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United Nations Industrial Development Organization

Distr.
LIMITED

ID/WG.458/13
21 February 1986

ENGLISH

Fourth Consultation
on the Iron and Steel Industry
Vienna, Austria, 9-13 June 1986

15441

Issue Paper 3

[FINANCIAL SITUATION AND PERSPECTIVES
OF THE IRON AND STEEL INDUSTRY *]

Prepared by the
UNIDO secretariat

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V.86-52405

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1. Introduction

The financial situation of the iron and steel industry has encountered difficulties, especially since the mid 1970s. The leading iron and steel enterprises have faced an increase in their losses and debts and have seen their working capital drop. Due to financial constraints, many developing countries had to postpone, freeze or cancel existing iron and steel projects.

The sixty leading iron and steel companies, responsible for approximately two thirds of the Western world steel output, lost US\$ 21 billion between 1977 and 1983. However, it is important to point out that in 1984 some of those enterprises showed a profit. Those enterprises increased their total debt in dollars per ton produced from 155,2 in 1975 to 283,7 in 1983. With regard to their working capital, from an increase of US\$ 3,966 million in the period 1977-1980, they had a decrease of US\$ 6,182 million in the period 1981-1983.^{1/}

Financial problems vary in the various regions, both in the developed as well as the developing countries. The deterioration of the financial situation of steel companies in the United States has been mainly due to a historically strong dollar, overvalued in relation to currencies of countries which are the major competitors in the United States market (EEC, Japan). Another² factor was the large deficit of the U.S. federal budget which consumed private savings, thus reducing the possibilities for the iron and steel industry to finance capital improvements and modernization.^{2/} Another factor affecting the financial situation of the U.S. steel companies was the sharp rise of energy prices.

^{1/} Peter F. Marcus and Karlis M. Kersis "Financial Pressures on the West's Steel Mills", World Steel Dynamics, October 1985. In the period 1977-1980 the total source of funds was US \$ 58,200 million and the total use of funds US \$ 54,234 million. In 1981-1983 the total source of funds declined to US \$ 40,241 million and the total use of funds was US \$ 46,423 million.

^{2/} Metal Bulletin, 2 July 1985.

The Japanese steel enterprises have reported profits since the mid 1970s. This is quite an achievement, considering their high interest expenses and the relatively small reduction in employment. The major EEC steel enterprises lost 17.5 billion dollars between 1975 and 1982. In 1984 the situation improved and a number of enterprises again made a profit. That improvement was mainly due to a great effort to reduce production costs; to the relatively small increase in their energy prices in relation to other countries, and to the decrease of the value of their currencies in relation to the dollar, which decreased their production costs in dollar terms.

In developing countries the financial results vary widely. A small group of developing countries, which are the pace-setters in steel production, are in a better financial position than they were in the mid-1970s, and enjoy relatively easy access to international funds. However, in the beginning of the 1980s in most developing countries, the financial situation deteriorated, mainly due to problems in servicing external debts during a period of heavy balance of payments difficulties and to uncertainties in obtaining foreign financial resources.

2. The impact of financial constraints in the development of new projects in developing countries.....

Since the mid-1970s, there has been an increasing number of iron and steel projects in developing countries in different phases of implementation, which should have led to a rapid increase in the production capacity. The effective implementation of the projects would thus have contributed to reducing the differences between the offer from and the demand of the developing countries, thereby decreasing the large deficit of steel products. In reality, the world economic crisis affected the level of consumption and created severe financial constraints in many developing countries, which generated a serious reduction on the number of projects implemented in those countries.

The scenarios for the iron and steel industry, formulated by UNIDO for the period 1982-1990, estimated an increase in production capacity of

3/ UNIDO, "1990 scenarios for the iron and steel industry",
ID/WG.374/2, July 1982

approximately 63.4 million tons (low hypothesis) ^{3/}; however, according to an evaluation made by UNIDO ^{4/} of the present situation of the different projects in developing countries, the increment of production capacity is estimated at only 39.7 million tons - that means 35.8 percent less than the low scenario. This decrease will create a deficit of approximately 30 million tons in 1990, and of 45 million tons if China and the Democratic Republic of Korea are included, as already mentioned in Issue No 1.

The various regions have been affected differently in the implementation of their projects. Latin America, the region with the greater financial problems, has the major reduction in the expected new capacity to be installed which, for the period 1982-1990, is estimated to be only 12.4 million tons, that means 55.8 percent less than had been forecast by the low scenario.

Due to financial constraints, there is a delay of approximately two years in the expansion of the production capacity of CSN and COSIPA plants in Brazil. CSN is expanding its production capacity from 3.8 to 4.5 million tons and COSIPA from 3.5 to 4.2 million tons. Financial restrictions have caused the postponement for several years, of the installation of the ACOMINAS plant in Brazil, with a capacity of 2 million tons per year. Because of financial problems, some projects in Latin America have also been stopped. These include the expansion of the production capacity of SOMISA in Argentina from 2.5 million tons per year to 4 million tons per year; and in Mexico the expansion of 600,000 tons per year of HYLISA and the second phase of SICARTSA with a capacity of 1.5 million tons per year. Other projects in Latin America which have been frozen or cancelled mainly because of financial constraints are the following:

^{3/} UNIDO, "1990 scenarios for the iron and steel industry", ID/WG.374/2, July 1982

^{4/} For further details see: "The financial problems and the development of the iron and steel industry", ID/WG.458/10. Background paper for the Fourth Consultation on the Iron and Steel Industry. Vienna, Austria, 6-13 June 1986.

- a) Bolivia: an integrated project based on direct reduction of approximately 100,000 tons per year to be located in Mutun;
- b) Peru: the expansion of Sider-Perú at Chimbote;
- c) Colombia: the expansion of Paz del Rio;
- d) Ecuador: an integrated project based on direct reduction of approximately 200,000 tons per year;
- e) Uruguay: a project in co-operation with Brazil of 100,000 tons per year.
- f) Nicaragua: a project of a semi-integrated plant of 100,000 tons per year to be implemented with the co-operation of the Democratic Republic of Korea.

There are other projects in Latin America which have been cancelled due to a decline in the demand of iron and steel products, such as the projects of ZULIA and ACELCAR in Venezuela and the expansion of the production capacity of the plant of Huachipato in Chile.

Forecasts for Northern Africa and the Middle East show a decrease in the estimated new capacity by the low scenario of approximately 24.8 percent in the period 1982-1990. This means that the increase in new capacities will be only 7.3 million tons compared with the estimates of the low scenario of 9.7 million tons.

In these regions the postponing, freezing and cancelling of the projects have been in some cases because of financial constraints and in others to political problems due to war situations and declines in the expected demand. The postponement by approximately 2 years of the MISURATA (Libya) project was mainly due to delay of payments. This project was planned for a capacity of 1.3 million tons per year in its first phase. For its second phase, the project is expected to achieve a capacity of 5 million tons per year. The second phase of the MADOR

project (Morocco) and a project to install a mini-plant in Tunisia of 180,000 tons per year have been postponed due to financial constraints. Another project which has experienced a delay is the MOBARAKEH plant in Iran with approximately 3 million tons per year; the present war situation has made the date of completion uncertain. The BELLARA project in Algeria has suffered postponement because of problems of demand and of delay in the building up of the infrastructure.

In Northern Africa and the Middle East some important projects have been frozen or cancelled mainly because of the decline in the foreseen demand; among these are projects in Qatar and Abu Dhabi.

In Africa, south of the Sahara, it is estimated that in the period 1982-1990, the new capacity will increase by approximately 3.2 million tons, which means 6.6 percent less than the increased capacity forecast by the low scenario. In this region, financial constraints have played a determinant role in the freezing and cancelling of the projects envisaged; among them, the expansion of existing capacities and new capacities projected in Angola, Cameroon, Congo, Gabon, Ghana, Ivory Coast, Kenya, Liberia, Mali, Mozambique, Senegal, Tanzania, Uganda and the plan of modernization and expansion of the ZISCO plant in Zimbabwe.

The Asian region is expected to increase its new capacity by 17 million tons per year in the period 1982-1990. This means approximately 24 percent below the capacity foreseen by the low scenario, which was of 22.4 million tons. The capacity expansion to be undertaken by the Bhilai and Bokaro plants in India have suffered serious delays because of financial difficulties and delivery of equipment. The Bhilai plant is expected to increase its capacity from 4 million tons per year to 5 million tons and the Bokaro plant from 4 million to 5.5 million tons. The construction of the Visakhapatnam plant in India, with a capacity of 1.2 million tons per year, is foreseen to have a delay of 4 years because of financial difficulties. Some projects in China are being postponed due to insufficient foreign currency and problems of infrastructure.

In Asia, among the projects which have been frozen or cancelled because of financial constraints, the following are worth mentioning:

- a) Pakistan: the second phase of the PIPRI project. This phase should double the present capacity of 1.1 million tons per year.
- b) India: the project of Paradip (1.5 million tons in its first phase), the project of Vijayanagar, and the expansion of the Tata project to double its capacity from 2 million to 4 million tons per year.
- c) Bangladesh: the expansion of Chittagong from 165,000 tons per year to 265,000 tons per year.
- d) Indonesia: an integrated project with a capacity of approximately 2 million tons per year which was to be financed by Japan.
- e) Philippines: the integrated project of Mindanao which was planned to have a capacity of 1 to 1.5 million tons per year.
- f) Thailand: a project of direct reduction of approximately 500,000 tons per year and an integrated project with a capacity of 1.3 million tons per year.

The following table shows the comparison between the new capacities projected for the period 1982-1990 by the low scenario, and the new estimates, based on an analysis of the present state of the different projects in developing countries.

Table 1

1982 Scenario (low hypothesis) and 1985 situation
(thousands of tons of crude steel)

	New capacities 1982-1990 (1985 Analysis)	New capacities 1982-1990 (1982 Scenario)	Difference
Africa, south of the Sahara	3,000	3,200	- 0,200 (- 6.6%)
Northern Africa and Middle East	7,300	9,700	- 2,400 (-24.8%)
Latin America	12,400	28,100	-15,700 (-55.8%)
Asia	17,000	22,400	- 5,400 (-24.1%)
TOTAL	39,700	63,400	-22,700 (-35;8%)

3. The impact of project costs in obtaining financial resources

The cost of a project has a great impact on the possibilities of obtaining financial resources to implement the project, on the nature of the financial resources to be used (external, internal), and on the future operation of the plant.

Due to the process of inflation at the world-wide level which began during the mid 1960s, the cost of a ton of steel capacity has increased rapidly. For example, in 1965 the average cost of a ton of installed capacity of a new classical integrated iron and steel plant was about US\$ 350. In 1975 the average cost was approximately US\$ 800 and at the beginning of 1980 about US\$ 1,700. In the case of mini-plants based on direct reduction or electric arc furnace, it was, on average, approximately US\$ 1,000.

The cost of a ton of installed capacity varies greatly between regions and countries. In the analysis of the ongoing new projects, the cost of expansion of a ton of existing capacity varied from US\$ 300 to US\$ 1,000 and in the case of new capacities of an integrated plant the cost varied from US\$ 1,000 to US\$ 6,000.

The differences in the cost per ton between regions and countries are due to various reasons. One aspect is the cost of infrastructure which affects the countries having to build up most of the infrastructure to install a new plant. In some cases, these costs are not included in the project. Countries, capable of producing their own equipment and of mastering the whole installation of a new plant, are in a better position than countries lacking a national ability to master the construction of a new steel plant.

The delays in the development of a project have a serious impact on the total cost of the project, which could cause an increase of 1.5 to 3 percent per month, or between 18 to 36 percent in a year.

The increase in the cost per ton to install a steel plant has become a severe constraint due to the limited financial possibilities of a great number of developing countries. This means that developing countries, which can achieve low costs per ton of installed capacity, are in a advantageous position to develop new projects during the present financial situation. The cost of a project also has an important impact on the operational phase of the plant due to the fact that the amortization and the financial expenses represent more than 10 to 17 percent of the cost of a ton of installed capacity.

The low cost per ton of installed capacity, the relative importance of national resources or national credit and favourable conditions for obtaining external loans are, currently, the main requirements to ensure the feasibility of new investments in the iron and steel industry.

4. Sources and conditions of financing

The financial conditions for developing iron and steel projects are becoming more rigorous and selective. The World Bank, through its affiliates, sharply decreased the amount of investment in steel projects during the period between 1975 and 1983.^{5/} The International Finance Corporation (IFC), affiliated with the World Bank, has participated in the capital of a number of iron and steel plants such as MEXINOX (Mexico), COSIGUA (Brazil), DALMINE (Argentina), d'AHWAZ (Iran) and is now participating in the projects of DEKHEILA (Egypt) and CARAIAS (Brazil).

The commercial banks are, in general, withdrawing their participation in iron and steel projects due to the debt problems of developing countries and also because of the uncertain rentability of the iron and steel projects. There are some exceptions, such as the loan of approximately 80 million dollars for the COSIPA (Brazil) project from a group of four international banks^{6/}, and the KWANG-YANG (South Korea) project which belongs to POSCO and which is financed with 65 percent of national resources and 35 percent by foreign credits.

Some barter transactions are going on between developing countries. For example, Brazil has developed arrangements with Iraq, Nigeria and Malaysia to exchange steel products with oil.

There are some projects in developing countries in which the foreign financial participation has been compensated by the resulting production of the project. The project of VIZAKATNAM in India, which is benefitting from a credit of the USSR, has a contract of buyback. This has also been practiced in the TUBARAO (Brazil) plant where the participation of Kawasaki and Finsider were partially compensated by the production of the plant.

5/ M.Mehra: "International Financial Flows to Industry: Some Sectoral Trends", UNIDO/PC.104, 24 September 1984.

6/ Metal Bulletin, 26 March 1985.

In some of the projects it has been found that the participation of the national financing system has been insufficient. On average, the need for foreign currency to cover the costs of a project is about 50 percent and in some cases only 35 percent. This means that the national financing systems can play an important role in the process of financing new projects. The promotion of national financing systems can lead to the decrease in the use of foreign credit, contributing to improvement of the financial conditions of the iron and steel projects and of the developing countries to which they pertain.

5. The financing of infrastructure and training

Infrastructure and training are two main aspects which have an important impact on the total cost of a project and on the mastering of its technology and development. However, the financing of infrastructure and training does not escape, in general terms, from the general conditions of financing.

There is little evidence of clearly defined policies for financing infrastructure and training. These differ between the countries which are the main providers of credit and also among projects.

The use of preferential credits for the building up of the infrastructure needed in a new plant is possible, but on condition that it will be very limited: in general, no more than 15 percent of the credit is subject to guarantee. This means that the financing of the infrastructure depends mainly on general sources of financing which do not have any specific treatment.

In relation to training, there is, at present, a tendency for the main capital goods exporting countries to put more emphasis on training of manpower for the efficient utilization of the machinery they export. This has been reinforced by the strong competition which exists among exporters, due to the recession in the world economy. Importing countries have also begun to realize that full benefits, even from a turnkey project, can only be reached if personnel is adequately trained.

At present, some countries, which are main exporters of capital goods to the iron and steel industry, prefer to give preferential credits only to guarantee the exports of machinery and equipment, and they are less inclined to give them for services such as training. However, there is a tendency in other exporting countries to finance, under preferential conditions, the training of manpower in major projects considered of great interest.

6. Final considerations

Developing countries, in order to improve their financial conditions, could adopt different lines of approach to improve the terms of financing. They could try to obtain better conditions from the existing system; they could increase the participation of the national financing system; they could use a greater portion of aid to finance training; and, finally, they could increase the participation of regional financing systems.

In order to identify the constraints and possibilities of improving the financial conditions of the iron and steel industry in developing countries, it would be necessary to focus discussions on the following:

1. Analysis of the main constraints to improve the conditions of financing the operation of existing plants and the implementation of new projects in developing countries;
2. Possibilities of improving systems of financing (external, internal), mainly as regards the duration of the loan, period of grace and interest rate, especially for infrastructure and training;
3. Possibilities of co-operation in the area of financing between developed and developing countries and among developing countries themselves.