
| Platinum & platinum metals | 691 | 726 | 473 | 634 | 673 |
| France | | | | | |
| Platinum | 5 375 | 5 436 | 6 514 | 6 746 | 8 530 |
| Platinum metals | 6 182 | 5 132 | 5 336 | 6 163 | 7 451 |
| Waste & scrap | 3 146 | 2 780 | 50 380 | 39 913 | 35 133 |
| Germany, Federal Republic of | | | | | |
| Platinum | 17 750 | 23 888 | 21 492 | 24 813 | 21 973 |
| Palladium | 18 109 | 17 081 | 27 461 | 21 889 | 26 211 |
| Other platinum metals | 5 425 | 5 127 | 3 151 | 3 331 | 2 786 |
| Waste & scrap | 87 922 | 122 240 | 86 762 | 103 755 | 105 543 |
| Greece | | | | | |
| Platinum & platinum metals | 492 | 228 | 514 | 438 | 347 |
| Irish Republic | | | | | |
| Platinum & platinum metals | 653 | 2 267 | 3 842 | 479 | 659 |
| Italy | | | | | |
| Platinum | 3 363 | 3 246 | 10 533 | 2 705 | 4 296 |
| Platinum metals | 3 903 | 4 025 | 5 346 | 5 289 | 10 081 |
| Waste & scrap | 1 339 | 3 900 | 1 500 | 1 581 | 5 000 |
| Netherlands | | | | | |
| Platinum | 777 | 892 | 1 158 | 1 094 | 917 |
| Platinum metals | 1 907 | 2 356 | 2 465 | 3 059 | 2 238 |
| Waste & scrap | ... | 12 000 | 14 000 | 1 000 | 1 000 |
| Portugal | | | | | |
| Platinum & platinum metals | 200 | 690 | 700 | 49 | 309 |
| Spain | | | | | |
| Platinum & platinum metals | 1 304 | 1 165 | 1 842 | 2 064 | 4 816 |
| Waste & scrap | 1 000 | 325 | 338 | ... | ... |
| Austria | | | | | |
| Platinum & platinum metals | 1 314 | 2 420 | 2 512 | 2 429 | 2 794 |
| Bulgaria | | | | | |
| Platinum & platinum metals (e) | *1 100 | *700 | *700 | *500 | *300 |
| Czechoslovakia | | | | | |
| Platinum & platinum metals (e) | *250 | *100 | *500 | *600 | *1 000 |
| Finland | | | | | |
| Platinum & platinum metals | 123 | 334 | 954 | 134 | 758 |
| German Democratic Republic | | | | | |
| Platinum & platinum metals (e) | *2 200 | *1 700 | *2 300 | *2 200 | *2 700 |
| Hungary | | | | | |
| Platinum & platinum metals | (e)*400 | (e)*300 | (e)*400 | 100 | 100 |
| Norway | | | | | |
| Platinum & platinum metals | 669 | 786 | 728 | 595 | 411 |
| Poland | | | | | |
| Platinum & platinum metals (e) | *900 | *1 400 | *800 | *800 | *50 |
| Romania | | | | | |
| Platinum & platinum metals (e) | *160 | *250 | *450 | *290 | *360 |
| Sweden | | | | | |
| Platinum & platinum metals | 3 000 | 3 000 | 2 000 | 2 000 | 1 000 |
| Switzerland | | | | | |
| Platinum & platinum metals | 36 028 | 48 225 | 23 735 | 33 743 | 41 639 |
| Waste & scrap | ... | ... | 4 617 | 2 135 | 5 112 |
| Turkey | | | | | |
| Platinum & platinum metals | 424 | 321 | 227 | 1 000 | 4 000 |
| Yugoslavia | | | | | |
| Platinum & platinum metals | £1 196 000 | £1 442 000 | £1 863 000 | £2 145 000 | £1 673 000 |

Imports of Platinum Group Metals

kilograms

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------------------|------------|------------|------------|------------|--------|
| Algeria | | | | | |
| Platinum & platinum metals | 22 | 51 | ... | ... | ... |
| South Africa | | | | | |
| Platinum & platinum metals | 69 | 411 | 1 295 | 78 | 176 |
| Canada | | | | | |
| Platinum & platinum metals (c) | 4 212 | 3 377 | 10 893 | 6 108 | 6 275 |
| Mexico | | | | | |
| Platinum & platinum metals | 74 | 13 | 70 | 33 | ... |
| USA | | | | | |
| Ores & concentrates (d) | 74 | 64 | 30 | 12 | 109 |
| Platinum | 56 582 | 36 413 | 46 789 | 49 240 | 52 277 |
| Platinum metals | | | | | |
| Palladium | 46 710 | 52 275 | 52 881 | 51 133 | 51 992 |
| Rhodium | 5 570 | 6 603 | 7 359 | 7 105 | 13 098 |
| Other | 7 411 | 3 751 | 4 585 | 3 628 | 3 264 |
| Waste & scrap | 31 522 | 19 438 | 12 761 | 2 162 | 4 614 |
| Argentina | | | | | |
| Platinum | 23 | 9 | 2 | ... | ... |
| Palladium | 36 | 87 | 94 | ... | ... |
| Other platinum metals | 8 | 335 | 111 | ... | ... |
| Brazil | | | | | |
| Platinum | 256 | 155 | 277 | ... | 310 |
| Palladium | 444 | 863 | 662 | ... | ... |
| China | | | | | |
| Platinum & platinum metals | (e)*800 | 2 620 | 4 863 | 2 589 | ... |
| Hong Kong | | | | | |
| Platinum & platinum metals | 587 | 1 683 | 3 318 | 2 085 | 2 595 |
| India (a) | | | | | |
| Platinum & platinum metals | 334 | 217 | 166 | ... | 210 |
| Indonesia | | | | | |
| Platinum & platinum metals | 2 | 245 | 3 | 1 173 | 41 |
| Iran (f) | | | | | |
| Platinum & platinum metals | £106 000 | — | £5 000 | £10 000 | ... |
| Israel | | | | | |
| Platinum metals | £1 415 000 | £1 247 000 | £1 288 000 | £1 364 000 | ... |
| Japan | | | | | |
| Platinum | 30 935 | 52 801 | 68 459 | 53 516 | 61 851 |
| Platinum metals | 47 824 | 53 964 | 58 595 | 61 145 | 64 305 |
| Waste & scrap | 3 179 | 6 688 | 4 537 | 5 294 | 5 295 |
| Jordan | | | | | |
| Platinum | 30 | 40 | 32 | 31 | 11 |
| Korea, Republic of | | | | | |
| Platinum & platinum metals | 590 | 465 | 804 | 1 130 | 1 748 |
| Malaysia | | | | | |
| Platinum & platinum metals | 25 963 | 10 651 | 7 890 | 4 857 | ... |
| Qatar | | | | | |
| Platinum & platinum metals | 1 104 | 1 061 | 675 | — | — |
| Singapore | | | | | |
| Platinum & platinum metals | 474 | 1 055 | 865 | 1 530 | 4 871 |
| Taiwan | | | | | |
| Platinum & platinum metals | 599 | 1 053 | 1 678 | 3 596 | 1 712 |
| Thailand | | | | | |
| Platinum & platinum metals | 59 | 443 | 9 221 | 17 750 | 72 059 |
| Australia | | | | | |
| Platinum metals (b) | 1 087 | 5 297 | 3 310 | 6 295 | 11 486 |
| New Zealand (b) | | | | | |
| Platinum & platinum metals | 86 | 61 | 28 | 17 | 55 |

Note(s):

(1) In this table the term 'Platinum' and/or 'Platinum metals' includes unwrought, partly worked and alloys

(a) Years ended 31 March following that stated

(b) Years ended 30 June of that stated

(c) Derived from Canadian ores and concentrates exported for treatment

(d) Platinum metals content

(e) BGS estimates, based on known exports from certain countries

(f) Years ended 20 March following that stated

Production of Rare Earth Minerals

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|---------------------------|---------|---------|---------|---------|---------|
| Madagascar | | | | | |
| Bastnaesite | *10 | *10 | *10 | *10 | ... |
| Zaire | | | | | |
| Monazite | 7 | 97 | 168 | 175 | 124 |
| USA | | | | | |
| Bastnaesite (a) | 11 094 | 16 710 | 11 533 | 20 787 | 22 713 |
| Monazite (a)(b) | *450 | *450 | *450 | *450 | *450 |
| Brazil | | | | | |
| Monazite | 3 618 | 4 332 | 2 817 | *4 000 | *4 000 |
| China (a) | 11 860 | 15 100 | 18 660 | 25 220 | *25 000 |
| India | | | | | |
| Monazite (d) | *4 000 | *4 000 | *4 000 | *4 300 | *4 500 |
| Malaysia | | | | | |
| Monazite | 5 959 | 2 908 | 2 920 | 2 948 | 3 323 |
| Xenotime | 145 | 31 | 47 | 131 | 165 |
| Sri Lanka | | | | | |
| Monazite | 17 | 100 | *200 | *200 | *200 |
| Thailand | | | | | |
| Monazite | 1 609 | 458 | 590 | 631 | 377 |
| Xenotime | 28 | 30 | 101 | 35 | 14 |
| Australia | | | | | |
| Monazite | 14 822 | 12 813 | 10 897 | 13 000 | 6 000 |
| Xenotime | 41 | 5 | 0 | ... | ... |
| World total (c) | 69 300 | 78 600 | 72 800 | 102 900 | 99 000 |
| World total (REO content) | *41 400 | *47 100 | *43 600 | *61 600 | *59 300 |

Note(s):

- (1) With the exception of the data for USA and China, figures in this table refer to gross tonnage of rare earth concentrates
- (2) Rare earth minerals are believed to be produced also in the Soviet Union and possibly, on a small scale, in Indonesia, Democratic P.R. of Korea, Mozambique and South Africa
- (a) REO content. Assumed to be 60% of concentrates produced
- (b) Nominal capacity
- (c) Expressed as grossed up weight of concentrates produced
- (d) Years ended 31 March following that stated

Exports of Rare Earths

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--|--------|--------|--------|--------|--------|
| United Kingdom | | | | | |
| Cerium compounds | 337 | 351 | 582 | 607 | 679 |
| Other rare earth compounds | ... | 59 | 86 | 70 | 102 |
| Ferro-cerium & other pyrophoric alloys | 10 | 6 | 121 | 54 | 10 |
| Metals | 40 | 64 | 28 | 100 | 84 |
| France | | | | | |
| Ferro-cerium & other pyrophoric alloys | 102 | 124 | 98 | 124 | 103 |
| Metals | 59 | 131 | 30 | 1 | 42 |
| Germany, Federal Republic of | | | | | |
| Cerium compounds | 150 | 201 | (d)223 | (d)210 | (d)249 |
| Other rare earth compounds | 13 | 13 | ... | ... | ... |
| Ferro-cerium & other pyrophoric alloys | 78 | 85 | 94 | 131 | 189 |
| Metals | 18 | 14 | 6 | 12 | 6 |
| Italy | | | | | |
| Metals | 14 | 138 | 780 | 22 | 42 |
| Austria | | | | | |
| Cerium compounds | ... | ... | 576 | 522 | 697 |
| Other rare earth compounds | ... | ... | 1 740 | 1 059 | 1 071 |
| Metals | 391 | 351 | 430 | 358 | 273 |
| Norway | | | | | |
| Rare earth compounds | ... | ... | 1 353 | 549 | 598 |
| Soviet Union | | | | | |
| Rare earth compounds (b) | *1 000 | *400 | *1 000 | *1 000 | *1 400 |
| Metals (b) | *40 | ... | *200 | *300 | *400 |
| South Africa (a) | | | | | |
| Rare earth compounds | £4 000 | £200 | £2 100 | £6 200 | £7 900 |
| USA | | | | | |
| Ores & concentrates | 6 140 | 4 534 | 7 360 | ... | ... |
| Ferro-cerium & other pyrophoric alloys | 35 | 82 | 36 | *35 | ... |
| Brazil | | | | | |
| Cerium compounds | — | 523 | 780 | 799 | 246 |
| Ferro-cerium & other pyrophoric alloys | 307 | 324 | 260 | 198 | ... |
| Metals | 89 | 103 | 107 | 187 | 234 |
| China | | | | | |
| Rare earth compounds (b) | *4 300 | *6 000 | *7 400 | *6 400 | *2 800 |
| Ferro-cerium & other pyrophoric alloys (b) | *400 | *300 | *200 | *200 | *200 |
| Metals (b) | *90 | *250 | *420 | *520 | *400 |
| Hong Kong | | | | | |
| Ferro-cerium & other pyrophoric alloys (c) | 131 | 140 | 112 | 97 | 116 |
| Japan | | | | | |
| Cerium compounds | ... | ... | 482 | 903 | 648 |
| Other rare earth compounds | ... | ... | 322 | 165 | 154 |
| Ferro-cerium & other pyrophoric alloys | 20 | 25 | ... | ... | ... |
| Malaysia | | | | | |
| Ores & concentrates | 738 | 1 024 | 173 | 660 | 212 |
| Thailand | | | | | |
| Ores & concentrates | 1 306 | 428 | 165 | 488 | 220 |
| Ferro-cerium & other pyrophoric alloys | 0 | 0 | 37 | 54 | 18 |
| Australia | | | | | |
| Ores & concentrates | 14 100 | 10 491 | 10 000 | 20 000 | 11 000 |

Note(s):

(1) Rare earths are here taken to include yttrium and scandium

(a) Values shown are for the common customs area

(b) BGS estimates, based on known imports into certain countries

(c) Re-exports

(d) Including other rare earth compounds

Imports of Rare Earths

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--|----------|---------|---------|----------|----------|
| United Kingdom | | | | | |
| Cerium compounds | 222 | 240 | 655 | 355 | 269 |
| Other rare earth compounds | ... | 884 | 215 | 169 | 323 |
| Ferro-cerium & other pyrophoric alloys | 3 | 4 | 111 | 384 | 23 |
| Metals | 61 | 57 | 54 | 77 | 22 |
| Belgium-Luxembourg | | | | | |
| Cerium compounds | 127 | 127 | 92 | 249 | 249 |
| Other rare earth compounds | 17 | 12 | 3 | 41 | 3 |
| Ferro-cerium & other pyrophoric alloys | 6 | 8 | 49 | 26 | 45 |
| Metals | 54 | 32 | 54 | 45 | 147 |
| Denmark | | | | | |
| Ferro-cerium & other pyrophoric alloys | 12 | 15 | 16 | 9 | 6 |
| France | | | | | |
| Cerium compounds | 962 | 167 | 661 | 356 | 638 |
| Other rare earth compounds | 1 366 | 1 798 | 3 012 | 2 599 | 364 |
| Ferro-cerium & other pyrophoric alloys | 118 | 62 | 57 | 37 | 37 |
| Metals | 203 | 188 | 228 | 291 | 302 |
| Germany, Federal Republic of | | | | | |
| Cerium compounds | 1 034 | 1 133 | 1 246 | 1 131 | 1 577 |
| Other rare earth compounds | 710 | 851 | 1 611 | 1 503 | 1 871 |
| Ferro-cerium & other pyrophoric alloys | 10 | 17 | 23 | 45 | 30 |
| Metals | 113 | 138 | 143 | 117 | 163 |
| Italy | | | | | |
| Ferro-cerium & other pyrophoric alloys | 5 | 8 | 29 | 22 | 24 |
| Metals | 64 | 67 | 70 | 61 | 59 |
| Netherlands | | | | | |
| Cerium compounds | 1 215 | 1 382 | 351 | 112 | 395 |
| Other rare earth compounds | 1 639 | 1 389 | 1 090 | 2 902 | 2 651 |
| Ferro-cerium & other pyrophoric alloys | 16 | 11 | 25 | 29 | 44 |
| Metals | 28 | 14 | 1 | 4 | 12 |
| Spain | | | | | |
| Rare earth compounds | 247 | 272 | 280 | 248 | 257 |
| Ferro-cerium & other pyrophoric alloys | 43 | 47 | 48 | 46 | 41 |
| Metals | 43 | 14 | 12 | 17 | 68 |
| Austria | | | | | |
| Cerium compounds | ... | ... | 1 510 | 1 531 | 1 200 |
| Other rare earth compounds | ... | ... | 179 | 121 | 15 |
| Metals | 88 | 2 | 111 | 245 | 255 |
| Norway | | | | | |
| Rare earth compounds | ... | ... | 56 | 70 | 48 |
| Metals | ... | ... | 282 | 257 | 248 |
| Switzerland | | | | | |
| Metals | 1 | 1 | ... | 3 | 6 |
| Yugoslavia | | | | | |
| Ferro-cerium & other pyrophoric alloys | 2 | 3 | 191 | 409 | 300 |
| Metals | ... | ... | 66 | 61 | 1 |
| South Africa | | | | | |
| Rare earth compounds (a) | £212 000 | £83 000 | £80 000 | £140 000 | £136 000 |
| Canada | | | | | |
| Cerium compounds | ... | ... | 201 | 278 | 311 |
| Other rare earth compounds | ... | ... | 240 | 158 | 255 |
| USA | | | | | |
| Ores & concentrates | 2 960 | 1 122 | 1 924 | 774 | 800 |
| Cerium compounds | 300 | 209 | 695 | 251 | 359 |
| Other rare earth compounds | 294 | 313 | 234 | 9 295 | 6 504 |
| Ferro-cerium & other pyrophoric alloys | 94 | 96 | 108 | 84 | 93 |
| Metals | 68 | 186 | 198 | 294 | 183 |
| Argentina | | | | | |
| Rare earth compounds | 42 | 41 | 67 | ... | ... |
| Brazil | | | | | |
| Cerium compounds | 156 | 247 | 262 | ... | 207 |
| Other rare earth compounds | 11 | 15 | 14 | ... | 21 |

Rare Earths

Imports of Rare Earths

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--|-------|-------|--------|-------|-------|
| Hong Kong | | | | | |
| Ferro-cerium & other pyrophoric alloys | 183 | 217 | 178 | 170 | 228 |
| Indonesia | | | | | |
| Rare earth compounds | 4 | 58 | 21 | 27 | 26 |
| Ferro-cerium & other pyrophoric alloys | 76 | 22 | 17 | 107 | ... |
| Japan | | | | | |
| Cerium compounds | 411 | 260 | 3 089 | 3 520 | 2 349 |
| Other rare earth compounds | 8 178 | 8 674 | 11 466 | 8 192 | 6 544 |
| Ferro-cerium & other pyrophoric alloys | 29 | 52 | ... | ... | ... |
| Metals | 132 | 278 | 468 | 337 | 180 |
| Korea, Republic of | | | | | |
| Cerium compounds | 74 | 158 | 2 300 | 621 | 604 |
| Other rare earth compounds | 17 | 25 | 249 | 54 | 74 |
| Ferro-cerium & other pyrophoric alloys | 24 | 39 | 25 | 17 | 30 |
| Metals | ... | 19 | 35 | 4 | 121 |
| Malaysia | | | | | |
| Ores & concentrates | 385 | 878 | 62 | 143 | ... |
| Saudi Arabia | | | | | |
| Ferro-cerium & other pyrophoric alloys | 67 | 40 | 45 | 37 | ... |
| Singapore | | | | | |
| Ferro-cerium & other pyrophoric alloys | 87 | 75 | 41 | ... | ... |
| Taiwan | | | | | |
| Rare earth compounds | ... | ... | ... | 498 | 340 |
| Ferro-cerium & other pyrophoric alloys | 23 | 22 | 24 | 31 | 34 |
| Metals | 62 | 34 | 31 | 2 | 56 |
| Thailand | | | | | |
| Ferro-cerium & other pyrophoric alloys | 92 | 75 | 19 | 40 | 70 |

Note(s):

(1) Rare earths are here taken to include yttrium and scandium

(a) Values shown are for the common customs area

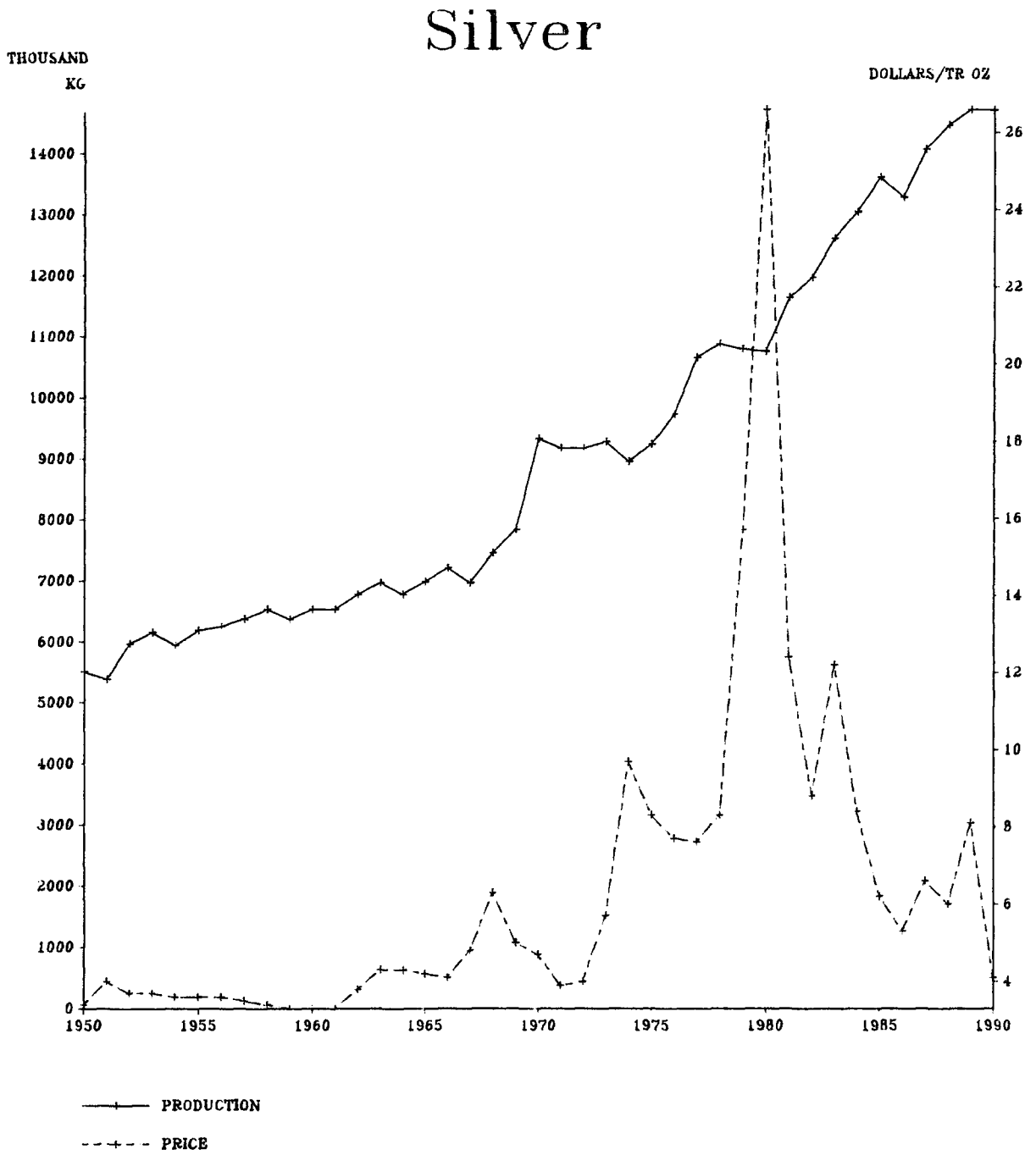


Figure 16 World mine production of silver compared with the yearly average London spot price as reported by *Metal Bulletin* expressed in constant 1985 US dollars.
 Trend-line analysis of the production data indicates a growth rate of approximately 2.5% per annum.

Mine Production of Silver

kilograms (metal content)

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|--------------|------------|------------|------------|------------|
| United Kingdom | 1 773 | 2 031 | 2 113 | 1 689 | 2 695 |
| France | 25 884 | 20 724 | 22 200 | 21 950 | 22 200 |
| Germany, Federal Republic of | 27 500 | 30 900 | *20 000 | *8 500 | 8 000 |
| Greece | 53 700 | 51 900 | 61 300 | 61 200 | 62 600 |
| Irish Republic | 8 150 | 7 200 | 5 500 | 7 200 | 8 800 |
| Italy | 18 000 | 14 000 | 16 000 | 14 000 | 14 000 |
| Portugal | 714 | 887 | 877 | 815 | 1 007 |
| Spain | 172 955 | 214 467 | 220 477 | 250 684 | 270 000 |
| Bulgaria | 26 000 | 26 000 | 24 500 | 20 000 | 25 000 |
| Czechoslovakia | *33 000 | *34 000 | *25 000 | *20 000 | *15 000 |
| Finland | 28 966 | 33 216 | 28 428 | 34 832 | 28 508 |
| German Democratic Republic | *60 000 | *60 000 | *60 000 | 59 700 | 20 000 |
| Greenland | 11 100 | 13 200 | 14 300 | 14 700 | 9 200 |
| Poland | 829 000 | 831 000 | 1 063 000 | 1 003 000 | 832 000 |
| Romania | *23 000 | *20 000 | *23 000 | *20 000 | *10 000 |
| Soviet Union | *1 600 000 | *1 550 000 | *1 580 000 | *1 500 000 | *1 380 000 |
| Sweden | 262 708 | 254 107 | 207 804 | 227 715 | 242 685 |
| Turkey | 8 900 | 8 800 | 22 500 | 28 500 | 32 000 |
| Yugoslavia (a) | 177 446 | 151 129 | 138 957 | 133 018 | 105 300 |
| Algeria | *3 700 | *3 700 | *3 000 | *3 000 | *2 000 |
| Ghana | *435 | *435 | *100 | 1 100 | 1 100 |
| Morocco | 89 000 | 162 000 | 221 000 | 236 600 | 235 000 |
| Namibia | 106 000 | 95 000 | 108 000 | 108 000 | 91 635 |
| South Africa | 223 590 | 210 366 | 201 215 | 181 698 | 160 719 |
| Tunisia | 809 | 700 | *1 000 | 1 000 | *1 000 |
| Zaire | 34 328 | 36 767 | 74 000 | 70 000 | 84 000 |
| Zambia | 26 780 | 29 879 | 29 333 | 19 802 | 18 500 |
| Zimbabwe | 26 126 | 25 348 | 21 896 | 22 332 | 21 151 |
| Canada | (c)1 087 989 | 1 452 000 | 1 484 000 | 1 371 000 | 1 466 000 |
| Dominican Republic | 42 185 | 33 995 | 44 153 | 21 786 | 22 861 |
| Honduras | 41 061 | 23 388 | 49 483 | 37 176 | 30 800 |
| Mexico | 2 303 142 | 2 414 954 | 2 358 907 | 2 306 091 | 2 323 978 |
| Nicaragua | *800 | 888 | 571 | 1 124 | 1 095 |
| USA | 1 073 838 | 1 240 950 | 1 661 000 | 2 007 000 | 2 170 000 |
| Argentina | 66 371 | 59 665 | 79 415 | 83 436 | 71 968 |
| Bolivia | 95 107 | 141 772 | 231 766 | 267 086 | 310 543 |
| Brazil | 59 514 | 61 095 | 89 742 | 64 000 | *60 000 |
| Chile | 500 077 | 499 761 | 506 501 | 545 412 | 654 603 |
| Colombia | 5 822 | 5 198 | 6 562 | 6 847 | 6 631 |
| Peru (b) | 1 925 798 | 2 054 463 | 1 551 600 | 1 839 900 | 1 781 400 |
| China | *105 000 | *125 000 | *145 000 | *165 000 | *150 000 |
| India | 35 266 | 37 943 | 40 958 | 35 499 | 32 200 |
| Indonesia | 46 596 | 50 485 | 61 538 | 65 470 | 66 723 |
| Iran | *25 000 | *28 000 | *30 000 | *41 000 | *38 000 |
| Japan | 351 270 | 281 020 | 251 971 | 155 792 | 149 920 |
| Korea, Dem. P.R. of | *295 000 | *300 000 | *310 000 | *300 000 | *280 000 |
| Korea, Republic of | 142 700 | 71 026 | 48 865 | 53 428 | 16 400 |
| Malaysia | 14 066 | 15 776 | 10 775 | 12 877 | 9 497 |
| Mongolia | 22 000 | 22 800 | 22 200 | 20 500 | 27 500 |
| Myanmar | 13 375 | 9 331 | 6 843 | 5 910 | *5 900 |
| Oman | 1 600 | 1 600 | 1 900 | 2 670 | 3 000 |
| Philippines | 51 532 | 53 452 | 54 634 | 47 998 | 47 500 |
| Taiwan | 12 613 | 9 856 | 8 388 | 6 491 | 3 926 |
| Thailand | ... | ... | *10 000 | *15 000 | *20 500 |
| Australia | 1 022 761 | 1 119 300 | 1 134 332 | 1 075 000 | 1 138 000 |
| Fiji | 785 | 815 | 988 | 1 055 | 775 |

Silver

Mine Production of Silver

kilograms (metal content)

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------|------------|------------|------------|------------|------------|
| New Zealand | ... | ... | 1 845 | 4 837 | 4 914 |
| Papua New Guinea | 57 515 | 62 871 | 70 423 | 93 671 | 114 543 |
| World total | 13 284 000 | 14 071 000 | 14 470 000 | 14 724 000 | 14 713 000 |

Note(s):

(1) In addition to the countries listed, Saudi Arabia is believed to produce silver

(a) Smelter and/or refinery production

(b) Recoverable

(c) Including Ag content of ores, concentrates and matte exported

Exports of Silver

Silver
kilograms

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|-----------|-----------|-----------|-----------|-----------|
| United Kingdom | | | | | |
| Metal | 2 006 669 | 1 512 544 | 1 020 309 | 1 443 948 | 2 847 757 |
| Waste & scrap | 248 999 | 218 293 | ... | ... | ... |
| Belgium-Luxembourg | | | | | |
| Metal | 1 295 591 | 952 194 | 1 000 838 | 1 298 145 | 1 283 609 |
| Denmark | | | | | |
| Metal | 48 701 | 38 537 | 54 463 | 38 716 | 43 220 |
| of which: Re-exports | 47 808 | 37 051 | 46 748 | 33 222 | 37 420 |
| France | | | | | |
| Metal | 558 913 | 568 832 | 532 610 | 613 769 | 1 015 259 |
| Waste & scrap | 143 873 | 145 969 | 137 952 | 279 853 | 269 666 |
| Germany, Federal Republic of | | | | | |
| Metal | 1 543 337 | 1 504 420 | 1 481 780 | 2 071 003 | 1 817 287 |
| Waste & scrap | 1 176 662 | 1 271 124 | ... | ... | ... |
| Greece | | | | | |
| Metal | 142 259 | 57 309 | 4 | 1 046 | 2 |
| Italy | | | | | |
| Metal | 141 173 | 28 300 | 54 387 | 148 100 | 357 700 |
| Netherlands | | | | | |
| Metal | 152 419 | 93 457 | 113 272 | 101 100 | 105 970 |
| Portugal | | | | | |
| Metal | 9 | 118 | 2 500 | 300 | 426 |
| Spain | | | | | |
| Metal | 63 799 | 181 503 | 164 560 | 160 601 | 192 024 |
| Austria | | | | | |
| Metal | 42 090 | 238 663 | 171 174 | 38 888 | 50 403 |
| Waste & scrap | 437 | 17 | ... | ... | ... |
| Finland | | | | | |
| Metal | 37 000 | 43 000 | 31 000 | 31 000 | 26 000 |
| German Democratic Republic | | | | | |
| Metal (d) | *452 500 | *217 100 | *133 800 | *264 100 | *138 800 |
| Norway | | | | | |
| Metal | 37 336 | 32 355 | 27 116 | 33 225 | 33 339 |
| Poland | | | | | |
| Metal | 404 000 | 619 000 | 691 000 | 672 000 | 678 000 |
| Sweden | | | | | |
| Metal | 283 000 | 319 000 | 301 000 | 317 000 | 297 000 |
| Switzerland | | | | | |
| Metal | 687 604 | 767 286 | 779 761 | 879 115 | 1 767 463 |
| Yugoslavia | | | | | |
| Metal | 271 000 | 111 000 | 116 000 | 114 000 | 74 000 |
| Morocco | | | | | |
| Metal | 91 079 | 146 374 | 158 154 | ... | 201 024 |
| Namibia | | | | | |
| Metal | 97 000 | 103 000 | 105 000 | 110 785 | 90 325 |
| South Africa | | | | | |
| Metal | 228 010 | 189 273 | 190 712 | 170 783 | 158 773 |
| Canada | | | | | |
| Ores & concentrates (e) | 375 312 | 488 617 | 448 069 | 527 205 | 620 147 |
| Metal | 1 317 350 | 556 967 | 1 140 548 | 1 025 355 | 1 269 762 |
| Dominican Republic | | | | | |
| Metal | 42 185 | 33 995 | 44 153 | 21 786 | 22 861 |
| Honduras | | | | | |
| Concentrates (e) | 41 061 | 23 388 | 49 483 | 37 176 | ... |
| Mexico | | | | | |
| Metal | 1 729 233 | 1 595 000 | 1 565 233 | 1 912 392 | 1 896 000 |
| USA | | | | | |
| Ores & concentrates (b) | 8 846 | 472 | 25 450 | 607 | 21 929 |
| Metal | 464 535 | 512 104 | 588 436 | 708 179 | 922 921 |
| Waste & scrap | 401 822 | 425 425 | 498 085 | 782 099 | 1 258 484 |
| Bolivia | | | | | |
| Ores & concentrates | 1 525 209 | 766 687 | 1 117 593 | 1 628 049 | 1 232 102 |
| Metal | ... | — | 3 550 | 35 568 | 46 376 |
| Chile | | | | | |
| Metal | 336 669 | 335 300 | 336 390 | 358 080 | 439 536 |
| Colombia | | | | | |
| Metal | 1 595 | ... | 548 | — | ... |

Silver

Exports of Silver

kilograms

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------|------------|---------|----------|---------|---------|
| Peru | | | | | |
| Metal | 606 500 | 428 678 | 282 084 | 534 100 | 496 000 |
| Venezuela | | | | | |
| Metal | 114 952 | 9 362 | 1 199 | 20 318 | ... |
| China | | | | | |
| Metal | (d)*47 400 | 21 490 | 3 420 | 2 450 | ... |
| Hong Kong | | | | | |
| Metal | 39 938 | 35 720 | 45 332 | 42 361 | 31 126 |
| of which: Re-exports | 36 514 | 33 930 | 43 682 | 42 150 | 30 769 |
| Waste & scrap | 140 628 | 224 511 | 154 151 | 37 568 | 31 576 |
| of which: Re-exports | 2 386 | 642 | 117 678 | 30 128 | 31 114 |
| Japan | | | | | |
| Metal | 63 158 | 71 148 | 91 303 | 582 431 | 153 660 |
| Waste & scrap | 1 000 | 2 000 | 22 000 | 59 000 | 12 000 |
| Korea, Dem. P.R. of | | | | | |
| Metal (d) | *49 100 | *66 200 | *100 300 | *14 900 | *19 400 |
| Korea, Republic of | | | | | |
| Ores & concentrates | — | — | — | 81 000 | — |
| Metal | 31 233 | 142 752 | 81 472 | 85 883 | 100 411 |
| Malaysia | | | | | |
| Metal | ... | 4 630 | 816 | 1 219 | ... |
| Myanmar (c) | | | | | |
| Metal | 14 992 | 11 115 | 7 465 | 4 012 | ... |
| Philippines | | | | | |
| Metal | 22 023 | 4 903 | 32 566 | 30 732 | 28 374 |
| Singapore | | | | | |
| Metal | 3 771 | 8 155 | 76 105 | 122 372 | 136 782 |
| of which: Re-exports | 3 771 | 8 155 | 76 105 | 122 372 | 135 679 |
| Taiwan | | | | | |
| Metal | 1 244 | 544 | 17 513 | 32 036 | 703 |
| Waste & scrap | 2 085 | 90 182 | 20 750 | ... | ... |
| Australia | | | | | |
| Metal (a) | 283 770 | 284 977 | 258 247 | ... | 225 989 |
| Fiji | | | | | |
| Metal | 759 | 745 | ... | ... | ... |
| New Zealand (a) | | | | | |
| Metal | 1 241 | 1 129 | 1 801 | 9 001 | 12 688 |
| Papua New Guinea | | | | | |
| Metal | 57 515 | 62 871 | 70 423 | 93 671 | 114 543 |

Note(s):

- (1) This table excludes silver coin but includes silver shipped for minting
- (2) In this table the term 'metal' includes both unwrought and partly worked silver and alloys
- (a) Years ended 30 June of that stated
- (b) Ag content
- (c) Years ended 31 March following that stated
- (d) BGS estimates, based on known imports into certain countries
- (e) Ag content of all ores and concentrates

Imports of Silver

Silver
kilograms

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|-----------|-----------|-----------|-----------|-----------|
| United Kingdom | | | | | |
| Metal | 1 767 806 | 1 327 114 | 1 251 280 | 920 008 | 708 813 |
| Waste & scrap | 393 173 | 332 705 | ... | ... | ... |
| Belgium-Luxembourg | | | | | |
| Metal | 1 367 762 | 1 250 291 | 909 309 | 933 163 | 895 133 |
| Denmark | | | | | |
| Metal | 113 410 | 96 760 | 111 733 | 79 130 | 114 601 |
| France | | | | | |
| Metal | 605 591 | 549 185 | 699 415 | 734 708 | 941 867 |
| Waste & scrap | 77 459 | 92 650 | 50 804 | 193 028 | 320 519 |
| Germany, Federal Republic of | | | | | |
| Metal | 1 316 429 | 1 366 252 | 1 381 466 | 2 075 274 | 1 656 536 |
| Waste & scrap | 1 143 682 | 4 003 601 | ... | ... | ... |
| Greece | | | | | |
| Metal | 55 261 | 41 890 | 36 842 | 91 664 | 98 830 |
| Italy | | | | | |
| Metal | 579 720 | 806 700 | 652 254 | 635 900 | 1 173 900 |
| Netherlands | | | | | |
| Metal | 157 854 | 126 606 | 136 982 | 121 373 | 157 741 |
| Portugal | | | | | |
| Metal | 70 241 | 78 763 | 85 700 | 98 300 | 104 673 |
| Spain | | | | | |
| Metal | 234 687 | 223 990 | 299 859 | 515 588 | 1 041 478 |
| Austria | | | | | |
| Metal | 116 877 | 197 399 | 175 794 | 164 580 | 117 967 |
| Bulgaria | | | | | |
| Metal (f) | *2 300 | *2 500 | *6 400 | *5 700 | *1 100 |
| Czechoslovakia | | | | | |
| Metal (f) | *1 900 | *9 900 | *21 400 | *10 900 | *13 600 |
| Faeroe Islands | | | | | |
| Metal | 369 | 309 | 209 | 191 | 112 |
| Finland | | | | | |
| Metal | 69 000 | 104 000 | 114 000 | 185 000 | 149 000 |
| German Democratic Republic | | | | | |
| Metal (f) | *579 300 | *288 000 | *263 200 | *432 400 | *241 200 |
| Iceland | | | | | |
| Metal | 383 | 900 | 500 | 600 | 532 |
| Malta | | | | | |
| Metal | 1 606 | 824 | 1 116 | 993 | ... |
| Norway | | | | | |
| Metal | 73 057 | 59 165 | 54 994 | 49 368 | 81 111 |
| Sweden | | | | | |
| Metal | 173 000 | 160 000 | 175 000 | 192 000 | 248 000 |
| Switzerland | | | | | |
| Metal | 1 748 798 | 1 646 764 | 1 211 052 | 1 879 370 | 2 045 272 |
| Turkey | | | | | |
| Metal (b) | 6 130 | 15 359 | 10 155 | 18 000 | 68 000 |
| Yugoslavia | | | | | |
| Metal | 19 000 | 19 000 | 16 000 | 10 000 | 11 000 |
| Algeria | | | | | |
| Metal | 6 887 | 13 398 | ... | ... | ... |
| Egypt | | | | | |
| Metal | 734 | ... | ... | ... | ... |
| Gabon | | | | | |
| Metal | 37 | ... | ... | ... | 147 |
| Ivory Coast | | | | | |
| Metal | 2 819 | ... | 612 | ... | ... |
| Madagascar | | | | | |
| Metal | 121 | 176 | ... | 117 | 2 |
| Morocco | | | | | |
| Metal | 691 | 1 000 | 1 270 | ... | 1 064 |
| Mozambique | | | | | |
| Metal | 25 283 | — | ... | ... | ... |
| Senegal | | | | | |
| Metal | 179 | 52 | ... | 169 | ... |
| South Africa | | | | | |
| Metal | 81 098 | 23 058 | 23 254 | 23 124 | 14 113 |
| Tunisia | | | | | |
| Metal | 1 343 | 448 | 1 966 | 3 349 | 4 486 |

Silver

Imports of Silver

kilograms

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------|-------------|-----------|-----------|-----------|-----------|
| Canada | | | | | |
| Ores & concentrates (g) | 118 196 | 154 858 | 209 677 | 204 873 | 338 923 |
| Metal | 165 027 | 140 970 | 115 100 | 231 801 | 110 734 |
| Costa Rica | | | | | |
| Metal | 1 629 | 2 022 | 299 | 1 049 | 868 |
| Jamaica | | | | | |
| Metal | 965 | 1 065 | 827 | 299 | 75 |
| Panama | | | | | |
| Metal | 1 462 | 817 | 818 | 788 | 1 423 |
| Trinidad & Tobago | | | | | |
| Metal | ... | 461 | ... | 798 | 773 |
| USA | | | | | |
| Ores & concentrates (c) | 347 770 | 413 730 | 510 356 | ... | ... |
| Metal | 4 337 942 | 2 399 649 | 2 539 335 | 3 223 002 | 2 766 020 |
| Waste & scrap | 91 881 | 129 164 | 173 674 | 90 753 | 507 649 |
| Argentina | | | | | |
| Metal | 15 181 | 16 251 | ... | ... | ... |
| Brazil | | | | | |
| Metal | 167 725 | 179 641 | 157 461 | ... | ... |
| Chile | | | | | |
| Metal | 1 255 | 1 159 | 2 019 | 2 330 | 2 007 |
| Colombia | | | | | |
| Metal | 8 256 | ... | 1 485 | 1 121 | ... |
| Ecuador | | | | | |
| Metal | 1 100 | 4 000 | ... | ... | ... |
| Peru | | | | | |
| Metal | 168 | 114 | 218 | ... | ... |
| Venezuela | | | | | |
| Metal | 49 789 | 39 429 | 44 071 | 10 573 | ... |
| Abu Dhabi | | | | | |
| Metal | 125 | 20 | 1 621 | ... | 2 681 |
| Brunei | | | | | |
| Metal | 1 118 | — | ... | ... | ... |
| China | | | | | |
| Metal | (f)*557 500 | 17 852 | 27 136 | 21 304 | ... |
| Cyprus | | | | | |
| Metal | 8 570 | 8 585 | ... | 10 187 | 14 227 |
| Dubai | | | | | |
| Metal | 89 062 | ... | ... | ... | ... |
| Hong Kong | | | | | |
| Metal | 56 477 | 59 655 | 82 787 | 171 607 | 130 021 |
| Waste & scrap | 1 186 | 3 441 | 5 147 | 1 342 | 13 |
| India (a) | | | | | |
| Metal | 106 | 3 486 | 4 216 | ... | 21 035 |
| Indonesia | | | | | |
| Metal | 108 | 60 | 235 | 1 000 | 7 742 |
| Iran (d) | | | | | |
| Metal | 6 185 | 6 152 | 10 669 | 10 494 | ... |
| Israel | | | | | |
| Metal (f) | *25 500 | *28 800 | *27 200 | *30 900 | *33 100 |
| Japan | | | | | |
| Ores & concentrates | 1 907 000 | 4 032 000 | 7 207 000 | 9 142 000 | 6 390 000 |
| Metal | 481 716 | 657 190 | 1 014 731 | 1 265 202 | 1 547 669 |
| Waste & scrap | 819 | 1 320 | 20 798 | 37 732 | 111 678 |
| Jordan | | | | | |
| Metal | 535 | — | 258 | 283 | — |
| Korea, Republic of | | | | | |
| Metal | 11 537 | 11 276 | 66 760 | 129 056 | 122 949 |
| Malaysia | | | | | |
| Metal | 45 609 | 78 718 | 136 598 | 123 519 | ... |
| Philippines | | | | | |
| Metal | 15 | 7 | 227 | 471 | 753 |
| Saudi Arabia | | | | | |
| Metal | — | — | 2 155 | 6 007 | ... |

Imports of Silver

Silver
kilograms

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------------|--------|---------|---------|---------|-----------|
| Singapore Metal | 97 201 | 140 172 | 290 690 | 544 274 | 1 119 919 |
| Taiwan Metal | 74 739 | 99 516 | 139 630 | 128 930 | 120 985 |
| Thailand Metal | 71 808 | 57 516 | 63 790 | 87 221 | 85 552 |
| Australia Metal (e) | 38 540 | 31 001 | 10 907 | 402 | 913 |
| New Zealand (e) Metal | 40 598 | 39 682 | 23 890 | 38 697 | 37 351 |

Note(s):

- (1) This table excludes silver coin but includes silver shipped for minting
- (2) In this table the term 'metal' includes both unwrought and partly worked silver and alloys
- (a) Years ended 31 March following that stated
- (b) Including gilt
- (c) Ag content
- (d) Years ended 20 March following that stated
- (e) Years ended 30 June of that stated
- (f) BGS estimates, based on known exports from certain countries
- (g) Ag content of all ores and concentrates

Production of Tantalum and Niobium Minerals

tonnes

| Country | | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------------|-----------|---------|--------|---------|---------|---------|
| Portugal | | | | | | |
| Columbite-tantalite | (25%,25%) | 5 | — | — | — | — |
| Spain | | | | | | |
| Tantalite | (—,25%) | 13 | *10 | *11 | *11 | *11 |
| Mozambique | | | | | | |
| Tantalite | (10%,45%) | 3 | — | — | — | — |
| Microlite | (5%,50%) | 3 | — | — | — | — |
| Namibia | | | | | | |
| Tantalite | (—,14%) | 8 | 14 | 7 | 6 | 4 |
| Nigeria | | | | | | |
| Columbite | (43%,6%) | 13 | 48 | 56 | 44 | 45 |
| Rwanda | | | | | | |
| Columbite-tantalite | (30%,23%) | 28 | 12 | 7 | 64 | 110 |
| Zaire | | | | | | |
| Columbite-tantalite | (27%,27%) | 38 | 57 | 34 | 42 | *50 |
| Zimbabwe | | | | | | |
| Columbite-tantalite | (11%,28%) | 33 | 37 | 66 | 32 | 35 |
| Canada | | | | | | |
| Pyrochlore | (42%,—) | 5 600 | 4 600 | 5 600 | 5 800 | 5 700 |
| Tantalite | (3%,30%) | 107 | — | 37 | 253 | 280 |
| Brazil | | | | | | |
| Pyrochlore | (42%,—) | 30 865 | 18 323 | 35 670 | *28 000 | *31 000 |
| Columbite-tantalite | (20%,30%) | 414 | 446 | 402 | 700 | ... |
| Djalmaite | (1%,50%) | 30 | 17 | 16 | ... | ... |
| Malaysia | | | | | | |
| Columbite | (40%,14%) | 34 | 228 | — | — | 4 |
| Struverite | (—,10%) | 18 | 141 | 40 | 242 | 316 |
| Thailand | | | | | | |
| Columbite-tantalite | (17%,25%) | 121 | 183 | 124 | 109 | 9 |
| Struverite | (—,6%) | 241 | 423 | 788 | 99 | 122 |
| Australia | | | | | | |
| Columbite-tantalite | (20%,33%) | 140 | 121 | 277 | 555 | *560 |
| World total concentrates | | 38 000 | 25 000 | 43 000 | 36 000 | 39 000 |
| Nb content | | *15 500 | *9 900 | *17 500 | *14 500 | *15 700 |
| Ta content | | *300 | *300 | *300 | *600 | *600 |

Note(s):

- (1) Niobium and tantalum minerals are believed to be produced also in the Soviet Union and China, and minor quantities in Argentina, Burundi, French Guiana and Zambia
- (2) The figures in this table refer to gross tonnage of tantalum and niobium concentrates
- (3) Estimated average niobium and tantalum contents are given in the form (Nb%,Ta%) for each Country and each mineral, relating where possible to the later years
- (4) Niobium and tantalum are also recovered from tin slags. This source is particularly important in the case of tantalum and in recent years is believed to have accounted for over 60% of all tantalum recovered
- (5) No detailed information on the production of tantalum bearing tin slags is available but the major producers are Thailand and Malaysia, with small amounts from Australia, Brazil, Nigeria, Portugal, South Africa and Zaire

Exports of Tantalum and Niobium

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------------------|--------|--------|--------|--------|--------|
| United Kingdom | | | | | |
| Tantalum | 12 | 18 | 38 | 48 | 39 |
| Niobium | 6 | 16 | ... | ... | ... |
| France | | | | | |
| Tantalum | 18 | 21 | 25 | 27 | 27 |
| Germany, Federal Republic of | | | | | |
| Niobium & tantalum ores | 54 | 6 | 95 | 157 | 364 |
| Tantalum | 93 | 93 | 115 | 130 | 93 |
| Niobium | 90 | 113 | ... | ... | ... |
| Italy | | | | | |
| Tantalum | 11 | 16 | 5 | 17 | 12 |
| Netherlands | | | | | |
| Tantalum | 27 | 15 | — | 20 | 1 |
| Austria | | | | | |
| Tantalum | 21 | 18 | 38 | 31 | 56 |
| Nigeria | | | | | |
| Columbite | 48 | 126 | ... | ... | ... |
| Zaire | | | | | |
| Columbite-tantalite | 146 | 119 | ... | ... | ... |
| Canada | | | | | |
| Niobium & tantalum ores (a) | *4 900 | *5 100 | *4 100 | *5 200 | *4 400 |
| Tantalum | ... | ... | 255 | 67 | 5 |
| USA | | | | | |
| Tantalum ores & concentrates | 32 | 54 | 97 | 9 | 576 |
| Tantalum | 272 | 296 | 357 | 500 | 313 |
| Niobium | *55 | *60 | *55 | ... | ... |
| Brazil | | | | | |
| Columbite-tantalite | 273 | 187 | 346 | 215 | 156 |
| Japan | | | | | |
| Tantalum | 11 | 18 | 30 | 22 | 28 |
| Malaysia | | | | | |
| Columbite & tantalite | 25 | 136 | 23 | 192 | ... |
| Tin slags | 8 654 | 14 444 | 19 585 | 11 381 | 3 636 |
| Singapore | | | | | |
| Tantalum ores & concentrates (b) | 393 | 12 | 125 | ... | ... |
| Tin slags | 571 | 1 378 | 1 463 | 544 | 1 491 |
| of which: Re-exports | 488 | 242 | 690 | 200 | 1 100 |
| Taiwan | | | | | |
| Tantalum | 5 | 21 | 140 | 30 | 21 |
| Thailand | | | | | |
| Columbite & tantalite | 13 | 61 | 243 | 335 | 68 |
| Tin slags | 70 | 935 | 2 110 | 1 061 | 800 |
| Australia | | | | | |
| Columbite-tantalite (c) | 154 | 309 | 397 | 241 | 231 |
| Tantalum (c) | ... | ... | ... | 275 | 123 |

Note(s):

- (1) Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys
- (a) BGS estimates, based on known imports into certain countries
- (b) Re-exports
- (c) Years ended 30 June of that stated

Tantalum and Niobium

Imports of Tantalum and Niobium

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|-------|-------|-------|-------|-------|
| United Kingdom | | | | | |
| Niobium & tantalum ores | 6 | 65 | 1 120 | 2 270 | 1 432 |
| Tantalum | 41 | 63 | 66 | 84 | 84 |
| Niobium | 19 | 21 | ... | ... | ... |
| Belgium-Luxembourg | | | | | |
| Niobium & tantalum ores | 2 046 | 1 845 | 534 | 24 | 13 |
| Tantalum | 40 | 36 | 55 | 23 | 14 |
| France | | | | | |
| Tantalum | 36 | 44 | 45 | 30 | 34 |
| Niobium | 24 | 40 | ... | ... | ... |
| Germany, Federal Republic of | | | | | |
| Niobium & tantalum ores (a) | 1 089 | 1 142 | ... | ... | ... |
| Tantalum | 148 | 178 | 202 | 218 | 196 |
| Niobium | 30 | 18 | ... | ... | ... |
| Italy | | | | | |
| Tantalum | 4 | 3 | 5 | 4 | 1 |
| Niobium | 33 | 56 | ... | ... | ... |
| Austria | | | | | |
| Tantalum | 19 | 54 | 68 | 65 | 42 |
| USA | | | | | |
| Tantalum concentrates | 355 | 292 | 639 | 1 787 | 1 047 |
| Niobium concentrates | 1 295 | 2 078 | 1 689 | 2 227 | 1 950 |
| Tantalum | 237 | 112 | 236 | 111 | 99 |
| Niobium | 6 | 23 | 20 | 9 | 2 |
| Japan | | | | | |
| Tantalum ores & concentrates | 66 | 35 | ... | ... | ... |
| Niobium ores & concentrates | 1 651 | 1 336 | 1 010 | 816 | 1 171 |
| Tantalum | 45 | 48 | 107 | 64 | 55 |
| Singapore | | | | | |
| Tantalum ores & concentrates | 0 | 10 | 201 | ... | ... |
| Tin slags | 9 585 | 9 749 | 2 993 | 2 085 | 136 |

Note(s):

(1) Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

(a) Including other ores

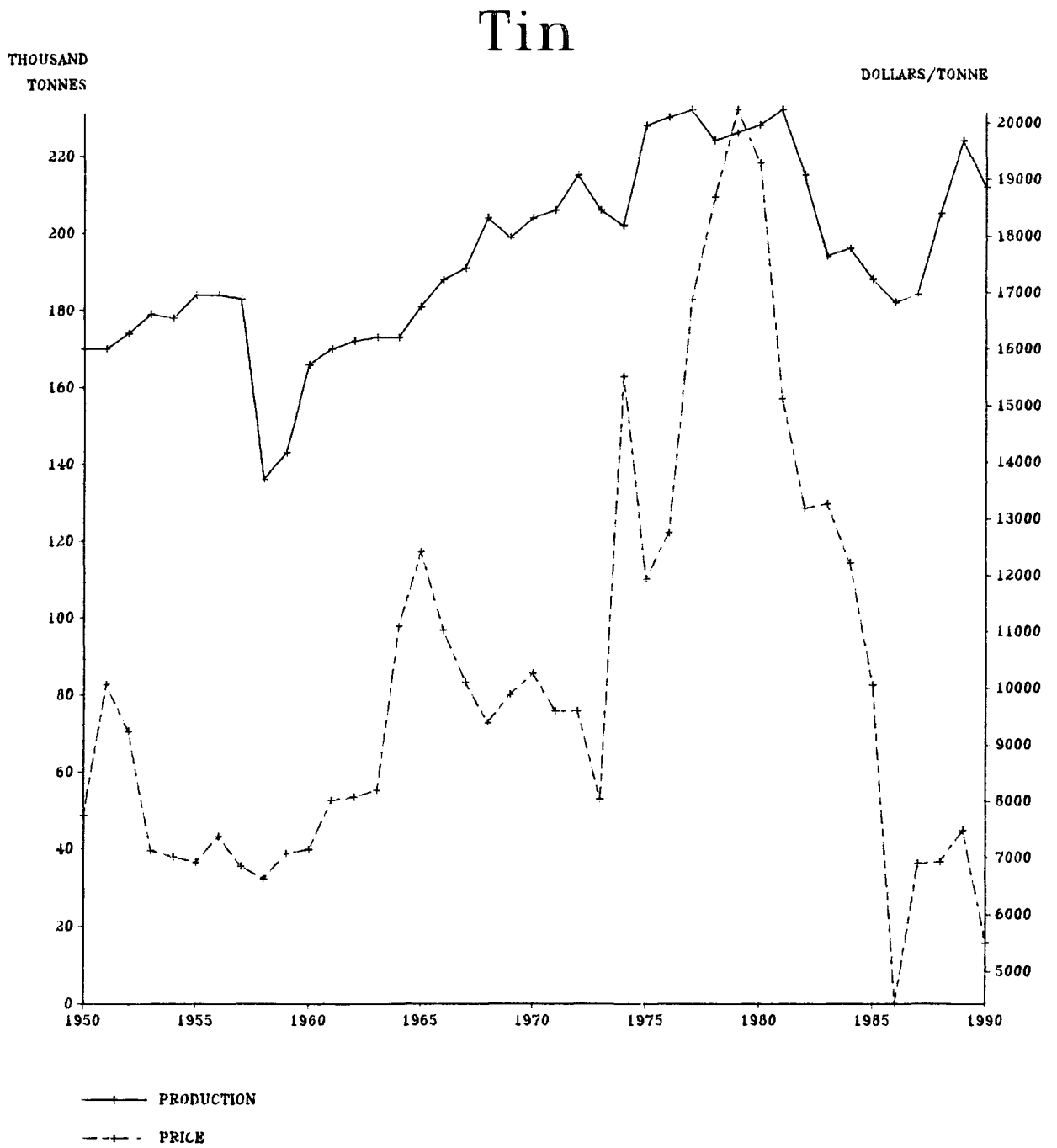


Figure 17 World mine production of tin compared with the LME mean yearly average cash price of tin, excepting 1986-88, free market spot price, expressed in constant 1985 US dollars.

Mine Production of Tin

Tin
tonnes (metal content)

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------------|----------|---------|---------|---------|---------|
| United Kingdom | 4 276 | 4 033 | 3 419 | 3 846 | 3 389 |
| Portugal | 211 | 64 | 57 | 63 | 1 422 |
| Spain | 296 | 77 | 66 | 56 | 49 |
| Czechoslovakia | 200 | 500 | *600 | 500 | 336 |
| German Democratic Republic | 2 200 | 2 391 | 2 474 | 2 413 | 1 806 |
| Soviet Union | *16 000 | *15 000 | *15 000 | *14 000 | *13 000 |
| Namibia | 880 | 1 097 | 1 187 | 1 120 | 921 |
| Niger | 124 | 94 | 102 | 63 | 38 |
| Nigeria | 146 | 156 | 245 | 279 | 338 |
| Rwanda | 42 | 243 | 168 | 767 | 734 |
| South Africa | 2 055 | 1 438 | 1 377 | 1 306 | 1 140 |
| Zaire | 2 351 | 2 226 | 1 943 | 1 642 | 1 555 |
| Zimbabwe | 1 079 | 1 037 | 855 | 849 | 839 |
| Canada | (a)2 356 | 3 397 | 3 840 | 3 599 | 4 035 |
| Mexico | 585 | 369 | 274 | 159 | ... |
| USA | *100 | *100 | *100 | *100 | *100 |
| Argentina | 379 | 186 | 446 | 405 | *400 |
| Bolivia | 10 479 | 8 128 | 10 758 | 15 849 | 17 273 |
| Brazil | 26 405 | 28 523 | 44 102 | 50 232 | 39 149 |
| Peru (b) | 4 817 | 5 263 | 4 378 | 5 069 | 5 134 |
| China | *25 000 | *28 000 | *30 000 | *33 000 | *35 800 |
| Indonesia | 24 049 | 26 093 | 30 590 | 31 736 | 31 700 |
| Japan | 500 | 86 | — | — | — |
| Laos | *400 | *260 | *240 | *276 | *300 |
| Malaysia | 29 134 | 30 388 | 28 866 | 32 034 | 28 468 |
| Mongolia | 1 000 | 1 200 | 1 200 | 1 200 | 1 200 |
| Myanmar | 1 495 | 939 | 529 | 567 | *500 |
| Thailand | 16 775 | 14 750 | 13 982 | 14 668 | 14 385 |
| Vietnam | *500 | *600 | *700 | *800 | *800 |
| Australia | 8 515 | 7 691 | 7 023 | 7 722 | 7 425 |
| World total | 182 000 | 184 000 | 205 000 | 224 000 | 212 000 |

(a) Sn in concentrates exported and in tin-lead alloys produced

(b) Recoverable

Tin

Smelter Production of Tin

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------------|---------|---------|---------|---------|---------|
| United Kingdom | 9 227 | 12 135 | 9 014 | 3 584 | 6 122 |
| Netherlands | 5 104 | 3 834 | 3 478 | 4 529 | *6 100 |
| Portugal | 137 | 13 | 20 | 50 | *30 |
| Spain | 1 725 | 1 671 | 246 | 1 409 | 1 349 |
| Czechoslovakia | 240 | 545 | 515 | 562 | 613 |
| German Democratic Republic | *3 200 | 3 214 | 3 322 | 3 470 | 2 862 |
| Soviet Union | *17 000 | *18 000 | *18 000 | *15 000 | *14 000 |
| Nigeria | 91 | 561 | 427 | 358 | 320 |
| South Africa | 2 804 | 1 688 | 2 410 | 2 600 | 2 100 |
| Zaire | 56 | 90 | 118 | 60 | — |
| Zimbabwe | 1 079 | 1 037 | 855 | 849 | 838 |
| Mexico | 1 483 | 1 730 | 1 514 | *3 000 | *2 900 |
| USA | 3 213 | 3 905 | 1 467 | *1 000 | — |
| Argentina | 258 | 146 | 188 | 186 | 50 |
| Bolivia (a) | 7 673 | 2 667 | 5 481 | 9 718 | 13 364 |
| Brazil | 25 152 | 28 841 | 41 857 | 44 240 | 35 111 |
| China | *26 000 | *25 000 | *24 000 | 30 500 | 35 800 |
| Indonesia | 22 080 | 24 200 | 28 365 | 29 916 | 30 389 |
| Japan | 1 281 | 895 | 846 | 809 | 816 |
| Korea, Republic of | 1 266 | 1 834 | 2 500 | 2 400 | 2 500 |
| Malaysia | 43 788 | 44 363 | 47 403 | 50 900 | 52 703 |
| Myanmar | 649 | 309 | 110 | 171 | *250 |
| Singapore | 500 | 1 100 | 900 | 600 | *600 |
| Thailand | 19 672 | 15 438 | 14 675 | 14 571 | 15 512 |
| Vietnam | *620 | *645 | *600 | *800 | *800 |
| Australia | 1 399 | 563 | 422 | 424 | 312 |
| World total | 196 000 | 194 000 | 209 000 | 222 000 | 225 000 |

(a) Refined, including alloys

Exports of Tin

Tin
tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|----------|----------|--------|--------|--------|
| United Kingdom | | | | | |
| Concentrates | 5 085 | 3 840 | 5 424 | 1 944 | 1 426 |
| Unwrought | 13 640 | 14 763 | 13 981 | 5 371 | 5 661 |
| Unwrought alloys | 2 972 | 2 818 | 2 352 | 1 277 | 1 107 |
| Scrap | 688 | 529 | 374 | 613 | 448 |
| Belgium-Luxembourg | | | | | |
| Unwrought | 1 644 | 2 023 | 2 122 | 2 734 | 2 766 |
| Unwrought alloys | 1 594 | 1 083 | 1 978 | 1 258 | 873 |
| Scrap | 84 | 64 | 60 | 53 | 14 |
| Denmark | | | | | |
| Unwrought | 1 084 | 18 | 11 | 5 | 0 |
| Unwrought alloys | 347 | 107 | 37 | 7 | 13 |
| Scrap | 261 | 200 | 390 | 528 | 686 |
| France | | | | | |
| Concentrates | 2 091 | 42 | — | 3 | — |
| Unwrought | 174 | 92 | 167 | 48 | 130 |
| Unwrought alloys | 22 | 56 | 38 | 123 | 28 |
| Scrap | 321 | 300 | 468 | 442 | 258 |
| Germany, Federal Republic of | | | | | |
| Unwrought | 1 289 | 538 | 521 | 610 | 893 |
| Unwrought alloys | 2 215 | 1 367 | 1 039 | 1 230 | 1 505 |
| Scrap | 123 | 276 | 282 | 369 | 316 |
| Irish Republic | | | | | |
| Scrap | 1 416 | 2 132 | 1 495 | 1 782 | 1 858 |
| Italy | | | | | |
| Unwrought (a) | 163 | 131 | 184 | 160 | 1 021 |
| Scrap | 200 | 72 | 61 | 162 | 75 |
| Netherlands | | | | | |
| Unwrought | 2 407 | 1 706 | 1 103 | 1 507 | 1 677 |
| Unwrought alloys | 798 | 782 | 806 | 968 | 876 |
| Scrap | 174 | 197 | 380 | 611 | 367 |
| Spain | | | | | |
| Unwrought (a) | 225 | 6 | 5 | 230 | 408 |
| Scrap | — | 275 | 84 | 120 | 0 |
| Sweden | | | | | |
| Unwrought | 38 | 102 | 62 | 74 | 33 |
| Unwrought alloys | 84 | 81 | 95 | 98 | 101 |
| Switzerland | | | | | |
| Unwrought | 161 | 97 | (a)110 | (a)128 | (a)109 |
| Scrap | 28 | 41 | 39 | 84 | 86 |
| Namibia | | | | | |
| Concentrates | 1 332 | 1 632 | 1 770 | 1 686 | 1 384 |
| Niger | | | | | |
| Concentrates (b) | 108 | 180 | 162 | 98 | 40 |
| Nigeria | | | | | |
| Unwrought (a) | 215 | 250 | 70 | 135 | 110 |
| Rwanda | | | | | |
| Concentrates | 600 | 183 | ... | 977 | 1 028 |
| South Africa | | | | | |
| Concentrates (b) | 203 | — | — | — | — |
| Unwrought (a) | 1 007 | 526 | 205 | 345 | 254 |
| Zaire | | | | | |
| Concentrates | 4 545 | 3 328 | 3 000 | 5 000 | *5 000 |
| Canada | | | | | |
| Concentrates (b) | (e)3 725 | (e)2 783 | 3 593 | 2 790 | 2 828 |
| Scrap | ... | ... | 1 003 | 3 205 | 529 |
| Jamaica | | | | | |
| Scrap | 406 | 480 | 355 | 249 | 299 |
| USA | | | | | |
| Unwrought (a) | 3 237 | 1 915 | 1 573 | 1 036 | 2 327 |
| of which: Re-exports | 1 689 | 597 | 363 | 132 | 1 669 |
| Scrap | 47 351 | 28 136 | 39 102 | 17 191 | 22 629 |

Tin

Exports of Tin

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------|--------|--------|--------|--------|---------|
| Argentina | | | | | |
| Tin-silver ore | — | 185 | 1 005 | 126 | ... |
| Bolivia | | | | | |
| Concentrates | 22 753 | 20 239 | 11 404 | 13 379 | 8 256 |
| Unwrought | 8 207 | 1 849 | 6 071 | 9 463 | 12 852 |
| Brazil | | | | | |
| Unwrought (a) | 19 152 | 21 027 | 33 637 | 33 994 | 27 640 |
| Peru | | | | | |
| Concentrates | 4 631 | 4 661 | 4 139 | *3 410 | *4 600 |
| China | | | | | |
| Concentrates | ... | 16 710 | 23 855 | 21 828 | *19 600 |
| Unwrought (a) | 7 421 | 15 894 | 10 717 | 9 874 | 10 135 |
| Hong Kong | | | | | |
| Concentrates (d) | 3 709 | 6 912 | 16 248 | 18 449 | 9 088 |
| Unwrought | 1 944 | 2 176 | 3 149 | 6 048 | 4 511 |
| of which: Re-exports | 1 768 | 1 819 | 3 074 | 5 810 | 4 269 |
| Indonesia | | | | | |
| Concentrates | 4 694 | 1 545 | 1 139 | 766 | 368 |
| Unwrought (a) | 23 804 | 24 241 | 26 990 | 29 714 | 28 995 |
| Japan | | | | | |
| Unwrought (a) | 56 | 87 | 119 | 484 | 311 |
| Korea, Republic of | | | | | |
| Unwrought (a) | 105 | 205 | 553 | 332 | 169 |
| Scrap | 32 | 53 | — | 747 | 482 |
| Malaysia | | | | | |
| Unwrought (a) | 40 658 | 50 318 | 49 586 | 50 255 | 52 703 |
| Scrap | 204 | 217 | 505 | 396 | ... |
| Myanmar | | | | | |
| Concentrates (c) | 9 451 | 750 | 561 | 600 | ... |
| Singapore | | | | | |
| Concentrates (d) | 4 892 | 10 421 | 7 560 | 3 259 | 1 301 |
| Unwrought | 29 914 | 29 820 | 27 673 | 27 954 | 26 856 |
| of which: Re-exports | 27 934 | 28 300 | 26 422 | 26 659 | 24 904 |
| Scrap | 75 | 77 | 228 | 471 | 277 |
| of which: Re-exports | 39 | 15 | 144 | 355 | 59 |
| Thailand | | | | | |
| Unwrought | 14 784 | 13 561 | 9 925 | 11 562 | 11 834 |
| Unwrought alloys | 245 | 108 | 2 792 | 2 | 47 |
| Australia | | | | | |
| Concentrates | 14 588 | 13 794 | 14 266 | 15 341 | 15 689 |
| Unwrought (a) | 192 | 271 | 223 | 216 | 186 |
| Scrap (f) | 2 483 | 277 | 757 | 526 | 335 |

Note(s):

(1) In this table the term 'unwrought' tin corresponds to item 687.1 of the Standard International Trade Classification (Revision 3) and comprises ingots, pigs, unwrought bars, sticks, etc.

(a) Including alloys

(b) Sn content

(c) Years ended 31 March following that stated

(d) Re-exports

(e) Including scrap

(f) Years ended 30 June of that stated

Imports of Tin

Tin
tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------------|---------|--------|--------|--------|----------|
| United Kingdom | | | | | |
| Concentrates | 30 166 | 26 280 | 20 239 | 18 504 | 13 443 |
| Unwrought | 4 249 | 2 905 | 2 084 | 4 675 | 3 824 |
| Unwrought alloys | 3 442 | 2 327 | 2 467 | 3 092 | 2 272 |
| Scrap | 303 | 446 | 517 | 1 207 | 720 |
| Belgium-Luxembourg | | | | | |
| Concentrates | 102 | 35 | 54 | 57 | 755 |
| Unwrought | 1 991 | 1 859 | 2 549 | 1 945 | 2 122 |
| Unwrought alloys | 1 545 | 289 | 201 | 321 | 209 |
| Scrap | 337 | 238 | 646 | 566 | 652 |
| Denmark | | | | | |
| Unwrought | 81 | 46 | 68 | 35 | 40 |
| Unwrought alloys | 1 925 | 189 | 182 | 109 | 81 |
| Scrap | 504 | 3 | 25 | 109 | 15 |
| France | | | | | |
| Unwrought | 7 889 | 7 320 | 8 041 | 8 133 | 8 290 |
| Unwrought alloys | 399 | 288 | 484 | 617 | 490 |
| Germany, Federal Republic of | | | | | |
| Concentrates | 504 | 144 | 3 780 | 695 | 115 |
| Unwrought | 17 552 | 17 937 | 19 867 | 18 926 | 19 777 |
| Unwrought alloys | 1 334 | 1 547 | 1 642 | 1 870 | 1 808 |
| Scrap | 303 | 365 | 351 | 421 | 485 |
| Greece | | | | | |
| Unwrought (a) | 479 | 380 | 357 | 484 | 676 |
| Irish Republic | | | | | |
| Unwrought (a) | 60 | 95 | 70 | 59 | 153 |
| Italy | | | | | |
| Unwrought | 5 734 | 6 123 | 6 112 | 5 890 | 6 974 |
| Unwrought alloys | 595 | 458 | 562 | 333 | 190 |
| Netherlands | | | | | |
| Concentrates | 9 986 | 5 593 | 5 608 | 9 280 | 10 586 |
| Unwrought | 1 302 | 2 486 | 2 579 | 2 714 | 2 358 |
| Unwrought alloys | 1 369 | 627 | 719 | 1 105 | 697 |
| Scrap | 355 | 444 | 309 | 458 | 393 |
| Portugal | | | | | |
| Unwrought (a) | 655 | 786 | 776 | 641 | 536 |
| Spain | | | | | |
| Concentrates | 3 071 | 1 848 | 1 273 | 2 354 | 1 989 |
| Unwrought (a) | 1 575 | 1 838 | 2 266 | 2 431 | 2 752 |
| Austria | | | | | |
| Unwrought | 523 | 512 | (a)501 | (a)492 | (a)560 |
| Czechoslovakia | | | | | |
| Unwrought (a) | 3 200 | 2 819 | 2 558 | 2 619 | *2 000 |
| Finland | | | | | |
| Unwrought (a) | 214 | 142 | 111 | 132 | 63 |
| Hungary | | | | | |
| Unwrought & semi-manufactures | 1 422 | 1 674 | 950 | 657 | 372 |
| Norway | | | | | |
| Unwrought | 448 | 396 | 417 | 448 | 420 |
| Unwrought alloys | 113 | 85 | 85 | 83 | 102 |
| Poland | | | | | |
| Unwrought | 3 625 | 2 713 | 3 520 | 2 987 | 890 |
| Soviet Union | | | | | |
| Concentrates (e) | *800 | *2 500 | *800 | *100 | ... |
| Unwrought (a)(e) | *10 000 | *8 100 | *6 700 | *1 000 | ... |
| Sweden | | | | | |
| Unwrought | 558 | 458 | 487 | 454 | 433 |
| Unwrought alloys | 95 | 22 | 62 | 89 | 381 |
| Scrap | 59 | 128 | 153 | 125 | 180 |
| Switzerland | | | | | |
| Unwrought | 1 369 | 1 011 | (a)994 | (a)983 | (a)1 220 |
| Turkey | | | | | |
| Unwrought (a) | 1 097 | 1 051 | 897 | 1 053 | 1 436 |
| Yugoslavia | | | | | |
| Unwrought (a) | 1 585 | 1 071 | 1 458 | 1 134 | 1 110 |

Tin

Imports of Tin

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------|--------|--------|--------|--------|---------|
| Algeria | | | | | |
| Unwrought (a) | 161 | 310 | 537 | 466 | *350 |
| Egypt | | | | | |
| Unwrought & scrap | 265 | 190 | 297 | 311 | *300 |
| Morocco | | | | | |
| Unwrought (a) | 158 | 127 | 122 | 138 | 170 |
| Canada | | | | | |
| Unwrought | 3 925 | 3 791 | 4 115 | 3 959 | 3 760 |
| Mexico | | | | | |
| Concentrates | 6 311 | 7 042 | 3 415 | 13 081 | 8 725 |
| Scrap | 135 | 140 | 467 | 432 | ... |
| USA | | | | | |
| Concentrates (b) | 4 031 | 2 967 | 2 837 | 216 | — |
| Unwrought | 35 768 | 41 150 | 43 632 | 34 235 | 33 810 |
| Unwrought alloys | 1 018 | 1 610 | 1 924 | 6 373 | 6 335 |
| Scrap | 925 | 1 453 | 916 | 976 | 1 114 |
| Argentina | | | | | |
| Unwrought | 1 344 | 726 | 551 | 632 | ... |
| Chile | | | | | |
| Unwrought | 333 | 497 | 389 | 435 | 298 |
| Colombia | | | | | |
| Unwrought (a) | 378 | 311 | 327 | 398 | 459 |
| Peru | | | | | |
| Unwrought (a) | 324 | 312 | 130 | 173 | *150 |
| Venezuela | | | | | |
| Unwrought (a) | 782 | 1 015 | 1 471 | 487 | 160 |
| Hong Kong | | | | | |
| Concentrates | 1 755 | 7 985 | 18 308 | 20 457 | 8 710 |
| Unwrought | 3 568 | 4 655 | 6 152 | 6 877 | 7 022 |
| India (f) | | | | | |
| Unwrought (a) | 3 615 | 2 150 | 2 944 | 3 503 | 2 089 |
| Scrap | 7 211 | 2 488 | 2 729 | ... | 2 163 |
| Iran (d) | | | | | |
| Unwrought | 313 | 452 | 176 | 193 | *200 |
| Japan | | | | | |
| Unwrought | 31 769 | 31 997 | 32 004 | 32 673 | 32 771 |
| Unwrought alloys | 542 | 1 591 | 3 513 | 3 010 | 3 526 |
| Korea, Republic of | | | | | |
| Concentrates | 1 532 | 3 698 | 4 123 | 3 691 | 4 228 |
| Unwrought (a) | 3 755 | 4 296 | 4 924 | 10 380 | 6 050 |
| Malaysia | | | | | |
| Concentrates | 23 806 | 31 408 | 40 030 | 42 398 | *30 000 |
| Unwrought (a) | 601 | 805 | 1 469 | 1 041 | ... |
| Philippines | | | | | |
| Unwrought (a) | 465 | 797 | 733 | 671 | 851 |
| Singapore | | | | | |
| Concentrates | 5 501 | 12 064 | 8 846 | 3 831 | 4 214 |
| Unwrought | 12 742 | 11 021 | 5 764 | 2 506 | 3 846 |
| Scrap | 281 | 536 | 621 | 510 | 365 |
| Taiwan | | | | | |
| Unwrought (a) | 4 512 | 4 409 | 5 343 | 4 588 | 5 165 |
| Australia | | | | | |
| Unwrought (a)(c) | 262 | 616 | 378 | 577 | 905 |
| New Zealand (c) | | | | | |
| Unwrought (a) | 139 | 156 | 264 | 73 | 103 |

Note(s):

(1) In this table the term 'unwrought' tin corresponds to item 687.1 of the Standard International Trade Classification (Revision 3) and comprises ingots, pigs, unwrought bars, sticks, etc.

(a) Including alloys

(b) Sn content

(c) Years ended 30 June of that stated

(d) Years ended 20 March following that stated

(e) BGS estimates, based on known exports from certain countries

(f) Years ended 31 March following that stated

Production of Titanium Minerals

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--|------------|------------|------------|------------|------------|
| Portugal Ilmenite | 232 | 141 | 59 | 111 | 43 |
| Norway Ilmenite | 802 426 | 852 323 | 898 035 | 929 830 | 814 488 |
| Soviet Union Ilmenite | *450 000 | *455 000 | *460 000 | *460 000 | *430 000 |
| Rutile | *10 000 | *10 000 | *10 000 | *10 000 | *9 500 |
| Sierra Leone Ilmenite | — | 5 600 | 42 118 | 62 310 | 54 639 |
| Rutile | 97 101 | 113 111 | 126 332 | 128 198 | 144 401 |
| South Africa (c) | 255 000 | 317 000 | *350 000 | *400 000 | *425 000 |
| Canada (a) Ilmenite (d) | *3 000 000 | *3 000 000 | *2 800 000 | *3 400 000 | *3 200 000 |
| USA Ilmenite (b) | *290 000 | *290 000 | *300 000 | *300 000 | ... |
| Brazil Ilmenite | 61 414 | 169 303 | 142 167 | 144 200 | *150 000 |
| Rutile | 311 | 392 | 1 514 | 2 600 | *2 600 |
| China Ilmenite | *145 000 | *145 000 | *150 000 | 271 000 | 184 000 |
| India Ilmenite | *140 000 | *140 000 | *140 000 | *160 000 | *160 000 |
| Rutile | *7 000 | *7 000 | *5 000 | *5 000 | *5 000 |
| Malaysia Ilmenite | 414 941 | 509 202 | 486 305 | 520 127 | 501 585 |
| Sri Lanka Ilmenite | 133 873 | 128 500 | 97 085 | 101 354 | 74 350 |
| Rutile | 8 443 | 7 200 | 13 759 | 5 589 | 7 580 |
| Thailand Ilmenite | 13 489 | 26 278 | 16 455 | 16 955 | 10 554 |
| Leucoxene | 797 | 800 | 1 798 | 30 | 120 |
| Australia Ilmenite | 1 237 694 | 1 498 087 | 1 442 894 | 1 696 000 | 1 602 000 |
| Rutile | 215 774 | 246 263 | 246 204 | 243 000 | 245 000 |
| Leucoxene | 14 143 | 11 290 | 12 946 | 18 000 | 19 000 |
| World total Ilmenite (Wt. of concs) | 7 400 000 | 8 200 000 | 8 000 000 | 9 300 000 | 8 800 000 |
| Rutile (Wt. of concs) | 395 000 | 435 000 | 454 000 | 455 000 | 479 000 |
| All forms (TiO ₂ content) | *4 105 000 | *4 514 000 | *4 466 000 | *5 089 000 | *4 860 000 |

Note(s):

- (1) The figures in this table refer to gross tonnage of titanium concentrates
- (2) Some ilmenite is converted to synthetic rutile in Australia, India, Japan, Taiwan and USA
- (a) Canada produces some ilmenite which is sold as such and not processed into slag, but tonnages are small
- (b) Including a mixed product containing ilmenite, leucoxene and rutile
- (c) Ti content of titanium minerals and slag
- (d) Processed into slag. In 1990 Canada produced 987 000 tonnes (80% TiO₂)

Titanium

Exports of Titanium

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|-----------|-----------|----------|----------|----------|
| United Kingdom | | | | | |
| Ilmenite | — | 16 187 | 33 | 1 | 33 |
| Metal | 2 094 | 2 036 | 3 089 | 4 592 | 4 702 |
| Oxides | 136 715 | 158 537 | 165 607 | 169 012 | 144 693 |
| Belgium-Luxembourg | | | | | |
| Metal | 109 | 213 | 243 | 293 | 250 |
| Oxides | 70 850 | 71 343 | 100 548 | 108 579 | 96 997 |
| France | | | | | |
| Titanium minerals | 108 | 1 785 | 481 | 4 735 | 38 |
| Metal | 1 189 | 881 | 2 143 | 3 115 | 2 725 |
| Oxides | 161 104 | 156 571 | 160 887 | 167 340 | 147 471 |
| Germany, Federal Republic of | | | | | |
| Ilmenite | 920 | 348 | 1 112 | 1 380 | 288 |
| Other titanium minerals | 4 144 | 3 494 | 2 634 | 3 467 | 2 828 |
| Metal | 1 276 | 1 415 | 2 370 | 3 778 | 2 240 |
| Oxides | 229 431 | 235 606 | 236 833 | 229 693 | 187 494 |
| Italy | | | | | |
| Titanium minerals | 1 335 | 31 | 1 280 | 440 | 10 589 |
| Metal | 211 | 156 | 454 | 900 | 693 |
| Oxides (b) | *25 500 | *23 000 | *29 400 | *36 700 | *24 200 |
| Netherlands | | | | | |
| Ilmenite | 525 | 3 087 | 2 426 | 1 975 | 1 689 |
| Other titanium minerals | 35 208 | 64 248 | 52 808 | 46 833 | 28 637 |
| Metal | 61 | 48 | 104 | 289 | 176 |
| Oxides | 35 955 | 33 891 | 40 508 | 41 526 | 28 639 |
| Spain | | | | | |
| Oxides | 23 997 | 26 836 | 21 943 | 23 811 | 17 441 |
| Czechoslovakia | | | | | |
| Oxides (b) | *3 300 | *3 500 | *2 500 | *3 700 | *3 400 |
| Finland | | | | | |
| Oxides (b) | *50 400 | *52 800 | *55 000 | *58 100 | *45 500 |
| Norway | | | | | |
| Titanium minerals | 693 265 | 715 915 | 692 879 | 678 364 | 576 419 |
| Oxides (b) | *8 900 | *14 900 | *12 900 | *18 700 | *13 200 |
| Soviet Union | | | | | |
| Metal (b) | *700 | *700 | *3 200 | *5 100 | *1 800 |
| Sweden | | | | | |
| Metal | 288 | 402 | 445 | 536 | 768 |
| Oxides | 608 | 651 | 637 | 426 | 925 |
| Switzerland | | | | | |
| Oxides | (f)139 | (f)128 | 918 | 1 566 | 766 |
| Yugoslavia | | | | | |
| Oxides | 17 961 | 19 794 | 20 932 | 22 410 | 15 358 |
| Sierra Leone | | | | | |
| Rutile | 120 542 | 115 000 | 114 000 | 140 000 | 142 000 |
| South Africa | | | | | |
| Titanium minerals & slag (a) | 243 000 | 272 000 | ... | ... | ... |
| Canada | | | | | |
| Titanium minerals | ... | ... | 360 856 | 120 295 | 29 197 |
| Titanium slag | *850 000 | *850 000 | *800 000 | *950 000 | *900 000 |
| Metal | (d)597 | (d)493 | 440 | 480 | 1 038 |
| Oxides | (d)22 235 | (d)15 905 | 32 470 | 44 536 | 48 039 |
| USA | | | | | |
| Titanium minerals | 4 842 | 4 024 | 10 162 | 20 138 | 20 060 |
| Metal | 16 151 | 10 899 | 11 162 | 13 695 | 16 011 |
| Oxides | 105 180 | 120 896 | 123 326 | 213 566 | 270 943 |
| Brazil | | | | | |
| Titanium minerals | 5 474 | 6 600 | ... | 2 643 | 2 690 |
| China | | | | | |
| Metal (b) | *100 | *400 | *900 | *800 | *600 |
| Oxides (b) | *6 300 | *10 400 | *25 400 | *23 300 | *10 400 |
| Hong Kong | | | | | |
| Oxides (c) | 2 840 | 4 784 | 13 210 | 14 544 | 8 698 |
| India (e) | | | | | |
| Ilmenite | 14 605 | 42 352 | 119 108 | ... | 82 430 |

Exports of Titanium

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------|------------|------------|------------|-----------|-----------|
| Japan | | | | | |
| Metal | 6 143 | 7 073 | 10 759 | 13 584 | 13 188 |
| Oxides | 69 346 | 78 441 | 81 495 | 86 433 | 90 979 |
| Korea, Republic of | | | | | |
| Titanium minerals | — | 43 593 | 147 350 | 146 708 | 136 440 |
| Oxides | 1 497 | 3 215 | 3 921 | 5 936 | 5 952 |
| Malaysia | | | | | |
| Ilmenite | 397 696 | 302 587 | 367 363 | 352 192 | 203 504 |
| Singapore | | | | | |
| Oxides | 1 445 | 1 461 | 2 683 | 3 452 | 1 542 |
| of which: Re-exports | 1 287 | 1 189 | 2 623 | 3 131 | 1 233 |
| Sri Lanka | | | | | |
| Ilmenite | 139 400 | 105 000 | 94 700 | 115 300 | 205 |
| Rutile | 11 860 | — | 5 982 | 4 500 | 6 760 |
| Taiwan | | | | | |
| Oxides | 395 | 12 | 501 | 767 | 4 900 |
| Thailand | | | | | |
| Ilmenite | 1 700 | 31 658 | 2 909 | 40 474 | 13 033 |
| Australia | | | | | |
| Ilmenite | 1 034 209 | 1 045 497 | 1 040 585 | 1 008 000 | 1 095 000 |
| Rutile | 229 665 | 256 781 | 244 482 | 258 000 | 181 000 |
| Leucoxene | 13 474 | 10 685 | 12 976 | 23 000 | 26 000 |
| Oxides | (b)*29 500 | (b)*28 900 | (b)*26 500 | (g)38 673 | (g)67 129 |

Note(s):

- (1) So far as possible, the term 'oxides', as used in this table, includes oxides and oxide based pigments classified under Standard International Trade Classification (Revision 3) items 522.56 and 533.1
- (2) Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys
 - (a) Ti content
 - (b) BGS estimates, based on known imports into certain countries
 - (c) Re-exports
 - (d) Imports into the USA
 - (e) Years ended 31 March following that stated
 - (f) Excluding oxide based pigments
 - (g) Years ended 30 June of that stated

Titanium

Imports of Titanium

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|---------|---------|---------|---------|---------|
| United Kingdom | | | | | |
| Ilmenite | 283 274 | 293 474 | 299 561 | 380 392 | 247 902 |
| Other titanium minerals | 90 380 | 122 735 | 157 342 | 108 965 | 126 713 |
| Titanium slag | 38 143 | 37 666 | 47 825 | 46 483 | 55 930 |
| Metal | 8 854 | 12 626 | 16 686 | 15 967 | 17 840 |
| Oxides | 37 864 | 37 193 | 41 452 | 48 560 | 38 818 |
| Belgium-Luxembourg | | | | | |
| Ilmenite | 56 604 | 67 450 | 72 379 | 78 549 | 48 900 |
| Other titanium minerals | 50 210 | 65 255 | 29 728 | 36 592 | 56 806 |
| Metal | 859 | 877 | 1 640 | 1 162 | 789 |
| Oxides | 29 579 | 33 859 | 35 655 | 45 800 | 40 997 |
| Denmark | | | | | |
| Oxides | 11 144 | 11 632 | 13 389 | 15 224 | 12 085 |
| France | | | | | |
| Ilmenite | 171 650 | 62 971 | 101 730 | 61 493 | 46 628 |
| Other titanium minerals | 94 086 | 132 942 | 144 675 | 139 535 | 151 715 |
| Titanium slag | 110 446 | 115 508 | 120 457 | 167 709 | 110 535 |
| Metal | 1 775 | 2 638 | 3 716 | 6 017 | 5 288 |
| Oxides | 46 451 | 48 200 | 60 241 | 66 233 | 60 023 |
| Germany, Federal Republic of | | | | | |
| Ilmenite | 432 551 | 465 354 | 449 361 | 459 017 | 494 344 |
| Other titanium minerals | 18 053 | 18 075 | 20 988 | 16 955 | 22 798 |
| Titanium slag | 229 223 | 239 572 | 244 726 | 255 792 | 262 990 |
| Metal | 2 902 | 3 126 | 5 185 | 6 616 | 5 986 |
| Oxides | 91 228 | 97 672 | 121 803 | 138 118 | 120 096 |
| Greece | | | | | |
| Oxides | 10 215 | 9 200 | 10 149 | 14 507 | 12 172 |
| Irish Republic | | | | | |
| Oxides | 3 300 | 1 791 | 1 553 | 1 419 | 1 315 |
| Italy | | | | | |
| Ilmenite | 36 524 | 119 145 | 46 967 | 50 086 | ... |
| Other titanium minerals | 18 324 | 6 105 | 1 602 | ... | 985 |
| Titanium slag | 85 752 | 77 930 | 84 753 | 120 460 | 81 687 |
| Metal | 3 472 | 3 409 | 3 858 | 3 494 | 3 961 |
| Oxides | 60 176 | 62 446 | 71 264 | 83 575 | 67 266 |
| Netherlands | | | | | |
| Ilmenite | 3 717 | 5 204 | 4 766 | 2 062 | 3 420 |
| Other titanium minerals | 43 749 | 59 251 | 75 071 | 34 939 | 56 579 |
| Titanium slag | 45 260 | 46 919 | 46 157 | 50 197 | — |
| Metal | 234 | 344 | 353 | 771 | 787 |
| Oxides | 28 618 | 32 187 | 43 856 | 50 163 | 53 018 |
| Portugal | | | | | |
| Oxides | 10 646 | 12 193 | 8 189 | 5 383 | 12 817 |
| Spain | | | | | |
| Ilmenite | 104 153 | 133 841 | 138 556 | 140 167 | 94 142 |
| Other titanium minerals | 2 767 | 2 100 | 4 269 | 1 815 | 2 331 |
| Metal | 1 789 | 449 | 533 | 806 | 1 508 |
| Oxides | 12 769 | 13 839 | 19 636 | 27 492 | 24 915 |
| Austria | | | | | |
| Metal | ... | ... | 2 613 | 2 074 | 641 |
| Oxides | 11 913 | 12 708 | 15 793 | 18 267 | 14 294 |
| Bulgaria | | | | | |
| Titanium minerals (b) | *2 600 | *3 800 | *3 000 | *3 100 | *1 900 |
| Oxides (b) | *2 500 | *1 800 | *2 100 | *2 200 | *500 |
| Czechoslovakia | | | | | |
| Oxides (b) | *3 200 | *3 200 | *3 000 | *2 900 | *2 000 |
| Finland | | | | | |
| Titanium minerals (b) | *43 200 | *48 900 | *43 100 | *22 000 | *46 100 |
| Oxides | 2 083 | 3 580 | 2 330 | 3 027 | 3 717 |
| German Democratic Republic | | | | | |
| Oxides (b) | *20 900 | *22 400 | *25 100 | *25 000 | *15 100 |
| Norway | | | | | |
| Oxides | 7 601 | 7 309 | 7 693 | 9 287 | 7 801 |
| Romania | | | | | |
| Titanium minerals (b) | *5 000 | *8 600 | *4 800 | *8 200 | *3 200 |
| Oxides (b) | *5 600 | *2 800 | *2 000 | *2 600 | *6 000 |
| Soviet Union | | | | | |
| Titanium minerals (b) | *69 700 | *3 000 | *34 000 | *24 400 | *12 000 |
| Oxides (b) | *5 300 | *11 600 | *15 300 | *16 500 | *11 600 |

Imports of Titanium

Titanium
tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-----------------------|------------|------------|------------|---------|---------|
| Sweden | | | | | |
| Titanium minerals | 2 676 | 2 405 | 1 376 | 1 809 | 1 203 |
| Metal | 704 | 500 | 551 | 1 007 | 1 130 |
| Oxides | 24 856 | 25 532 | 26 731 | 28 290 | 25 557 |
| Switzerland | | | | | |
| Oxides | (a)1 693 | (a)2 004 | 18 552 | 22 088 | 17 470 |
| Turkey | | | | | |
| Titanium minerals | 9 337 | 4 527 | 3 219 | 1 576 | 3 208 |
| Oxides | 17 478 | 22 198 | 15 873 | 17 919 | 23 367 |
| Yugoslavia | | | | | |
| Titanium minerals | 48 147 | 48 463 | 46 058 | 52 518 | 23 701 |
| Oxides | 5 316 | 4 570 | 5 014 | 5 744 | 3 604 |
| Algeria | | | | | |
| Oxides | 15 253 | 12 206 | ... | ... | ... |
| Egypt | | | | | |
| Oxides | 424 | 1 085 | 2 296 | ... | ... |
| Kenya | | | | | |
| Oxides | 518 | 785 | 524 | ... | ... |
| Morocco | | | | | |
| Oxides | 2 904 | 3 716 | 3 517 | 2 418 | 2 423 |
| South Africa | | | | | |
| Oxides | 631 | 786 | 1 384 | 1 020 | 729 |
| Zimbabwe | | | | | |
| Oxides | 1 253 | 1 192 | ... | ... | ... |
| Canada | | | | | |
| Titanium minerals (g) | 2 894 | 19 311 | 32 061 | 58 246 | 27 523 |
| Metal | 480 | 392 | 1 637 | 2 621 | 2 541 |
| Oxides | 27 693 | 30 618 | 22 412 | 21 046 | 18 194 |
| Mexico | | | | | |
| Ilmenite | 47 129 | 44 562 | 29 101 | 60 531 | ... |
| Rutile sand | 2 173 | 1 484 | 2 064 | 1 413 | ... |
| USA | | | | | |
| Ilmenite | 423 045 | 308 524 | 418 976 | 459 403 | 374 725 |
| Rutile (c) | 200 118 | 225 650 | 260 087 | 264 895 | 274 605 |
| Titanium slag | 328 285 | 418 633 | 434 645 | 386 146 | 373 409 |
| Metal | 4 812 | 3 984 | 6 648 | 7 769 | 5 608 |
| Oxides | 183 863 | 174 290 | 185 758 | 166 378 | 147 592 |
| Argentina | | | | | |
| Titanium minerals | 1 994 | 1 780 | 2 015 | 1 032 | ... |
| Brazil | | | | | |
| Ilmenite | 15 000 | 10 000 | 50 000 | 105 000 | 25 000 |
| Rutile | 2 614 | 3 026 | 3 491 | 3 006 | 1 706 |
| Oxides | 15 089 | 17 274 | 17 516 | 34 743 | 22 602 |
| Chile | | | | | |
| Oxides | 4 384 | 4 530 | 3 883 | 4 797 | 4 434 |
| Colombia | | | | | |
| Oxides | 8 708 | ... | 8 193 | 8 972 | ... |
| Uruguay | | | | | |
| Oxides | 5 291 | 5 958 | 3 881 | ... | ... |
| Venezuela | | | | | |
| Oxides | 13 805 | 19 751 | 18 602 | 6 136 | ... |
| China | | | | | |
| Metal (b) | *200 | *300 | *300 | *500 | *300 |
| Oxides | (b)*20 300 | (b)*19 400 | (b)*16 100 | 19 214 | 23 507 |
| Hong Kong | | | | | |
| Oxides | 8 283 | 11 308 | 20 906 | 24 014 | 16 046 |
| India (d) | | | | | |
| Oxides | 14 849 | 13 137 | 10 315 | ... | 17 002 |
| Indonesia | | | | | |
| Oxides | 14 112 | 14 182 | 12 088 | 18 055 | 22 277 |
| Iran (f) | | | | | |
| Oxides | 2 905 | 2 529 | 3 098 | 4 341 | ... |
| Israel | | | | | |
| Oxides | (b)*1 100 | ... | 4 904 | 3 563 | 3 575 |

Titanium

Imports of Titanium

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|---------------------------|---------|---------|---------|---------|---------|
| Japan | | | | | |
| Titanium minerals | 670 436 | 570 377 | 642 209 | 616 090 | 757 595 |
| Titanium slag | 89 956 | 88 387 | ... | ... | ... |
| Metal | ... | ... | 924 | 1 062 | 786 |
| Oxides | 40 034 | 45 677 | 48 980 | 71 306 | 65 170 |
| Jordan | | | | | |
| Oxides | 808 | 1 922 | 2 203 | 1 402 | 1 449 |
| Korea, Republic of | | | | | |
| Rutile sand | 6 125 | 6 822 | 6 940 | 6 806 | 8 068 |
| Titanium minerals | 43 969 | 57 096 | 55 177 | 62 102 | 31 804 |
| Metal | 204 | 341 | 486 | 757 | 1 633 |
| Oxides | 28 143 | 28 688 | 37 048 | 41 785 | 40 686 |
| Malaysia | | | | | |
| Titanium minerals | 2 123 | 3 759 | 20 662 | 5 399 | ... |
| Oxides | 7 616 | 8 755 | 10 299 | 15 980 | ... |
| Pakistan (e) | | | | | |
| Oxides | 2 851 | 3 416 | 3 677 | ... | 5 070 |
| Philippines | | | | | |
| Titanium minerals | 966 | 1 305 | 1 550 | 1 535 | 1 427 |
| Oxides | 8 218 | 10 537 | 7 934 | 14 945 | 12 852 |
| Saudi Arabia | | | | | |
| Oxides | 4 252 | 5 775 | 6 427 | 5 102 | ... |
| Singapore | | | | | |
| Oxides | 8 725 | 8 508 | 11 100 | 14 976 | 5 784 |
| Taiwan | | | | | |
| Titanium minerals | ... | ... | ... | 19 096 | 18 617 |
| Oxides | 43 592 | 47 505 | 48 703 | 56 933 | 56 878 |
| Thailand | | | | | |
| Rutile | 485 | 1 400 | 2 033 | 3 230 | 3 222 |
| Oxides | 1 708 | 2 210 | 15 122 | 21 884 | 20 952 |
| Australia | | | | | |
| Titanium minerals (e) | ... | ... | ... | 33 146 | 22 033 |
| Oxides (e) | 1 664 | 964 | 1 202 | 1 369 | 2 153 |
| New Zealand (e) | | | | | |
| Oxides | 6 357 | 8 192 | 6 505 | 6 839 | 8 015 |

Note(s):

- (1) Significant quantities of titanium slag are traded, but it is not always possible to identify this material in national trade accounts
 - (2) So far as possible, the term 'oxides', as used in this table, includes oxides and oxide based pigments classified under Standard International Trade Classification (Revision 3) items 522.56 and 533.1
 - (3) Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys
- (a) Excluding oxide based pigments
 - (b) BGS estimates, based on known exports from certain countries
 - (c) Including synthetic rutile
 - (d) Years ended 31 March following that stated
 - (e) Years ended 30 June of that stated
 - (f) Years ended 20 March following that stated
 - (g) Ti content

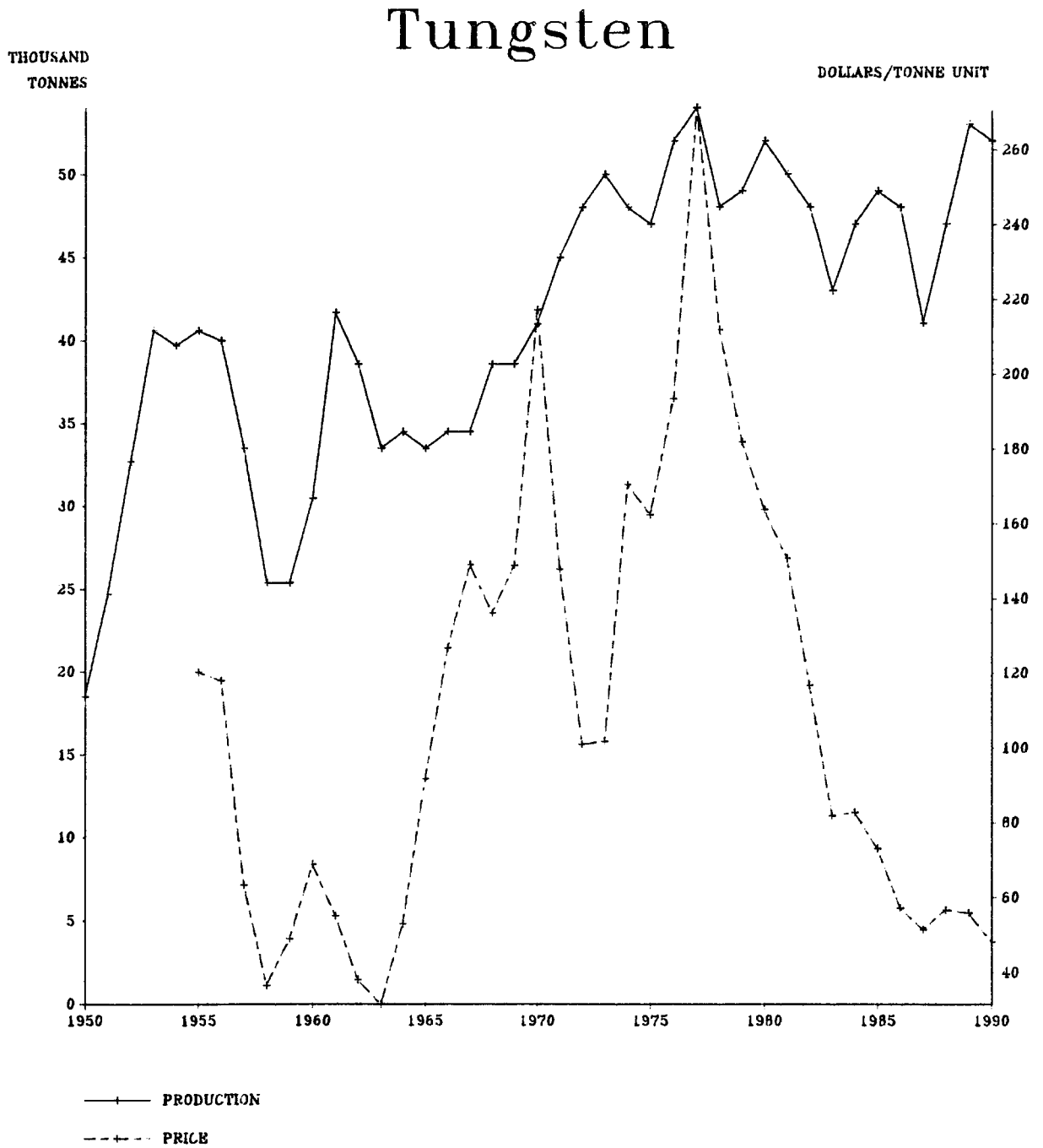


Figure 18 World mine production of tungsten compared with the annual average UK price of concentrate (65% WO_3) c.i.f. European ports and, from 1979, weighted average International Tungsten Indicator price, expressed in constant 1985 US dollars.

Mine Production of Tungsten

tonnes (metal content)

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|---------------------|---------|---------|---------|--------|--------|
| United Kingdom | — | — | 3 | 28 | 42 |
| France | 987 | — | — | — | — |
| Portugal (c) | 1 657 | 1 209 | 1 379 | 1 385 | 1 407 |
| Spain | 495 | 80 | 81 | 57 | 27 |
| Austria | 1 454 | 970 | 950 | 1 177 | 1 043 |
| Czechoslovakia | *50 | *45 | *50 | *50 | 25 |
| Soviet Union | *9 200 | *9 200 | *9 200 | *9 200 | *8 800 |
| Sweden | 360 | 336 | 352 | 80 | — |
| Turkey | 475 | 384 | 393 | *400 | *400 |
| Rwanda | 24 | 85 | 41 | 105 | 156 |
| Uganda | 19 | 30 | 75 | 32 | 37 |
| Zaire (b) | 27 | 21 | 20 | 16 | *20 |
| Canada (a) | 1 959 | — | — | — | — |
| Mexico | 294 | 213 | 206 | 170 | 183 |
| USA | 780 | 34 | 350 | 400 | 400 |
| Bolivia | 1 094 | 638 | 924 | 1 118 | 979 |
| Brazil (a) | 875 | 800 | 738 | 679 | 302 |
| Peru | 742 | 259 | 432 | 961 | 1 070 |
| China | *19 000 | *20 000 | *25 000 | 30 360 | 32 370 |
| India | 23 | 26 | 19 | 12 | 12 |
| Japan | 482 | 209 | 212 | 223 | 218 |
| Korea, Dem. P.R. of | *1 000 | *500 | *500 | *500 | *500 |
| Korea, Republic of | 2 455 | 2 375 | 2 029 | 1 701 | 1 255 |
| Mongolia | *1 500 | *1 500 | *2 000 | *2 000 | *1 500 |
| Myanmar (b) | 715 | 493 | 307 | *300 | *300 |
| Thailand (c) | 475 | 652 | 605 | 560 | 269 |
| Australia (c) | 1 600 | 1 150 | 1 281 | 1 371 | 1 086 |
| World total | 48 000 | 41 000 | 47 000 | 53 000 | 52 000 |

(a) Mainly scheelite

(b) Including tin-wolframite concentrates

(c) Wolframite and scheelite

Tungsten

Exports of Tungsten

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------------------|--------|--------|--------|--------|--------|
| United Kingdom | | | | | |
| Tungsten ore | 156 | 597 | 449 | 41 | 24 |
| Metal | 496 | 483 | 467 | 766 | 876 |
| Carbide | 923 | 623 | 378 | 463 | 461 |
| Belgium-Luxembourg | | | | | |
| Metal | 151 | 197 | 204 | 158 | 156 |
| France | | | | | |
| Tungsten ore | 353 | 242 | 99 | 0 | 7 |
| Metal | 427 | 414 | 431 | 443 | 275 |
| Carbide | 218 | 169 | 198 | 331 | 189 |
| Germany, Federal Republic of | | | | | |
| Metal | 1 244 | 1 225 | 1 034 | 1 444 | 1 895 |
| Italy | | | | | |
| Metal | 186 | 240 | 158 | 130 | 131 |
| Netherlands | | | | | |
| Tungsten ore | 97 | 82 | 165 | 74 | 214 |
| Metal | 510 | 813 | 598 | 1 104 | 804 |
| Portugal | | | | | |
| Tungsten ore | 1 455 | 2 048 | 2 384 | 1 930 | 2 216 |
| Spain | | | | | |
| Tungsten ore | 743 | 140 | 87 | 115 | — |
| Austria | | | | | |
| Tungsten ore | 114 | 60 | 66 | — | 19 |
| Metal | 1 085 | 823 | 1 119 | 1 318 | 1 032 |
| Sweden | | | | | |
| Tungsten ore | 394 | 265 | 688 | 598 | 110 |
| Metal | 52 | 84 | 96 | 10 | 12 |
| Carbide | 89 | 70 | 53 | 22 | 9 |
| Switzerland | | | | | |
| Metal | 38 | 33 | 89 | 92 | 94 |
| Turkey | | | | | |
| Tungsten ores & concentrates | 680 | 832 | 433 | 1 800 | 36 |
| Rwanda | | | | | |
| Tungsten ores & concentrates | 305 | 45 | 25 | 159 | 283 |
| Zaire | | | | | |
| Tungsten ore | 60 | 53 | 18 | *40 | *40 |
| Canada | | | | | |
| Tungsten ores & concentrates (a) | *1 400 | — | 1 | 0 | 5 |
| Mexico | | | | | |
| Tungsten ores & concentrates | 772 | 633 | 465 | 321 | 330 |
| USA | | | | | |
| Tungsten ores & concentrates | 34 | 2 | 153 | 151 | 89 |
| Metal | 2 016 | 1 637 | 1 810 | 2 088 | 2 264 |
| Ammonium paratungstate (a) | 10 | 285 | 174 | 189 | 374 |
| Carbide | 369 | 388 | 619 | 1 374 | 1 080 |
| Bolivia | | | | | |
| Tungsten ore | 2 279 | 1 827 | 1 478 | 1 972 | 1 716 |
| Brazil | | | | | |
| Tungsten ore | 137 | — | — | — | — |
| Peru | | | | | |
| Tungsten ores & concentrates | 1 010 | 598 | 1 006 | 1 432 | ... |
| China | | | | | |
| Tungsten ores & concentrates | 23 624 | 23 117 | 27 290 | 30 901 | 16 450 |
| Metal | 365 | 337 | 408 | 791 | 335 |
| Hong Kong | | | | | |
| Tungsten ore (c) | 2 013 | 3 692 | 2 008 | 3 925 | 2 516 |
| Israel | | | | | |
| Metal | 344 | ... | ... | ... | ... |
| Japan | | | | | |
| Metal | 260 | 269 | 312 | 588 | 733 |
| Korea, Republic of | | | | | |
| Tungsten ore | 514 | 466 | 203 | 48 | — |
| Metal | 261 | 288 | 328 | 526 | 265 |
| Carbide | 582 | 499 | 574 | 704 | 690 |

Exports of Tungsten

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------------------------|-------|-------|-------|----------|----------|
| Myanmar (b) | | | | | |
| Tungsten ores & concentrates | 1 457 | 823 | 592 | 550 | *700 |
| Singapore | | | | | |
| Tungsten ore (c) | 732 | 1 166 | 708 | 614 | 713 |
| Metal | 52 | 86 | 165 | 120 | 138 |
| of which: Re-exports | 3 | 28 | 10 | 43 | 17 |
| Thailand | | | | | |
| Tungsten ore | 923 | 1 179 | 1 069 | 864 | 590 |
| Australia | | | | | |
| Wolframite ores & concentrates | 843 | 146 | 3 | ... | ... |
| Scheelite ores & concentrates | 1 683 | 1 909 | 2 202 | (d)1 887 | (d)1 810 |

Note(s):

- (1) Significant amounts of tungsten are traded in the forms of ammonium paratungstate (APT) and carbide. Though statistics are included where available, most countries do not separately distinguish these forms in their trade accounts
 - (2) Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys
- (a) W content
(b) Years ended 31 March following that stated
(c) Re-exports
(d) Including wolframite ores and concentrates

Tungsten

Imports of Tungsten

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|---------|---------|---------|--------|--------|
| United Kingdom | | | | | |
| Tungsten ore | 549 | 311 | 20 | 85 | 111 |
| Metal | 558 | 424 | 792 | 624 | 717 |
| Carbide | 404 | 467 | 584 | 473 | 294 |
| Belgium-Luxembourg | | | | | |
| Metal | 258 | 232 | 345 | 305 | 229 |
| Carbide | 534 | 298 | 309 | 276 | 164 |
| Denmark | | | | | |
| Carbide | 250 | 266 | ... | ... | ... |
| France | | | | | |
| Tungsten ore | 179 | 38 | — | 4 | 8 |
| Metal | 195 | 230 | 256 | 215 | 262 |
| Carbide | 247 | 160 | 293 | 288 | 257 |
| Germany, Federal Republic of | | | | | |
| Tungsten ore | 3 184 | 3 454 | 4 105 | 4 819 | 1 394 |
| Metal | 1 194 | 1 463 | 1 443 | 1 813 | 1 609 |
| Carbide | 552 | 501 | 642 | 980 | 887 |
| Italy | | | | | |
| Tungsten ore | 145 | 156 | 41 | 40 | 22 |
| Metal | 137 | 128 | 135 | 229 | 276 |
| Carbide | 346 | 443 | 394 | 467 | 343 |
| Netherlands | | | | | |
| Tungsten ore | 227 | 380 | 436 | 310 | 453 |
| Metal | 661 | 555 | 423 | 778 | 771 |
| Spain | | | | | |
| Metal | 76 | 37 | 33 | 44 | 50 |
| Austria | | | | | |
| Tungsten ore | 3 106 | 2 215 | 1 249 | 807 | 691 |
| Metal | 941 | 838 | 925 | 2 583 | 1 112 |
| Finland | | | | | |
| Metal | 24 | 29 | 39 | 28 | 51 |
| Poland | | | | | |
| Tungsten concentrates | 2 450 | 1 440 | 820 | — | — |
| Soviet Union | | | | | |
| Tungsten concentrates | *11 600 | *11 600 | *11 600 | *9 700 | *9 700 |
| Sweden | | | | | |
| Tungsten ore | 1 329 | 268 | 756 | 659 | 314 |
| Metal | 211 | 172 | 233 | 261 | 247 |
| Carbide | 286 | 310 | 198 | 585 | 475 |
| Switzerland | | | | | |
| Metal | 64 | 61 | 75 | 71 | 83 |
| Turkey | | | | | |
| Metal | 37 | 66 | 71 | 34 | 25 |
| Yugoslavia | | | | | |
| Metal | 19 | 17 | 38 | 13 | 13 |
| South Africa | | | | | |
| Tungsten ores & concentrates | 515 | 367 | 436 | 296 | 220 |
| Metal | ... | 16 | 32 | 45 | 34 |
| Carbide | 55 | 104 | 69 | 184 | 157 |
| Canada | | | | | |
| Metal | (d)97 | (d)87 | 218 | 209 | 128 |
| Carbide | ... | ... | 487 | 357 | 290 |
| Mexico | | | | | |
| Metal | 51 | 69 | 74 | 177 | 187 |
| USA | | | | | |
| Tungsten ore | 5 693 | 7 908 | 14 853 | 15 679 | 11 854 |
| Metal | 792 | 1 290 | 1 856 | 2 212 | 1 725 |
| Ammonium paratungstate (a) | 1 219 | 1 512 | 655 | 431 | 462 |
| Carbide | 416 | 558 | 633 | 703 | 736 |
| Hong Kong | | | | | |
| Tungsten ore | 3 626 | 1 278 | 1 419 | 3 658 | 2 031 |
| India (c) | | | | | |
| Tungsten ore | 360 | 343 | 468 | *400 | 358 |
| Metal | 48 | 105 | 51 | ... | 59 |
| Israel | | | | | |
| Metal | 302 | 139 | 253 | ... | ... |

Imports of Tungsten

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|-------|-------|-------|-------|-------|
| Japan | | | | | |
| Tungsten ore | 1 769 | 1 938 | 2 785 | 2 316 | 2 589 |
| Metal | 256 | 283 | 465 | 378 | 348 |
| Korea, Dem. P.R. of | | | | | |
| Tungsten ore (e) | *500 | *900 | *150 | *250 | *400 |
| Korea, Republic of | | | | | |
| Tungsten ores & concentrates | — | — | — | 2 115 | 3 007 |
| Metal | 169 | 120 | 67 | 78 | 64 |
| Malaysia | | | | | |
| Metal | 146 | 102 | 281 | 335 | ... |
| Singapore | | | | | |
| Tungsten ore | 1 235 | 1 175 | 764 | 685 | 978 |
| Metal | 101 | 105 | 130 | 154 | 117 |
| Taiwan | | | | | |
| Metal | 56 | 118 | 96 | 132 | 624 |
| Australia (b) | | | | | |
| Metal | 43 | 25 | 49 | 105 | 82 |

Note(s):

- (1) Significant amounts of tungsten are traded in the forms of ammonium paratungstate (APT) and carbide. Though statistics are included where available, most countries do not separately distinguish these forms in their trade accounts
- (2) Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys
- (a) W content
- (b) Years ended 30 June of that stated
- (c) Years ended 31 March following that stated
- (d) Exports from the USA
- (e) BGS estimates, based on known exports from certain countries

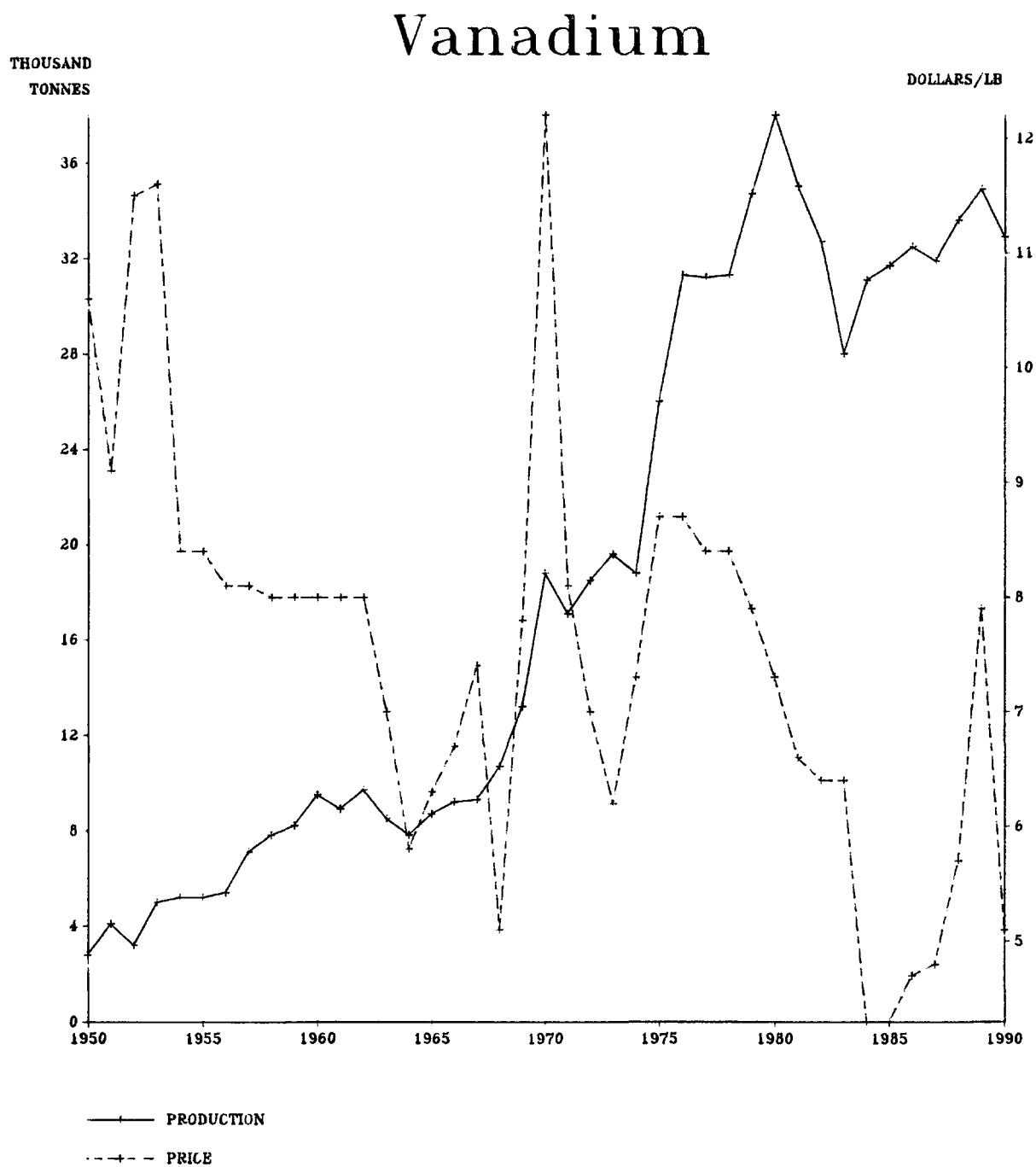


Figure 19 World mine production of vanadium compared with the annual average price in the USA of vanadium in vanadium pentoxide expressed in constant 1985 US dollars.

Mine Production of VanadiumVanadium
tonnes (metal content)

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------|--------|--------|--------|--------|--------|
| Soviet Union | *9 600 | *9 600 | *9 600 | *9 600 | *9 500 |
| South Africa | 16 629 | 15 943 | 17 632 | 18 568 | 17 106 |
| USA | *1 800 | *1 900 | *1 900 | *2 200 | *1 800 |
| China | *4 500 | *4 500 | *4 500 | *4 500 | *4 500 |
| World total | 32 500 | 31 900 | 33 600 | 34 900 | 32 900 |

Note(s):

(1) This table includes vanadium in slag products but excludes vanadium recovered as a byproduct of the refining and burning of heavy oils

Vanadium

Exports of Vanadium

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|---------|---------|---------|---------|--------|
| United Kingdom | | | | | |
| Metal | 14 | 142 | 24 | 44 | 22 |
| Belgium-Luxembourg | | | | | |
| Vanadiferous residues | 7 631 | 3 095 | 3 080 | 2 765 | 4 433 |
| Pentoxide | 465 | 291 | 116 | 202 | 66 |
| Vanadium-titanium pig iron | — | 46 | — | 36 | — |
| Metal | 95 | 0 | 28 | 2 | 1 |
| Denmark | | | | | |
| Vanadium-titanium pig iron | 0 | 17 | 8 | 37 | 38 |
| France | | | | | |
| Vanadiferous residues | 323 | 96 | 529 | 134 | 132 |
| Pentoxide | 182 | 11 | 269 | 84 | 35 |
| Vanadium-titanium pig iron | 213 | 196 | — | — | 6 |
| Metal | 94 | 0 | 58 | 1 | 3 |
| Germany, Federal Republic of | | | | | |
| Vanadiferous residues | 2 735 | 3 742 | 195 | 871 | 171 |
| Pentoxide | 700 | 504 | 447 | 155 | 220 |
| Vanadium-titanium pig iron | 272 | 75 | 75 | 90 | 150 |
| Metal | 209 | 312 | 369 | 408 | 401 |
| Italy | | | | | |
| Vanadiferous residues | 1 238 | 657 | 3 163 | 1 887 | ... |
| Finland | | | | | |
| Pentoxide (a) | *1 800 | *1 500 | ... | ... | ... |
| Soviet Union | | | | | |
| Vanadiferous residues | *10 000 | *10 000 | *10 000 | *10 000 | ... |
| South Africa | | | | | |
| Pentoxide (b) | 29 726 | 26 251 | 28 281 | 29 550 | 21 732 |
| USA | | | | | |
| Pentoxide | 1 401 | 1 369 | 1 342 | 3 171 | 2 570 |
| China | | | | | |
| Pentoxide (a) | *4 700 | *4 500 | *4 900 | *3 800 | *3 400 |

Note(s):

(1) In this table the term 'pentoxide' also includes vanadium oxides and hydroxides, if any

(2) Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

(a) BGS estimates, based on known imports into certain countries

(b) Includes V₂O₅ content of vanadiferous residues

Imports of Vanadium

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|--------|--------|--------|--------|--------|
| United Kingdom | | | | | |
| Pentoxide | 373 | 255 | 104 | 256 | 226 |
| Metal | 155 | 238 | 235 | 232 | 257 |
| Belgium-Luxembourg | | | | | |
| Vanadiferous residues | 9 123 | 12 087 | 61 | 5 498 | — |
| Pentoxide | 4 056 | 4 194 | 3 717 | 5 929 | 5 657 |
| Metal | 96 | 0 | 10 | 0 | 8 |
| France | | | | | |
| Pentoxide | 1 416 | 127 | 88 | 252 | 282 |
| Vanadium-titanium pig iron | 8 | — | 75 | 75 | — |
| Metal | 35 | 111 | 141 | 90 | 85 |
| Germany, Federal Republic of | | | | | |
| Vanadiferous residues | 30 018 | 32 439 | 27 933 | 32 559 | 25 923 |
| Pentoxide | 1 806 | 1 554 | 1 623 | 1 454 | 597 |
| Metal | 66 | 40 | 59 | 25 | 19 |
| Italy | | | | | |
| Vanadiferous residues | 2 178 | 1 538 | 806 | 430 | 184 |
| Pentoxide | 15 | 95 | 84 | 71 | 40 |
| Metal | 71 | 22 | ... | ... | 4 |
| Netherlands | | | | | |
| Vanadiferous residues | 1 957 | — | — | — | 129 |
| Spain | | | | | |
| Pentoxide | 117 | 216 | 42 | 1 | 2 |
| Austria | | | | | |
| Vanadiferous residues | ... | ... | 21 137 | 22 827 | 18 908 |
| Pentoxide | ... | ... | 2 258 | 1 917 | 972 |
| Turkey | | | | | |
| Pentoxide | 0 | 137 | 109 | ... | ... |
| Vanadium-titanium pig iron | 500 | 2 670 | 895 | ... | ... |
| Canada | | | | | |
| Pentoxide | 1 177 | 1 410 | 1 468 | 1 263 | 838 |
| USA | | | | | |
| Vanadiferous residues | 13 083 | 22 251 | 17 834 | 45 636 | 50 464 |
| Pentoxide | 719 | 463 | 688 | 448 | 1 004 |
| Brazil | | | | | |
| Pentoxide | 984 | 998 | 979 | 1 033 | 481 |
| Japan | | | | | |
| Pentoxide | 3 101 | 2 763 | 5 339 | 4 313 | 4 796 |
| Metal | ... | ... | 173 | 154 | 104 |

Note(s):

- (1) In this table the term 'pentoxide' also includes vanadium oxides and hydroxides, if any
- (2) Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

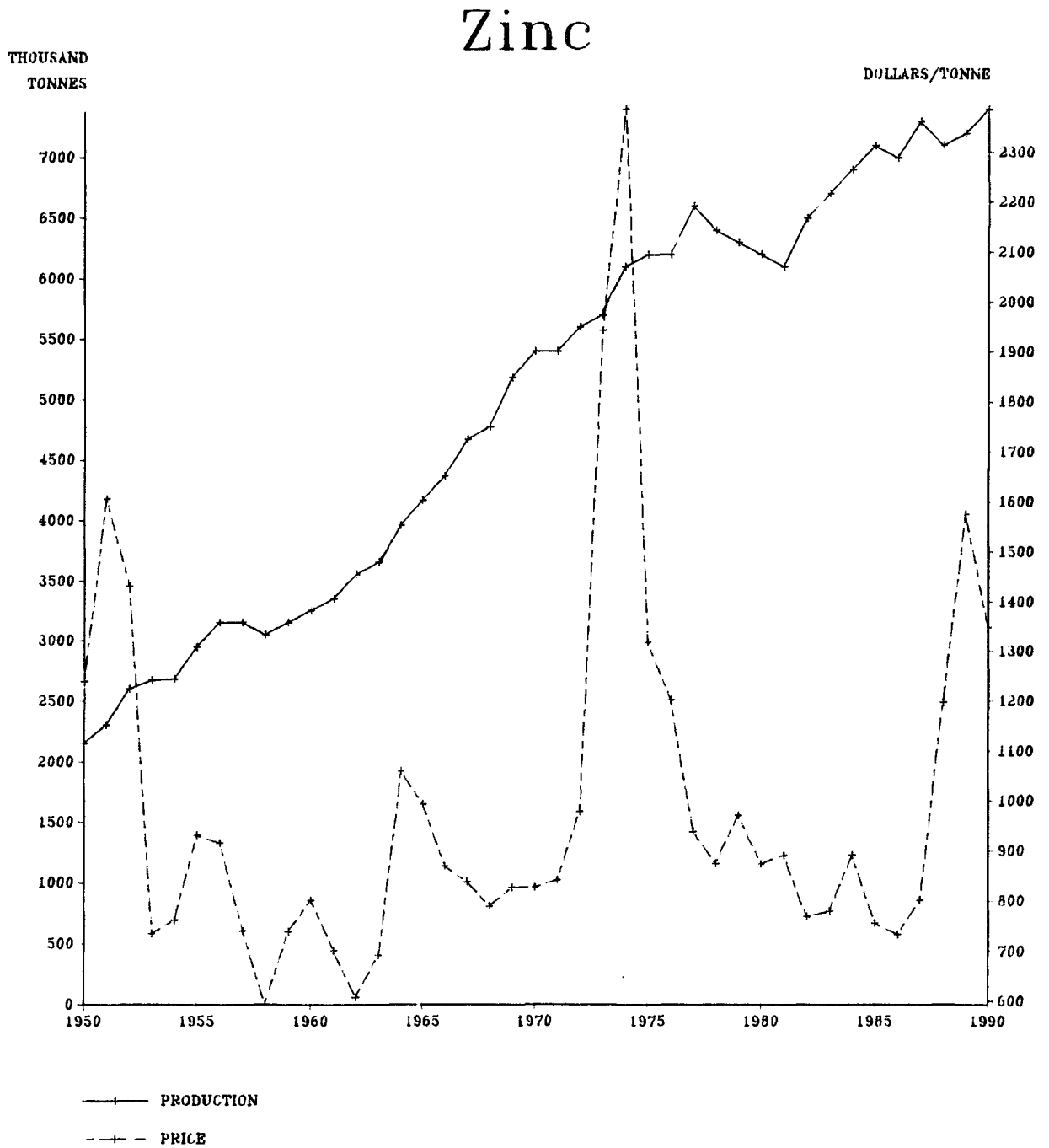


Figure 20 World mine production of zinc compared with the LME settlement price of high grade zinc and, from 1989, special high grade zinc expressed in constant 1985 US dollars. Trend-line analysis of the production data indicates a growth rate of approximately 3% per annum.

Mine Production of Zinc

tonnes (metal content)

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|-----------|-----------|-----------|-----------|-----------|
| United Kingdom | 5 605 | 6 522 | 5 502 | 5 771 | 6 673 |
| France | 39 534 | 31 339 | 31 100 | 25 010 | 23 820 |
| Germany, Federal Republic of | 103 700 | 98 900 | 75 600 | 63 900 | 58 100 |
| Greece | 22 500 | 20 700 | 21 200 | 24 600 | 26 700 |
| Irish Republic | 181 700 | 177 000 | 176 500 | 168 800 | 166 400 |
| Italy | 26 303 | 33 200 | 37 900 | 44 000 | 42 400 |
| Spain | 233 307 | 272 556 | 281 724 | 269 723 | 257 500 |
| Austria | 17 844 | 16 983 | 19 134 | 15 749 | 17 661 |
| Bulgaria | 48 200 | 44 200 | 44 100 | 39 700 | 34 700 |
| Czechoslovakia | 6 700 | 6 900 | 6 600 | 6 600 | 7 400 |
| Finland | 58 920 | 55 104 | 63 879 | 62 009 | 53 923 |
| Greenland | 62 000 | 69 000 | 77 000 | 72 000 | 48 000 |
| Norway | 23 032 | 22 356 | 17 528 | 16 634 | 17 546 |
| Poland | 183 900 | 185 800 | 220 000 | 204 000 | 178 000 |
| Romania | *27 400 | *31 900 | *22 600 | *11 000 | *11 500 |
| Soviet Union | *970 000 | *950 000 | *960 000 | *940 000 | *870 000 |
| Sweden | 227 648 | 229 353 | 200 393 | 173 515 | 164 128 |
| Turkey | 40 574 | 42 223 | 37 447 | 39 194 | 35 000 |
| Yugoslavia | 94 590 | 74 000 | 71 200 | 88 930 | 83 788 |
| Algeria | 13 100 | 8 600 | 6 100 | 6 000 | 4 000 |
| Morocco | 17 170 | 10 165 | 10 935 | 17 296 | 18 400 |
| Namibia | 34 069 | 39 508 | 37 250 | 42 760 | 40 507 |
| South Africa | 101 859 | 112 686 | 89 551 | 77 334 | 74 792 |
| Tunisia | 4 500 | 5 900 | 9 000 | 9 500 | 7 400 |
| Zaire | 79 770 | 84 841 | 75 700 | 72 800 | 61 800 |
| Zambia | 31 605 | 35 400 | 27 450 | 23 500 | 37 564 |
| Canada | 1 290 765 | 1 481 544 | 1 347 424 | 1 216 139 | 1 203 161 |
| Honduras | 22 674 | 16 644 | 23 475 | 27 983 | 29 300 |
| Mexico | 271 351 | 271 480 | 262 228 | 284 058 | 298 991 |
| USA | 220 800 | 232 900 | 256 400 | 288 300 | 543 200 |
| Argentina | 39 540 | 35 648 | 36 849 | 43 155 | 40 800 |
| Bolivia | 33 472 | 39 292 | 56 957 | 74 789 | 107 871 |
| Brazil | 123 901 | 132 962 | 155 531 | 175 998 | 132 100 |
| Chile | 10 504 | 19 618 | 19 182 | 18 370 | 25 146 |
| Peru (a) | 597 576 | 612 477 | 485 429 | 597 412 | 585 119 |
| China | 395 700 | 458 200 | 527 300 | 620 400 | 618 900 |
| India | 45 000 | 53 300 | 59 100 | 65 200 | 70 000 |
| Iran | 29 000 | 36 000 | 25 000 | 25 000 | 14 800 |
| Japan | 222 071 | 165 675 | 147 217 | 131 794 | 127 273 |
| Korea, Dem. P.R. of | *225 000 | *220 000 | *220 000 | *200 000 | *195 000 |
| Korea, Republic of | 37 282 | 23 530 | 21 820 | 23 202 | 23 204 |
| Myanmar | 3 000 | 1 700 | 1 600 | 1 400 | 1 700 |
| Philippines | 1 569 | 1 128 | 1 435 | 1 345 | 100 |
| Saudi Arabia | ... | ... | 1 500 | 2 600 | 2 500 |
| Thailand | 69 159 | 63 112 | 77 719 | 76 335 | 74 759 |
| Australia | 711 958 | 778 386 | 760 308 | 803 000 | 933 000 |
| World total | 7 000 000 | 7 300 000 | 7 100 000 | 7 200 000 | 7 400 000 |

(a) Recoverable

Zinc

Production of Slab Zinc

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|------------|------------|------------|------------|------------|
| United Kingdom | 85 902 | 81 360 | 76 028 | 79 773 | 93 309 |
| Belgium (a) | 288 787 | 308 580 | 323 758 | 306 022 | 356 533 |
| France | 257 376 | 290 812 | 304 032 | 287 344 | 264 100 |
| Germany, Federal Republic of | 371 800 | 380 100 | 356 300 | 353 500 | 337 600 |
| Italy | 230 400 | 247 000 | 242 117 | 246 000 | 248 100 |
| Netherlands | 196 156 | 207 111 | 211 019 | 202 962 | (b)208 537 |
| Portugal | 5 700 | 5 800 | 5 500 | 5 000 | 5 500 |
| Spain | 199 300 | 213 600 | 245 400 | 246 400 | 252 700 |
| Austria | 23 567 | 24 963 | 26 321 | 27 473 | 27 000 |
| Bulgaria | 92 661 | 89 922 | 82 023 | 94 996 | 75 457 |
| Finland | 138 841 | 158 831 | 149 758 | 154 230 | 163 063 |
| German Democratic Republic | *21 000 | *21 100 | *20 000 | *18 500 | *12 700 |
| Norway | 90 475 | 116 593 | 122 203 | 120 510 | 125 052 |
| Poland | 179 200 | 176 500 | 173 566 | 163 727 | 132 000 |
| Romania | 46 418 | 45 960 | 39 631 | 29 849 | 11 500 |
| Soviet Union | *1 065 000 | *1 020 000 | *1 035 000 | *1 020 000 | *920 000 |
| Turkey | 15 400 | 20 200 | 22 500 | 24 200 | 20 100 |
| Yugoslavia | 89 286 | 118 067 | 127 524 | 119 394 | 113 705 |
| Algeria | 29 700 | 19 000 | 37 500 | 28 000 | 23 600 |
| South Africa | 80 803 | 96 051 | 85 193 | 84 997 | 92 300 |
| Zaire | 63 928 | 54 875 | 61 400 | 54 000 | 38 203 |
| Zambia | 22 493 | 21 025 | 20 220 | 12 900 | 10 800 |
| Canada | 570 981 | 609 909 | 703 206 | 669 677 | 591 788 |
| Mexico | 173 724 | 184 755 | 192 529 | 193 279 | 199 295 |
| USA | 316 281 | 343 934 | 329 786 | 358 209 | 358 412 |
| Argentina | 31 523 | 34 289 | 35 448 | 34 267 | 34 217 |
| Brazil | 135 296 | 148 036 | 143 974 | 162 255 | 154 086 |
| Peru | 155 882 | 144 619 | 119 739 | 137 800 | 117 634 |
| China | 336 200 | 383 100 | 425 400 | 620 400 | 763 100 |
| India | 73 828 | 68 899 | 68 940 | 71 572 | 79 100 |
| Japan | 706 032 | 665 618 | 678 175 | 664 507 | 687 461 |
| Korea, Dem. P.R. of | *225 000 | *230 000 | *228 000 | *259 000 | *239 000 |
| Korea, Republic of | 127 229 | 186 016 | 225 987 | 241 743 | 257 043 |
| Thailand | 58 552 | 66 868 | 64 694 | 62 674 | 63 257 |
| Australia | 307 615 | 312 075 | 306 172 | 294 000 | 304 000 |
| World total | 6 800 000 | 7 100 000 | 7 300 000 | 7 400 000 | 7 400 000 |

(a) Including alloys

(b) Sales

Exports of Zinc

Zinc
tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|----------|----------|----------|----------|----------|
| United Kingdom | | | | | |
| Ores & concentrates | 5 225 | 8 852 | 9 330 | 13 363 | 21 927 |
| Unwrought | 11 448 | 4 197 | 7 089 | 8 896 | 7 671 |
| Unwrought alloys | 10 681 | 9 440 | 6 610 | 7 442 | 11 414 |
| Scrap | 17 285 | 22 461 | 25 079 | 30 256 | 25 636 |
| Belgium-Luxembourg | | | | | |
| Ore | 11 086 | 21 564 | 52 277 | 84 368 | 50 881 |
| Unwrought | 137 028 | 157 485 | 154 652 | 166 242 | 136 794 |
| Unwrought alloys | 48 904 | 55 943 | 46 392 | 35 969 | 45 160 |
| Scrap | 10 155 | 8 408 | 15 674 | 20 167 | 18 881 |
| Denmark | | | | | |
| Unwrought (a) | 79 | 279 | 96 | 67 | 681 |
| Scrap | 3 789 | 5 035 | 5 631 | 5 040 | 4 916 |
| France | | | | | |
| Ore | 85 555 | 49 307 | 31 190 | 26 823 | 24 620 |
| Unwrought | 59 715 | 70 507 | 66 222 | 71 426 | 74 081 |
| Unwrought alloys | 5 412 | 5 628 | 9 291 | 14 345 | 9 393 |
| Scrap | 14 102 | 12 233 | 23 086 | 28 844 | 19 411 |
| Germany, Federal Republic of | | | | | |
| Ore | *151 900 | *174 800 | *135 100 | *125 500 | *70 600 |
| Unwrought | 97 278 | 93 628 | 109 226 | 97 171 | 75 000 |
| Unwrought alloys | 17 774 | 16 060 | 18 733 | 22 112 | 22 832 |
| Scrap | 18 328 | 17 993 | 29 468 | 29 165 | 26 419 |
| Greece | | | | | |
| Ores & concentrates | 45 250 | 49 240 | 40 300 | 46 833 | 53 391 |
| Scrap | 628 | 665 | 198 | 810 | 232 |
| Irish Republic | | | | | |
| Ores & concentrates | 368 974 | 352 778 | 347 856 | 341 516 | 319 139 |
| Italy | | | | | |
| Ore | 14 908 | 14 900 | 21 325 | 20 230 | 20 918 |
| Unwrought | 45 998 | 57 892 | 50 803 | 45 243 | 51 151 |
| Unwrought alloys | 2 843 | 2 169 | 1 546 | 3 606 | 5 430 |
| Scrap | 4 159 | 6 540 | 4 750 | 7 584 | 3 857 |
| Netherlands | | | | | |
| Unwrought | 174 891 | 182 548 | 179 807 | 161 996 | 156 814 |
| Unwrought alloys | 6 815 | 2 529 | 3 834 | 5 181 | 5 605 |
| Scrap | 11 924 | 17 542 | 23 652 | 29 290 | 23 621 |
| Spain | | | | | |
| Ore | 126 443 | 79 481 | 109 613 | 140 647 | 133 263 |
| Unwrought (a) | 94 198 | 105 532 | 146 231 | 147 646 | 137 077 |
| Austria | | | | | |
| Unwrought | 4 035 | 4 704 | (a)7 066 | (a)6 360 | (a)5 626 |
| Scrap | 1 543 | 2 338 | 2 399 | 2 539 | 2 527 |
| Bulgaria | | | | | |
| Unwrought (a)(b) | *22 500 | *19 400 | *16 000 | *23 200 | *16 400 |
| Czechoslovakia | | | | | |
| Ore (b) | *14 200 | *7 400 | *2 800 | *1 900 | *6 000 |
| Finland | | | | | |
| Ore | — | — | 1 608 | 2 690 | 9 |
| Unwrought | 110 945 | 108 189 | 122 720 | 134 006 | 134 959 |
| Unwrought alloys | 16 812 | 26 160 | 5 417 | 4 487 | 5 138 |
| Scrap | 1 209 | 1 385 | 2 595 | 4 424 | 5 172 |
| Greenland | | | | | |
| Ores & concentrates | 118 839 | 113 804 | 136 392 | 130 494 | 95 544 |
| Hungary | | | | | |
| Scrap | 1 881 | 2 045 | 1 937 | 2 281 | 3 153 |
| Norway | | | | | |
| Ore | 8 355 | 7 185 | 4 796 | 6 831 | 5 708 |
| Unwrought | 67 058 | 98 931 | 94 932 | 100 709 | 106 122 |
| Unwrought alloys | 10 177 | 7 265 | 5 912 | 4 212 | 8 032 |
| Scrap | 539 | 590 | 1 083 | 2 179 | 1 299 |
| Poland | | | | | |
| Unwrought | 22 562 | 19 080 | 25 191 | 17 651 | 26 800 |
| Soviet Union | | | | | |
| Unwrought (a)(b) | *22 700 | *28 000 | *48 200 | *36 200 | *31 800 |
| Sweden | | | | | |
| Ore | 440 016 | 461 033 | 373 196 | 327 410 | 313 180 |
| Unwrought (a) | 973 | 1 257 | 833 | 201 | 855 |
| Scrap | 2 877 | 4 574 | 3 170 | 4 628 | 5 350 |

Exports of Zinc

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------|------------|------------|---------|---------|---------|
| Switzerland | | | | | |
| Unwrought | 27 | 1 | (a)411 | (a)386 | (a)916 |
| Scrap | 1 222 | 868 | 1 192 | 1 208 | 1 238 |
| Turkey | | | | | |
| Ores & concentrates | 11 207 | 12 858 | 28 692 | 11 524 | 12 755 |
| Unwrought | 7 597 | 1 174 | 922 | ... | 3 |
| Yugoslavia | | | | | |
| Concentrates | 11 120 | — | 1 735 | 4 117 | 13 330 |
| Unwrought (a) | 34 411 | 53 083 | 58 820 | 42 638 | 53 429 |
| Algeria | | | | | |
| Unwrought | 28 772 | 3 236 | 20 676 | ... | ... |
| Morocco | | | | | |
| Ore | 28 789 | 23 797 | 23 098 | 35 332 | 33 325 |
| Namibia | | | | | |
| Concentrates | 69 201 | 66 618 | 78 656 | 86 931 | 74 690 |
| South Africa | | | | | |
| Ores & concentrates (c) | 29 510 | 15 506 | 19 648 | 15 351 | 10 975 |
| Unwrought | 1 171 | — | 272 | 234 | 1 816 |
| Tunisia | | | | | |
| Ore | 10 600 | 15 256 | 17 510 | 19 425 | 17 700 |
| Zaire | | | | | |
| Unwrought | 73 860 | 46 115 | 38 813 | ... | 37 500 |
| Zambia | | | | | |
| Unwrought | 5 157 | 36 098 | 12 798 | 39 519 | 9 500 |
| Canada | | | | | |
| Ore (c) | 450 252 | 613 180 | 814 737 | 608 590 | 700 910 |
| Unwrought | (a)427 175 | (a)441 220 | 539 061 | 495 177 | 452 914 |
| Unwrought alloys | ... | ... | 17 759 | 13 819 | 3 409 |
| Scrap | 23 157 | 24 501 | 16 942 | 11 583 | 38 295 |
| Honduras | | | | | |
| Ores & concentrates (c) | 22 674 | 16 644 | 23 475 | 27 983 | ... |
| Mexico | | | | | |
| Ores & concentrates | 197 774 | 157 516 | 142 328 | 162 937 | 242 697 |
| Unwrought | 74 361 | 71 522 | 80 543 | 90 871 | 90 327 |
| USA | | | | | |
| Ore (c) | 11 005 | 158 803 | 195 533 | 255 394 | 380 932 |
| of which: Re-exports | 7 737 | 141 882 | 161 944 | 176 517 | 160 486 |
| Unwrought (a) | 3 544 | 3 572 | 5 605 | 8 104 | 7 043 |
| Scrap | 63 269 | 82 280 | 95 147 | 97 703 | 88 475 |
| Argentina | | | | | |
| Ores & concentrates | 7 602 | 7 679 | 5 115 | 6 877 | ... |
| Unwrought | 761 | — | — | 12 395 | ... |
| Bolivia | | | | | |
| Ore | 74 243 | 82 297 | 115 659 | 169 873 | 210 366 |
| Brazil | | | | | |
| Unwrought | 0 | — | 6 511 | 20 216 | 34 202 |
| Chile | | | | | |
| Concentrates | 27 582 | 39 204 | 34 352 | 39 754 | 49 671 |
| Peru | | | | | |
| Concentrates | 860 706 | 863 850 | 693 582 | 764 531 | 981 407 |
| Unwrought (a) | 108 514 | 80 480 | 51 381 | 91 260 | 64 677 |
| China | | | | | |
| Ores & concentrates | ... | 37 220 | 108 175 | 115 266 | ... |
| Unwrought (a) | 56 768 | 95 338 | 13 838 | 20 109 | 16 711 |
| Hong Kong | | | | | |
| Unwrought (a) | 31 244 | 68 391 | 29 924 | 37 922 | 57 606 |
| of which: Re-exports | 31 244 | 68 391 | 29 788 | 37 431 | 56 576 |
| Scrap | 33 | 109 | 1 105 | 3 912 | 9 536 |
| of which: Re-exports | — | — | 368 | 1 171 | 5 596 |
| Indonesia | | | | | |
| Scrap | 2 478 | 516 | 507 | 109 | 271 |
| Iran (d) | | | | | |
| Ore | 62 013 | 58 800 | 57 772 | 35 968 | ... |
| Japan | | | | | |
| Unwrought | 23 382 | 51 854 | 21 129 | 17 862 | 21 254 |
| Unwrought alloys | 1 580 | 1 383 | 5 513 | 4 065 | 4 400 |
| Scrap | 1 880 | 3 233 | 5 017 | 5 973 | 8 519 |

Exports of Zinc

Zinc
tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------|---------|---------|---------|-----------|-----------|
| Korea, Dem. P.R. of | | | | | |
| Ores & concentrates (b) | *11 000 | ... | *2 000 | ... | ... |
| Unwrought (a)(b) | *55 800 | *68 900 | *99 900 | *74 500 | *54 400 |
| Korea, Republic of | | | | | |
| Unwrought (a) | 1 720 | 38 032 | 70 657 | 73 583 | 56 310 |
| Malaysia | | | | | |
| Scrap | 1 076 | 1 175 | 385 | 492 | ... |
| Myanmar (e) | | | | | |
| Concentrates | 8 879 | 9 050 | 6 500 | 9 000 | ... |
| Philippines | | | | | |
| Concentrates | 3 404 | 2 128 | 2 885 | 3 931 | 1 284 |
| Scrap | 304 | 495 | 622 | 888 | 866 |
| Saudi Arabia | | | | | |
| Scrap | 11 132 | 7 504 | 2 637 | 2 606 | ... |
| Singapore | | | | | |
| Unwrought | 3 584 | 5 576 | 31 751 | 40 378 | 22 604 |
| of which: Re-exports | 3 231 | 4 822 | 30 980 | 39 412 | 22 210 |
| Scrap | 650 | 538 | 926 | 2 366 | 1 364 |
| Taiwan | | | | | |
| Unwrought (a) | 146 | 200 | 4 368 | 8 387 | 2 210 |
| Thailand | | | | | |
| Unwrought (a) | 27 825 | 17 616 | 12 967 | 13 837 | 6 059 |
| Australia | | | | | |
| Ores & concentrates | 875 233 | 865 984 | 979 652 | 1 004 000 | 1 217 000 |
| Unwrought | 217 422 | 240 689 | 208 000 | 203 000 | 247 000 |
| Scrap (f) | 1 044 | 1 089 | 3 420 | 3 125 | 3 665 |
| New Zealand (f) | | | | | |
| Scrap | 707 | 791 | 1 179 | 1 046 | 876 |

Note(s):

(1) In this table the term 'unwrought' zinc corresponds to item 686.1 of the Standard International Trade Classification (Revision 3) and comprises blocks, pigs, slabs, etc.

(a) Including alloys

(b) BGS estimates, based on known imports into certain countries

(c) Zn content

(d) Years ended 20 March following that stated

(e) Years ended 31 March following that stated

(f) Years ended 30 June of that stated

Zinc

Imports of Zinc

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|------------------------------|---------|---------|-----------|-----------|-----------|
| United Kingdom | | | | | |
| Ores & concentrates | 200 898 | 177 233 | 187 826 | 207 603 | 278 301 |
| Unwrought | 101 858 | 114 248 | 134 000 | 127 344 | 123 641 |
| Unwrought alloys | 4 123 | 7 242 | 4 957 | 6 312 | 4 682 |
| Scrap | 2 673 | 4 601 | 6 487 | 6 578 | 5 028 |
| Belgium-Luxembourg | | | | | |
| Ore | 520 277 | 588 803 | 611 709 | 605 123 | 626 045 |
| Unwrought (a) | 49 090 | 40 535 | 41 017 | 41 712 | 35 156 |
| Scrap | 7 310 | 14 070 | 20 247 | 18 513 | 20 354 |
| Denmark | | | | | |
| Unwrought | 11 889 | 10 205 | 12 065 | 10 917 | 13 651 |
| Unwrought alloys | 2 826 | 2 472 | 2 169 | 2 228 | 2 295 |
| Scrap | 86 | 474 | 898 | 88 | 244 |
| France | | | | | |
| Ore | 513 512 | 512 825 | 523 738 | 533 365 | 595 386 |
| Unwrought | 64 107 | 70 364 | 88 328 | 83 591 | 88 933 |
| Unwrought alloys | 34 702 | 30 968 | 22 834 | 25 435 | 21 566 |
| Scrap | 7 529 | 8 880 | 10 029 | 11 418 | 9 753 |
| Germany, Federal Republic of | | | | | |
| Ore | 620 810 | 664 024 | 604 455 | 595 494 | 592 604 |
| Unwrought | 161 687 | 159 908 | 180 163 | 186 489 | 222 750 |
| Unwrought alloys | 12 528 | 11 308 | 12 925 | 15 623 | 19 519 |
| Scrap | 15 514 | 16 546 | 28 916 | 30 539 | 25 349 |
| Greece | | | | | |
| Unwrought (a) | 16 764 | 15 410 | 17 827 | 20 167 | 22 319 |
| Irish Republic | | | | | |
| Unwrought (a) | 1 359 | 1 603 | 1 877 | 2 830 | 1 769 |
| Scrap | 57 | 393 | 188 | 347 | 254 |
| Italy | | | | | |
| Ore | 443 572 | 441 883 | 429 581 | 392 304 | 400 711 |
| Unwrought | 54 548 | 63 654 | 58 760 | 75 609 | 76 905 |
| Unwrought alloys | 14 018 | 16 198 | 12 502 | 14 200 | 15 380 |
| Scrap | 8 237 | 5 086 | 9 657 | 11 164 | 5 840 |
| Netherlands | | | | | |
| Ore | 396 439 | 439 522 | 478 840 | 419 139 | 465 923 |
| Unwrought | 24 960 | 26 499 | 36 072 | 36 108 | 25 493 |
| Unwrought alloys | 1 517 | 1 449 | 1 343 | 1 272 | 694 |
| Scrap | 11 686 | 7 788 | 4 176 | 8 144 | 5 055 |
| Portugal | | | | | |
| Unwrought (a) | 11 144 | 13 549 | 13 131 | 13 112 | 17 653 |
| Scrap | 2 199 | 1 813 | 2 542 | 456 | 2 418 |
| Spain | | | | | |
| Ore | 34 614 | 33 743 | 33 398 | 48 764 | 142 988 |
| Unwrought | 4 515 | 3 739 | 4 467 | 6 235 | 3 986 |
| Unwrought alloys | 2 658 | 3 180 | 2 034 | 3 293 | 4 003 |
| Scrap | 1 322 | 1 282 | 2 164 | 1 887 | 1 511 |
| Austria | | | | | |
| Ore | 10 133 | 16 688 | 15 326 | 26 184 | 19 376 |
| Unwrought | 11 433 | 10 282 | (a)16 243 | (a)13 441 | (a)16 298 |
| Scrap | 68 | 383 | 355 | 1 030 | 808 |
| Bulgaria | | | | | |
| Ore (h) | *35 900 | *51 600 | *60 900 | *57 600 | *74 200 |
| Czechoslovakia | | | | | |
| Unwrought (a) | 61 000 | 57 000 | 54 000 | 62 000 | ... |
| Finland | | | | | |
| Ore | 189 686 | 195 806 | 187 411 | 154 442 | 266 689 |
| Unwrought (a) | 79 | 95 | 63 | 550 | 110 |
| German Democratic Republic | | | | | |
| Ore (h) | *67 400 | *80 200 | *76 800 | *58 500 | *39 100 |
| Unwrought (a)(h) | *20 500 | *29 500 | *36 000 | *25 400 | *17 400 |
| Hungary | | | | | |
| Unwrought (g) | 28 167 | 27 567 | 26 358 | 19 186 | 12 911 |
| Iceland | | | | | |
| Unwrought (a) | 71 | 92 | 131 | 129 | 171 |
| Malta | | | | | |
| Unwrought (a) | 145 | 109 | 179 | 162 | ... |

Imports of Zinc

Zinc
tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------|-----------|-----------|-----------|-----------|-----------|
| Norway | | | | | |
| Ore | 110 468 | 171 939 | 99 332 | 84 719 | 158 829 |
| Unwrought (a) | 377 | 855 | 510 | 1 429 | 935 |
| Scrap | 5 900 | 3 959 | 1 722 | 3 064 | 1 607 |
| Poland | | | | | |
| Unwrought | 2 226 | 2 994 | 2 486 | 2 542 | ... |
| Romania | | | | | |
| Unwrought (a)(h) | *2 400 | *2 100 | *2 300 | ... | *1 200 |
| Soviet Union | | | | | |
| Ore (h) | *114 300 | *88 800 | *52 100 | *75 100 | *42 200 |
| Unwrought (a)(h) | *16 600 | *38 800 | *60 300 | *29 300 | *10 000 |
| Sweden | | | | | |
| Unwrought | 32 943 | 36 111 | 39 718 | 40 192 | 40 167 |
| Unwrought alloys | 3 130 | 3 502 | 3 598 | 3 014 | 3 042 |
| Scrap | 192 | 270 | 117 | 107 | 92 |
| Switzerland | | | | | |
| Unwrought | 30 186 | 23 386 | (a)20 379 | (a)20 030 | (a)26 122 |
| Scrap | 141 | 123 | 0 | 80 | 36 |
| Turkey | | | | | |
| Unwrought | 24 064 | 33 616 | 19 371 | (a)16 152 | (a)29 841 |
| Yugoslavia | | | | | |
| Concentrates | 57 493 | 71 147 | 61 144 | 54 079 | 55 430 |
| Unwrought (a) | 22 299 | 4 048 | 44 291 | 84 155 | 50 515 |
| Algeria | | | | | |
| Ores & concentrates | 83 859 | 100 820 | 32 598 | ... | ... |
| Egypt | | | | | |
| Unwrought (b) | 11 412 | 7 158 | 10 641 | ... | ... |
| Ivory Coast | | | | | |
| Unwrought (b) | 3 021 | ... | 2 796 | ... | ... |
| Kenya | | | | | |
| Unwrought (a) | 8 237 | 10 015 | 8 689 | ... | ... |
| Morocco | | | | | |
| Unwrought (a) | 2 397 | 19 177 | 2 923 | 4 242 | 5 700 |
| Nigeria | | | | | |
| Unwrought (a) | 1 211 | 1 875 | ... | ... | ... |
| South Africa | | | | | |
| Unwrought | 5 024 | 2 429 | (a)5 390 | (a)13 300 | (a)5 528 |
| Scrap | 40 | 1 802 | 261 | 201 | 299 |
| Tanzania | | | | | |
| Unwrought (a) | ... | 999 | 859 | 81 529 | ... |
| Tunisia | | | | | |
| Unwrought | 2 271 | 1 168 | 2 348 | 4 112 | (a)4 063 |
| Canada | | | | | |
| Ores & concentrates (c) | (b)36 410 | (b)31 949 | 34 538 | 34 469 | 170 918 |
| Unwrought | 7 440 | 11 032 | 8 027 | 4 707 | 9 482 |
| Scrap | ... | ... | 2 474 | 1 379 | 1 614 |
| Costa Rica | | | | | |
| Unwrought (a) | 3 647 | 4 551 | 4 549 | 5 467 | 4 741 |
| Dominican Republic | | | | | |
| Unwrought | 2 003 | ... | ... | ... | ... |
| Guatemala | | | | | |
| Unwrought (a) | 1 531 | 2 823 | 3 352 | 1 515 | 834 |
| Honduras | | | | | |
| Unwrought (a) | 1 370 | 1 534 | 246 | 1 029 | ... |
| Jamaica | | | | | |
| Unwrought | 629 | 981 | 815 | 708 | ... |
| Nicaragua | | | | | |
| Unwrought (a) | 1 031 | ... | ... | ... | ... |
| Panama | | | | | |
| Unwrought (a) | 323 | 237 | ... | ... | ... |
| Trinidad & Tobago | | | | | |
| Unwrought | 401 | 298 | 35 | 12 | 25 |
| USA | | | | | |
| Ore (c) | 197 735 | 425 516 | 405 710 | 388 596 | 240 785 |
| Unwrought (a) | 666 989 | 705 991 | 740 868 | 712 186 | 632 477 |
| Scrap | 4 521 | 4 025 | 5 727 | 9 291 | 31 720 |

Zinc

Imports of Zinc

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------|----------|----------|-----------|-----------|-----------|
| Argentina | | | | | |
| Unwrought | 4 457 | 5 867 | 1 880 | ... | ... |
| Brazil | | | | | |
| Ores & concentrates | 76 853 | 95 245 | 94 238 | 92 026 | 75 054 |
| Unwrought (a) | 23 153 | 49 207 | 7 486 | 9 462 | 3 172 |
| Chile | | | | | |
| Unwrought (a) | 5 761 | 9 687 | 9 250 | 9 173 | 4 697 |
| Colombia | | | | | |
| Unwrought (a) | 12 614 | 14 212 | 18 903 | 14 890 | 8 000 |
| Ecuador | | | | | |
| Unwrought (a) | 3 867 | 87 418 | 53 692 | 2 695 | ... |
| Uruguay | | | | | |
| Unwrought | 1 497 | 1 950 | 1 882 | ... | ... |
| Venezuela | | | | | |
| Unwrought | 11 778 | 18 633 | 21 228 | 5 277 | ... |
| Unwrought alloys | 5 400 | 8 237 | 12 694 | 6 595 | ... |
| China | | | | | |
| Unwrought (a) | 116 945 | 68 153 | 61 985 | 19 198 | 4 141 |
| Hong Kong | | | | | |
| Unwrought | 42 596 | 66 435 | 20 866 | 25 458 | 38 777 |
| Unwrought alloys | 27 665 | 29 217 | 44 633 | 29 779 | 36 041 |
| Scrap | 539 | 599 | 1 176 | 3 647 | 6 407 |
| India (d) | | | | | |
| Ores & concentrates | 19 714 | 10 935 | 22 537 | ... | 42 155 |
| Unwrought | 28 432 | 87 119 | 74 932 | 29 900 | 74 158 |
| Unwrought alloys | 29 397 | 3 690 | 2 052 | ... | 1 537 |
| Scrap | 2 695 | 4 293 | 2 808 | ... | 551 |
| Indonesia | | | | | |
| Unwrought (a) | 48 558 | 49 176 | 51 705 | 44 447 | 55 315 |
| Scrap | 392 | 654 | 936 | 476 | 195 |
| Iran (e) | | | | | |
| Unwrought | 11 981 | 5 065 | 4 751 | 6 466 | ... |
| Israel | | | | | |
| Unwrought | (b)6 201 | (b)7 833 | (a)7 956 | (a)7 240 | ... |
| Japan | | | | | |
| Ore | 916 166 | 974 026 | 1 068 407 | 1 028 985 | 1 186 231 |
| Unwrought | 92 753 | 105 319 | 112 772 | 132 746 | 140 470 |
| Unwrought alloys | 8 691 | 11 566 | 17 530 | 17 968 | 14 333 |
| Scrap | 57 | 4 | 764 | 759 | 409 |
| Jordan | | | | | |
| Unwrought | 1 128 | 981 | 692 | 1 005 | 1 121 |
| Korea, Dem. P.R. of | | | | | |
| Ores & concentrates (h) | *15 500 | *19 600 | *16 600 | *36 400 | *7 800 |
| Korea, Republic of | | | | | |
| Ores & concentrates | 179 136 | 408 138 | 456 345 | 449 999 | 485 327 |
| Unwrought (a) | 117 492 | 36 387 | 20 453 | 20 345 | 25 283 |
| Scrap | 13 109 | 10 007 | 12 881 | 2 890 | 543 |
| Macao | | | | | |
| Unwrought | 1 423 | 1 504 | 4 071 | 2 503 | ... |
| Malaysia | | | | | |
| Unwrought | 8 987 | 8 815 | 17 518 | 15 994 | ... |
| Unwrought alloys | 5 907 | 9 695 | 6 451 | ... | ... |
| Pakistan (f) | | | | | |
| Unwrought | 11 868 | 14 766 | 15 385 | ... | 29 396 |
| Philippines | | | | | |
| Unwrought (a) | 18 897 | 21 091 | 27 556 | 29 981 | 29 485 |
| Saudi Arabia | | | | | |
| Unwrought | 8 762 | 6 822 | 9 443 | 6 683 | ... |
| Singapore | | | | | |
| Unwrought | 11 763 | 26 496 | 45 365 | 52 520 | 56 210 |
| Scrap | 221 | 574 | 520 | 737 | 550 |
| Sri Lanka | | | | | |
| Unwrought (a) | 1 524 | 1 422 | 1 571 | ... | 1 319 |
| Syria | | | | | |
| Unwrought (b) | 158 | 580 | ... | ... | ... |

Imports of Zinc

Zinc
tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|-------------------------|--------|---------|---------|---------|---------|
| Taiwan | | | | | |
| Unwrought | 56 406 | 64 459 | 63 574 | 56 908 | 72 279 |
| Unwrought alloys | 22 594 | 19 659 | 18 109 | 13 910 | 13 449 |
| Scrap | 69 369 | 110 814 | 151 681 | 163 383 | 155 345 |
| Thailand | | | | | |
| Unwrought | 2 764 | 2 554 | 1 398 | 1 362 | 827 |
| Unwrought alloys | 1 931 | 2 238 | 2 435 | 1 421 | 3 910 |
| Australia | | | | | |
| Ores & concentrates (f) | 4 400 | 26 318 | ... | 20 359 | 32 295 |
| New Zealand (f) | | | | | |
| Unwrought (a) | 19 642 | 20 403 | 17 061 | 19 148 | 25 550 |

Note(s):

(1) In this table the term 'unwrought' zinc corresponds to item 686.1 of the Standard International Trade Classification (Revision 3) and comprises blocks, pigs, slabs, etc.

(a) Including alloys

(b) Including scrap

(c) Zn content

(d) Years ended 31 March following that stated

(e) Years ended 20 March following that stated

(f) Years ended 30 June of that stated

(g) Including semi-manufactures

(h) BGS estimates, based on known exports from certain countries

Production of Germanium Metal

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------|------|------|------|------|------|
| Austria | 6 | 7 | 6 | 6 | 5 |
| Soviet Union | *11 | *11 | *12 | *12 | *10 |
| USA (a) | *22 | *25 | *21 | *20 | *18 |
| China | *6 | *6 | *6 | *6 | *4 |
| Japan | 9 | 5 | 4 | 3 | 3 |

Note(s):

(1) Significant quantities of germanium are also believed to be recovered from imported or domestic material in Belgium, France, Federal Republic of Germany and to a lesser extent in Italy

(a) Including production of secondary metal

Production of Primary Magnesium Metal

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--------------|---------|---------|---------|---------|---------|
| France | 13 361 | 13 605 | 13 776 | 14 600 | 14 600 |
| Italy | 7 245 | 7 626 | 5 589 | 5 768 | 5 937 |
| Norway | 56 864 | 56 853 | 50 317 | 52 872 | 48 222 |
| Soviet Union | *86 000 | *86 000 | *90 000 | *85 000 | *80 000 |
| Yugoslavia | 4 897 | 5 932 | 6 176 | 6 106 | 5 788 |
| Canada | 8 748 | 9 373 | 8 000 | 7 200 | 25 300 |
| USA | 125 639 | 124 396 | 141 983 | 152 066 | 139 333 |
| Brazil | 4 356 | 5 488 | 5 866 | 5 613 | 8 700 |
| China | *9 000 | *9 000 | *14 000 | 3 658 | 5 900 |
| Japan | 8 116 | 8 180 | 9 012 | 12 075 | 12 843 |

Production of Selenium Metal

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------------|------|------|------|------|------|
| Belgium | *250 | *230 | *250 | *250 | *250 |
| Finland | 24 | 20 | 24 | 27 | 37 |
| German Democratic Republic | *25 | *25 | *25 | ... | ... |
| Sweden | 24 | 31 | 20 | 23 | *25 |
| Yugoslavia | 54 | 66 | 61 | 55 | 59 |
| Zambia | 22 | 27 | 24 | 21 | 23 |
| Canada | 354 | 430 | 321 | 213 | 389 |
| Mexico | 23 | 29 | 13 | 20 | 12 |
| USA | 161 | 227 | 286 | 253 | 287 |
| Chile (a) | 47 | 46 | 30 | 52 | 38 |
| Peru | 12 | 11 | 5 | 9 | 9 |
| Japan | 427 | 481 | 471 | 471 | 495 |

Note(s):

(1) In addition to the countries listed, Federal Republic of Germany, India, and Soviet Union are believed to produce selenium metal

(a) Exports

Magnesium

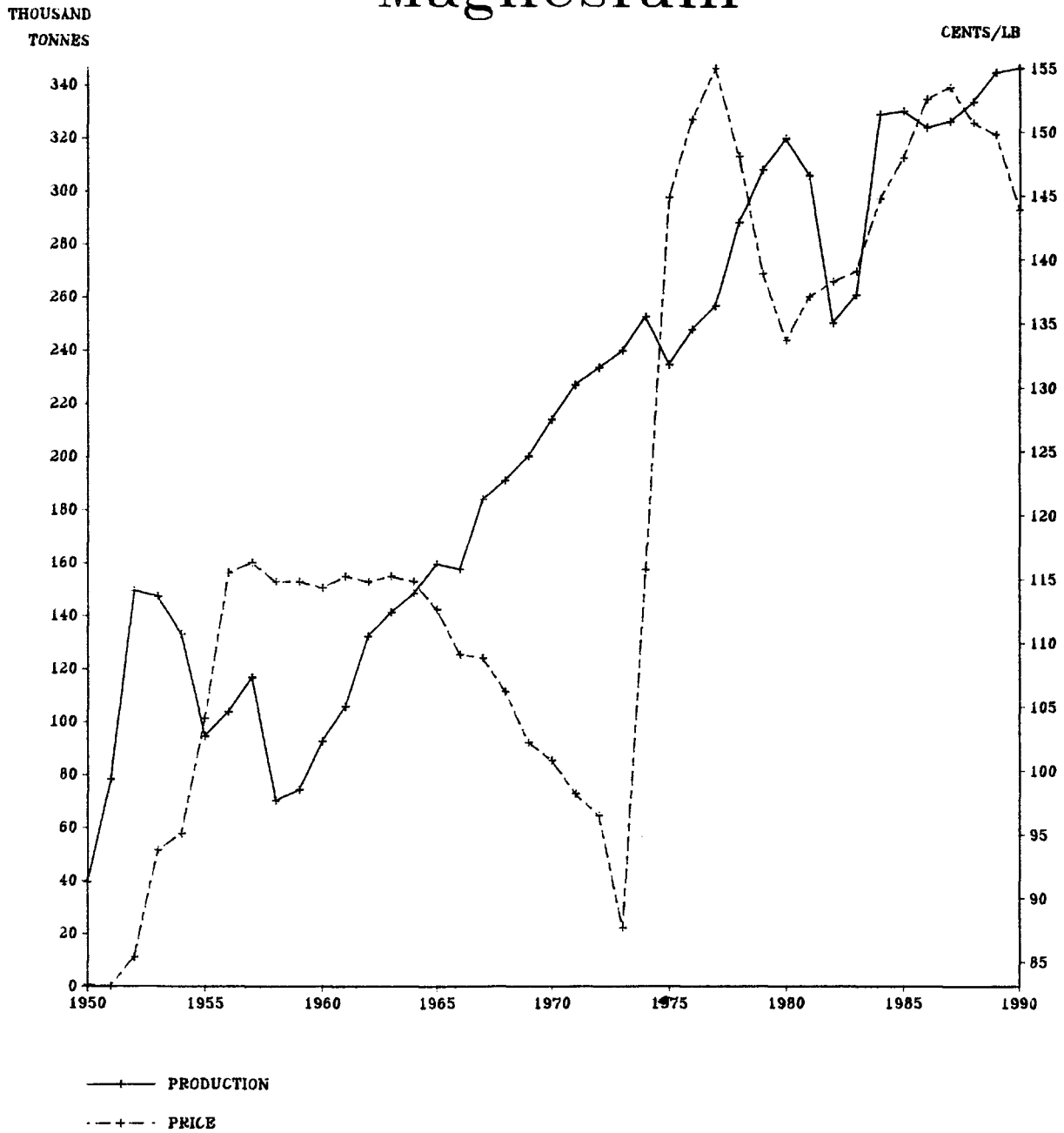


Figure 21 World production of primary magnesium metal compared with the price of magnesium ingot (99.8%) according to *American Metal Market* expressed in constant 1985 US dollars.

Production of Tellurium Metal

tonnes

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|---------|------|------|------|------|------|
| Canada | 20 | 13 | 19 | 8 | 13 |
| USA | *75 | *75 | *75 | *75 | ... |
| Peru | 10 | 7 | 4 | 8 | 8 |
| Japan | 56 | 53 | 55 | 51 | 50 |

Note(s):

(1) In addition to the countries listed, Australia, Federal Republic of Germany and Soviet Union are believed to produce tellurium metal

Mine Production of Uranium

tonnes (metal content)

| Country | 1986 | 1987 | 1988 | 1989 | 1990 |
|--|--------|--------|--------|--------|--------|
| Belgium | 50 | 54 | 50 | 51 | 45 |
| France | 3 237 | 3 376 | 3 370 | 3 334 | 2 935 |
| Portugal | 99 | 126 | 142 | 129 | 111 |
| Spain | 214 | 223 | 228 | 228 | 211 |
| Yugoslavia | 68 | 70 | 79 | 85 | *50 |
| Gabon | 917 | 794 | 930 | 890 | 709 |
| Namibia | 3 500 | 3 540 | 3 510 | 3 186 | 3 325 |
| Niger | 3 113 | 2 968 | 2 962 | 2 980 | 2 832 |
| South Africa | 4 630 | 3 965 | 3 886 | 2 931 | 2 438 |
| Canada | 11 722 | 12 437 | 12 461 | 11 427 | 8 797 |
| USA | 5 200 | 5 000 | 5 051 | 5 308 | 3 430 |
| Argentina | 173 | 95 | 142 | 52 | 9 |
| Brazil | 26 | 104 | 15 | 30 | 35 |
| India | 125 | 127 | *120 | *210 | *210 |
| Australia | 4 154 | 3 780 | 3 531 | 3 655 | 3 530 |
| World total | 37 200 | 36 700 | 36 500 | 34 500 | 28 700 |
| World total (U ₃ O ₈ equivalent) | 43 900 | 43 300 | 43 000 | 40 700 | 33 800 |

Note(s):

(1) In addition to the countries listed, China, Czechoslovakia, Israel, Japan and Soviet Union are believed to produce uranium

