

CHINA

By Liping Chen, Guoming Song

In 2003, the Chinese economy continued to flourish, despite the outbreak of the SARS virus, reaching Yu11,669.4 billion, an increase of 9.1% over 2002 as measured at constant prices. It was the fastest growth since 1997. Investment in fixed assets increased by 27%, up from growth of 17% in 2002.

There was a large increase in international trade, with combined imports and exports valued at US\$851.2 billion, 37% higher than in 2002. The total value of exports rose by 35% to US\$438.4 billion and the total value of imports rose by 39.9% to US\$412.8 billion. The international balance of payments position was healthy, with a foreign trade surplus of US\$25.5 billion.

Foreign direct investment in China remained high, with 41,081 new foreign investment entities established, a 20.2% increase compared with the previous year. Signed contracts for foreign direct investment were worth US\$115.1 billion, an increase of 39% over 2002, and approximately US\$53.5 billion had been committed, an increase of 1.4% over the previous year. Total fixed assets investment increased sharply, by 27% to Yu5,511.8 billion.

Mining summary

In 2003, output of minerals and metals increased in varying degree. Combined production of the ten principal non-ferrous metals (copper, aluminium, lead, zinc, nickel, tin, magnesium, mercury, antimony and titanium) was 12.05 Mt, an increase of 19% compared with the previous year. 2003 was the second consecutive year that China ranked first in the world in terms of total metals production. China was also the world's leading producer of a number of individual metals: aluminium, lead, zinc, magnesium, tin and antimony.

According to National Customs statistics, the total value of exports of minerals and metals, and processed mineral products, was US\$53.8 billion, 30% higher than the previous year. The value of imports of minerals and metals (processed and unprocessed) was US\$100.6 billion, an increase of US\$31.4 billion. The trade deficit in minerals increased by 69%, to US\$46.8 billion.

According to the Ministry of Land and Resources (MLR), encouraging results were achieved in mineral exploration during 2003. There were 113 large-to-medium mineral deposits discovered, including five for oil, two for natural gas, five for coal, 11 for copper, 18 for lead, 17 for zinc, three for bauxite, 36 for gold, one for iron and one for water resources.

Additions to already identified resources included: 5.2 Mt of coal, 799 Mt of petroleum, 503.5 billion m³ of gas, 691 Mt of iron ore, 393,000 t of contained copper, 83,461 t of aluminium contained in bauxite and other minerals, 674,000 t of lead, 848,600 t of zinc and 391.2 t of gold.

Mineral exploration expenditures by the geological and exploration industry reached Yu23.9 billion, 7.7% higher than in the previous year, with oil and gas exploration accounting for 85% of the total. Of the total, Yu1.53 billion, or 6.4%, was contributed by government-funded geological exploration.

Positive results were achieved in exploration for coal, oil and natural gas, with newly-identified resources estimated at 760 Mt for coal, 1,053,000 Mt for petroleum and 441.1 million m³ for natural gas. Other newly-identified resource additions included iron ore, estimated at 102 Mt, copper 813,100 t, bauxite 58.14 Mt, lead 1.63 Mt, zinc 1.82 Mt and gold 428.6 t.

A total of 48 exploration permits and 39 mining permits involving foreign investment were granted during 2002.

Policies and regulations

In December 2003, the Chinese Government issued a white paper on China's Policy on Mineral Resources. Being the first of its kind, the white paper stresses that China will depend on exploitation of domestic mineral resources to guarantee the needs of its modernisation drive. In future, China will strengthen mineral surveying, prospecting, exploitation, planning, management and rational utilisation of mineral resources.

The policy also highlights the importance of sustainable development, and Sino-foreign co-operation in the exploration and exploitation of mineral resources will be increased.

In 2003, the MLR issued a circular entitled Administrative Measures of Public Tendering and Auction for the Rights of Exploring and Exploiting Mines (Trial). The bidding regulations promulgated by the MLR, effective from August 1, 2003, prescribe three approaches for Chinese and foreign mining companies to obtain exploration and mining rights – tender, auction and bid.

On October 14, 2003, a notice was published by the Ministry of Finance and State Administration of Taxation on the export tax reimbursement rate. According to the notice, from the start of 2004, export tax reimbursement rates for most non-ferrous metal products have been reduced by 5-13%. Export tax rebates for copper, aluminium, lead, zinc and tungsten will be annulled.

Coal

According to data from the State Bureau for Supervising Coalmine Safety, China's crude coal production in 2003 increased significantly, by 15.4% to 1,608 Mt, from the 2002 total of 1,393 Mt. Coke production in 2003 was up by 4%, to 138.8 Mt.

A significant change in the share of production in terms of ownership has occurred since 1996. Of the total output in 2003, 810 Mt was produced by major state-owned mines, an increase of 98 Mt (or 14%) on 2002; 280 Mt was contributed by local government-owned mines, an increase of 17 Mt (6%)

over 2002; and 520 Mt was contributed by township coal mines, an increase of 102 Mt (24%) over 2002.

Safety in coal mines has been a significant problem in China. In 2003, there were more than 6,000 fatalities, equating to 4.17 deaths per 1 Mt of coal produced. This compares with 9.44 per 1 Mt in 1978. It was estimated that Yu50 billion was needed to improve mine-safety technology. The government has invested Yu4 billion, and plans to invest a further Yu4 billion, in an effort to help some major state-owned coal producers to improve mine-safety technology.

Coal production in China comes from mines located in a total of 27 jurisdictions, including provinces, autonomous regions and municipalities directly under the control of central government. Coal production increased in all of the 27 jurisdictions in 2003, with exploitation in the western region improved as a result of the implementation of the policy entitled General Development of the Western Provinces. Shanxi, Shangdong, Henan, Shaanxi and Inner Mongolia each produced over 100 Mt.

According to data from the State Administration of Coal Mine Safety, coal exports in 2003 amounted to 93 Mt, an 8.5% increase over 2002. Imports were little changed, at about 10.8 Mt.

There are four producers with annual production exceeding 40 Mt (Shenhua Group Corp, Datong Coal Mine Corp, Shanxi Coke Group Co and Yanzhou Coal Corp), and together they contributed 14.8% to 2003 production, 0.9% higher than in 2002.

Shenhua Group is the leading producer, with raw coal production in 2003 exceeding 100 Mt and 37% higher than in 2002. Shenhua's operations are in the Shenfu Dongsheng coalfield located at the boundaries of Shanxi, Shaanxi and the western part of Inner Mongolia. It is one of the largest coalfields in China and ranks among the world's seven largest. It was discovered in the 1980s, and covers a total area of 31,172 km². The number of producers with individual annual outputs in excess of 10 Mt increased from 20 to 23 in 2003.

The rapid development of the motor-car, and construction industries and infrastructure fuelled demand for coal in 2003. Domestic demand was principally for power and heat generation, steelmaking, the construction industry and the chemicals industry. They consumed 840 Mt, 200 Mt, 180 Mt and 80 Mt respectively, and accounted for 83% of the total consumption in 2003.

Iron ore and steel

The iron and steel industry in China has been stimulated by strong domestic demand, particularly from the construction industry, manufacturing and automotive sectors. Production of steel products reached 222.3 Mt in 2003, a 22% increase over 2002 and making China the only country with annual steel output in excess of 200 Mt. Crude steel production increased by 21.2% in 2003 to 220.12 Mt. Output of pig iron increased by 19.7% to 202.3 Mt.

China is the largest consumer of iron ore in the world, accounting for about a third of the global market. It is the rapid growth of China's steel industry that has fuelled demand.

China's production of iron ore in 2003 posted an increase, and output by medium- to large-scale enterprises rose by nearly 14% to 261 Mt. It was estimated that total output of iron ore may have exceeded 300 Mt if output by small-scale producers is included. Around 50% of iron-ore production comes from mines located in Hebei and Liaoning provinces. The other provinces and regions that produce iron ore include Beijing, Shanxi Province, Sichuan Province and Inner Mongolia.

According to statistics from China's Steel Industry Association, steel capacity in 2003 reached 240 Mt, and a further 70 Mt of annual capacity was under construction. Apparent steel consumption was estimated at 247.3 Mt, 25% higher than in the previous year. It was the third consecutive year that growth in consumption surpassed growth in production.

China is the largest importer of iron ore in the world, and last year imports increased by 33% (36.6 Mt) to 148.13 Mt. The main suppliers were Australia (58.1 Mt), Brazil (38.4 Mt), India (32.3 Mt) and South Africa (9.6 Mt).

Exports of steel products increased by 27% in 2003 to 7.0 Mt, and imports of steel products jumped by 52% to 37.2 Mt.

Chinese steel producers paid US\$1-3/t (US\$420 million in total) more to import iron ore in 2003 than their counterparts in Japan. In order to stabilise supply channels and reduce the cost of iron ore, the Strategic Task Force for Import of Iron Ore by Steel and Ore Entities was formed at the end of 2003. The task force will negotiate for better terms from suppliers, and will buy iron ore on behalf of Chinese consumers.

Aluminium

As a consequence of the commissioning of new smelter projects and expansions at existing facilities, production of aluminium ingot climbed by 27% in 2003, to reach 5.6 Mt. Aluminum Corp of China Ltd (Chalco) increased output by 1.4%, to 761,800 t, Qingtongxia Aluminium Co increased production by 2.3% to 242,300 t, Lanzhou Aluminium by 32.5% to 209,400 t and Emeishan Aluminium Group Ltd by 85.4% to 125,100 t. There were 13 aluminium producers each with annual production capacity exceeding 100,000 t, and their combined output accounted for about 49% of domestic production.

Alumina production increased by 12% to 6.1 Mt in 2003, and imports increased by 23% to 5.6 Mt. China is dependent on imports for about 50% of its alumina requirements.

Imports of aluminium ingot increased by more than 100% to 545,100 t, and exports increased by 67% to 1.04 Mt.

Increased production of downstream aluminium products last year stimulated domestic consumption of aluminium, and total consumption is estimated at more than 5 Mt. Alumina consumption reached 11 Mt. Investment in aluminium exceeded Yu25 billion and added about 2.8 Mt of new production capacity, to bring total annual capacity to 8.3 Mt. The production total of 5.6 Mt was 27% higher than in 2002. However, power shortages within China affected some smelting operations, forcing them to reduce or halt production. The rapid growth of capacity in China has also driven international alumina prices higher.

Chalco is the largest aluminium producer in China and the second-largest alumina producer in the world. According to China Metal Bulletin, it produced 6 Mt of alumina and 760,000 t of electrolytic aluminium in 2003, 11% and 2.4% higher, respectively, compared with 2002.

Copper

Domestic production of copper in concentrates (contained copper) totalled 582,454 t in 2003, 0.2% lower than in 2002. Production of refined copper during the first 11 months of 2003 was 1.63 Mt, an increase of 12.2% compared with the corresponding period of the previous year. Statistics indicate that full-year production of refined copper was 1.84 Mt, an increase of 12.9% compared with 2002.

There were five copper producers with individual production exceeding 100,000 t in 2003, and their output accounted for about 59% of total domestic production.

According to Customs Statistics, imports of copper concentrates increased by 29% to 2.67 Mt. Imports of refined copper rose by 15% to 1.36 Mt, and exports decreased by 15.9% to 64,400 t.

Output of refined copper by Jiangxi Copper Corp, China's leading producer, reached 342,000 t, an increase of 48% over 2002. Jiangxi Copper's annual production capacity is 400,000 t. Tongling Non-ferrous Metals Group ranked second, with 337,300 t, an increase of 10% compared. The other main producers are Yunnan Copper, with 187,100 t, Daye Non-ferrous Metals Co, with 118,900 t and Jinchuan Group Ltd, with 102,800 t.

Jinchuan has increased its rate of investment to boost copper production to 250,000 t/y by 2006. It also announced at the end of 2003 that it was seeking potential backers to participate in several downstream copper projects, including the installation of a 100,000 t/y facility for the production of copper rod, a separate plant for the production of 4,000 t/y of condenser tubes and a third project for the construction of a line to produce 30,000 t/y of copper plate.

As one of the four reserved mines in China and the largest copper production-line project in Qinghai Province, the Saishitang copper mining project was completed during 2003 and started production in August. The project was jointly invested by WMC Resources Ltd, Qinghai Jinxing Mining Fund Ltd,

Hainan Tibet Economic Cooperative Corp and Qinghai Mining Group Ltd. Saishitang is located in Qinghai Province, and has the capacity to process 500,000 t/y of ore, which should yield 6,580 t/y of copper in concentrate.

China surpassed the US in 2002 to become the world's largest copper consumer. Brisk economic development, especially in the electronics and manufacturing industries, fuelled demand, and total copper consumption in 2003 is estimated at 2.9 Mt, about 11.5% higher than in the previous year. It was predicted that total copper consumption in 2004 will be 3.4-3.6 Mt.

In November 2003, six of China's largest copper smelters (Jiangxi Copper, Yunnan Copper, Tongling Non-Ferrous Metals, Daye Non-Ferrous Metals, Jinchuan Group and Zhongtiaoshan Non-Ferrous Metals), with a combined capacity of 1.2 Mt/y, formed a purchase union. The smelters have stated that they are likely to cut production in 2004 in response to low treatment and refining charges, and a lack of raw materials.

Nickel

Nickel metal production in 2003 totalled 64,711 t. Of this total, Jinchuan Group contributed 60,588 t, increasing its output by 27%. Production of locally-mined nickel-in-concentrate was 60,613 t, an increase of 11%. Of this total, 54,449 t was produced by Jinchuan Group, which increased its production by 14.2%. Imports of nickel concentrates totalled 7,074 t, 1.3% higher. Exports of nickel increased by 138% to 10,643 t.

China's consumption of nickel in 2003 was estimated at 92,000 t, 11.3% higher than in the previous year.

A perennial shortage of nickel ore is slowing the development of all Chinese nickel producers and, in order to overcome this problem, some producers are making efforts to secure stable supplies of ore through co-operation agreements with foreign companies.

For example, Jilin Nickel Industrial Group Co has signed a joint-venture agreement with Inco Ltd. The joint venture will be primarily engaged in mining nickel ore in China; Inco will hold a 60% stake in the venture via a cash injection and Jilin Nickel (40%) will provide relevant geological data and prospecting rights.

Tin

According to statistics from the National Non-Ferrous Metals Industry Association, China's production of tin-in-concentrate was 55,649 t in 2003, 11% lower than in 2002. Production of refined tin was 100,047 t.

The main tin-producing regions, Guangxi Zhuang Autonomous Region and Yunnan Province, decreased production by 18% and 23% respectively, their total reduction amounting to 9,100 t.

As a result of depressed tin prices and weak world consumption, China's exports of tin products fell by 3.5% in 2002 to 44,000 t, although by value they

increased by 15% to US\$191 million. Imports increased by 5% to 29,600 t, valued at US\$130 million, an increase of almost 20% on the previous year. In 2003, exports of refined tin totalled 31,300 t. Net exports were 26,300 t.

Molybdenum

According to statistics from the National Non-Ferrous Metals Industry Association, production of molybdenum concentrate in 2003 was 67,858 t. Consumption was estimated at 12,000-13,000 t, an increase of about 10%.

China's National Customs statistics estimate the value of imports and exports of molybdenum products at US\$576.2 million in 2003, of which, imports were valued at US\$56 million (7.6% more than in 2002), and exports US\$520 million (45% higher than the previous year). Imports of molybdenum in concentrates in 2003 reached 15,931 t, an increase of 12.5% compared with the previous year.

China possesses identified resources of molybdenum amounting to some 8.6 Mt. Of the six largest molybdenum mines in the world, three are located in China – Luanchuan in Henan Province (with contained reserves of 1.3 Mt), Daheishan in Jilin Province (1.1 Mt) and Jinduicheng in Shanxi Province (970,000 t).

Daheishan Molybdenum, which was established in the 1980s, has abundant reserves but has been on the verge of bankruptcy for various reasons. It was reorganised in June, 2002, and Jilin Nickel Daheishan Ltd was established.

Tungsten

The government continued to exert control over the production and export of tungsten during 2003. In January, the Ministry of Land and Resources (MLR) set the total allowable production quota of tungsten concentrate for the year at 43,660 t but the actual output in 2003 was more. Output quotas were distributed among 118 tungsten producers and, according to China Metal Bulletin, tungsten concentrate production in 2003 rose by 3.4% to 67,326 t. Rapid development of the automotive machinery manufacturing, construction materials and communications sectors increased domestic demand for tungsten, and 2003 consumption is estimated at about 80,000 t.

National Customs data indicate that exports of tungsten products increased by 29% last year, to 32,987 t worth US\$220 million (an increase of 27%), and imports rose by almost 40% valued at US\$33.7 million.

Jiangxi Tungsten Group Ltd, now the largest tungsten group in China, was formed on December 28, 2003. The group was jointly created by Jiangxi Rare Earth Metals Tungsten Group (the largest precious and rare metals company in China) and China Five Minerals Non-Ferrous Metals Ltd (the largest sales company in China).

Gold

There are more than 1,000 gold mines in China, but most of them are medium- to small-scale operations. According to data from China's National

Statistics Bureau, gold production in 2003 reached 210.1 t. About 160 t came from primary gold mines and the remainder from various non-ferrous smelting entities. Consumption of gold in 2003 was 207 t, making China the fourth-largest gold consumer in the world.

China Gold Group was established in Beijing in 2003. The members of the group include former central government-owned gold companies, companies in which China Gold Co has invested, and other companies which hold government-invested gold properties. In August, China Gold Co listed on the Shanghai Stock Exchange. Other gold companies which listed in 2003 include Shandong Gold Mining Co (listed in Shanghai) and Fujian Zijin Mining Co (listed in Hong Kong).

Fujian Zijin, which was only a small-scale state-owned company located in Shanghang County, Fujian Province, was established more than ten years ago. It has expanded rapidly since then, and from 1992 until 2002, the total asset value of the company has increased from Yu3.5 million to Yu1.2 billion. It owns more than 235.2 t of contained gold resources, and produced 7.25 t of gold in 2002 and more than 9.0 t in 2003, ranking it as China's third-largest producer.

In 2003, Fujian Zijin signed a JV agreement with the Tibet Geological and Mineral Survey Bureau to develop the Mayoumuyan gold mine in Pulan County, Tibet. It is estimated that the contained resource exceeds 79 t. In December 2003, Fujian Zijin listed on the Hong Kong Stock Exchange and became the first gold company to do so. The company raised US\$47 million in its IPO.

Reserves at the Zijin gold mine, owned and operated by Fujian Zijin, have increased from 5.45 t contained in proven ore to more than 200 t in the indicated category since development started in 1992.

The other major gold producer in China, Shandong group, produced more than 10 t of gold in 2003.

Lead

China's National Statistics Bureau estimates production of refined lead in 2003 at 1.58 Mt. Lead concentrate production increased by 15% to 613,500 t.

On the international markets, the price of refined lead was weak during the first half of 2003, and this, coupled with increased domestic demand, had an impact on China's exports of lead. However, an improvement in international prices during the second half caused exports to increase, and over the full year exports posted an 11% rise to 436,000 t. Imports of refined lead decreased by 19% to 25,000 t, but imports of lead concentrate jumped by almost 75% to 679,000 t.

Seven enterprises each produced in excess of 50,000 t and their total production was 637,000 t, accounting for around 40% of the total domestic production.

Zinc

According to statistics from China Non-Ferrous Metals Industry Association, zinc concentrate production in 2003 rose by 15% to 1.69 Mt. The National Statistics Bureau estimates that refined zinc production increased by 10% to 2.3 Mt. The enterprises posting the biggest increases were mainly newly-established, privately-owned entities. Eleven enterprises each produced in excess of 50,000 t, and their combined output was 1.24 Mt, accounting for about 54% of the total domestic production.

Consumption of zinc in 2003 was estimated at 2 Mt, 11% higher than the previous year.

Magnesium

China Non-Ferrous Metal Industry Association estimates that production of crude magnesium increased by 46% in 2003 to 339,400 t. Magnesium was produced mainly in Shanxi Province, Henan Province and the Ningxia Autonomous Region.

China is the world's largest exporter of magnesium and in 2003 its exports increased by 43% to 298,000 t, worth US\$4.5 billion, an increase of 64% compared with 2002. Imports of magnesium products reached 4,809 t, 151% higher than the previous year, with half comprising magnesium alloy.

During the period 2001-05, the Chinese Government is focusing on the development of technology to produce and utilise magnesium alloys. As a consequence, China's large-scale magnesium producers are experiencing a new round of expansions.

According to incomplete statistics, production capacity of crude magnesium reached 600,000 t last year, 37% higher than in 2002.

Table following page.

Production of main minerals and metals¹

		2002	2003
Coal	Mt	1,393	1,608
Coke	Mt	134	139
Pig Iron	Mt	170	202
Copper	Mt	1.63	1.84
Copper concentrate	t	554,000	582,500
Aluminum	Mt	4.5	5.6
Alumina	Mt	5.48	6.13
Nickel	t	57,000	64,711
Tin	t	82,000	100,000
Molybdenum concentrate	t	67,000	67,858
Tungsten concentrate	t	67,206	67,326
Gold	t	189.8	210.1
Lead	Mt	1.26	1.58
Lead concentrate	t	640,000	623,000
Zinc	Mt	2.08	2.29
Magnesium	t	231,700	354,000

¹All the data in this report are preliminary.