

The Current Situation and the Future Development of the Ferroalloy Industry in Asia

Teiken Akizuki

Chairman, Japan Ferroalloy Association
President, Nippon Denko Corporation, Ltd., Japan

Introduction

I am very glad to be here, and feel truly honored to have the opportunity to speak at this 8th meeting of INFACON in Beijing in front of so many participants representing various ferroalloy industries over the world.

I have been asked to speak about *The Current Situation and the Future Development of the Ferroalloy Industry in Asia*. Unfortunately, the current situation of the world ferroalloy industries is not overwhelmingly positive.

World crude steel production is close to 800 million tonnes per year, and it is sure that the demand for ferroalloys will continue to expand. For the healthy development of the ferroalloy industry under these circumstances, it will be necessary for us to establish mutual understanding and trust between mining companies and ferroalloy smelters, as well as among the ferroalloy smelters themselves.

This is the final meeting of INFACON in the 20th century. I sincerely hope that this gathering will mark the first step toward forging the strong industry bonds that are required to successfully face the challenges of the next century.

Crude Steel Production in the World and Asia

The demand for ferroalloy is mainly from the steel sector, and it is reasonable to say that the ferroalloy industry is dependent on the steel industry. With this in mind, we will first review the trend of steel production.

Whereas IISI publishes timely data for crude steel production by country, I would like to analyze current trends using these data.

Table I shows the trend of crude steel production in the world and that of the major steel producing countries on a country basis after 1990. It is remarkable that the world crude steel production in 1997 was 794 mil tonnes, exceeding the previous historical record of 786 mil tonnes established in 1989.

On a country basis, the host country of this meeting, China, recorded 107 mil tonnes and continues to be ranked as the world's single largest producer of crude steel, maintaining its number one status from 1996. Crude steel production in Korea

Table I. Crude steel production trend
by major steel producing country (Unit: 1,000MT)

	1990	1991	1992	1993	1994	1995	1996	1997
Total world	770,458	733,691	719,676	727,544	725,337	752,335	748,056	794,459
Japan	110,339	109,649	98,132	99,523	98,295	101,640	98,801	104,541
Korea	23,125	26,001	28,055	33,026	33,745	36,772	38,903	42,525
China	66,349	71,000	80,935	89,539	91,532	92,968	100,028	107,306
India	14,963	17,100	18,117	18,115	19,292	22,003	23,753	23,750
EU 15	148,406	148,693	143,768	144,182	151,696	155,801	146,940	159,340
Germany	38,434	42,169	39,711	37,625	40,837	42,051	39,793	45,005
France	19,016	18,442	17,977	17,110	18,025	18,100	17,633	19,781
Italy	25,467	25,112	24,835	25,720	26,067	27,771	24,285	25,210
Great Britain	17,841	16,474	16,212	16,625	17,286	17,604	17,992	18,491
Spain	12,936	12,798	12,243	12,960	13,445	13,802	12,161	13,786
former USSR	154,436	132,839	117,976	98,109	78,256	79,071	77,173	78,995
Russia			67,029	58,346	48,812	51,589	49,253	46,920
Ukraine			41,759	32,609	24,081	22,309	22,332	25,500
USA	89,726	79,739	84,322	88,793	91,244	95,190	94,670	99,226
Canada	12,281	12,987	13,933	14,387	13,897	14,415	14,735	15,360
Brazil	20,567	22,617	23,934	25,207	25,747	25,076	25,237	26,151

Source: IISI (Reference 1)

has been strengthening in a remarkable fashion and finally exceeded the 40 mil ton mark in 1997.

Japan has been hovering at around 100 million tonnes for several years. Production in 1997 was 104 million tonnes, a relatively high number in recent years.

The European Union's 15 member countries produced 159 mil tonnes in total, and the United States produced 99 mil tonnes. Steel production was fairly good in the major ferroalloy markets.

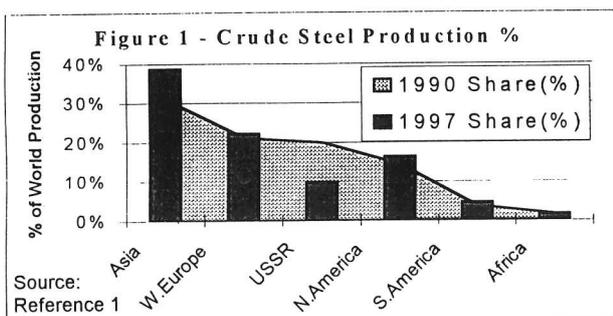


Figure 1 shows the crude steel output of major producing regions as a percentage of world production in 1990 and 1997.

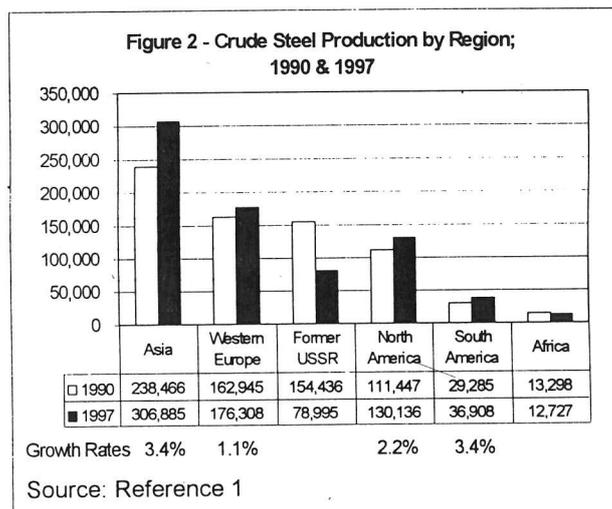
As you can see, Asia substantially increased production by 7.6 points from 31.0% in 1990 to 38.6% in 1997. The major reason for this nearly 25% jump in the share of total world output is due to the increased production of China and Korea.

Conversely, production in the countries formerly comprising the Soviet Union sharply decreased 10.1 points, from 20% to 9.9%; more than a 50% drop in share of total world output.

Production in Western Europe and North America has remained fairly stable, with minor fluctuations of about 1 point plus or minus.

Figure 2 shows the comparison of crude steel production by area between 1990 and 1997.

Please look at the averaged annual growth ratio from 1990 to 1997. Although the growth of total world production was only 0.5%, that of Asia and South America showed much higher growth of 3.4%. We can quickly see that the Asian market is expanding as a market for ferroalloys.



Crude Steel Production vs. Ferroalloy Market Prices

Let us look at the interrelationship between crude steel production and the market prices of ferroalloys. In the previous boom period of crude steel production around 1989, the prices of ferroalloys increased and the ferroalloy industry also became active. However, in 1997, while the production of crude steel reached a record high, the market for ferroalloys contrarily remained depressed.

The largest factors contributing to this contrary movement are the structural change of the supply system of ferroalloys and the chaotic expansion of production capacity of ferroalloys, which actually exceeded real demand from the steel sector.

I think that the ferroalloy producers of the world should think over this point seriously. It is vitally important for us to establish an orderly supply system that fits the real demand of the market.

Table 2. Major Ferroalloy Production (Unit: 1,000 MT)

	1995							1996						
	HCFeMn	SiMn	MLFeMn	HCFeCr	other FeCr	FeSi	sub total	HCFeMn	SiMn	MLFeMn	HCFeCr	other FeCr	FeSi	sub total
World	3,160	3,170	730	4,290	430	4,030	15,810	3,190	3,370	750	3,420	380	3,870	14,990
							(100%)							(100%)
China	821	830	238	541	107	1,206	3,743	1,007	980	146	282	147	1,490	4,052
							(23.7%)							(27.0%)
Japan	398	84	135	210	27	14	868	400	94	158	193	18	10	873
							(5.5%)							(5.8%)
Korea	104	97	15	0	0	0	216	108	83	18	0	0	0	209
India	177	170	1	304	4	85	741	185	175	2	262	10	85	719
Philippines				50		10	60				7			7
Total	1,500	1,181	389	1,105	138	1,315	5,628	1,700	1,332	324	744	175	1,585	5,850
							(35.6%)							(39.1%)

1. "IMI", "ICDA" for Mn alloys, Cr alloys, "Statistics of Geological Study in the USA" for FeSi
2. "Almanac of Chinese Steel Industry" for Chinese data
3. Japan Ferroalloy Association estimates for total world production, with "IMI", "ICDA" for Mn alloys and for Cr alloys.
4. Exclude FeNi from above. However world production in 1995: 960,000MT; 1996/938,000MT according to USSGI

Current Situation of the Ferroalloy Industry

I would like to comment on the production of ferroalloys in the world and in Asia. Although it is difficult to find such established statistics as IISI for the steel industry, there are some data available from IMI (International Manganese Institute) and ICDA (International Chrome Development Association). Using these data, I want to explain the production of ferroalloys in the world and the position of Asian production in the world.

Table 2 shows the production of six commodities of bulk-alloys in 1995 and 1996. Please note that this chart includes some estimated figures, and does not count the production of ferronickel or specialty alloys. It is not exact, but one can see that these figures cover a considerable part of ferroalloy production.

According to this data, total 1995 world ferroalloy production was 15.81 mil tonnes, decreasing to 14.99 mil tonnes in 1996 because of the cutback in the production of chromium alloys.

1995 Asian production was 5.63 mil tonnes, rising slightly to 5.86 mil tonnes in 1996 while the share of Asian production of total world production increased from 36% in 1995 to 39% in 1996. China production amounted to 27% in 1996, exceeding one fourth of total ferroalloy production.

Production of ferronickel, which is not counted in the chart, was reported in a certain statistic as 940 thousand tonnes in 1996, and that of Asia (Japan/Indonesia) was 380 thousand tonnes. These figures are just for your reference.

As for the top four countries in ferroalloy production in Asia, I think that China and India can be categorized as exporting countries as well as ferroalloy producing countries, and that Japan and Korea can be categorized as importing countries.

But from the viewpoint of raw material supply (manganese ore, chrome ore), China and Japan are importing countries of manganese and chrome ore while Korea and India are importing countries of manganese ore.

The high raw material cost and low product price trend that has been in place for a long time is a great concern for ferroalloy producers. For the health of the industry, it is imperative that the world's ferroalloy producers seriously consider why the market has moved in this way.

The Japanese Ferroalloy Industry

I would like to briefly summarize the history of the Japanese ferroalloy industry.

It is said that the Japanese ferroalloy industry started with the production of ferromanganese and spiegeleisen in a blast furnace in 1900. Since that time, it has been developing along with the steel industry for nearly 100 years.

During the 1960's and 1970's, development was accelerated. In order to secure a stable supply of ferroalloys, an important raw material for steel production, and to meet growing demand for expanding steel production, the Japanese ferroalloy industry was restructured through the grouping and consolidation of companies affiliated with several major blast furnace steel mills.

As a result, Japan Metals & Chemicals Co., Ltd., Nippon Denko Co., Ltd., Chuo Denki Kogyo Co., Ltd., and Mizushima Ferroalloy Co., Ltd. were born. The personnel and capital relationship with users of ferroalloys was further strengthened, and it contributed to building the foundation of the Japanese ferroalloy industry of today.

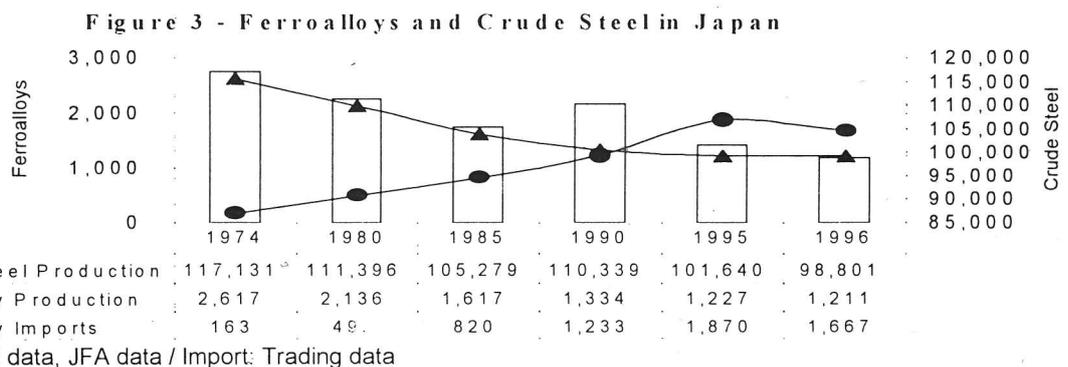
In 1974 the number of companies increased to 44 and the production of ferroalloys reached 2.6 mil tonnes per year, the historical production record of the Japanese ferroalloy industry.

After that, the Japanese ferroalloy industry experienced the two oil crises, the sharp appreciation of the Japanese yen, and the depression of crude steel production in the world for an extended period. Such changes in the domestic and world economic circumstances promoted an increase in the import of ferroalloys into Japan, the quantity of which has been increasing year by year. There has been no other choice for the Japanese ferroalloy industry but to proceed with the rationalization.

Under such circumstances, we had to file an anti-dumping suit of ferrosilicon in 1984 (appealed in March, withdrawn in June), and on ferrosilicomanganese in 1991 (imposed in February 1993, and lifted at the end of January, 1998).

Because of the continuing inflow of the imported material, some producers in Japan have had to shift their operations abroad. Considering such a situation, we hope for the normalization and the establishment of a fair and orderly market in the world trading of ferroalloys.

Today, 20 companies are producing ferroalloys in Japan with total annual production of approximately 1.2 million tonnes (including ferronickel), mainly ferromanganese.



During this time, crude steel production in Japan has been around more or less 100 million tonnes per year (including special steel slightly less than 20%). The demand for ferroalloys has been more or less 2.5 million tonnes per year (for steel, 2.3 mil tons; for foundry 0.2 mil tons, approximately).

In the case of local demand, we, Japanese ferroalloy producers, have been supplying ferroalloys with stable quality supported by customers' trust.

I understand that the Japanese steel industry will continue shifting its production to higher grade steel products, and that it will also continue to be the responsibility of the ferroalloy producers to guarantee the quality of ferroalloys, and to supply a suitable quantity to meet our customers' demand.

Future Development of the Ferroalloy Industry

I have reviewed the production of both crude steel and ferroalloy in the world and in Asia as well as the Japanese ferroalloy industry. I would like to conclude my presentation by giving my opinion in the hopes that it will contribute to the future development of the ferroalloy industry. Considering the fact that ferroalloy is an international commodity and is traded all over the world, I think it will be a global theme not limited only to Asia.

The establishment of a supply system meeting customers' demand and an orderly market in world trade

I think the present production capacity of the world ferroalloy industry is excessive. It is apparent from the fact that the ferroalloy market did not react to an increase in demand (caused by an increase in crude steel production).

Over-production not only wastes valuable natural resources and energy, it also affects the profitability of the whole ferroalloy industry through the accelerated inter-country price war, which will eventually lead to further trade friction. I think we have to recognize that the present abnormal situation of the world trading market was caused by the competition in the first half of the 1990's which was due to over-production.

We think that each producer should aim to produce a suitable quantity to meet demand and avoid exporting while ignoring the market movement.

Rectification of the longstanding market situation of "Raw material price is high, product price is low"

The continued imbalance between the high cost of raw materials and the low price of products is a serious problem for ferroalloy producers. Mining companies and ferroalloy producers should have been in a relationship of co-existence, and we hope for the development of a pricing structure of ore which follows the price of products as non-ferrous metals.

On the other hand, we, ferroalloy producers, also have to pay attention to the fact that over-production will adversely affect the market and our very future in two profound ways. Over-production of ferroalloy leads to overproduction and over-supply of products; this further depresses the price of products. At the same time, overproduction of ferroalloy puts more stress on limited mineral resources, makes the ore market tighter and pushes up the ore price, which again reinforces and sustains the "Raw material cost is high, and product price is low" dilemma.

Environmental Measures

Greater consideration of the global environmental will be an even more important theme for the manufacturing industry in the future. In addition to the measures against air and water pollution, it will become a serious matter to decrease carbon dioxide (CO₂) and other gases causing the greenhouse effect as a measure against global warming. In order for the ferroalloy industry to develop as a clean industry, it will be important to execute energy-saving and environmental friendly measures.

The Need for Timely Statistics

To achieve a reasonable product price from a fair raw material price, and in order to develop and sustain a sound trading market, it is essential that we all reach a common understanding of market supply and demand.

As a sound foundation toward this goal, the steel industry is making an effort to provide comprehensive statistics through IISI in order to grasp the correct supply and demand of the world.

As international conferences like IMI and ICDA have already been established in the ferroalloy industry, I would like to suggest that we also involve them in establishing a timely and accurate statistical reporting system. Cooperation among participants while working toward this common goal is indispensable.

Conclusion

I hope that my opinion will be of service to the further development of the ferroalloy industry of the world as we head into the next century.

As a representative from Asia, I would like to pay my respects to the contributions of the Ministry of Metallurgical Industry, the Chinese Society for Metals, the Ferroalloy Industry Association and all other persons involved in holding this eighth meeting of INFACON here in Beijing.

Thank you very much for your attention. (June 10, 1998)

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