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DIRECTORATE FOR SCIENCE, TECHNOLOGY AND INDUSTRY
STEEL COMMITTEE

DEVELOPMENTS IN NON-MEMBER ECONOMIES: THE ASIA-PACIFIC AREA

This document will be considered by the Steel Committee at its meeting on 13 and 14 November 1997.

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SUMMARY AND CONCLUSIONS

This report reviews developments in steel in non-Member countries in the Asia-Pacific area during the past year, basically covering the period from October 1996 to October 1997. Highlights and conclusions follow.

Industry conditions

The recent economic downturn in a number of Southeast Asian countries is having effects both on steel markets and industry investment. The fall in the value of currencies, combined with the austerity measures being taken in the countries concerned, will most likely slow public spending on infrastructure projects, an important market for steel, while putting downward pressures on steel prices (in dollar terms). This has already had effects on a number of investment projects in steel in the area. In Thailand, for example, some twelve steel and steel-related projects, valued at $5 billion, are reportedly being delayed due to a lack of liquidity. The market for steelmaking equipment has also reportedly slowed significantly in recent months, which is another sign of slowing investment.

On the other hand, activity and interest in steel investment has not come to a complete standstill. The executive of one Thai steel company, for example, commented in September that the economic downturn had not had a major effect on current projects. Indeed, one major European steelmaker which has been studying an investment in Indonesia indicated recently that the decline in the value of the rupiah had made the company’s potential investment more attractive in financial terms. Market prospects for steel in the area would, however, have to be closely examined prior to a final decision being made.

Trade

Current situation

Weakened demand and lower prices will also likely have effects on trade. Demand for imports will decrease, while lower prices (in dollar terms) will diminish the attractiveness of the affected markets for exporters. By the same token, lower domestic demand and higher prices elsewhere will increase the incentive for countries in the area to increase their exports.

There is already some evidence of such shifts in trade. Russian exports to the area, for example, fell by about 30 per cent during the January to June 1997 from the year-earlier level, declining from 6.2 to 4.2 million tonnes. Moreover, steel exports from Chinese Taipei to countries within the region fell sharply in September 1997, as buyers were reportedly delaying purchases. Shifts were also evident in China. Although the country’s economy is relatively strong, its imports have declined sharply in 1997, falling by 18 per cent during the first eight months of 1997, to 8.65 million tonnes.

As for exports, some reference has been made in the press to efforts that producers in affected countries have made, or might make, to boost foreign sales, with a view towards maintaining operations at satisfactory levels. In addition, countries not directly affected by the economic downturn have also been increasing foreign sales. China’s steel exports, for example, rose by 9.7 per cent during January to August 1997 (over the year earlier levels), to 2.82 million tonnes. In India, the Government is exploring ways to increase exports in light of a reported glut of steel in the domestic market. The country’s largest steelmaker, Sail, intends to increase its exports to one million tonnes during the current fiscal year, from previous levels of 200 000 to 300 000 tonnes. During the April to August 1997 period, the company's actual exports had more than doubled, to 321 500 tonnes.

Trade measures

The attached report indicates that countries in the region are showing a growing sensitivity to imports. Reports that China will take measures against dumped imports, for example, continue to appear in the press. As recently as September 1997, an official from the Ministry of Metallurgical Industry intimated that action would soon be taken, presumably under the country's newly established antidumping and anti-subsidy regulations. Further action on imports has been taken in India, which formally instituted an antidumping proceeding in October 1997, and there are reports that an additional case involving cold-rolled sheet would be filed shortly. The situation appears to be similar in Indonesia and Thailand. In Vietnam, wholesale bans have been placed on imports of a range of steel products.

Foreign investment

Growth in the steel industries in the Asia-Pacific area is being facilitated to a large degree by foreign investment. The attached report contains information on the nature and forms that such investment is taking. In all, data on 88 actual or potential projects, valued at well over $9 billion, are presented (see table below). The report shows that a great deal of investment has occurred in finishing facilities and service centres, though interest has also been shown in basic steelmaking. While many of the projects involve flat -rolled products, a significant number also involve long products and pipes. The greatest number of projects shown are taking place in China (30 projects), followed by Thailand (14 projects), Vietnam (13 projects) and India (11 projects). Japan and Korean investors appear to be the most active, although there is also a fair amount of investment among the non-Member economies, as well as investment from North American and European companies.

Foreign investment in steel in non-Member economies in the Asia-Pacific Area, by number and type

Country	Service centres	Flat-rolled facilities[1] Cold-rolling	Coating	Not elsewhere classified[2]	Long product facilities[1]	Pipe facilities	Not eslewhere classified	Total number
China	9	5	7	1	4	2	2	30
Fiji	0	0	0	0	1	0	0	1
India	2	2	1	0	2	1	3	11
Indonesia	0	4	1	2	0	0	0	7
Malaysia	1	0	1	0	0	0	2	4
Myanmar	0	0	3	0	0	0	0	3
Philippines	0	1	0	2	2	0	0	5
Chinese Taipei	0	0	0	1	0	0	0	1
Sri Lanka	0	0	0	0	1	0	0	1
Thailand	3	4	1	2	2	2	0	14
Vietnam	2	1	3	0	2	4	1	13
Total	17	17	17	8	14	9	8	90

1. Including upstream facilities.
2. Includes unspecified projects and multi-facility projects.

In many instances it appears that the foreign investors will be sourcing feedstock for the new rolling facilities or service centres from mills in their home countries, at least initially. This is apparently being done to assure the quality of finished products, a significant percentage of which is destined to be sold to equipment manufacturers (some of which are "transplants").

In term of basic steelmaking, the report indicates that foreign investment has been made, or will be made, in four new integrated steelmaking facilities (in India (2), Malaysia, the Philippines), and in six new electric furnace shops (in China, Indonesia (2), the Philippines and Thailand (2)).

ACTION

The report is for information, and for consideration at the Steel Committee's meeting on 13-14 November 1997. Delegates are asked to review the information contained in the report on foreign investment in steel, and to provide the Secretariat with any modifications.

RELATED DOCUMENTS

SG/DNME/SC(96)7

DSTI/SI/SC(96)16

TABLE OF CONTENTS

DEVELOPMENTS IN NON-MEMBER ECONOMIES: THE ASIA-PACIFIC AREA

1. This report reviews developments in steel in non-Member countries in the Asia-Pacific area during the past year, basically covering the period from October 1996 to October 1997. In light of the considerable and growing interest in the role that foreign investment is playing in the world's steel industries -- in particular in this area -- tables containing information on such investment have been developed for each of the countries reviewed, where such investment has occurred. While the tables focus on investment developments during the past twelve months, in certain instances information on earlier periods has also been included. In future work, efforts will be made to include other significant investments that were made in prior periods.

2. As with previous reports, it should be borne in mind that it has not been possible to verify that the information presented provides an accurate account of the situation described in the countries reviewed. Much of the document is based on reports appearing in the trade press. Please note that in instances in which monetary sums have been converted into US dollars, the conversions have been made on the basis of currency exchange rates prevailing on 22 October 1997.

China

Industry objectives

3. Under the five-year plan adopted in March 1996, the Chinese Government set a number of goals for the Chinese economy for the year 2000. In the field of steel:

– *Crude steel production* would rise to 105 million tonnes from the 1995 level of 94 million tonnes. Subsequent statements by Chinese officials have suggested production could well rise at an even greater rate, to 110 to 120 million tonnes. This would be in line with OECD forecasts for the country's capacity. Despite the delay and/or cancellation of projects, nominal capacity is expected to increase from 108 million tonnes in 1996, to 120 million tonnes by the year 2000 [see DSTI/SI/SC(97)38].

  Note: Crude steel production during January to August 1997 was 70.9 million tonnes, which was 8.5 per cent higher than the level attained through August 1996. If the rate of increase is maintained, production would reach a record 108-109 million tonnes in 1997, as compared to the record 101.1 million tonnes attained in 1996.

  Furthermore, in mid-year, the Ministry of Internal Trade forecast that domestic rolled steel demand would top 100 million tonnes in 1997, up from 98-100 million tonnes in 1996. Rolled steel output, however, would climb by 7-8 per cent, to 92 million tonnes. By the year 2000, consumption would be on the order of 120 million tonnes.

- *Continuous casting* would be used to produce 70 per cent, or more, of total crude steel production by the year 2000. Subsequent statements have targeted 75 per cent; during the first four months of 1997 the share of steel continuously cast rose to 62 per cent, up sharply from the 22 per cent level attained in 1990.

- *Open hearth steelmaking*, which accounted for 15 per cent of crude steel production in 1995, would be phased out, while the number of small blast furnaces and small converters in use would be reduced. Some open hearths at Anshan, Wuhan and Chongqing have in fact reportedly been replaced by basic-oxygen converters in recent months. Progress has, however been slowed by the lack of investment funds. In the case of Anshan, for example, the closure of five open hearth shops will leave seven still in operation.

4. Under the plan, with self-sufficiency in steel growing, emphasis would be put on developing products that met market needs, improving product quality, cutting costs and increasing exports. In this respect, officials from the Metallurgical Ministry have since noted that efforts would be made to shift production to certain processed products where import needs were still relatively high. These products included galvanised sheets, tinplate, cold-rolled silicon sheets, oil country tubular goods (OCTG), and specialty steel products for use in the automotive, power, petroleum and chemical industries. Overall self-sufficiency in rolled steel would rise to 95 per cent by the year 2000, with sufficiency in two key areas -- products for the automotive and OCTG industries -- to rise to 80 and 75 per cent, respectively. Self-sufficiency in galvanised steel and tinplate would also rise from the current levels of 60 and 30 per cent, respectively.

5. Efforts are also being made to increase the use of pulverised coal in blast furnaces. A report indicates that in 1996 around 5 million tonnes of pulverised coal were used by the industry. Injection rates were as high as 154 kilograms per tonne of iron. The Chinese Government is encouraging further use of the pulverised coal. Target injection rates under the current five-year plan are: 100 kilograms per tonne for small and medium sized plants and 150-200 kilograms per tonne for larger ones.

Industry conditions

Financial situation

6. In 1996, profitability in the steel industry was generally better than in other state-owned enterprises. Of China’s 24 largest companies, only one reportedly lost money. Some 45 per cent of the smaller companies, however, were unprofitable.

7. The situation in the industry has, however, deteriorated during 1997. A recent report indicates that 50 of China’s 106 largest iron and steel works were losing money during the January-July 1997 period, compared with 32 in 1996. The losses totalled some 2.2 billion yuan ($265 million) during the first seven months of the year, as compared to 2.7 billion yuan ($325 million) for 1996. The report suggests that the losses were resulting from increases in raw material prices, power rates and transportation fees. The Government has called on its plants to draw up plans to reverse such losses within three years. One of the most difficult challenges will apparently be finding ways to reduce the relatively large number of redundant workers commonly employed at state-owned plants. Shougang Corporation, one of the country’s biggest and oldest state-owned companies, is said to have 70 000 excessive workers out of a total workforce of 220 000. The number of retired workers receiving pensions

is also a challenge; at some companies the number of pensioners is said to represent 25 to 40 per cent of the active workforce.

In other news

- *Prices*.-- Chinese steel prices fell during the first half of 1997. June prices were 3.9 per cent lower than levels prevailing in January, and 7.2 per cent less than mid-1996. Reinforcing bar was selling for 2 730 yuan ($329) per tonne, while rods were being sold for 2 780 yuan ($335) per tonne.

- *Competition policy*.-- Chinese industry sources reported that the country would be establishing a national spot market for steel. The purpose of the market, which would open in March 1998, would be to improve liquidity in the industry. The spot market would link the six major Chinese steel producers to a computer network.

- *Outlook.*-- The Ministry of Geology and Mineral Resources has forecast that steel demand in China should increase to 200 million tonnes by the year 2010 and 330 million tonnes by the year 2020. For information, this would raise per capita consumption (based on China's current population) to about 275 kilograms per year; in most OECD areas per capita consumption currently exceeds 300.

  Stainless steel consumption in China, which has risen from 100 000 tonnes in the early 1980s to over 700 000 tonnes in 1996, is expected to continue to grow rapidly over the next several years. One Chinese analyst has forecast consumption will grow to 1.1 million tonnes by the year 2000, and to 2.2 million tonnes by the year 2010.

Reform of state-owned enterprises

8. With losses from state-owned enterprises mounting, the Chinese Government indicated in recent months that it would set up a task force to supervise mergers and bankruptcies, and the redeployment of redundant workers. It would also decide which enterprises, banks and local governments would receive state funds. This was viewed by outside observers as a strong signal that restructuring in state-owned enterprises would begin in earnest. New rules to facilitate mergers and bankruptcies were in fact adopted in the Spring of 1997.

9. At the same time, the Government appears to be more receptive to reducing its role in state-owned enterprises. Consensus has apparently been reached within the Government that divestiture of large enterprises could be achieved through the establishment of joint stock companies, in which the state might be a minority shareholder. There is still some question, however, on the extent to which foreign entities would be allowed to buy shares in the larger enterprises.

10. One indirect way in which public participation was seen as occurring was through increased reliance on outside financial entities. Recently, for example, the Government was seeking to increase the liquidity of leading state-owned firms that were not listed on exchanges -- through the issuance of convertible bonds. This measure was announced in the Spring of 1997. The bonds would provide the Government with a means for the state-owned enterprises, many of which are loss-making concerns, to pay off debts. It is not clear to what extent steel companies would be involved in such arrangements.

11. Consistent with the overall announcements made on restructuring state-owned enterprises, the situation in steel has been changing.

- *Baoshan Steel:* In April (1997) Baoshan Steel announced it was considering merging with a number of local unprofitable mills. Baoshan, which has been profitable, is being looked to as a model enterprise within the country. The Government reportedly hopes that the firm will continue to grow, more through diversification than through continued investment in steel. According to the current Chairman, the company hopes to become one of the top 500 enterprises in the world by the year 2010. Steel would continue to be the company's core business, with finance and trade to take on increasingly important roles. The company already has holdings in insurance and banking establishments.

  Within Baoshan, activities that are not germane to the company's core (such as housing, schooling and the like) have been spun off. At the same time, the company has proceeded with plans to increase efficiency, despite the job losses entailed. The steel labour force, for example, has been reduced from 18,000 in 1994 to 10 500 as of mid-1997. The company's efforts to enhance its competitiveness have resulted in a broadening of its customer base. Seven years ago, the Shanghai Volkswagen joint venture (which produces automobiles) imported all of its steel requirements; Baoshan is now said to be the company's principal supplier. Globally, the company now exports some 30 per cent of its steel.

  Baoshan is proceeding with its third phase expansion, which will lift its annual steelmaking capacity to over 10 million tonnes. Twin-shell DC electric arc furnaces with annual capacity of 1 million tonnes, began operation in mid-1997. Two LD converters and a cold-rolling mill are also to be commissioned by the end of this year. In addition, the company has placed orders for another cold-rolling mill, an electro-galvanising line and a hot-dip galvanising line.

- *Handan Iron and Steel:* The successful restructuring of Handan Iron and Steel is also being held up as a model for loss-making state-owned enterprises. Faced with declining performance, the company restructured its operations in 1991, leading to a significant upturn in performance. A market-based pricing system was introduced at all stages of the steelmaking process, as was a comprehensive system of cost control targets. Moreover, a bonus system was introduced as an incentive to improve employee performance. With the bonuses, which now account for some 47 per cent of total labour costs, employee income quadrupled, to 12 000 yuan ($1 444) per year.

  In August, it was announced that the company's finances would be restructured with a 230 million Deutsche mark ($129 million) loan from the Bank of China. The loan, which would be used to help finance the 3.6 billion yuan ($433 million) purchase of thin plate continuous casting equipment from Germany (most likely a compact strip mill, fed by a thin slab caster), would consist of export credits (85 per cent), and a syndicated international commercial loan (15 per cent). The export credits were being offered for a 13-year term at the Frankfurt Inter-Bank Offered Rate (Fibor), plus 0.2 percentage points, while the commercial loan would carry an interest rate of Fibor plus 0.4 percentage points, over an eight-year term. The equipment, installation of which would be completed in four years, would produce 1 million tonnes of steel per year, primarily for the auto industry and appliance makers. Construction of thin slab casters at two other firms -- *Baotou* and *Guangzhou Zhujiang*, is also reportedly making progress.

In September 1997, it was reported that Handan took control over the assets and debts of a troubled steel mill in the Henan province, the *Wuyang* steel works. Wuyang, which produces about 500 000 tonnes of steel per year, had accumulated debts of 1.45 billion yuan ($174 million), while the debt to asset ratio had climbed to nearly 90 per cent.

- *Anshan Steel*: In July a newly created subsidiary of Anshan steel, Angang New Steel was listed on the Hong Kong stock exchange. The unit was formed in January 1997, when Anshan transferred its most profitable production units to the new company, with a view towards attracting investors.

- *Great Wall Special Steel* At Great Wall Special Steel, a sharp reversal in performance prompted the Sichuan Government to step in and take support measures July. Top Government officials had already warned that managers who failed to turn around loss-making state companies would lose their jobs, which was the case at Great Wall Steel. Provincial authorities were working with banks to put together a rescue plan for the company, which lost 300 million yuan ($36 million) in the first half of 1997; in comparison, for the year 1996, the company had lost 23.97 million yuan ($2.9 million) on sales of 1.76 billion yuan ($212 million). The situation was desperate as workers had not been paid for four months.

- *Shougang Steel Corporation:* At Shougang Steel Corporation, Government officials have reportedly ordered managers to curb "runaway spending" at the company, by cutting expenses by $25 million. The company has apparently been trying to control expenses since 1995, when debt that arose from expansion forced a cancellation of $1.2 billion in projects. The company has, however, remained profitable; despite increases in materials and energy costs, the company was expected to earn more than 4 per cent on sales in 1997 (i.e. 1 billion yuan on sales of 23 billion yuan).

- *Government assistance*: Officials in the Anhui Province have reportedly decided to support the renovation of certain state-owned firms, including the Maanshan steel works. Details of the types of support to be given were not provided. Such support, however, has traditionally included easier access to credit and preferential treatment in stock issues.

- *Mergers*: Further mergers were announced during the Summer and Fall of 1997. In the Hubei province in central China, *Wuhan Steel Group* is said to be merging with *Xiangfan Steel*, the *Yichang August First Steel Factory* and the *Jingzhou Steel Factory*. Moreover, the *Yegang Steel Group* will merge with *Huangshi No. 2 Steel Company*, and will also reportedly acquire two or three small to medium-sized firms.

- *Guangzhou Special Shaped Steel Plant:* Guangzhou Special Shaped Steel Plant, a producer of welded tube, cold rolled strip and profiles with annual capacity of 200 000 tonnes, was auctioned on 23 September 1997. This was apparently the first public auction of a firm since the Government called for a restructuring of state-owned enterprises. The proceeds from the auction will be used to help relocate 400 unemployed factory workers, and to repay the firms debts, which exceeded 90 million yuan ($10.8 million).

International trade

- *Exports*: During the first eight months of 1997, China's rolled steel exports rose by 9.7 per cent, to 2.82 million tonnes. Expectations were that full year shipments to foreign countries would be on the order of 4.5 million tonnes, or about 300 000 tonnes higher than the 1996 level.

- *Imports:* Rolled steel imports, on the other hand, declined by 18 per cent during the first eight months, to 8.65 million tonnes. Full year imports were expected to be about 14 million tonnes, or about 2 million tonnes less than 1996. The decline of imports by foreign-funded enterprises was particularly pronounced, reflecting the effects of the elimination of preferential tax breaks for many firms at the end of 1996. These preferences will still be available through the end of 1997 for firms with investment exceeding $30 million.

- *Trade measures*: On 25 March 1997, China implemented antidumping and anti-subsidy trade regulations. Within days there was speculation that the new regulations would be used to take action against imports of steel from the NIS area. While nothing apparently transpired, the possibility of taking action continues to be mentioned. As recently as September 1997, an official from the Ministry of Metallurgical Industry indicated that China would shortly take measures to protect the domestic steel industry from imports that were being sold at below standard prices in the Chinese market.

  Such an action would be consistent with general pronouncements that have been made on trade. In August, the State Economic and Trade Commission indicated that China would be focusing more attention on protecting industries, in line with international practice. Unnecessary imports would be limited, while the structure of imports would be adjusted in accordance with the domestic economy and market demand. Relevant authorities would encourage domestic enterprises to buy competitive products that were produced in China instead of imported goods. Relatively low tariffs would be applied to products which could not be produced domestically. The report also notes that the Ministry of Foreign Trade and Economic Co-operation had been receiving an increased number of complaints that products were being dumped in the Chinese market.

International co-operation

- The Industrial and Commercial Bank of China, the country's largest commercial bank, announced in October 1997 that it had obtained an overseas syndicated loan of some $37.69 million. The loan, which was obtained at a preferential rate, will be used for eight renovation projects in the automobile, chemical, steel and electronics industries.

- The US development company Calcol Inc., has reportedly reached an agreement with the Chinese firm Benbridge (which is 51-per cent owned by Benxi Steel), to act as an agent in the sale of steel in the United States and Canada.

- China's Export-Import Bank has signed an agreement with Zimbabwe under which Zimbabwe Iron and Steel will receive $35 million to purchase equipment from Shougang Steel Corporation.

– China's Anhui Province has reportedly received $140 million in loans from the Asian Development Bank to finance a pollution control project that includes the technological upgrading of steel and chemical plants.

– In addition to attracting foreign investment, Chinese steelmakers have themselves invested in foreign steelmaking operations. It was reported in October 1996 that an affiliate of Shougang had formed a $243 million joint venture with Bellary Steel & Alloys to build a 550 000 tonne per year blast furnace and a 450 000 tonne per year wire rod plant in India.

  Anshan Iron and Steel has established a joint venture with a Cameroon trading company and AUBAC to build a 20 000 tonne per year plant. Total investment is estimated at $3.15 million, with Anshan to hold 55 per cent ownership in the company, which is expected to become operational by June 1998.

Foreign investment

Table 1. **Foreign investment in steel projects in China**

Name of venture	Foreign investor	Date[1]	Invest-ment[2]	Comment
POS-Tianjin Coil Centre Co.	Posco, Postrade, Posteel (Korea)	12/95	$8 .4	Construction of a 100 000 tonne per year coil processing centre was completed in December 1995. Korean general trading companies financed 24% of the cost, with Korean enterprises operating in China providing another 6%. Posco, Postrade and Posteel provided 10, 50 and 10%, respectively.
Tianjin Ri Hua Steel Products Co.	Nissho Iwai and Nisshin Steel (Japan)	01/97	--	Commercial production began at Tianjin, a 4 000 tonne-per-year coil processing centre in January 1997. The Japanese firms Nissho Iwai and Nisshin hold 70 and 10% shares in the firm (respectively), with the balance held by two Chinese firms with connections to the local and national governments.
Guangzhou Pacific Tinplate Co., Ltd	Nippon Steel, Itochu, and Mitsui (Japan)	02/97	--	Guangzhou - a joint venture which Nippon Steel established with Guangzhou City in 1994, in co-operation with Itochu Corp., Mitsui & Co., CNT Tin Plate Ltd. of Hong Kong and two other Chinese companies - began commercial operation of the 120 000 tonne per year facility in February 1997. Japanese firms hold 65% ownership in the company.
Bohai Drill Pipe Co.	NKK, Marubeni Corp., and Mitsubishi Corp. (Japan)	02/97	--	An idled 16 000 tonne per year pipe facility from NKK was restarted in China as a joint venture. NKK owns 32.6% of the joint venture (which was established in 11/95); Marubeni, 19.6%; and Mitsubishi, 9.8%. The balance is owned by the Huabei Petroleum Administration Bureau (23.7%) and the China Petroleum Material & Equipment Corporation (14.3%).
Shanghai Yiyou Metal Products	Sumitomo Metal Industries (Japan)	03/97	--	Sumitomo's trading subsidiary, Sumikin Bussan, commenced commercial operation of an 18 000 tonne per year facility to process stainless steel in March 1997. Sumikin Bussan owns 60% of the joint venture company, with China's Shanghai Jing-Yi holding the balance of ownership.
--	Southern Steel (Malaysia)	04/97	--	Southern Steel has a 30% stake in a 400 000 tonne per year bar/rod mill in Xiamen China.
Hainan Haiwoo Tinplate	Dongyang Tinplate and Daewoo Corp. (Korea); Nissho Iwai (Japan)	06/97	$60	Trial runs at Hainan were made in June 1997, with commercial production expected by July 1997. The 100 000 tonne per year facility is owned by Daewoo (43%), Dongyang (15%), Nissho Iwai (5%), and the Chinese firm China National Non-Ferrous Metal Industry Hainan Co. (37%).
Dalian POSCO-CFM Coated Steel Co., Ltd.	Posco, Postrade and Sunkyong (Korea)	09/97	$46.9	A joint venture, formed with China National Ferrous Company in 11/95 to produce galvanised steel in a 100 000 tonne per year facility, began operation in September 1997. Posco holds a 40% share of the project. The equity positions of the other partners in the are as follows: Postrade and Sunkyong, 15% each; and China National, 30%.

Table 1. **Foreign investment in steel projects in China (cont'd.)**

Name of venture	Foreign investor	Date[1]	Invest-ment[2]	Comment
Chang Fu Stainless Steel	Nisshin Steel (Japan)	09/97	--	Chang Fu coil centre completed test operations in September 1997, and was set to start commercial operation. Partners in the joint venture include the Japanese firms Nisshin Steel (which holds a 35% share), Hanwa Co (20%) and Ahai Trading (30%). Three Chinese companies hold the balance of ownership -- Minmetals, China Resources Metals & Minerals, and Taicang Industry and Trade General Co.
--	Tomen (Japan)	1997	--	Tomen Corporation has reportedly commenced operations at a new 3 000 tonne per month steel coil centre, in partnership with China's Shanghai target Group. Tomen, a Japanese trading company, has 60% ownership in the firm.
Shanghai Ryerson	Inland Steel Industries (United States)	Early 1998*	--	Inland has reportedly entered into a joint venture with Baoshan Iron and Steel under which a steel processing centre will be constructed.
Shenzhen Pohang Coated Steel	Posco (Korea)	04/98*	$29.4	Posco and two Chinese partners (Guangdong Merchant & Industrial Corp. and the Beijiao Economic Development Co., Inc.) formed a joint venture in 12/96 to produce hot-dipped galvanised steel. An idled Posco 100 000 tonne per year hot-dip line is being moved to China. Posco owns 80% joint venture, with the two Chinese firms each holding 10% shares.
Zhangjiagang Posco Steel Co., Ltd.	Posco (Korea)	Mid-1998*	$48	A joint venture was finalised in 7/96 with the Jiangsu Shagang Group to produce galvanised steel in a 100 000 tonne per year facility. Posco holds a 90% share in the $48 million project, which is scheduled for start-up by mid-1998.
--	An Feng Steel Co. (Chinese Taipei)	End 1998*	--	An Feng is involved in a project to construct a 300 000 tonne per galvanising line and a 150 000 tonne per year colour-coating line in China.
Shunde Xingpu Steel Centre Co., Ltd.	Posco, Posteel, Samsung, Doonsan (Korea)	1998*	$10	In April 1997, Posco entered into an agreement for the establishment of a joint venture coil processing centre. Korean ownership in the 120 000 tonne per year facility will be as follows: Posco, 10%, Posteel (a unit of Posco), 10%; Samsung Corp., 39%; Doonsan Corp., 20%. China's Guangdong Investment Corporation and Beijiao Economic Development Co., Inc. will hold 5 and 16% of the total shares, respectively.
Ningbo	Nisshin Steel	1998*	$150	Ningbo, a joint venture between Baosteel and Nisshin for an 80 000 tonne per year cold-rolling facility is scheduled to become operational in 1998.
Dalian Pujin Tinplate Co., Ltd.	Posco, Posteel and Sunkyong (Korea)	09/99*	$55.4	Posco entered into a joint venture with China National Ferrous Steel Corp. in 07/97 to construct a 100 000 tonne per year tinplate facility. Under the agreement, Posco will provide 60% of the investment funds; Posteel (a Posco unit) and Sunkyong Corp., 15% each, and the Chinese firm, 10%.
Zhangjiagang Pohang Stainless Steel Company	Posco (Korea)	1999*	$160	Construction began in April 1997 on a joint venture facility for cold-rolling stainless steel sheet. Posco will own 60% of the 110 000 tonne per year with China's Shagang Group to hold the balance of ownership..
--	Australia Overseas Resources and BGD (Australia)	1999*	$125	The two Australian firms have formed a joint venture with Guangzhou Iron and Steel and the Development Zone for a stainless bar and rod complex. The Australian firms and Guangzhou each hold 30% of the stock, with the balance held by the Development Zone.
--	Krupp Thyssen Nirosta (KTN) (Germany)	2000*	$1,350	In March 1997, Krupp Thyssen Nirosta (KTN) and Pudong Iron and Steel signed a letter of intent for the establishment of a joint venture to construct facilities to produce molten stainless steel, and hot and cold rolled stainless flat products. The venture has received required state approval. KTN is to provide 60% of the investment funds.
--	Fletcher Challenge Steel (New Zealand)	--	--	Fletcher is reported to have interests in steel in China
Wuxi-Union Steel Co.	Union Steel Manufacturing Co. (Korea)	--	$48	In March 1997, Union Steel announced it was forming a joint venture with Wuxi-Liangxi Sheet metal Cold Rolling Co. of China to produce cold-rolled steel at an existing plant. Union Steel would hold a 75% share in the project, with the Chinese firm to hold the balance. Capacity at the plant would increase from 150 000 to 500 000 tonnes per year.
Wuxi Jinyang Metal Products	NatSteel (Singapore)	--	$10.2	In May 1997, NatSteel announced it would be taking a 65% share (valued at $10.2 million) in Wuxi Jinyang Metal Products, a manufacturer of reinforcing bar. Wuxi started operations two years ago with a World Bank loan.

Table 1. **Foreign investment in steel projects in China (cont'd.)**

Name of venture	Foreign investor	Date[1]	Invest-ment[2]	Comment
Wujun NatSteel Co., Ltd.	NatSteel (Singapore)	--	--	NatSteel reportedly operates a joint venture with Jiangsu Wujin Steel Group - which produces wire rod.
--	Allegheny Ludlum (United States)	--	--	In July 1997, Allegheny Ludlum and its Chinese partner, Shanghai No. 10 Steel Ltd. Co. reported that ground had been broken for its 15,000 tonne per year stainless steel strip finishing plant in Shanghai. Thepkant will be used to cold-roll, pickle and anneal the steel. The US firm owns 60% of the joint venture; it is to supply technology, engineering and management services to the joint venture.
Tianjin Cold Rolled Steel Works	Marcegaglia (Italy)	--	--	In July 1997 it was reported that the Italian steel producer Marcegaglia would expand cold strip production and produce galvanised sheets and tubes at its majority-owned Tianjin Cold Rolled Steel Works. Joint venture partners include firms from Chinese Taipei and China.
--	Inland Steel Industries (United States)	--	--	Preliminary - Inland has reportedly been negotiating a joint venture agreement with Baoshan for processing and distributing steel.
--	Usinor (France)	--	$132	Preliminary - As of June 1997, state planning approval for a 1.1 billion yuan ($132 million) joint venture with Taisteel to build a 200 000 tonne-per-year stainless steel cold -rolling plant was being sought.
--	Kawasho (Japan) and an unnamed Korean firm	--	$4.5	Preliminary - A May 1997 report alludes to a $4.5 million joint venture for an 18 000 tonne per year facility that would be used to process imported steel sheets for the automotive and electronic industries.
--	Sandvik (Sweden)	--	--	Preliminary - An October 1996 report indicates that Sandvik was discussing the possibility of establishing a joint venture with China's Changcheng Special Steel Company to produce stainless steel tubes.

1. Date is actual or expected (*) completion date.
2. Investment is expressed in millions of US dollars.

Fiji

Foreign investment

Table 2. **Foreign investment in steel projects in Fiji**

Name of venture	Foreign investor	Date[1]	Invest-ment[2]	Comment
Fletcher Challenge Steel (Fiji) Ltd	Fletcher Challenge Steel (New Zealand)	07/97*	$7	Fletcher was to purchase Carpenter Steel Co. (Casco), a rebar producer; it would be spending about $7 million to buy and upgrade the plant. Much of the production would be exported.

1. Date is actual or expected (*) completion date.
2. Investment is expressed in millions of US dollars.

India

Industry conditions

Current

12. The economic slowdown in India has also affected the steel industry. According to the Ministry of Steel, apparent consumption of finished steel rose by 4.6 per cent in fiscal 1996 (year ending 31 March 1997), to 22.27 million tonnes. In contrast, growth in 1994 and 1995 was 21.8 and 14.1 per cent, respectively. Conditions are expected to remain about the same, unless significant increases occur in expenditures on public infrastructure projects. In response to the slowdown, and the firming of international steel prices, some companies have been increasing exports. Tisco's exports, for example, have increased their share in total shipments to 20 per cent, while Sail's exports have more than doubled (see the section on *Trade* for further information).

13. The slowed growth in demand and an increase in costs have eroded the profits of most of the major steel manufacturers. Net profits at Steel Authority of India Ltd. (Sail) in fiscal 1996, for example, decreased by 60 per cent, to 5.27 billion rupees ($146 million) from 13.18 billion rupees ($364 million) in the previous yearOther companies likewise experienced significant reductions in profits during the year: Tata Iron and Steel Company's (Tisco) profits declined by 17 per cent - Jindal Strips, by 40 per cent - Mukand Steel, by 68 per cent - nd Lloyds, by 99 per cent.

14. Concerned about the situation, the Industrial Development Bank of India (IDBI), a major source of funding for the steel industry, called in June for import duties to be maintained at current levels and for the industry to be granted increased protection in order to improve its financial situation. With falling tariffs and low prices, banks are apparently becoming increasingly concerned about potential loan defaults. The IDBI reportedly has a large number of non-performing assets in various industries, including steel.

Government policies

- *Excise tax raised*: As from 1 August 1997, the central excise compound levy for finished steel products was to rise from 200 to 400 rupees ($6 to $11) per tonne.

- *Tax concessions*: It appears that companies may qualify for tax concessions if they have been awarded "Export Oriented Status".

- *Industry autonomy:* India's Industry Minister reportedly announced in July 1997 that India's nine state-owned companies, including Sail, would be granted greater operational and financial autonomy. The report indicates that these companies have become free to decide on capital expenditures, and free to borrow funds from domestic and foreign sources. In addition, the companies will be able to set up joint ventures or wholly owned subsidiaries in India or overseas for projects whose value did not exceed 2 billion rupees ($55 million).

- *Facilitating investment:* In July 1997 the Ministry of Steel proposed the establishment of an inter-Ministerial co-ordination committee to tackle the obstacles to investment in the steel industry, including the high costs of infrastructure and funds, expensive raw materials and high freight charges. The committee would include representatives from the Ministries of Railways, Surface Transport, Telecommunications, Environment and Finance, as well as the Chief Secretaries from Orissa, Karnataka and Andhra Pradesh, which have attracted large investment in the steel industry.

- *Joint Plant Committee*: Consideration is being given to transforming India's Joint Plant Committee into a development council of large and medium-sized producers; the council would assist producers to meet the challenges of globalisation. A development fund would be formed, based on a charge of 2 rupees ($0.06) per tonne of iron and steel produced; this would result in funding of about 40 million rupees ($1 million) per year. Guidelines for the investment of the funds would be established by the members of the council.

- *Infrastructure status for the industry*: Steel producers have urged the Government to accord the industry "infrastructure status". This would grant them a complete tax holiday for a five-year period, and another five-year holiday for the payment of 30 per cent of taxes due.

Outlook

15. While the rate of growth is slowing, Indian steel consumption is nonetheless expected to continue to increase, particularly in flat-rolled products. A recent estimate by an executive of Ispat foresaw consumption rising to about 30 million tonnes by the turn of the century. In doing so, the proportion of flat-rolled steel in total steel demand would rise from the 1991 level of 43 per cent to nearly 50 per cent by 2001. Another analysis, made by Metallurgical & Engineering Consultants (India) Ltd., foresaw demand for cold-rolled sheets increasing from 2.3 million tonnes in fiscal 1996, to 4.7 million tonnes by fiscal 2001, consistent with the growth in demand for automobiles and appliances.

16. In December 1996, the Industrial Bank of India released a study of the steel market, which challenged the results of an earlier analysis prepared by the Steel Ministry in mid-1996. The new report projected a far lower deficit in flat products by 2001/2002 (1.2 million tonnes) than did the earlier report (3.7 million tonnes). Exports would rise to 2.5 million tonnes, as compared to 3.5 million tonnes while imports would reach 1.5 million tonnes, compared to the Ministry estimate of no imports. The analysis of the Bank, which is one of the leading financial institutions in India, is expected to result in lenders becoming more selective in the projects that they finance involving flat-rolled products.

Investment

17. As documented in the report on *Major developments in steelmaking capacity in the non-OECD area* [DSTI/SI/SC(97)36], Indian annual crude steelmaking capacity is expected to rise from 29.8 million tonnes at the end of 1996, to 58.5 million tonnes by the year 2000. As pointed out in earlier reports, financing new projects has challenged the industry. Following is information on how two companies are proceeding:

- **Tisco**: Tisco will begin to arrange financing for the construction of an 18 billion rupee ($497 million) cold-rolling mill in Jamshedpur, as from FY-1998 (i.e., as from 1 April 1998). The mill, which had an initial planned capacity of 1.9 million tonnes per year, has been scaled down to a 1.2 million tonne per year plant, as the company plans to construct another cold-rolling mill at its Gopalpur site. The company plans to finance 50 per cent of the project internally, with the balance to be raised through loans. The facility is scheduled to be commissioned by 2000.

Work on Tisco's Gopalpur project, under which a 10 million tonne per year integrated steel mill is being built, has slowed due to a lag in infrastructure development. The estimated cost for the first-phase of the project, which comprises the construction of a 2.5 million tonne per year cold-rolling mill, has been revised from 18.8 to 22.4 billion rupees ($519 million to $619 million). Of the total 22.4 billion rupees, 6.05 billion rupees are to be financed by Industrial Development Bank of India (IDBI) in rupees, and another 5.15 billion rupees will be raised through external commercial borrowings. The remaining 11.2 billion rupees are to be internally generated.

– **Sail**: Sail is reportedly facing difficulty in securing funds to proceed with the modernisation of its Bokaro plant. After the completion of the first-phase modernisation which included the installation of a continuous caster and the revamp of a hot strip mill, the company has been faced with intensifying competition in the domestic hot-rolled-sheet market, which has led to reduced profitability. The under company is reportedly talking with UEC, an American firm, about setting up a joint venture under which are electro-galvanising line would be built, at a cost of 5 billion rupees ($138 million).

Trade

– *Tariffs*: For the first time since 1991, Indian steel tariffs were, for the most part, not reduced. For the fiscal year 1997 (which began on 1 April 1997), only the duty on cold-rolled material was lowered, from 30 to 25 per cent. On the other hand, duties on low-ash coal were reduced from 5 to 3 per cent (and from 20 to 10 per cent for other types of coking coal); duties on re-rollable scrap fell from 30 to 20 per cent; duties on ships for breaking declined from 10 to 5 per cent; duties on pig iron fell from 20 to 10 per cent; and the duty on ferroalloys was reduced from 25 to 20 per cent. In May 1997, the duty on ferronickel was reduced further, to 10 per cent, with a view towards providing relief to the steel industry.

In September, as part of a fiscal correction move, the Government proposed increasing the tariff on most imported items by three percentage points.

– *Facilitating exports*: In order to cope with the glut of steel in the domestic market, the Government was considering (as of July 1997) the establishment of Steel India International, an organisation that would be jointly sponsored by the industry and the government. In addition to promoting steel exports, the proposed organisation would support the provision of related services - such as skilled manpower, consultancy services and technical assistance - to foreign entities.

An October 1997 report indicates that the second draft report of a high level expert group on steel had concluded that Indian producers should pay more attention to the rapidly growing steel markets in Southeast Asia and China. It was evident that steady growth of the steel industry rested crucially on its ability to increase exports. There would be opportunities in Japan, the United States, and Europe. According to the report, the Government was planning to spend 1.5 billion rupees ($41 million) per year on steel research and development over the next several years.

Some interest in increasing exports is already evident. Sail, the Government-controlled steel producer, has traditionally exported 200 000 to 300 000 tonnes of steel per annum. This year, the company hopes to export more than one million tonnes. Already during the April to August 1997 period (the company's fiscal year begins on 1 April), exports had more than doubled, rising to 321 500 tonnes. The plan was to increase exports to 2 million tonnes within two years, with a longer term goal of having exports account for 15 per cent of sales. All the company's export business is done through traders. The export plan for this year has, however, reportedly been hindered in recent months as a result of the economic problems in Indonesia, Malaysia and Thailand.

Total steel exports from India rose by 4.3 per cent during April to August 1997 (compared to the same months in 1996), to 600 000 tonnes. Goals are to increase exports to six million tonnes by 2000/2001, and to nine million tonnes by 2005/2006.

- *Antidumping case instituted*: On 6 October 1997, the Indian Ministry of Commerce formally instituted an antidumping investigation involving imports of hot-rolled coil from Russia, Ukraine and Kazakhstan. In a preliminary review, the Government had determined that imports were having a significant depressing effect on the domestic industry, and that the industry had suffered material injury. Petitions had been filed by the industry in February 1997.

- *Dumping allegations*: An October 1997 report indicates that Sail was planning to file an antidumping petition on imports of cold-reduced coils. According to the report, imports of the coils had increased from around 100 000 tonnes in 1991 to 360 000 tonnes in 1996, with the most significant increase coming from NIS countries.

  A September 1997 report indicates industry concern over the dumping of prime and secondary tinplate by producers in the United States, Canada, New Zealand and others. The dumping was playing havoc with domestic tinplate producers and jeopardised the turnaround strategy of one of the major producers.

- *EU investigation*: Pursuant to an industry complaint, the European Commission initiated an antidumping investigation involving imports of stainless steel bright bars from India in August 1997.

International co-operation

- In September 1997, it was announced that the World Bank's International Finance Corporation had approved a loan to Ispat Industries Ltd for enhancing hot-rolled steel production through the adoption of electric furnace technology. Total project financing was \$46 million, which included \$25 million in a loan syndication, \$1 million in equity funding, and \$15 million in loans.

- In July 1997, the Indian Government approved a joint venture between Sail and three Russian organisations (Amet Ltd., Moscow Institute of Steel and Alloys and Novolipetsk Steel Works) to market the Romelt steelmaking technology in India.

Foreign investment

Table 3. **Foreign investment in steel projects in India**

Name of venture	Foreign investor	Date[1]	Invest-ment[2]	Comment
Tata -Ryerson Ltd.	Inland Steel Industries, Inc. (United States)	1997*	--	India's Tata Iron & Steel entered into a joint venture with Inland in February 1997 under which a number steel service centres will be established. Tata and Inland both have 50% shares in the business.
--	Posco (Korea)	06/98*	$10	In August 1997, Posco entered into a joint venture in India under which a facility will be constructed to process 100 000 tonnes of cold-rolled steel products. Output will be directed primarily to appliance and automobile manufacturers. Posco holds a 10% interest in the project, Posteel -- 19.5% and Hyundai -- 70.5%. As Indian law limits foreign ownership to 74%, within three years some of the shares will have to be sold to Indian investors.
--	Marubeni (Japan)	2000*	$387	In mid-1996, the Indian firm Apeejay Surrendra Group entered into a joint venture with Marubeni for a 600 000 tonne per year steel mill that would produce and sell pig iron, billet and wire rod. Financing for the project will be as follows: Indian Development Bank, 34%; foreign loan, 36%; Apeejay, 7%; Marubeni, 4%; Bengal Government, 3%; and Birla Technical Services, 1% . The balance of funds is to be financed through a public issue.
-	Shougang Corp. (China)	04/98* 1999*	$283	An affiliate of Shougang has entered into a joint venture with the Indian firm Bellary Steel & Alloys for the construction of a 550 000 tonne per year blast furnace and a 450 000 tonne per year wire rod plant. UK-based Visa Ltd was also expected to participate in the project. Pig iron production would start in April 1998, with rod production to follow in 1999.
--	Unknown (Indonesia)	--	--	India's Essar Iron & Steel has constructed a cold-rolling mill in partnership with an Indonesian firm.
--	Kawasaki Steel Corp. (Japan)	--	--	A November 1996 report indicates that Kawasaki had entered into a joint venture with Mukand Vijayanagar Steel for a steel project. Kawasaki would take a 10 to 20% share in the project.
--	Sandvik (Sweden)	--	--	A report indicates that in August 1996, Sandvik entered into a joint venture with an Indian firm to produce stainless steel extruded tube.
--	Tyazhpromexport (Russia)	--	--	As of mid-1997, efforts were being to conclude a joint venture between Tyazhpromexport and Sail involving Sail's Iisco plant (for which offers had been tendered in 1996). Under the proposed venture, Sail would maintain a 51% share in the company, Tyazhpromexport would assume a 39% interest, and the Bengal Government and Iisco employees would own the balance. It is estimated that 35 billion rupees ($967 million) would be needed for restructuring the ailing plant.
--	British Steel Plc (United Kingdom)	--	--	Preliminary.-- During 1997, British Steel has been proceeding with a joint venture with Jindal Iron & Steel Co., Ltd to construct an organic coating line and roll profiling facilities.
--	Ugine (France)	--	--	Preliminary.-- Usinor (Ugine's parent) reports that Ugine was setting up operations in India.
--	Sollac (France)	--	--	Preliminary. -- A December 1996 report indicates that Sollac, an affiliate of Usinor, was discussing the possibility of a joint venture service center with an Indian partner, R S. Jhaveri.

1. Date is actual or expected (*) completion date.
2. Investment is expressed in millions of US dollars.

Indonesia

Trade developments

– *Tariff cuts*: In response to the current economic crisis, the Indonesian Government decided to cut tariffs on 153 items, effective 17 September 1997, with a view towards boosting exports. Included in the tariff cuts were "three raw materials needed in the production of steel, machinery and automotive industry".

– *Antidumping duties*: May 1997 report indicates that temporary antidumping duties were placed on imports of hot-rolled coil from China, India, Ukraine and Russia, in response to a trade complaint filed by Krakatau Steel. An examination of imports of wire rod from India and Turkey was continuing. Krakatau was also reportedly reviewing the import situation in cold-rolled steel products, for possible action.

Foreign investment

Table 4. **Foreign investment in steel projects in Indonesia**

Name of venture	Foreign investor	Date[1]	Invest-ment[2]	Comment
PT Fumira	NKK, Mitsui (Japan)	Mid-1997*	$40	NKK and Mitsui jointly own 49% of PT Fumira, while PT Budidharma Jakarta owns the balance (51%). The construction of 100 000-150 000 tonne per year galvanising line began in April 1996; start up was anticipated in mid-1997.
PT Maspion Stainless Steel Indonesia	Sumitomo Metal Industries Ltd, Kanematsu Corp., Nippon Yakin Kogyo Co. (Japan)	10/97*	$60	The three Japanese companies have entered into a joint venture with Indonesia's PT Alumindo Light Metal Industry, under which a 50 000 tonne per year mill to cold roll stainless steel will be constructed. Sumitomo (which will hold a 10% share in the project), and Nippon Yakin (which will hold a 5% share) are to supply the hot coil feedstock. Kanematsu and PT Alumindo will hold 15 and 70 per cent shares, respectively.
PT Ponesia Stainless Steel Industry	Posco (Korea)	Second half of 1999*	$123	Under a joint venture agreement signed in June 1997 with Indonesia's PT Metro Dwiwidjaja Group, a 75 000 tonne per year facility will be constructed for cold-rolling stainless steel. Posco holds a 70 % interest in the company. Construction will begin in December 1997.
PT KS-Posco	Posco, Korindo Group (Korea)	09/99*	$507	In July 1996, Posco and the Korindo Group entered into a joint venture with three Indonesian companies for the construction of a one million tonne per year minimill and hot strip facility. Posco owns 40% of the new company and Korindo, 10%; Krakatau Steel, 40%; and the Indonesian firm Nusamba, 10%.
PT Krakatau Steel	Krupp Thyssen Nirosta (Germany)	1999	$100	Krakatau Steel and Krupp Thyssen Nirosta signed a memorandum of understanding in 1996 to set up a 100 000 tonne per year stainless-steel mill to produce cold-rolled coil.
Essar Dhananjaya	Essar Group (India)	--	$90	It was announced in March 1997 that the Essar had formed a joint venture, in which it will hold a 51% interest, with the Indonesian firm Garama Group (which will hold the balance of ownership). A new facility would be constructed for cold-rolling steel, with the hot-rolled feedstock to be provided by Essar. Another report indicates that the mill has already been operating since 1996.
--	British Steel Plc (United Kingdom)	--	--	Preliminary - British Steel has been in discussions for some time with PT Bakrie & Brothers, with a view to building a coiled plate mini-mill in Indonesia. As of Spring 1997, feasibility studies were being carried out.

1. Date is actual or expected (*) completion date.
2. Investment is expressed in millions of US dollars.

Malaysia

Recent developments

– *Role of industry:* The steel industry continues to be viewed as a strategic sector in Malaysia. In a May 1997 speech before steelworkers, the Prime Minister stated that the goal of the country was not only to become the region's major steel producer, but also a country that produced high quality steel with consistent supply. With this, the country would not need to rely on imports. Stressing that the steel industry's success was often used as a yardstick to measure a country's economic development, he alluded to the major role that the industry had played in the United States, Japan and Korea. Malaysia would have to produce its own steel to meet local demands if it wanted to become a successful industrialised country.

– *Expansion plans:* The Malaysian Government announced in June 1997 that it would not proceed with plans to construct an integrated steel mill. According to Kawasaki Steel Corp. of Japan, which had carried out a feasibility study on the 3 million tonne per year project, the decision not to proceed was due to the cost and questionable viability of the project.

– *Restructuring*: The Malaysian Government has reportedly absorbed 6.9 billion ringgit ($2.0 billion) of the debt incurred by Perwaja Steel, the state-owned firm that went bankrupt, as well as 2.9 billion ringgit ($906 million) in accumulated losses. Assumption of the debt and losses was seen as necessary to facilitate privatisation.

  Privatisation of Perwaja has advanced, The Malaysian firm Maju Holdings was allotted a 51 per cent share in the company in May 1997, with the Government now holding a 44 per cent stake (plus a golden share).

Foreign investment

Table 5. **Foreign investment in steel projects in Malaysia**

Name of venture	Foreign investor	Date[1]	Invest-ment[2]	Comment
Nippon Metal Services	Nippon Metal Industry (Japan)	09/97	--	Nippon Metal Industry and Tatt Giap Hardware set up a joint venture to process 6 000 tonnes per year of nickel stainless sheets for electronics applications, chemicals manufacturing and walls for elevators.
Gunawan Iron and Steel	Gunawan Group (Indonesia)	Fourth quarter 1998*	--	Gunawan Iron and Steel is planning to start slab production at its 1.35 million tonne per year blast-furnace based plant in late 1998. In order to reduce the total investment cost, a number of idled facilities form other parts of the world are being used -- such as an ex-Hoogovens blast furnace. The company put Malaysia's first plate mill into operation in 1996. Gunawan is the sole investor in the project.
--	NatSteel (Singapore)	--	--	NatSteel reportedly has a steel venture in Malaysia.
Ornatube Enterprise	Ornatube (Chinese Taipei)	--	--	Ornatube of Chinese Taipei holds 49% of a joint venture, under which a 200 000 tonne per year hot-dip galvanising and colour-coating line is being built. A cold-rolling mill and pipe mill are already in operation.

1. Date is actual or expected (*) completion date.
2. Investment is expressed in millions of US dollars.

Myanmar

Foreign investment

Table 6. **Foreign investment in steel projects in Myanmar**

Name of venture	Foreign investor	Date[1]	Invest-ment[2]	Comment
Dagone Steel Ltd	Marubeni (Japan), Chandrai Group (India)	05/97*	--	The Japanese trading firm Marubeni joined with the Indian Chandaria Group and Myanmar's Dagone Group to form a joint venture, under which a 1 500 tonne per month galvanising facility would be built. The facility was to have been completed by May 1997, with commercial sales to begin by July or August.
Myanmar Mega Steel	Mitsui and Co. (Japan)	Summer 1997*	--	The Japanese trading firm Mitsui and Company expected to bring a 20 000 tonne per year galvanising project on-line during the summer of 1997.
Myanmar Posco Steel	Posco (Korea)	Early 1998*	--	As of May 1997, Posco was proceeding with a joint venture with Myanmar Economic Holding Company under which a 30 000 tonne per year galvanising facility will be built. Posco would take a 70% interest in the project.

1. Date is actual or expected (*) completion date.
2. Investment is expressed in millions of US dollars.

Philippines

Recent developments

- *Board of Investment:* A September 1997 report indicates that Mindanao Steel Corporation was being granted fiscal and non-tax incentives for the construction of a cold-rolling mill and galvanising and colour-coating lines. Having been granted "pioneer" status by the Board of Investment, the project would be entitled to a six-year income tax holiday, as opposed to the four year waiver given to other firms.

- *Privatisation*: In late 1996 or early 1997, the Malaysian firm Wing Tiek Holdings sold its 69.2 per cent interest in previously state-owned National Steel Corporation to Hottick Investment Ltd., a firm comprised of Malaysian and Chinese investors. Wing was concerned about the additional debt it would occur in completing payment for its holding, and was further concerned with reports that the Philippine Government was planning to reduce steel imports duties. Wing had purchased its stake from the Philippine Government in 1994. Hottick has since increased its share to 82.5 per cent. Attempts by the National Development Company to sell a 7.5 per cent share in the company at an acceptable price have thus far failed; plans to sell another 5 per cent to small local investors have been set aside in light of the bearish stock market.

- *Industrial policy:* An October 1997 report indicates that the Philippine President had approved the implementation of an industrial development plan that was designed to enhance the competitiveness of domestic industries. The plan identified 17 "must have" industries where the country was seen as having a competitive advantage; steel was one of these industries.

- *Import duties*: The Philippine Government has increased the duty on tin-plate and tin-free steel, from 3 to 10 per cent, following a request by National Steel Corporation. The new tariff, which appears to have come into effect in August 1997, is equal to the one applied to cold-rolled steel, which is the raw material used to make the coated product. National had argued that the price for imported cold-rolled sheet was greater than the price for the imported coated products, a situation that was adversely affecting its competitiveness in the coated products. The temporary duty reduction is effective until the end of 1997. By 1998, the tariff on all the products (i.e., tinplate, tin-free steel and cold-rolled coils) are to be lowered to three per cent.

Foreign investment

Table 7. **Foreign investment in steel projects in the Philippines**

Name of venture	Foreign investor	Date[1]	Invest-ment[2]	Comment
SteelAsia	NatSteel (Singapore)	1996	--	NatSteel reportedly purchased a 25 per interest in SteelAsia in June 1996. Following the completion of a first rolling mill, as of February 1997, the company was seeking to build a 500 000 tonne per year, state-of-the-art bar mill.
National Steel Corporation	Marubeni Corp (Japan)	1996	$50	Marubeni purchased 5-6 % of National Steel, joining the Malaysian Wing Tiek in a purchase of 75% of the company from the Philippine Government.
	Renong Berhard (Malaysia)	Spring 1997*	$800	As of March 1997, Renong was poised to assume an 82.5% stake in lossmaking National Steel Corporation, for which it would pay $800 million. Most of the equity was to be purchased from the Malaysian/Philippine firm Hottick Investment, Ltd, which held a 69.2 per cent share.
Core Steel Industries Pilipinas Inc.	Itochu Corp. (Japan)	Early 1998*	$10	Itochu entered into a joint venture with the Philippine firm Primus Industries Corp., under which a 70 000 tonne per year cold-rolling facility previously operated by Kawasaki Steel is being moved to the Philippines from Japan. Itochu holds a two-thirds interest in the project, with Primus holding the balance.
Bacnotan Steel Industries Inc.	Kawasaki Steel Corp., Kawasho Corp., Mitsui & Co. Ltd., Japan International Development Organisation (Japan)	01/99*	$147	The Japanese firms have entered into a joint venture with Philippine interests to construct a 320 000 tonne per year electric furnace and a bar mill. Bacnotan Group of the Philippines will take a 30% share in the project; Philippine Investment and Management Consultants Inc. (Bacnotan's parent), 5%; Kawasaki , 13.3%; Kawasho (a Kawasaki subsidiary), 1.7%; Mitsui, 10.7%; Far East Bank, 20%; Philippine National Bank, 15%; and the Japan International Development Organisation, 4.3%.
Philippine Integrated Steel	Danieli (Italy)	2001*	$1 200	Ground was broken in August 1997 for the country's first integrated steel works, a joint venture between Danieli and the Philippine company F. Jacinto Group. In addition to coal-based steelmaking, the project includes a compact hot strip mill, the latter of which is scheduled to become operational in May 2000. Danieli and another partner will hold up to a 30% interest in the project, while Jacinto will a 30% share. The remaining equity is to be sold to Philippine and foreign investors.

1. Date is actual or expected (*) completion date.
2. Investment is expressed in millions of US dollars.

Singapore

18. A recent report indicates that pre-tax profits of NatSteel, the only crude steel producer in Singapore, amounted to S$19.5 million ($12.3 million) for the first half of 1997, up from S$6 million ($4 million) in the same period in 1996. The company attributes the higher profits to the increase in earnings from steelmaking operations around the Asian region, as well as to the local steel operation's sustained earnings resulting from restructuring. NatSteel's associates in neighbouring countries include

Southern Steel in Malaysia, SteelAsia in the Philippines, NatSteel Vina in Vietnam and Wujin NatSteel in China.

Sri Lanka

Foreign investment

Table 8. **Foreign investment in steel projects in Sri Lanka**

Name of venture	Foreign investor	Date[1]	Investment[2]	Comment
Ceylon Heavy Industries and Construction	Hanjung (Korea)	10/96	$15	In October 1996, Hanjung purchased 90% of previously state-owned Ceylon Steel Corp. for $15 million. The balance of the company's shares is held by the employees. Hanjung intends to double Ceylon's bar-rolling capacity, to 100 000 tonnes per year.

1. Date is actual or expected (*) completion date.
2. Investment is expressed in millions of US dollars.

Chinese Taipei

Overview

19. The steel industry of Chinese Taipei is not self-sufficient in crude steel despite the existence of a modern integrated steelworks with an annual steelmaking capacity of around 8 million tonnes and about 30 mini mills. Crude steel production in 1996 was around 12 million tonnes whereas its hot-rolled steel production was slightly over 17 million tonnes. This shortfall was supplied by imports of semifinished products. The country has depended on 7-8 million tonnes of imported semifinished products since 1993. What distinguishes the country from other Southeast Asian nations is that it is a net exporter of more advanced cold-rolled and galvanised sheets. In 1996, net exports of these products exceeded 1 million tonnes.

Developments

- *Trade*: An October 1997 report indicates that Tung Ho Steel Enterprises Co., Chinese Taipei's second largest listed steel company, was reducing its prices for steel beams. The action was taken in light of alleged dumping by Russian and Japanese producers of these beams in the local market.

- *Privatisation:* In August 1997, the Government reduced its 43 per cent holdings in China Steel Corporation by 1.55 per cent. The intention is to sell off its holdings entirely over a four-year time period.

- *Joint venture:* In mid-1997, the Government approved a $582 million purchase of equity in An Feng Steel Co. Ltd., by the Australian firm Kingstream Resources NL. An Feng, on the other hand, was to take an 80 per cent stake in Kingstream. The new company, AFK, plans to build a steel plant in western Australia to supply An Feng with semifinished steel for its facilities in Chinese Taipei. The merger was approved by Australian authorities in the Spring of 1997.

Foreign investment

Table 9. **Foreign investment in steel projects in Chinese Taipei**

Name of venture	Foreign investor	Date	Invest-ment[1]	Comment
An Feng Steel Co.	Kingstream Resources (Australia)	05/97	$582	As part of a merger, Kingstream purchased equity in An Feng valued at $582 million.

1. Investment is expressed in millions of US dollars.

Thailand

Industry conditions

Background

20. The rapid growth in the Thai economy in recent years has led to a corresponding growth in steel consumption, which increased from 6.24 million tonnes in 1991 to 8.94 million tonnes in 1996. This growth increased dependence on imports significantly, especially in flat-rolled products. Self-sufficiency of steel products as a whole has been around 30 per cent during the 1990's.

Economic downturn

21. The slowdown of the Thai economy, which began in 1996 and then intensified in 1997 (leading to the mid-year currency crisis), has markedly slowed investment in the steel industry. Recent reports indicate that 12 steel and steel related projects are facing delay due to a lack of liquidity resulting from the economic situation. These include six pig or sponge iron projects valued at 137.35 billion baht ($3.5 billion) and six rolling facilities valued at 60 billion baht ($1.5 billion), as follows:

22. Pig or sponge iron:

- Nakornthai Strip Mill (NSM), annual capacity of 1.5 million tonnes;
- Thai Special Steel Industry (TSSI), 3 million tonnes;
- United Iron & Steel 750 000 tonnes;
- M. R.B.C. Mondal, 1.8 million tonnes;
- Ital Thai, 900 000 tonnes;
- Sahaviriya Steel Industries (SSI), 1.2 million tonnes.

Sahaviriya Group has asked the Government to support its iron smelting project, in part by helping to find foreign investors who would be interested in participating in the facility. Absent such support, the project reportedly might not proceed. Another report indicates the cancellation of a 1.5 million tonne per year DRI project by NTS Group; Thailand's poor economic climate was cited as one of the reasons for the decision.

23. Rolling facilities:

- LPN Plate Mill, a 1 million tonne per year hot-rolled sheet project and a 500 000 tonne per year cold-rolling facility;
- Nippon Denro Ispat, a 600 000 tonne per year cold-rolling facility;
- NTS Group, a one million tonne per year cold-rolling facility;
- Thai-German Products, a 700 000 tonne per year structural project;
- SSP Group, a 600 000 tonne per year structurals project.

Reflecting the weakened conditions, losses at Sahaviriya widened during the first quarter of 1997, rising from 111.2 million to 453.9 million baht ($2.9 million to $11.6 million).

Ongoing projects

24. Some projects have, however, been proceeding. In June 1997, a one million tonne per year cold rolling facility was commissioned by Thai Cold Rolled Steel Sheet (TCR). Moreover, another 1 million tonne per year cold-rolling joint venture, Siam United Steel, is due to start operation in 1998. In addition, Nakornthai Strip Mill (NSM), a subsidiary of NTS Steel Group, was reportedly scheduled to start up a 1.5 million tonne per year hot-rolled plant in October 1997. The company is also constructing a 400 000 tonne per year DRI plant, but the start-up of the plant is expected to be delayed from the target of middle of 1998. In 1999, NSM and Siam Strip Mill are still expected to commence operations at their respective new hot-rolled sheet plants. In commenting on the situation in September 1997, the President of TSSI was relatively optimistic. He stated that the depreciation of the baht had not had a major effect on current projects, as most of the company's foreign borrowings had been denominated in German marks. The sluggish economy might, however, affect future projects.

25. The weakening economy reportedly forced TCR to postpone its listing on the stock market. The company is said to have proposed an increase in its capital from a current level of 3 billion baht ($77 million) to 4.4 billion baht ($113 million) at the shareholders meeting held in October 1997. The increased capital would help the company cope with mounting foreign-currency-denominated debts. A report indicates that the part of the required 1.4 billion baht will be raised from two Japanese companies, namely, NKK Corp. and Marubeni Corp., which currently each own 11.5 per cent of TCR.

Trade

- *Dumping*: On 27 May 1997, the Government imposed final anti-dumping duties on imports of hot-rolled coils from the Russian Federation and Ukraine, and on wide flange beams from Poland.

  The Ministry of Commerce reportedly initiated anti-dumping investigations against imports of H-beams from the Republic of Korea.

  Complaints have also reportedly been filed on imports of hot-rolled products from Kazakhstan and North Korea.

- *Exports*: with the decline in the domestic market, the Chairman of NTS indicated in July 1997 that his company would direct more of its sales overseas to maintain its position. The company was already searching for a company that could effectively market its steel in foreign markets.

International co-operation

26. In December 1996, the Import-Export Bank of Japan agreed to lend $400 to Siam United Steel to finance the company's eventual operation. In addition, a consortium of banks -- including the Industrial bank of Japan, the Bank of Tokyo and Sumitomo bank -- was expected to lend $160 million to the company. Siam is a joint venture that is being set up to produce cold-rolled steel.

Foreign investment

Table 10. **Foreign investment in steel projects in Thailand**

Name of venture	Foreign investor	Date[1]	Investment[2]	Comment
Thainox	Ugine (France), Nippon Steel, Kawasaki, Sumitomo Metal, and Nippon Yakin (Japan)	1993	--	Ugine holds a 28% share in the joint venture, with Nippon, Kawasaki, Sumitomo Metals and Nippon Yakin holding 21% ownership. The balance of the 60 000 tonne per year mill for cold-rolling stainless steel, is owned by Thai interests, including PM Group (31.5%), Thai Smart Plus (9.5%), and Siam Steel Group (7.5%).
Thai Coated Steel Sheet	NKK, Marubeni , Itochu (Japan)	04/94	--	NKK, Marubeni and Itochu hold 26.01, 9.34 and 4.65% shares in the 135 000 tonne per year electrogalvanising line, resepectively, with Sahaviriya Steel holding the balance of ownership. Plans are now underway to expand the plant's capacity by 105 000 tonnes per year.
Siam Yamato Steel	Yamato Kogyo, Mitsui, Sumitomo Corp.(Japan)	01/95	$250	Yamato , Mitsui and Sumitomo hold 33, 12 and 4% shares in the 600 000 tonne per year steel complex (which includes an electric furnace shop and a sections mill). Siam Cement holds the balance of ownership.
Siam Nippon Steel Pipe	Nippon Steel (Japan)	04/96	$20	Nippon Steel holds a 49% interest in the company, which relocated an idled 20 000 tonne per year pipe mill to Thailand. Siam Steel Group holds a 26% interest in the mill, followed by Mitsubishi (Thai)(10%) and Okaya (10%).
Sahaviriya Plate Mill	Chinese (Hong Kong) investors (China)	09/96	--	Sahaviriya holds a 75% share in the 300 000 tonne per year plate mill, with the Chinese investors holding the balance.
Thai Cold-Rolled Steel Sheet	NKK, Marubeni, Tomen, Nichimen (Japan)	06/97	$500	NKK holds an 11.5 % interest in the 1 million tonne per year cold-rolling facility, with a 18.5% share held by five Japanese trading companies. Sahaviriya Steel holds the balance of ownership (70%). The Japanese share was to increase to 42.5% in October, following an increase in the company's capitalisation.

Table 10. **Foreign investment in steel projects in Thailand (cont'd.)**

Name of venture	Foreign investor	Date[1]	Invest-ment[2]	Comment
Kobe CH Wire (Thailand) Co.	Kobe Steel, Shinsho Corp., O&K Co., Nissho Iwai Corp. (Japan)	09/97	$1.4	An 18,000 tonne per year joint venture wire drawing facility commenced operation in September 1997. The 56 million baht project is owned by the Japanese firms Kobe (33%), Shinsho (a Kobe Subsidiary)(25%), O&K (11%) and Nissho (11%), and the Thai firm Makajak (20%). Kobe will supply wire rod to the joint venture.
MC Metal Service Asia	Mitsubushi Corp. (Japan)	12/97*	$11.6	A joint venture was formed between Mitsubishi and Thai MC for a 1.4 billion yen steel processing centre, production from which will be directed to the automobile industry. Mitsubishi hold a 49% interest in the 60 000 tonne per year project, and Thai MC the balance.
POS-Thai Steel Service Center	Posco, Posteel, Samsung, Daewoo and Hyosung (Korea)	Early 1998*	$10	In December 1996, Posco entered into a joint venture under which a 120 000 tonne per year coil processing center will be established in Thailand. Posco holds an 18.5% share in the project, Posteel -- 19.5%, Samsung -- 27%, Daewoo -- 15%, Hyosung -- 15%; the Thai trading company SSP Trading has a 5% interest in the project. Output of high quality cold-rolled products is to be directed to producers of automobiles and appliances.
Siam Strip Mill	VSST (Singapore), Itochu (Japan)	Third quarter 1998*	$545	VSST and Itochu each hold 10% shares in the joint venture, which involves the construction of a 1.7 million tonne electric furnace, hot strip mill project. Siam Steel Pipe holds 60% of the project.
BHP Southeast Asia	BHP (Australia)	1998*	$187	A A$265 million joint venture between BHP and Loxley Public Company, in which the companies would have 75 and 25% shares in the project (respectively), was announced in 1995. Under the joint venture, a 300 000 tonne per year cold-rolling facility would be constructed.
Siam United Steel Co., Ltd	Nippon Steel, Kawasaki Steel, Sumitomo Metal (Japan), and Posco (Korea)	Early 1999*	$708	A joint venture has been formed under which a 1 million tonne per year cold-rolling mill will be constructed. Partners include Nippon Steel (which has a 24% interest in the venture), Kawasaki (7%), Sumitomo Metal Industries (3%), Posco (3%), Siam Cement (31.25%) and TTP - which is owned by Kawasaki - (20%).
Marubeni Steel Processing	Marubeni (Japan) Daewoo Corp. (Korea)	--	--	In October 1997, Marubeni sold 10 % of its 70% share in the 60 000 tonne per year processing centre to Daewoo.
Thai Steel Pipe Industry	Sumitomo Metal Industries, Nomura Boeki, Mitsui & Co. (Japan)	--	--	The Japanese companies have invested in a 69 000 tonne per year ERW pipe facility .

1. Date is actual or expected (*) completion date.
2. Investment is expressed in millions of US dollars.

Vietnam

Industry conditions

27. An April 1997 report indicates that Posco expected its steel pipe and rod/bar facilities would be profitable in 1997, for the first time since their establishment several years ago. Its third joint venture, a galvanising facility, had been profitable since its inception.

Trade

28. The Vietnamese Government adopted a ban on imports of certain steel products, as from 24 May 1997. The ban was expected to remain in force until 31 March 1998. The action was taken to improve conditions for domestic producers, as they were being injured by imports. Vietnamese steel production was reportedly 30 per cent lower than one year earlier. Products included in the ban were: smooth steel rods from 6 to 60 millimetres in diameter, barbed steel rods from 10 to 26 millimetres in diameter, V-shaped steel from 60 to 120 millimetres (i.e. angles), black welding tubes and galvanised welding tubes from 14 to 115 millimetres in outer diameter, galvanised steel sheets from 0.25 to 0.55 millimetres thick (as well as corrugated sheets plated with non-ferrous metal), assorted ordinary wire, and steel grid.

International co-operation

29. *United States:* The US Government's Trade and Development Agency is to provide a $400 000 grant to Vietnam's Ministry of Industry and its steelmaking enterprise, Vietnam Steel Corporation. The grant is to be used to assess the feasibility of a $300 million Midrex DRI plant. The study is to be jointly carried out by Vietnam Steel Corp. and the US companies Craft Corp. and Raytheon Engineers, by the end of 1997.

30. *Japan*: The Japanese steel industry and the Japanese International Co-operation Agency are reportedly evaluating Vietnam's evolving situation in steel. The 300 million yen ($2.5 million) project, which is financed by Japan's Official Development Assistance programme, was expected to be completed by January 1998. One of the projects being considered is the construction of a 4.5 million tonne per year integrated steelworks. Work on the project would begin in 2003 with a cold strip mill, and then would move to upstream facilities, with an envisioned completion date for the whole complex of 2010, at which time the country's steel consumption could exceed 6.5 million tonnes. Financing for the $6 billion project would be assisted in part by Japan's Overseas Development Assistance budget. Technology would be supplied by Japanese steel mills.

Foreign investment

Table 11. **Foreign investment in steel projects in Vietnam**

Name of venture	Foreign investor	Date[1]	Invest-ment[2]	Comment
Vietnam Pipe Corp., (Vanapipe)	Posco (Korea)	07/94	$10	Posco holds a 15% share in the 30 000 tonne per year pipe facility.
Posvina Co., Ltd	Posco (Korea)	10/94	$4	Posco holds a 50% share in the 50 000 tonne per year galvanising facility.
VSC-Posco Steel Corp. (VPS)	Posco (Korea)	09/95	$42	Posco holds a 35% share in the 200 000 tonne per year bar/rod facility.
Maruviena	Marubeni and NKK (Japan), Marubeni Singapore, NatSteel (Singapore) Comcraft Management	03/96	--	The foreign companies entered into a joint venture with Vietnamese interests for a 1 000 tonne per month galvanising facility. Marubeni has a 37% share in the project; the local Development Construction Material Co., 30%; Marubeni Singapore, 13%; NatSteel, 10%, NKK, 5%, and Comcraft , 5%.
Vinanic Steel	Nissho Iwai (Japan), SMPC Metals Industries	Summer 1997*	--	Nissho and SMPC hold 30% and 20% shares, respectively, in the 2 000 tonne per month steel processing centre (for cold-rolled sheets), while Vietnam Steel Corp. holds a 50% interest.
Southern Steel Sheet Corp.	Federal Iron Works (Malaysia), Nomura Trading (Japan)	07/97*	--	Federal Iron and Nomura Trading hold 33 and 18 per cent interests, respectively, in the 2 000 tonne per month continuous galvanising line. The Vietnamese partner Southern Steel Union holds a 45% share.
Saigon Steel Service & Processing Corp.	Nomura Boeki , Tanabe Kogyo (Japan) Unnamed party (Malaysia)	08/97*	$7	Nomura has entered into a joint venture for the construction of a 150 000 tonne per year processing facility. Nomura holds a 45% share in the project, and Tanabe Kogyo, 5%. Vietnam's Southern Steel Corp. holds a 40% interest, and an unnamed Malaysian investor, 10%. The appliance and auto components markets are being targeted, with particular attention to Japanese transplants.
Hyundai-Huyhoang Pipe Co.	Hyundai Pipe (Korea)	10/97*	--	Hyundai holds a 60% interest in the 50 000 tonne per year spiral weld pipe plant. Plans are to expand capacity to 200 000 tonnes per year by 2000.
Saigon Steel Pipe Corp.	Daewoo Corp, Seah Pipe (Korea)	10/97*	$22	Daewoo and Seah have 30 and 21 per cent shares, respectively, in the 70 000 tonne per year ERW pipe mill and galvanising line. The Vietnamese partner, Waseco, holds the balance (49%).
Vietnam Steel Products Ltd.	Sumitomo Metal Industries, Nomura Boeki, Mitsui & Co. (Japan)	End 1997*	--	Sumitomo, Nomura and Mitsui will hold 60, 30 and 10 per cent shares, respectively, in the pipe finishing facility, which initially will be used to polish and finish pipe. The intention within two or three years is to expand activities to include basic pipemeking
--	China Steel Corporation and Sheng Yu Steel Co.(Chinese Taipei), and Yodogawa Steel	by mid 2000*	$100	Preliminary.-- In September 1997, China Steel reportedly decided to proceed with a joint venture under which a 210 000 tonne per year facility to cold-roll steel would be built. It would take a 30% stake in the project, as would Vietnam Steel Corporation and Sheng Yu Steel. Japan's Yodogawa Steel Works would take the remaining 10%. China Steel would supply the hot-rolled coil feedstock for the new mill..
Vina-Kyoei Steel	Kyoei Steel (Japan)	--	$69.5	A 240 000 to 300 000 tonne per year joint venture.
--	Southern Steel (Malaysia)	--	--	In 1995, Southern Steel acquired a 22.6% share in a 150 000 tonne per year bar/rod project in Hanoi.

1. Date is actual or expected (*) completion date.
2. Investment is expressed in millions of US dollars.