

A Time of Tempering



Steel demand worldwide has been stagnant for 10 years, and the situation in steel markets has now worsened into a full-fledged recession. Moreover, the immediate outlook is for more of the same. To overcome its problems, the Japanese steel industry has concentrated on reducing costs and creating higher value-added products. Despite steel's current troubles, Japan Steel Federation Chairman Eishiro Saito is optimistic about the future, saying that steel has cost advantages over steel substitutes, and predicting that the 21st century will still be an age of iron and steel.

**Interview by Jack Russell
with Japan Steel Federation
Chairman Eishiro Saito**

Russell: It is predicted that Japanese steel production will drop below 100 million tons this year, with demand falling domestically in almost all industries. How do you view this situation?

Saito: Generally the steel market has been stagnant for ten years, but the situation now is even worse than it was immediately after the first oil crisis in 1973. For the first time in ten years, steel production will probably fall below the 100-million-ton level, to about 99.4 million tons this year. In 1973, Japan's steel production reached a peak of 120 million tons and Nippon Steel's share of this was 41 million tons. Since that year, the Japanese steel business started to slide; then we experienced a second oil crisis and a deep recessionary period. Nevertheless, we were able to keep output between 100 million and 120 million tons. But the forecast for 1982 is that we will not reach the 100 million ton mark. We are in the depths of a recession, just like the rest of the world.

Russell: As first Chairman and then Vice Chairman of the International Iron and Steel Institute, you are in a position to speak on the international steel situation. What has been the trend?

Saito: Worldwide steel production peaked in 1979 at 740 million tons, but then slipped to the 700 million ton level.



Japan Steel Federation Chairman, Eishiro Saito

***"In Japan, the operating ratio is 63%,
in Western Europe 50%,
and in the United States 40%."***

The prediction for 1982 is that it will decline to 680 million tons and it is also expected to fall short of 700 million tons in 1983. The world is in a synchronized recession. Demand is weak, production is down, and operating ratios are low. In Japan, the operating ratio is 63%, in Western Europe 50%, and in the United States 40%. World steel production is burdened by huge surplus capacity.

Russell: What has the Japanese steel industry been doing to overcome the prolonged recession?

Saito: First and foremost, the steel industry is concentrating its efforts on reducing costs. Typical has been our energy conservation to cope with the explosive escalation of energy costs. In the last eight years, the industry has achieved a 14% overall energy saving. The conversion of blast furnaces from oil-injection to oil-less, all-coke operation has helped the industry to reduce oil consumption by 70%.

Second has been the widespread installation of continuous casters, which has contributed greatly to savings in energy consumption. Today the ratio of continuous casting in the Japanese steel industry is 72%. This helps to improve what we call our heat efficiency. Another example of minimizing heat loss is the positive adoption of continuous annealing and processing lines. Also, the industry generates power using blast furnace top-pressure recovery turbines and makes active and extensive use of waste heat energy. These are just some of the examples of energy-saving programs we now have in place to reduce costs.

We have also resorted to very innovative measures in the whole area of raw materials to produce the same result—cost reductions. Our efforts have led to raising the product yield from 84% in 1973 to 91% in 1981.

Russell: It sounds as though the possibilities are almost limitless.

Saito: As a processing industry, the steel industry is very susceptible to the adverse effects of higher costs. We can measure this. For example, recession eats into our advantages of scale, and it is said

that steel suffers increased costs of ¥4 billion for every 100,000 tons in production volume lost. In spite of our drastic, positive efforts to modernize equipment and make technological innovations, there is a limit to the industry's capability to absorb all of the higher costs.

Russell: Have sales of steel products been bad across the board?

Saito: One sector has worked to our advantage, particularly in the past two or three years, despite the recession. There was a booming market for steel tubular goods, especially seamless steel pipe, for oil rigs and oil field development until the spring of 1982. Prices were very strong, and the revenues and profits were all used to offset higher production costs and to compensate for losses in other types of steel product sales. But the bottom fell out of this market last spring, and we now are in really serious difficulties. In this, the Japanese steel industry is no different from the steel industries in Europe and the U.S. in the effects it feels from the intensity and severity of the recession.

Russell: How has the depreciation of the yen affected the Japanese steel industry?

Saito: The devaluation of the yen has rubbed salt into the Japanese steel industry's wounds. Last spring, most Japanese business leaders forecast that the exchange rate would stay around ¥220 to the dollar. However, the U.S. dollar has gained ¥50 since then. Basically, I believe the yen's fall is attributable to high U.S. interest rates which have led to strong capital flow into dollars, and this is having a telling effect on the Japanese industry. To illustrate how serious this is, for every ¥10 drop in the yen exchange rate against the dollar, Nippon Steel suffers losses of ¥5-6 billion.

Russell: As a key industry, steel naturally keeps a close watch on trends in both the domestic and international economies. What are the prospects for the Japanese economy and world economy in the short and medium terms? Do you foresee an upturn?

Saito: I often say that the world economy is like a chain, and no chain is strong-

er than its weakest link. The world economy is so intermeshed that no one country can expect to prosper at the sacrifice of others. I do not think the Japanese economy can continue to have a high rate of growth. I think it is fair to say that the growth rate will be 2% in 1982 and at least that in 1983. This will more or less be the pattern for all industrialized nations. Last fall, domestic demand for steel leveled off. Under the pressure from declining steel exports, the domestic market has again entered a period of inventory adjustment. While consumer spending has turned up a little, private capital spending and housing investment have continued to be slow. Next year we foresee domestic demand picking up slowly with exports increasing only slightly, probably by around 2%. As for the world economy, OECD projections show a GNP growth rate of 0.5% this year and 2.5% in 1983. While the economies of industrialized democracies will begin to recover in the latter half of 1982, high interest rates in the U.S. will act as a drag on the world economy and slow the rate of recovery.

Russell: Given that context, what are the prospects for the Japanese steel industry?

Saito: The sluggish tone in the second half of this year will continue into 1983. Japan's steel production in 1983 is expected to be 97.5 million tons, down 2% from the current year. According to the International Iron and Steel Institute, worldwide production of steel will rise slightly next year to about 690 million tons compared to the 670 million tons projected for this year.

Russell: The Japanese steel industry exports about 30% of its production. What has happened to its export markets as a result of the worldwide recession?

Saito: Under the impact of the recession, demand in Japan's major export markets—the U.S. and Southeast Asia—is unlikely to pick up. I would say that Japan's exports are likely to continue to fall this year, with particularly sharp declines in the second half. Demand for steel in the U.S. market is particularly sluggish with automobile production and housing

"The Japanese steel industry must go in the direction of concentrating on ever more advanced products having higher added value."

starts at low levels. On top of this, steel demand related to oil development, which had been quite brisk, has declined sharply.

The single encouraging development has been a contract recently signed with Iran. But there are still uncertainties and potential risks. Exports to China will probably return to approximately the 2.6 million-ton level of the year before last. However, in the long run, world steel demand will increase appreciably. As the newly industrializing, steel-producing countries begin to figure importantly in the world steel market, it is imperative that the industrialized countries strengthen their cost competitiveness and product quality.

Russell: How do you view the dispute between the U.S. and the EC on the upsurge in European exports to the U.S.? I understand foreign steel now accounts for 20% of total U.S. steel consumption. American steel companies have accused European countries of dumping and subsidizing exports to the U.S. and have demanded the imposition of countervailing duties.

Saito: The U.S. and the European Community have been locked in intensive consultations, negotiations, and efforts to break the deadlock and solve the dispute to their mutual satisfaction. However, the problem is far from resolved. The U.S. government is now likely to announce a final determination on injury to the U.S. steel industry. I consider this regrettable. In settling such disputes, it is essential that both exporting and importing countries have a full understanding of each other's position. And compromise or settlement should be reached on the basis of this mutual understanding. The best scenario for solving the dispute between the EC and the U.S. is for the EC to declare voluntary restraints on steel export pending the International Trade Commission's final ruling. Voluntary restraint is a reasonable solution.

Russell: There is growing speculation that more Japanese steel companies may invest in production facilities in the U.S. to assure themselves of a share of the American market. Could you comment

on this generally? Specifically, does Nippon Steel have any plans to invest in America?

Saito: As more and more U.S. mills began seeking to revitalize their operations around 1978 and 1979, the number of requests for Japanese mills to render technical cooperation increased markedly. Before 1978, Japanese technical cooperation mainly involved large blast furnace construction and other such projects. However, since 1978, Japanese technical cooperation has expanded into areas involving continuous casting, the treating of cold-rolled sheet steel, and the manufacture of tubulars. In the ongoing process of revitalizing the U.S. steel industry, Japanese companies are expected to render technical cooperation in such areas as the operation of new pipe production facilities, large volume continuous casting facilities, continuous annealing lines, and plating lines. However, this technical cooperation could be slowed by further deterioration in the financial positions of U.S. mills, since this would lead to scaling down or postponement of their capital investment programs.

No Japanese company has invested capital in a U.S. steel mill to date. The nearest thing to this is that Nippon Steel and Armco, which have been traditionally closely associated through technical cooperation, now have nominal, "symbolic" cross-holding of each other's shares.

Russell: Does Nippon Steel have any specific plans to invest in production facilities?

Saito: We have no plans whatsoever to acquire any U.S. steel producing plant in America. Nippon Kokan, of course, did announce its plan to acquire Rouge Steel. Yet rather than pursue such capital investment, I expect the Japanese steel industry to continue to seek coexistence and mutual prosperity with the U.S. steel industry through technical cooperation.

Russell: What are the Japanese steel industry's capital investment goals?

Saito: In the face of slower demand, the industry will continue to update production facilities, concentrating primarily on reducing costs. At the same time, the

industry will be investing in programs designed to meet the increasingly diverse and exacting quality requirements of our customers. I would like to point out that the total crude steel production of the 10 steel-producing newly industrializing countries has exceeded their total consumption since 1976. Even since then, their production has consistently grown faster than their demand, and this has led to increased exports.

The Japanese steel industry must therefore go in the direction of concentrating on ever more advanced products having higher added value. Only in this way can we maintain our current edge and continue to lead in product quality, cost, production technology, and other aspects of steel production. Japanese mills must continue to make capital outlays positively and vigorously in such a way as to ensure technological innovation. Nippon Steel will continue to invest, for example, in the development of more efficient waste-heat recovery systems. Considerable amounts of money will also be spent on the introduction of more energy-efficient processes from around 1985 and through the following decade as the facilities built in the period of Japan's rapid economic growth come up for replacement. We will be involved in labor-saving investments to reduce the workforce. For steel materials in particular, there is a distinct tendency toward higher grades. Capital investment will therefore be targeted on the production of higher value-added products.

Russell: What new products do you envisage being developed to meet the changes in quality requirements brought about by the oil crises?

Saito: One example is that changes in the environments of oil drilling operations have given rise to a need for development of seawater corrosion resistant steel, sour-gas resistant steel, low-temperature-service steel, and high-pressure-resistant steel. The automotive industry also has new requirements because of the need for fuel economy. This can be accomplished by reducing vehicle weight through lighter but higher-strength steel with good formability, longer service life, and better

"The basic posture of the union significantly affects the company's productivity and ultimately the company's viability."

resistance to corrosion. In shipbuilding, the requirement is for fuel-efficient, energy-saving ships. High-strength steel with excellent weldability is needed. Other areas for development are low-core-loss electrical sheet for the electrical machinery industry and inclusion-free steel with low phosphorus and sulfur contents for safety in storage tanks.

Also, the steel industry should enter new areas of technology through opening and maintaining technical exchanges with other industries based on steel's wealth of technology and expertise. One area would be to produce intermediate materials such as ethylene and glycol from coke-oven gas and other by-product gases for the chemical industry. There is also a need for new materials such as amorphous alloys for transformer cores and steel-ceramic composite materials.

Russell: How would you rate the cooperativeness of unions in fostering greater productivity and keeping costs down?

Saito: Labor-management relations in the Japanese steel industry are known to be particularly amicable. In the 1960s, a major policy change was made by union leaders. The previous policy of confrontation and strikes lost the support of union members. Instead, workers became convinced that there can be no employment or worker welfare without the growth of the company. Now, the generally accepted principle is for the union to endeavor to improve productivity and determine, through consultation, how to share the gains resulting from those productivity improvements.

As for rationalization measures needed to improve productivity, unions take the view that the company's development goes hand-in-hand with the well-being of the employees, and they cooperate with the company. Management also respects the wishes, desires, and views of the union. Of course, there is not necessarily a direct correlation between the state of a company's labor-management relations and its productivity. However, it cannot be denied that the basic posture of the union on rationalization and modernization sig-

nificantly affects the company's productivity and ultimately the company's viability in the international market. At Nippon Steel, employees make major contributions to reducing costs and improving efficiency through *Jishu-Kanri*, or J-K, activities. Fully 94% of our production personnel take part in J-K activities.

Russell: How do you personally, perhaps even philosophically, view the role of steel in the world?

Saito: The steel industry, for all its ups and downs, is one that no other industry can match in terms of sheer volume of production, which is 700 million tons worldwide. The steel industry is a basic industrial material industry in the sense that all other processing industries—such as machinery, electrical machinery, construction, and so forth—rely on the basic materials we produce. This pattern will remain unchanged no matter what happens.

Another thing which will not change is that the steel industry is the foundation of human happiness in all civilized countries. The world population now totals about four billion people. World per-capita steel consumption is 170kg a year. However, the annual per-capita consumption in the industrial nations is 500kg, which means there is still a big gap between the developing and the developed countries. Developing countries are working hard to close this gap. With this long-range perspective, I can say the future of the steel industry, certainly in the long-range, will be vigorous, viable, and promising. In neighboring China where the population is about one billion, steel production is 30-40 million tons a year and annual per-capita steel consumption is 40kg. This is well below the world average annual per-capita steel consumption of 170kg, and even further below the industrialized countries' 500kg. So China alone has an almost inestimable requirement for steel consumption. If China is to reach parity with world per-capita steel consumption, it will need 20 more modern steel complexes like the one under construction at Baoshan near Shanghai.

Russell: What will the steel industry be

like in the 21st century?

Saito: It will still be a basic industry. As regards the economic feasibility of possible steel substitute materials, certainly there are such substitutes—aluminum, plastics, resins, and ceramics—and they can be mass-produced. However, all of these are either derived from oil or made from energy produced by oil, and they are therefore subject to economic constraints from high oil costs and supply uncertainty.

In contrast, steel is basically and intrinsically in a very advantageous position. Thirty percent of the crust of the earth is comprised of ferrous materials, and this rich endowment of ferrous metal gives steel an invincible advantage over steel substitutes. Steel is also absolutely cost advantageous compared to its substitutes.

This fact of life will remain true for the rest of the 20th century and in the 21st. If you were to travel in a time machine into the next century, you would find the 21st century also the age of iron and steel.

This does not mean we can be complacent. Far from it. There is much to be done if we are to remain fully competitive. We must continue our efforts to make the best of the unique characteristics that only steel possesses. At the same time, we should adopt the characteristics and qualities possessed by so-called steel substitutes, such as ceramics, and build them into steel.

If we do all these things, we will be able to supply our customers with quality steel with a wide range of properties at more advantageous costs. This must be steel's future if we are to remain a vigorous and viable industry. ●

Jack Russell is a broadcast journalist who has reported on developments in Japan for more than ten years. Previously he covered the Vietnam war for NBC News, and prior to that was a business and economic reporter in Tokyo for a number of publications.