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CENTER DISCUSSION PAPER NO. 385

THE POLITICAL ECONOMY OF UNITED STATES-JAPAN TRADE IN STEEL

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September 1981

Notes: Paper presented at the Symposium on U.S.-Japan Economic Relations, March 23-27, 1981.

Revised
May 1981

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I. INTRODUCTION

Purpose of Study

The focus of this paper is United States-Japan bilateral trade and trade policy in steel products during 1975-80. These were years of worldwide recession and excess capacity in steel, an increase in the import share in the U.S. market, and the American imposition, suspension and reinstatement of a trigger price mechanism which set a de facto floor price on steel. During this period, notably in 1977, steel trade became highly politicized.

There are six main actors: the American steel industry; the Japanese steel industry; the American government; the Japanese government; the European Economic Community (EEC) steel industry; and the EEC governmental organizations, national and supranational. No single actor is homogeneous, of course. It is a story without beginning or end. The antecedents lie in the quite different histories of the steel industries in the United States, Japan, and Western Europe since World War II. The American industry modernized somewhat without expanding capacity greatly, the European industry expanded capacity considerably and modernized somewhat, and Japan built a very large, modern industry comparable in size to the United States. In the process comparative advantage moved away

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*The authors are respectively Professor of Economics and Associate Professor of Political Science at Yale University. We express our appreciation to Tae-dong Kim for research assistance, to those many Japanese and American policymakers and specialists whom we have interviewed and whose anonymity we respect, and to the Luce Foundation for financial support.

from the United States to Japan.[1] This process continues. The bit actors--with larger future roles--are the industries in Canada, Australia, and particularly a number of developing countries where labor costs are low and industrialization well under way.

The ongoing, intertwined theme is how the American steel industry has responded to substantially enhanced competition in the American market and how Japanese steel producers have entered the American market. One important response by the American industry has been to seek protection by restriction of imports. Many of the issues revolve around determination of "fairness" and "unfairness" in the context of free trade. The American industry has been successful in obtaining protection because it is large, politically well organized and powerful, and generally considered an important basic industry. At the same time it is constrained by the fact that major users of steel are also politically powerful and want prices kept competitive, especially as their products, such as automobiles, face increasing competition both in world markets and at home.

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[1] In the last five years there have been a number of government, industry, security analyst, and academic studies of the changing competitive position of the American steel industry vis a vis Japan and Europe, and to a lesser degree the other steel producing nations. See Federal Trade Commission (FTC 1977), Council on Wage and Price Stability (COWPS, 1977), Office of Technology Assessment (OTA, 1980), Government Accounting Office (GAO, 1981), American Iron and Steel Institute (AISI, 1980), the Putnam, Hayes and Bartlett studies (1977 and 1978) for AISI, Marcus and Kirsis (World Steel Dynamics, 1979), reports by Charles Bradford of Merrill Lynch, Pierce, Fenner and Smith (Steel Industry Quarterly Review, various issues), the numerous studies by Kawahito and Mueller (see references cited), and Crandall (1980a, 1980b) as well as his forthcoming Brookings Institution study.

Import restrictions harm users by raising prices and by increasing the rate of inflation (important since steel input cost increases are often passed on by users). In the longer run it reduces the competitive stimulus for the steel industry (management and labor) to get costs in line. It results in socially inefficient allocations of capital and labor. And particularly in the case of steel, import restrictions invite retaliation. The benefits of import restrictions accrue to workers in the steel industry through more steel jobs and higher wages than otherwise, to management in higher salaries, and to stockholders in higher profits. If such a redistribution is desired, import restriction is a particularly clumsy and inefficient way of achieving it.

Much of the recent story involves the trigger price mechanism (TPM), which was an American political solution to some of the economic problems confronting its steel industry. In the remainder of this section we outline American antidumping legislation and administration, and the import control system of the late 1960s and early 1970s. We then discuss the evolving structure and competitiveness of the American and Japanese steel industries in a world context. The two following sections consider the political and economic circumstances which led to the creation of the TPM, and provides a brief description of it. Its suspension and reinstatement in 1980 are treated in Section V. Section VI provides a brief evaluation of the TPM. In the final section we speculate upon future prospects for U.S.-Japan steel trade and trade policy.

The Antidumping Law

One of the tasks of trade policy has been to define "unfair" competitive practices such as predatory pricing, dumping, and export subsidization, to establish criteria for determining their occurrence, and to provide mechanisms (such as antidumping or countervailing import duties) to offset demonstrable injury to domestic producers of import-competing products. In steel the main trade issue in recent years has revolved around American industry allegations of foreign dumping in the U.S. market. Two criteria are basic in an antidumping case: imports must have been sold at "less than fair value" (dumped); and this dumping must cause material injury to domestic producers.

The U.S. Antidumping Act of 1921 defined three alternative measures of less than fair value, in descending order of application. First was comparison between prices in the exporting nation and export prices; export prices less than home prices are unfair. Second, if there were insufficient home-market sales, comparison is made with prices of exports to third-country markets. Third, if neither set of price comparisons could be made, export prices were compared with a "constructed value" based on costs of production including overhead (fixed) costs of at least 10 percent of direct costs plus an 8 percent profit margin. This final criterion was not frequently used because price data were usually available. Note the first criterion allowed marginal cost pricing abroad if also done at home.

The 1974 Trade Act fundamentally altered the use of these criteria, substantially increasing the degree of import protection for industries

subject to strong cyclical recessions or persistent excess capacity. Essentially it has eliminated the possibility of marginal cost pricing for exports, substituting instead some measure of average cost of production from the comparison with export prices. It made antidumping suits more attractive since the constructed-value criterion for determining less than fair value could be applied. In recessions, producers in industries with high fixed costs will sell at prices below average costs because small losses are preferable to large. Now they run the danger of antidumping suits if they pursue this competitive pricing behavior in exports to the United States.

This new definition of dumping places major emphasis upon cost of production in recessions. And, as the trigger price mechanism experience indicates, costs are extremely difficult to measure. It poses an administrative nightmare (Crandall, 1980a). Unfortunately, this definition has spread to others; the European Economic Community adopted a similar dumping code in December 1979.

Nonetheless, antidumping suits are not a panacea for import-competing firms and industries. The information-gathering and legal costs, time lags in implementation, and uncertainty as to final determination make it expensive. However, if dumping and injury are found a preliminary anti-dumping duty is assessed, subject to a final determination of the amount of the duty. Imports that clear Customs after the preliminary determination are subject to the duty at the (unknown) rate to be set in the final determination. As a consequence, imports of the affected

product virtually cease from the affected exporter during the approximately six-month period between preliminary and final determination, a draconian solution.

Previous Import Control Efforts

Satisfied with the large, prosperous domestic market, the U.S. steel industry--like many other American industries--remained complacent about export markets for many years. As others became stronger and the competition grew, the industry was forced to struggle with smaller shares of the home market. Since 1959, when there was a major domestic steel strike and imports exceeded exports in volume for the first time, the share of imports in apparent domestic consumption[2] steadily increased from about 5 percent at the beginning of the 1960s to 17 percent in 1968. As imports increased, so did domestic protectionist efforts and government receptivity thereto. Until the late 1960s, the government had maintained a rather antagonistic position toward the domestic industry, underscored by the confrontation in 1962 between President Kennedy and Roger M. Blough, then chairman of US Steel, over prices. The situation was considerably different in 1967-68.

In 1967 steel mounted a major anti-import compaign, focusing largely on lobbying Congress to pressure the Executive. This led to introduction of an omnibus bill providing for mandatory import quotas on a number of products, including steel. Regarding such legislative moves as too protectionist, the State Department negotiated with Japanese and European steelmakers a three-year voluntary export restraint (VRA). The VRA went into effect January 1, 1969, and was extended in 1972 for another three years.

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[2]Apparent consumption ≡ apparent supply ≡ production + imports - exports, i.e. inventory change is not taken into account.

While American producers were more or less content with VRAs, which limited imports and allowed them to raise domestic prices, consumer groups in the United States were unhappy. In October 1972 the Consumers Union brought an antitrust suit against the State Department, the domestic steel industry, and foreign steel producers, charging they violated the Sherman Act by conspiring to restrain foreign commerce. The Court of Appeals upheld the State Department's authority to negotiate the agreement and dismissed an expression by the District Court suggesting that there was an antitrust violation. The antitrust issue had been withdrawn from the case by agreement of counsel because it would have required protracted litigation. Nonetheless, this case has led most observers to believe that there are antitrust risks in a VRA which is not entered into pursuant to foreign governmental direction or specific U.S. legal authority. The VRA was allowed to expire in 1975, partly for this reason.

In July 1975, American specialty steel (alloy and stainless) producers backed by the United Steelworkers of America (USW) filed a petition for relief from imports under the escape clause provision (Section 201) of the 1974 Trade Act. In January 1976, the International Trade Commission (ITC) ruled in favor of the industry, recommending import quotas for a five-year period on a product-by-product basis. Upon receipt of this ITC recommendation, President Ford instructed his Special Trade Representative, Frederick B. Dent, to negotiate intergovernmental voluntary restraint agreements that did not risk antitrust violations, called "orderly marketing agreements" (OMAs), with principal exporting countries. While Japan was willing to accept an OMA, the EEC and Sweden refused, so Ford imposed three-year quotas on specialty steel imports (Adams and Dirlam, 1979, pp. 98-101).

Meanwhile, the Europeans had persuaded the six major Japanese producers voluntarily to limit shipments of general steel products to the EEC. The U.S. industry reacted immediately, by filing, in October 1976, a Section 301 complaint with the Office of the Special Trade Representative (STR). The 301 provision of the 1974 Trade Act is specially intended to deal with foreign practices and policies adversely affecting the U.S. economy, including distortions of trade that result from foreign government arrangements. The suit charged the Japanese producers' restraint agreement unfairly diverted steel from Europe to the United States. Although the Ford Administration did not seriously act on the suit and it was dismissed fourteen months later for lack of sufficient evidence, the 301 case prepared the ground for a new round of steel trade politics under the Carter Administration (Sato and Hodin, 1980, pp. 8-13).

II. The American and Japanese Steel Industries in World Perspective

Steel of given specifications does not differ from producer to producer. However, steel refers to an enormous variety of specific steel products. The American Iron and Steel Institute (AISI) classifies 32 product categories, and many products within each category. Each product is further distinguished by grade, size (width and length), other specified qualities (such as coating, finish, tolerance, packaging), and other special conditions which enter the price. In general, steel refers to basic carbon steel. Stainless and alloy (specialty) steels are sufficiently different products, with specialized producers, to have had a separate trade policy in the 1970s, as noted above.

Most steel is produced in integrated mills where economies of scale are significant, and optimal scale is very large. About 85 percent of steel in the United States is produced by integrated producers (OTA, 1980, p. 10). The proportion in Japan is comparable. A limited range of products--mainly rods, angles and bars--are efficiently produced from scrap in electrical furnaces in minimills. Such plants can be located near markets.

Viewed in longer-run perspective the world steel industry since World War II has gone through a remarkable transformation--in technology, in total capacity, in geographic location of production. Demand in the United States has not grown substantially since the mid-1950s, especially relative to capacity. Between 1955 and 1979 U.S. production increased by 11 percent, European, 108 percent, and Japanese, 1000 percent. Over this period world trade in steel grew, as did the role of all the Western European nations and Japan; their respective shares of the 139 million tons exported (excluding intra-EEC trade) in 1979 were respectively 33 and 29 percent (OECD, 1980a). The steel industry has reflected the dynamics of evolving comparative advantage and countries have successfully pursued infant industry protection in steel. Japan has become the low-cost producer. However, costs both of building efficient integrated mills and of operating them are now lower in developing countries due to low wage rates even relative to productivity (Crandall, 1980b, p. 144). The excess capacity in world steel since 1974 will continue well into the 1980s. The eventual major new integrated plants will probably not be built in Western Europe, the United States, or Japan.

Detailed analyses of the cost, price, structure, technology

and other characteristics of the industry are provided elsewhere (see Footnote 1). A brief summary follows.

Market Structures

Economies of scale mean the steel industry in any country is oligopolistic. Competition across national boundaries is impeded by substantial transport costs and various trade barriers. The Japanese industry is most concentrated, the United States next, and the EEC less so. US Steel, the largest American producer, has relatively old plants specializing in carbon sheets (Crandall, 1980a, p. 19). Much of the American import problem is a US Steel problem: in 1955 its U.S. market share was 31 percent, imports were negligible; by 1979 US Steel's share had declined by 13 percentage points to 18 percent, and imports increased to 15 percent (Bradford, February 1980, pp. 13-14). Lynn (1980) and Woolcock (1980) discuss the structure and problems of the American industry.

The Japanese industry has ten integrated producers. It is dominated by the Big Six (Nippon Steel, Nippon Kokan, Kobe, Kawasaki, Sumitomo, and Nisshin). Nippon Steel, the largest producer in the world, exercises considerable leadership among the Big Six. They are all considered highly efficient producers. Since late 1977 they have been regarded as the world's most efficient, cost competitive, integrated steel producing firms. Certainly, however, some American and European mills are as efficient as Japanese mills, and Japanese firms are not the minimum-cost producers of all steel products. For further detail see Kawahito's various studies, Imai (1975), and Watanabe and Kinoshita (1970).

The steel industry in the EEC is more heterogeneous and less concentrated, not surprising since it consists of firms, some state-owned, in all the member countries. There are national differences in industry and government attitudes and policies, and in degree of competitiveness. A number of new, large modern plants have been built at deep-water sites, but many obsolete facilities have yet to be modernized or scrapped.

More than fifty developing countries have some type of steel production, but only nineteen have integrated steelmaking capacity (Kawahito, 1980b, p. 68). Since optimal scale for an integrated facility is now on the order of 6 million tons annual capacity, not surprisingly developing countries build electric furnances and fabrication facilities until domestic market size makes an integrated plant economic. Thus they import some steel products and export others.

Pricing Behavior

Price and service (assured supplies, early delivery dates, technical assistance) are the main means of competing. American firms have had a policy of friendly competition since 1910, when US Steel was established (Adams, 1977, p. 88). The industry engages in what the Federal Trade Commission study (1977) terms "barometric price leadership." In Japan, Nippon Steel has been the main price leader since it was established in 1970 by the merger of Yawata and Fuji. Woolcock (1980, p. 5) describes European pricing practices as imperfect collusion.

List prices are the starting point for the pricing of steel products. They are changed infrequently, but are in practice only a reference point.

Actual market prices reflect short-run demand and supply conditions. Price variability is considerably greater than price indexes suggest; comprehensive data are difficult to obtain.

It appears that in recession U.S. producers are reluctant to shift far from administered (average cost plus mark-up) pricing strategies toward marginal cost pricing. Japanese producers apparently are somewhat more willing to do so, in both domestic and export markets. Thus Japanese (and European) steel firm pricing practice is a substantial constraint upon the market power of the American industry. Kawahito has considered Japanese domestic pricing arrangements in various studies.

Technology

Substantial innovation has taken place in steel production over the past thirty years in both product and process technologies. This affected the national industries very differently. Japan, with all its capacity built since the 1950s, has been able to take advantage of new technologies. Almost all current American integrated steel capacity was built prior to 1950. The optimum size of integrated mills has increased, but American firms have had to bear higher costs introducing new technologies into existing, now relatively small, plants.

It is estimated at least one-fifth of American steel facilities are obsolete (OTA, 1980, p. 129).[3] It is too expensive

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[3]Father W. T. Hogan, a well-known economist specializing on the steel industry, has suggested only 70-75 percent of U.S. capacity consists of good, modern equipment (speech before the Japan Society, New York, November 29, 1979).

and inefficient to modernize much--probably most--of this obsolete capacity. Europe has had a similar problem of the overhang of existing, outdated capacity. Thus, while the same "best" technologies are embodied in the efficient modern mills in Japan, the United States, and Europe, on average the technological level is lower in the United States and EEC. The OTA 1980 study stresses the United States does not lag seriously in product technologies but does in process technologies. American management has also been conservative and slow.[4]

Steel is often regarded as capital intensive. In fact it is in the middle range as measured by the proportion of gross value added by labor, similar in the United States to bakery products and costume jewelry. By this measure it is substantially less capital-intensive than industrial inorganic chemicals or petroleum refining (Crandall, 1978).

Costs of Production

Considerable research has been done in the United States over the past five years concerning the comparative costs of production of the American steel industry and its major competitors, since these estimates provide the basis for evaluating allegations of dumping. Federal Trade Commission and Council on Wage and Price Stability studies of 1977 were of great importance in changing perceptions. Japanese firms were no longer seen simply as dumpers but as the most efficient,

[4]Lynn has done an excellent study of the differential diffusion rate of the blast oxygen furnace in replacing the open hearth in Japan and the United States. By 1960 it was clear the BOF technology is superior: it costs less both to build and to operate. Since then no new open hearth furnaces have been built in Japan or the United States. BOF was developed in the early 1950s; its superiority was not initially evident since there were many technical problems and high pollution. However, during the crucial introduction period 1954-60 Japanese firms selected the BOF process in six of nine cases of investment, and American firms in four of twelve (Lynn, 1980, p. 51).

low cost producers; the competitive difficulties of the American industry came to be seen rather more as problems of controlling its own costs and slowness in technological innovation and diffusion. It was generally concluded that even after transport costs Japanese average (and presumably marginal) costs were below American costs in the American market, though how much was unclear. Moreover, Japanese costs were not subsidized by the government. Besides newer plants, Japan's relative cost advantage has several other aspects. The decline in ocean relative to land transport costs means the United States and Germany no longer have the advantage of relatively cheap domestic raw materials (Crandall, 1980b). Another reason is that American steel worker wages have risen not only absolutely but as a ratio to all manufacturing wages; it is now considerably above the ratio in Japan.[5] Table 1 provides comparisons of American and Japanese labor and raw material costs over time.

Capital costs are more difficult to compare. Short-run marginal costs are about two-thirds and fixed costs one-third of total average costs at normal (90 percent) capacity utilization rates. A major difference in capital costs between the United States and Japan lies in the financing structure of companies. A common rule of thumb is that respective debt/equity ratios are 40:60 and 80:20. Accordingly Japanese firms pay more interest and earn less profits per ton of steel. It is not clear that it makes a great deal of sense to compare average rates of profit (return on equity) in the United States and Japan since the variance among firms is substantial, particularly in the United States

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[5]The premium of steelworker wages over those in all manufacturing, about 30 percent in 1970, had risen to 75 percent by 1980. This has been in large part the consequence of the union contract since 1974 incorporating the Experimental Negotiating Agreement, by which unions have pledged not to strike in exchange for real wage increases including a cost of living clause. If the United States had the 1978 Japanese ratio of steelworker wages to all manufacturing of 32 percent, then hourly labor costs in 1978 would have been $2.28 lower, and the cost/ton of steel lower by $22.89. By 1980 the attendant per ton cost differential $30-$40 (GAO, 1981, p. 7-13).

(see OTA, 1980, p. 122). It is a remarkable indication of Japanese industry cost competitiveness that they have operated profitably in the past three years at only 70 percent capacity utilization; in part this is due to an upgrading of steel product mix.

Government Policy

Governments treat steel differently from most other industries. Steel is regarded as a basic input for industrial activity. Thus it is encouraged through both domestic and foreign trade policies. About 30 percent of non-Communist world capacity is government-owned. There is no government ownership in the United States or Japan, but substantial ownership in Europe except for West Germany. Government ownership has been linked to subsidy, especially in recessions. At the same time steel is an oligopolistic industry with considerable market power. Price increases become inflationary signals. It is also an industry which generates much pollution. These lead to government regulatory efforts.

Until the early 1970s the Japanese industry was protected from foreign competition from imports or direct investment in Japan. Overall, the Japanese government has been very supportive of the industry. United States government policy toward the American steel has been more ambivalent, reflective of the general ambivalence toward industrial policy. The industry blames its difficulties on the government. At the same time there is little evidence the industry has used the 1969-75 and 1978-80 periods of import restraint to accelerate its restructuring and modernizing efforts.

The World Steel Recession, 1975-80

The American, Japanese, and world, steel industry face two broad problems: structural, and cyclical. There are two interrelated structural problems: the shift in comparative advantage from the United States and Europe to Japan and some developing countries; and the large world excess capacity that has emerged since 1975 as a consequence of world recession and excessively optimistic expansion programs begun in the mid-1960s by European, and to a lesser extent, Japanese firms. Excess capacity is more than a cyclical problem, though the cyclical recession has exacerbated it.

Steel continues to be a troubled industry. Prospects are poor until world demand catches up with world supply. The American industry has a vested interest in forecasting future shortages in order to justify government support now. The general view is that serious shortages of more than a temporary nature are unlikely within five years, probably longer. (See OECD, 1980b; a summary of various projections appears in OTA, 1980, pp. 145-50.) This issue is considered further in the final section.

Comparisons of American and Japanese Steel Industries: A Summary

Contrasts between the American and Japanese steel industries are substantial. The Japanese industry is modern, large-scale, efficient, low cost; the American industry is a mixture of these characteristics and substantial (20-25 percent) obsolete capacity. The Japanese average technological level is higher, especially in process technology where diffusion has been more rapid. Japanese wage rates are lower, absolutely and relative to wages in all manufacturing. Japanese capital costs are

lower, due mainly to its financial system which tolerates high debt/equity ratios. Many American firms are vertically integrated; the industry relies mainly on domestic coal and iron ore. Japanese firms import all iron ore and coal; they have benefitted from the development of new low-cost foreign sources of supply, often based on long-term contracts with Japan, and sharply reduced relative costs of ocean transport by giant carriers. The Japanese industry is located at deep-water ports, minimizing transport costs of imports and exports. The U.S. industry is located mainly in the Midwest, near traditional markets but distant from growing South, Southwest and West Coast markets.

The Japanese industry benefitted from rapidly growing domestic demand in the 1955-1973 period, making profitable the building of new, large-scale efficient mills. Demand has not grown substantially in the United States, especially relative to existing capacity. The Japanese industry has long had a global strategy which took into account export opportunities in planning production and capacity expansion; the American industry has focussed on the U.S. market, with little attention to possible export opportunities. Japan exports over 30 percent of its production; the United States, less than 3 percent, and has been a net importer since 1959. The Japanese industry appears to have engaged relatively more in marginal cost pricing in recessions, in both domestic markets and abroad.[6] It has benefitted from a somewhat more favorable government policy environment than the American industry.

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[6]Given the oligopolistic structure of steel industries, pricing under such circumstances was below "normal" average cost but probably not often so low as short-run marginal costs.

The industries also have important similarities. They are very large, and have large domestic markets. They both have high technological capabilities, to do R&D and to implement innovation. Both industries are mature: neither is likely to add substantially to capacity, and any additions are likely to be in expansion of existing facilities and electric furnance minimills.

III. Creation of the Trigger Price Mechanism[7]

This section deals with the political-economic processes leading to creation of the Trigger Price Mechanism (TPM) in the United States. The TPM was a way to provide import relief to domestic industry while avoiding a trade war and political confrontation with major steel exporting countries, particularly those in Europe. Imports from Japan, however, were the first target of the steel lobby in 1977. The new Carter Administration immediately came under strong pressure from the domestic steel industry. Both the companies and the steelworkers union emphasized limiting imports from Japan, which were 37 percent higher than in 1975. Vice President Mondale on his Tokyo visit in early February expressed concern but stopped short of proposing any specific measures. Nevertheless, this was a sufficient signal for the Japanese steel industry. On February 5, Eishiro Saito, President of Nippon Steel, and seven other exexutives proposed to MITI Minister Tatsuo Tanaka that there be intergovernmental negotiations to reach an orderly marketing agree-

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[7] Unless otherwise noted, this section is a summary of Hideo Sato and Michael W. Hodin, "The Politics of Trade: The U.S.-Japanese Steel Issue of 1977," paper prepared for the Japan-United States Economic Relations Group, October 1980.

ment (OMA). Indeed, the Japanese industry had been more or less willing to restrain exports ever since the issue first arose with the United States in 1967.

Why is steel less resistant to export restraint? Four interrelated reasons are usually given by experts in Japan: (1) the interdependent nature of the industry, (2) its sense of indebtedness (on) to the United States for earlier assistance, (3) profitability of quantitative export restraint, and (4) fear of losing a large and stable market share in the United States. Of course, relative emphasis given to these factors varies. Nippon Steel Chairman Yoshihiro Inayama, known as Mr. Cartel for his strong belief in the importance of export restraint and orderly markets, singles out on as most important.

Gilmore Files an Antidumping Suit

While Japanese steelmakers did not particularly mind their American counterparts calling for an intergovernmental agreement to restrain their exports to the United States, they abhorred another kind of action, i.e., antidumping suits. Gilmore Steel, a small firm in Portland, Oregon, in February 1977 filed an antidumping suit against five major Japanese steelmakers, charging their selling carbon steel plate for $77 below the average U.S. domestic price per ton was dumping. Finding Gilmore's documentation in order, Treasury began an investigation on March 29. Although Gilmore was a small company, an affirmative determination could affect all Japanese carbon steel plate exports to the United States. Japanese steelmakers were also disturbed by what they regarded as a "peculiar"

definition of dumping under the 1974 Trade Act. They feared being forced either to stop exports altogether or to raise prices sufficiently to avoid further allegations, thereby losing their competitive edge.

Meanwhile, the AISI and the steelworkers union were organizing major nation-wide campaigns to enlist support. Their strategy included efforts to achieve quantitative import control (through an OMA or an appeal under the 301 provision of the Trade Act) or limiting imports through antidumping suits. Their ultimate goal has been a multilateral sectoral agreement to regulate steel trade under GATT auspices along the lines of the Multifiber Arrangement (MFA) on textiles.

The AISI commissioned a report (Putnam, Hayes and Bartlett, 1977) that charged foreign suppliers (including the Japanese) were practicing discriminatory pricing between home and export shipments; that various types of direct and indirect aid by national governments had led to large-scale capital expansion; and that pressures existed to export at prices below full unit costs in order to help pay for this substantial investment. Finding the AISI allegations fraught with factual errors and misrepresentations, the Japanese industry prepared a formal rebuttal (Japan Iron & Steel Exporters Association, 1977) which appeared in July. In addition, because Japanese industry leaders interpreted the AISI move as indicative of a serious intent by the U.S. industry to seek import control, they renewed their call for intergovernmental negotiations to work out an OMA. However, MITI preferred to wait until a formal United States government request was received.

It soon became known that US Steel was preparing an antidumping suit against all major Japanese steel imports. Because European steelmakers

were less efficient than Japanese and therefore more likely to have dumped steel, one may wonder why the focus was on Japan. It appears Edgar B. Speer, US Steel's chairman, and others were effectively using Japan as a scapegoat. There was a growing climate of opinion critical of Japan because of the enormous bilateral trade imbalance beginning in 1977. And, in the context of America's broader trade negotiations involving Japan, an image of unfair Japanese trading practices had been similarly emphasized in public speeches of political leaders and in news reports. The general lack of knowledge about Japan in the United States and Japanese reticence to respond made such allegations sound even more credible.

There was no consensus within the Carter Administration on how to cope with the problem. However, having just concluded an OMA with Japan on color television imports, there was a reluctance to handle steel with quantitative restrictions. The industry was an oligopoly and such restrictions would only mean an opportunity to raise prices. On the other hand, many in the executive branch who normally would have opposed protection were reluctant to because of their greater concern for successful completion of the multilateral trade negotiations (MTN). They were willing to allow some assistance to steel in exchange for steel's support for the MTN. Eventually, those opposed to quantitative import control as inflationary held sway.

The first sign of confrontation between the governments of the United States and Japan on steel surfaced in late July when the Japanese steel industry refused to submit production cost data to the Treasury for the Gilmore case investigation. The Japanese agreed to provide price data but refused to submit product-by-product cost data. Industry leaders looked on the suit as a pretext to obtain production secrets. The Japanese government also opposed submission of such cost data, and advised noncompliance.

The Japanese industry was in a dilemma. To clear themselves of the dumping charge Japanese firms felt they had to cooperate with Treasury. If they did not, the Americans could say the Japanese had admitted their guilt. Moreover, without the cost data Treasury would depend on less reliable figures available in the United States, including data submitted by Gilmore.

MITI officials were sandwiched between the Japanese industry, which wanted voluntary export restraint through an OMA, and the United States government, which opposed such approaches. Under these circumstances, Naohiro Amaya, MITI's Director of the Heavy Industries Bureau, visited the United States in August. It became clear from these talks that the U.S. government was more inclined to support a price-oriented approach. Amaya reported on his trip to Inayama. But Inayama refused to believe him, saying the U.S. government would definitely push for a quantitative approach.

The Raging "Firestorm" Against Imports

Still unable to obtain any government support for import restrictions, U.S. industry and labor leaders escalated their anti-import campaign. This well-orchestrated effort coincided with some bad news about the domestic industry. Youngstown Sheet and Tube announced it would severely cut back operations at Youngstown, Ohio, permanently furloughing five thousand production workers. Bethlehem and Armco announced closings that eliminated eight thousand jobs. Some of the closings may have been announced intentionally to put pressure on the government.

On September 19, US Steel filed its antidumping suit against the six largest Japanese steel companies, alleging they were "dumping their excess steel products at distress prices" (allegedly 23 percent below costs). Just the day before, Inayama had stated in a press conference that the Japanese industry was prepared to resort to unilateral export restraint. Again there was a problem of perception: eagerness for voluntary restraint was interpreted by some Americans as an admission of guilt.

With no particular solutions emanating from the Carter Administration, the steel lobby stepped up pressures on Congress. This resulted in the formation of Senate and House steel caucuses. Congressional mobilization in support of the steel lobby's position was seen by the Administration as a preview of Congressional "stonewalling" on the MTN agreement if influential lobbies such as steel were not satisfied.

Further encouraging the anti-import campaign, Treasury ruled on Gilmore's suit that carbon steel plate from Japan was being sold in the

United States at less than fair value, with a dumping margin estimated at an average of around 32 percent. Thus, according to the provisions of the U.S. trade law, as of October 3, importers of Japanese steel plate were required to post a bond equivalent to 32 percent of the declared value of new shipments to pay the higher duties if deemed necessary by the final determination. This itself was a deterrent to new shipments. Japanese industry leaders were surprised at Treasury's preliminary ruling and attributed it to the Japanese refusal to provide the cost data. (See Mueller and Kawahito, 1979b, p.9.)

The Treasury ruling on the Gilmore case encouraged similar suits against European steelmakers, particularly after President Carter gave his blessing to the antidumping approach in his October 13 meeting with domestic industry representatives. Initially, the legal remedy of antidumping suits under the Trade Act of 1974 seemed a reasonable solution, certainly preferable to quantitative restrictions on steel imports. However, the Carter Administration had not really thought through how to cope with a large number of antidumping cases and became panicky. It did not have the staff ability to handle so many cases.

A more serious policy concern was how to avoid a major political confrontation with Europe. Many U.S. officials had come to realize (from the FTC and Council on Wage and Price Stability studies) that the Japanese were indeed the world's most efficient producers and that their dumping, if any, would not be widespread. At the same time it became increasingly clear that European firms had been engaged in large-scale dumping. Japanese imports had levelled off for some time in volume and declined as a share of imports in part in response to the U.S. antidumping actions. European imports exceeded Japanese from around August.

In September 1977, Carter asked Treasury Undersecretary Anthony Solomon to produce a plan which would defuse the domestic political crisis in steel--to convince the industry the Administration was serious about helping it. The plan was to address all of the industry's problems--modernization, environmental regulations, and trade. In early November there were press reports the Solomon task force would propose imported steel could be sold in the United States at or 5 percent below a price based on production costs of Japanese steel companies.

Meanwhile, Japanese and Common Market officials were being briefed on the emerging price-oriented mechanism to regulate imports. In effect, the Administration was establishing a system which discriminated in favor of the Europeans, a conscious political choice. By using Japanese production costs, the system allowed most Europeans to continue to sell in the American market below average costs without retaliation. But the Japanese were not particularly bothered; the system would not cost them a great deal and would give them what they wanted--peace and higher prices. Still, it took a face-to-face meeting between Solomon and Inayama to dispel some uncertainty on the part of the Japanese industry.

In a meeting with Treasury officials in Washington on November 18, Hachio Iwasaki, Director of MITI's Iron and Steel Division, was informed Japan should submit <u>average</u> cost data for the Big Six Japanese firms for the purpose of determining the reference prices for imports. Iwasaki promised to submit such data within six weeks, and the Japanese companies subsequently agreed.

The announcement of the TPM on December 2, 1977 had an immediate effect. Industry and Congressional outcries against the Japanese (and

European) steel producers quickly subsided, and the highly politicized U.S.-Japan steel issue of 1977 virtually came to an end. However, that was not the end. Concern by US Steel over renewed imports in a softening market in late 1979 led to new antidumping suits and a suspension of the TPM in March 1980, and its resumption in October following intense negotiations. That process is traced in Section V; first, however, the trigger price mechanism itself is described.

IV. The Trigger Price Mechanism

Trigger prices were first announced in January 1978. They took effect from May 1, 1978 to provide a grace period for import contracts already signed and to allow importers and foreign producers time to adjust to the system. The TPM has the following general features:

1) The average cost of production in dollars of the most efficient foreign steel producer is determined. This becomes the trigger price.

2) All steel imported at or above the trigger price, plus transport costs, will not be subjected to government-initiated antidumping investigations; such imports can enter freely.

3) Steel imports at less than the trigger price automatically initiate investigation of possible dumping and injury. If dumping is found (using the constructed value definition) and injury has occurred, countervailing duties are applied to all shipments by that foreign producer so that its average cost of production (higher than the trigger price) becomes the effective minimum price for its exports to the American market.

The TPM involved important assumptions. First, it was to be a substitute for antidumping suits initiated by the steel companies, as well as for any use of quantitative import restrictions. Originally Treasury (since 1980 Commerce) has had responsibility for assembling data and for taking action. While the steel companies could not be denied their right under the law to initiate antidumping suits, it was made clear if they did so to any substantial degree the government would terminate the TPM. At the same time the government informed the Europeans they did not have an unlimited license to dump.

Second, the TPM was viewed as a temporary measure, until the gradual increase in world demand eliminated the overhang of excess capacity so that world pricing returned to normal (Solomon Report, 1977, p. 20). While only implicit in the Solomon Report, it was made clear in October 1980 resumption of the TPM that the American and European industries would be expected to scrap or modernize obsolete facilities so as to become fully efficient. As discussed later, the TPM was to last no longer than five years from the fall of 1980, with the possibility of termination after three years if the U.S. industry does not make adequate progress in rationalization.

Utilization of the TPM brought on a number of immediate practical problems. How were costs to be estimated? How would the system be administered? Considerable effort has gone into resolving these issues and problems. The determination of the average cost of production of the most efficient (i.e. lowest cost) producer has been a central concern. At the individual plant or firm level such data are regarded as proprietary and highly secret. The agreement of MITI and the Japanese industry to provide production cost data averaged for the Big Six producers has been an essential ingredient for the TPM.

The initial estimates of Japanese costs of production had to be made quickly, within three weeks; the team of American specialists was very small. The first Japanese cost estimates appeared low to the American officials, in part because of different assumptions concerning steel yields and fixed costs. While there apparently was no explicit, politically-determined minimum reference price based on then-current U.S. prices, it was understood by the Solomon Task Force staff that the average cost of Japanese production plus transport costs had to be within politically acceptable limits (say 5-10 percent below US prices) or the TPM was not a feasible solution. Fortunately, the American estimates were within an acceptable range; the continued appreciation of the yen during fall 1977 fortuitously helped make that possible.

Estimation of costs of production is difficult. It involves conceptual and definitional as well as measurement problems. All the evidence indicates the Japanese have been scrupulously honest in provision of the basic data; this has never been a serious source of contention. Most conceptual controversies tended to evaporate as the Japanese industry came to realize it would benefit more from cost estimates on the high rather than the low side. Kawahito and Mueller have argued in a series of technical papers that costs have been overestimated in the trigger price calculation; not surprisingly the American steel industry has suggested underestimation. Regardless, the data used are an upward-biassed approximation of lowest foreign costs of production, since Japanese firms are not equally efficient in all products and since other foreign mills may produce specific products more cheaply.

The cost structure in setting the trigger price formula contains the following main elements: raw materials, direct and indirect labor costs and output/man-hour, steel yield rates from raw steel, and capital costs. Iron ore and coal costs are estimated directly in dollars, the unit for import contracts; about one-third of costs for Japanese integrated producers are dollar-denominated (Treasury News, May 15, 1979, p. 4).

The capital costs involve two controversial issues: the appropriate operating rate (capacity utilization) for averaging depreciation, interest costs, and other fixed costs per ton of steel; and the appropriate profit rate. The higher the capacity utilization rate used, the lower average production costs. MITI at first proposed an 85 percent rate, the twenty-year historic average. The TPM administrators have instead used the most recent five-year average, initially using 1973-77 annual data and from 1980 (first quarter) quarterly data on the justification this represented the business cycle. The average rate has typically been above the actual operating rate.

The Japanese permanent employment-system adds some fixity to labor costs. MITI in its cost calculations assumed labor costs were 100 percent fixed, disadvantageous when utilization rates were declining but advantageous when actual rates were less than the average rate used, as has typically been the case. The TPM administrators have regarded both labor costs and other expenses as 50 percent fixed, 50 percent variable. Depreciation is 90 percent fixed, interest costs 75 percent fixed (Treasury News, July 20, 1978).

The profit rate is mandated under the 1974 Trade Act, so has not been a matter of contention. The before-tax profit rate is set at 8 percent of operating costs (raw materials, labor, and other expenses). There is little economic rationale for this method, muchless for the specific profit rate used. The U.S. government has suggested (Treasury Notice, July 20, 1978) that 8 percent translates into a 13.1 percent pretax return on total steel-making assets and regarded this as reasonable. Applying the ratio of fixed assets to equity from AISI's 1978 annual statistical report results in a pretax return on net worth in the United States of 14.5 percent. However, since Japanese steel firms are highly leveraged an 8 percent pretax profit on current costs implies a far higher return on net worth, as is discussed later.

Japanese cost data, except for imported raw materials, are estimated in yen. One burdensome issue has been what exchange rate to use in an era of floating rates, especially since sales contracts are typically signed several months before shipment, muchless delivery. The TPM administrators used the 60-day average prior to announcement of the trigger price for the coming quarter--rates prevailing some 4-7 months prior to the actual landing of steel in the United States. The yen/dollar fluctuated widely between late 1977 and early 1980. That had not been anticipated, and added an element of price fluctuation undesired by an industry in which list prices change relatively infrequently. Because of the time lag, when the yen was appreciating the trigger price underestimated the actual dollar cost and made Japanese firms less competitive, and the reverse when the yen was depreciating.

The Japanese industry complained bitterly about this aspect of the TPM formula. When the TPM was reinstituted in fall 1980, it was revised so that an average exchange rate for the latest 36 months is used.

Table 2 provides the U.S. government estimates of Japanese steel-making costs, and the trigger price in effect each quarter. The TPM formula has a flexibility band (± 5 percent) to allow for temporary, short-term disturbances; while not used since fall 1980 it remains in effect in principle. It was used in 1979 to moderate the swings in Japanese cost estimates due to exchange rate fluctuations. Adjustments were also made in the first quarter of 1980, despite the neglible change in Japanese costs in dollar terms, apparently to placate the American industry at a time when US Steel was starting its threats to file its antidumping suits.

Establishment of the quarterly trigger price for steel is only the first step. There is also an adjustment for prices of specific steel products, and the determination of transport costs. The trigger price is in terms of basic steel produced by integrated producers. Separate trigger price estimates have been made for steel products produced by electric furnaces.

As already noted there are many different steel products, each with its own well-defined characteristics. The cost of production and market price differ for each specific product. Accordingly trigger prices have to be set not simply for "steel" but for a large number of products. The 1981 first quarter Trigger Price Mechanism Price Manual uses 268 pages to list trigger prices by product by port by type of extra specification.

The Japanese cost of production estimates are for steel in Japan. To this must be added the shipping costs to United States ports: ocean freight, insurance, interest, and unloading charges. Data are provided by MITI. The major component is ocean freight; its cost is typically in the 6-18 percent range of the trigger price, depending upon the product and the port. Steel (and other commodities) enter the United States in ports in four geographic areas: Pacific Coast, Atlantic Coast, Gulf Coast, and Great Lakes. From Japan, shipping costs are lowest to the Pacific Coast, and increasingly costly to the Gulf, Atlantic and Great Lakes ports; the difference between Pacific and Great Lakes is typically $20-30 per ton. These transport costs significantly affect the competitiveness in different regions of the United States among American producers and importers. Thus Europe's historic markets are the Great Lakes and Atlantic coast, Canada's industry is located close to the Great Lakes markets, and Japan has been particularly competitive in Pacific and Gulf markets.

Accordingly, the trigger price consists of the basic price for steel as given in Table 2, appropriate cost adjustments for each product, plus appropriate shipping costs. This price is then compared with the actual import price, adjusted where necessary to correspond to the TP definition of unloading and handling costs. The trigger prices are revised quarterly. As this description of the procedure implies, substantial administrative and technical effort has been required to put the TPM into place and make it work effectively.

A further complication is that some efficient producers can deliver certain products to certain ports at prices below the TPM but not below their average cost of production. This competitiveness is further enhanced when the yen (and hence the TPM) appreciates relative to their local currencies. Such firms can request an investigation of their costs of production and obtain preclearance to sell at specified minimum prices below the TPM. This clearly enables them to outcompete all other exporters subject to the trigger price. The four Canadian steel producers sought and obtained preclearance on their steel exports to the Great Lakes markets, thereby expanding exports to the United States.

V. Suspension and Reinstatement of the Trigger Price Mechanism

The Trigger Price Mechanism (TPM) was suspended in March 1980 when US Steel brought a massive antidumping suit against European producers. This sudden turn of events created new uncertainty in international steel trade and threatened to cause a trade war with America's European allies, the avoidance of which was the primary United States motivation behind the establishment of the TPM in the first place. This section will examine the interaction of political and economic processes involving the suspension and the eventual reinstatement of the TPM in October 1980.

There were several factors peculiar to this second phase of the steel trade issue. First, Europe--rather than Japan--was the main target. Second, administrative jurisdiction over the TPM and anti-

dumping (as well as countervailing-duty) enforcement had been transferred from Treasury to Commerce in January 1980. Third, two new steel-related institutions (one domestic, the other international) had come into existence: the Steel Tripartite Advisory Committee (STC) created in the United States in July, 1978 to coordinate steel policy discussions among government, industry, and labor; and the OECD Steel Committee established in October, 1978 as a forum for exchanging views on steel industry and trade among OECD member countries.

US Steel Challenges the Administration

Under the TPM Japanese steel exports to the United States dropped sharply in 1976 (Table 3). Japanese producers were selling in the U.S. market slightly above the trigger prices partly because the dollar value rose as the yen appreciated vis-a-vis the dollar. Moreover, Japan's six major companies were resorting to self-imposed cutbacks to make sure Japanese imports would not alarm the U.S. industry again. They believed that such self-restraint, on top of the TPM, would be necessary to help the U.S. industry revitalize itself.

However, the U.S. industry did not get much respite from imports, though they were able to raise domestic prices because of the TPM depreciation of the dollar, as European steel imports declined less rapidly, and imports from Canada and third-world countries actually rose. Moreover, US Steel's new chairman, David M. Roderick, shared with the rest of the domestic industry the conviction that Carter's domestic programs to help the industry did not go far enough and government tax and environmental regulations were still too rigid to

permit sufficient capital formation and investment for revitalizing the industry. Under these circumstances, US Steel decided to spearhead a major campaign seeking further improvements in the government's steel-industry relief program. US Steel persuaded the AISI to devote considerable staff work in 1979 for the preparation of an industry position paper (AISI, 1980) referred to as the "Orange Paper", published in January 1980. While evaluating the TPM as "an innovative attempt to help deal with wholesale dumping," the paper called for substantial changes in the mechanism (p. 56). However, the paper spent most of its pages building a case for stronger government support for the industry's modernization and revitalization program.

While the "Orange Paper" was being put together, US Steel was preparing to file antidumping complaints against European producers. In fact, the "Orange Paper" was prepared in part to set the stage. US Steel executives apparently concluded that large-scale antidumping suits against European producers would act as a useful political device to force the Administration to pay more serious attention to the plight of the industry--precisely because the United States wanted to avoid a major political confrontation with Europe.

The media in the United States started reporting on the impending US Steel suits in November 1979. In early December interagency discussions began at both staff and high-policy levels within the Administration on how to head off the suits and, in case this failed, on what to do with the TPM. US Steel seemed determined to go ahead. In early February 1980, Commerce Secretary Philip M. Klutznick and U.S. Special Trade Representative Reubin Askew tried to work out a compromise whereby US

Steel would limit its antidumping complaints. But the company would have none of that because it wanted to maximize the political effect of its antidumping action. Finally, well before the actual US Steel action, the decision was made to maintain the TPM in the absence of antidumping suits and to suspend it as soon as a single major complaint was made (Gordon, 1980, p. 558).

At first, the Europeans did not take the rumor of the US Steel suits seriously, believing the threat was mainly directed at the U.S. government. As one person interviewed said, "It must be Roderick's ploy to squeeze concessions on government regulations." But as the possibility of the suits became more real, EC officials became anxious and wanted to head off the suits. Japanese officials and industry leaders, for their part, were apprehensive about the possible chaos U.S. antidumping complaints might bring to steel trade, which they thought had been relatively well-handled under the TPM. They were also concerned about what they considered a lack of serious U.S. efforts to revamp the domestic industry.

On March 19, 1980, the Commerce Department, after considerable delay, announced that the trigger price would not be changed for the second quarter and at the same time made a last-minute attempt to forestall the antidumping complaints by repeating the threat to suspend the TPM if US steel went ahead with the suits. However, two days later, the US Steel filed a massive antidumping suit against 16 steelmakers in seven European countries (France, West Germany, Belgium, Luxembourg, Italy, Britain and the Netherlands), all of which had problems of steel overcapacity and unemployment. US Steel charged that steel products accounting for 75 percent of the $1.5 billion in

European steel shipped to the United States in 1979 were "dumped" or sold at "less than fair value."

Why did U.S. Steel choose this particular timing for filing the suit? European imports--which had been rapidly declining since late 1979--were reaching a nadir. There are several possible explanations. It may simply have taken several months to prepare the 72 boxes of documents for the complaints. It is also possible US Steel waited because Commerce was considered more receptive than Treasury to industry interests. Moreover, the action may have been timed to produce maximum pressure on Carter's re-election campaign. Commerce would be required to make its preliminary determination on the antidumping petitions filed March 21 by October 17 at the latest, about two weeks before the presidential election.

On April 10, the Commerce Department announced it had found "sufficient evidence" to start antidumping investigations. Mindful of the strong European frustration over the US Steel action and the TPM suspension, Administration officials emphasized the United States would make its utmost effort to work toward the reinstatement of the TPM. The Administration was most anxious not to antagonize the European allies at a time when the United States was accumulating a large trade surplus with the European Community--at an annual rate of $20 billion--and was energetically seeking cooperation in regard to the seizure of hostages in Teheran and the Soviet Union invasion of Afghanistan.

The ITC Issues a Preliminary Determination

US Steel survived the first major test on its antidumping action May 7 when the International Trade Commission ruled 3 to 2 that there was "reasonable indication" of injury. Within the Administration as well as without, there had been efforts to persuade the ITC to dismiss the complaints. In hearings leading up to the ruling, the Justice Department contended imports were not the cause of US Steel's troubles because imports as a portion of domestic steel consumption actually dropped from 18 percent in 1978 to 16 percent in 1979. The Council on Wage and Price Stability joined Justice in arguing US Steel's problems "had more to do with domestic competition than foreign imports."

On May 22, Lewis W. Foy, Chairman of Bethlehem Steel and the AISI hinted at a possibility of compromise. "We want to avoid a trade war," he said, adding that some kind of compromise might be possible if the TPM could be improved to reflect faithfully the production costs of both Japan and the European Community. But the Europeans were never interested in the idea of setting higher trigger prices for the EC than for Japan for obvious reasons. This approach was never seriously considered even by Commerce officials because the administration would be too cumbersome. Commerce officials at one point suggested using European, instead of Japanese, production costs for the TPM. The idea was strongly opposed by Japan for fear of being priced out of competition. Moreover, as one official put it, "European cost data are not very reliable and may create all sorts of confusion in the course of TPM enforcement."

Japanese industry leaders resented repeated dumping allegations

by US Steel, since they were the basis of the TPM itself. They also pointed out what they considered a gross inconsistency in the behavior of the American steel industry. They said certain American companies were negotiating to sell South Korean and Southeast Asian mills hot-rolled coils at prices 10-20 percent below the trigger price of $285 (FOB) per ton for the 1980 first quarter. Nonetheless, the threat of antidumping suits restrained any possible aggressive Japanese selling in the American market during this TPM suspension period.

After the bitter experience of being made scapegoats in 1977 there emerged a growing realization in the Japanese industry of the need to speak up against accusations and allegations. This feeling was particularly strong among the younger generation of industry executives and staff. An "Overseas Public Relations Committee" had been created within the Japan Iron and Steel Exporters Association (JISEA) for the purpose of countering foreign allegations and disseminating "correct" information about the Japanese steel industry. This committee brought up the subject of U.S. dumping in a paper put out June 10 to rebut US Steel's criticism of Japanese dumping (JISEA, 1980).

Some Progress Toward TPM Reinstatement

The European steelmakers had been fully cooperating with Commerce's antidumping investigations by submitting fairly detailed sales and production cost data. They had little other choice. Unless they submitted their own data the United States would automatically use domestically-available data, including that supplied by U.S. Steel. Besides, any incentive to protect production secrets was weaker than

that of Japanese, given the state of their industry. In order to verify the data the U.S. government sent inspectors to Europe. It was also feared the data might not be sufficiently reliable--not necessarily because of cheating but because the EC Commission did not necessarily have strong enough authority to obtain full cooperation. Besides, methods of calculating production costs are not fully consistent from company to company.

By late July Commerce had collected substantial data about the European steel industry. As a result, there was now a real possibility of having to impose substantial antidumping duties on most European steel imports covered by the US Steel suits. As this possibility increased, the opposition on the part of some ranking Administration officials (including Kahn, Miller and Schultze) to the TPM reinstatement gradually weakened in interagency discussions for fear of triggering a major political confrontation with the European allies. In talks in Washington in July, the EC's Etienne Davignon drove home the seriousness of the situation by making an implied threat that if the TPM was not reinstated by late September the EC would be forced to re-examine its entire trade policy with the United States. Another relevant development was that the EC Commission had become more serious about reducing steel producing capacity in member countries and restructuring the European steel industries.

The Steel Tripartite Advisory Committee (STC) also played a part in the resolution of the steel trade issue. Composed of representatives from government, industry, and labor, the STC was created

by Carter on July 26, 1978 for the purpose of serving "as a mechanism to ensure a continuing cooperative approach to the problems and prospects of the American steel industry." (STC Report to the President). The STC's role was crucial in developing recommendations for industry revitalization acceptable to both the industry and the Administration. U.S. Steel Chairman Roderick, himself a member of the Committee, was generally pleased with the STC work, for much industry data were utilized by the STC, including the AISI's "Orange Paper," which Roderick insisted the Committee use as a basis for analyzing modernization and capital formation (Initial Report to the Working Group on Modernization and Capital Formation, p. 5). In August 1980 he began to voice his view publicly that he would consider withdrawing US Steel's petitions for dumping relief if it received "equivalent protection" in other ways.

The international trade section of the report recommended "the TPM should be reinstated in a restructed form that would remedy the defects, asserted by industry, in the previous TPM and, during the period of industry modernization, the U.S. market should not be disrupted by excess volumes of imports." (SRC, 1980, p. 13). On September 15 the Administration's Cabinet-level Economic Policy Group chaired by Treasury Secretary Miller approved the substance of the report and forwarded it to the President for final approval.

Meanwhile, Commerce Secretary Klutznick had not been able to persuade Roderick to accept the specifics of the government proposal for reinstating the TPM--though MITI had been advised in mid-August that a broad framework of agreement had been reached. The Administration proposed an antisurge

provision. Specifically, the government would initiate investigations if aggregate foreign imports increased beyond 15.2 percent of domestic consumption when the domestic industry was operating below 85 percent of capacity. Roderick wanted the activation of the antisurge provision even if the industry was operating above 85 percent and a trigger price increase well over the government proposal of 10 percent. The compromise reached in late September was to raise the trigger price 12 percent, and the antisurge provision would be activated if the industry operated below 87 percent. Commerce could have prolonged the negotiations but the Administration was eager to settle the issue before October 17, the deadline for Commerce to make a preliminary determination on the US Steel antidumping suit.

The TPM is Restored

On September 30, President Carter announced the reinstatement of the TPM and the withdrawal of the US Steel antidumping petitions. There was also a broad package of domestic programs proposed earlier by the STC. The President would recommend an amendment to the Clean Air and Water Acts that would allow granting an individual steel mill an extension of up to three years for compliance. In addition, the rate of depreciation for equipment (which accounts for 85-90 percent of the steel industry's fixed capital) would be about 40 percent greater than permitted under current law, and there would also be a full 10 percent regular investment tax credit for all new equipment with more than a one-year life, along with an extra 10 percent credit for capital investment (The President's Program, pp. 5, 9).

Effective for steel shipped from October 21, the trigger prices would be still determined on the basis of Japanese production costs and the exchange rate would be calculated on the basis of a 36-month rolling average. The TPM would be in effect for a maximum of five years. If the industry were judged to be making adequate progress toward modernization at the end of three years, the TPM would remain in effect for the full period. Otherwise, it would be terminated.

A Comparative Analysis of the First and Second Political Phases

During the first phase the steel issue was increasingly escalated and led to the firestorm of the fall of 1977--despite the willingness of the Japanese government and industry to cooperate. The principal reason was that American officials did not understand the seriousness of the issue, partly a result of the ignorance of the new Administration, and partly because of the low profile of the issue early on. Lack of sufficient government response to calls for import relief in early 1977 made industry and labor leaders even more vociferously attack imports (particularly Japanese), linking trade problems to unfair practices of foreign firms and government. Hence the politicization of the issue.

During the second phase, by contrast, escalation of the issue triggered by the US Steel's antidumping complaints was avoided because the Administration moved quickly--even before the complaints were actually filed--in trying to work out a compromise with US Steel and the European Community. The Administration had a more receptive ear, and the industry did not feel the need to launch a massive lobbying campaign.

What explains this difference? First, the industry's anti-import campaign in 1977 (particularly before September that year) was multi-facetted and did not necessarily focus on antidumping actions on which the Administration was legally bound to act within a specified time period. The industry in 1976-77 was more interested in the traditional quantitative restriction approach. The 301 Complaint filed in October 1976 by the AISI did not require the Administration to come up with a decision in a definite time frame. The industry could also have filed for relief under Section 201 of the 1974 Trade Act, which has deadlines for action. But the industry chose not to, apparently because it was not certain of winning an affirmative ITC decision. Among Carter aides there was much opposition to the quantitative approach both for fear of adding fuel to inflation and because of its inferiority to price-oriented mechanisms of import restraint. Consequently, the Administration delayed action.

In contrast, the US Steel's antidumping action in March 1980 was a well-focused and carefully-prepared move which politically (as well as legally) forced the Administration into an immediate response.

Second, the steel issue in 1977 was allowed to escalate because Japan, not Europe, was the main target. Making Japanese steelmakers scapegoats was politically useful in winning public sympathy; it was difficult for U.S. officials to be sensitive to Japanese interests, especially in light of Japan's huge bilateral trade surplus. On the other hand, the European Community which became the target of the 1980 US Steel antidumping action, had been piling up a large trade deficit, and the U.S. political climate was not conducive to the berating of Europe, despite the open secret that the TPM enabled the Europeans

to continue to dump steel. Moreover, American policymakers feared the Europeans might retaliate by launching their own antidumping and other actions against such major U.S. exports as soybeans, synthetic textiles, and petrochemicals. A related factor was the growing realization among U.S. officials in 1977 that the Japanese were not involved in dumping as extensively as the Europeans, if at all. It was only after major antidumping complaints were filed against the Europeans in the fall of 1977 that the administration became serious about developing the TPM.

Third, unnecessary escalation of the issue was avoided in 1980 because, unlike 1977, the Administration was sensitive to both domestic and European (as well as Japanese) steel interests through the Steel Tripartite Committee and the OECD Steel Committee. By the time the US Steel action was brought against the Europeans eight months after the STC started working, government representatives on the STC, including Commerce Secretary Klutznick and USTR Askew, were well informed of what the industry wanted. Without the comprehensive industry revitalization program that the STC recommended in September US Steel would not have withdrawn its antidumping complaints and thus the issue would have become enormously more difficult to resolve. Moreover, the fact that the STC provided a regular forum where industry and labor leaders could speak their minds before ranking Administration officials in closed sessions reduced the necessity of politicizing the issue through lobbying in Congress and through media campaigns as had been done in 1977.

Last but not least, Commerce and USTR officials were united in efforts to work out a compromise. At the highest level, Klutznick

directly negotiated with Roderick, and Askew with Davignon. This cooperative relationship was related in part to the transfer of administrative jurisdiction over antidumping and countervailing duties from Treasury to Commerce in January 1980. Treasury has been known to be more free-trade-oriented than either Commerce or the USTR. Also, in 1977, USTR-head Strauss and Treasury Secretary Blumenthal did not get along well.

VI. An Evaluation of the Trigger Price Mechanism

The Economic Rationale

The previous sections describe how the trigger price mechanism came about, was suspended, and reinstated. Two objectives of the U.S. government stand out: to provide some help for the American industry by restriction of imports; and to prevent major confrontation with the European Community. Relations with Japan were also a concern, but as it came to be perceived that the Japanese industry was indeed efficient and not subsidized, it was not the central issue. Given these policy aims, what then was the most efficient approach? The policymakers (Blumenthal, Solomon, Bergston, Cooper) realized that price mechanisms were preferable to quantity restraints. Antidumping suits and investigations was neither politically desirable nor administratively feasible, as the Administration quickly realized in fall 1977 when it went that route. Nor was the imposition of a tariff feasible; it could be subject to retaliation, and would be directly counter to the intent of the Multilateral Trade Negotiations under way.

The TPM can be viewed two ways: as simply a technique for more

efficient administration of laws against dumping; or as a way of setting a minimum price for steel in the U.S. market. Either way it is an instrument of protection against imports. The real culprit is not the TPM per se, but the protectionist provision in the U.S. 1974 Trade Act which newly defines fair value in terms of average rather than marginal costs of production.

Koo (1979) provides a nice analysis of the TPM as a minimum price system. While tariffs and quotas have an equivalent efficiency impact under perfect competition domestically and worldwide, this is not the case for the steel industry in the United States, Japan, or Europe; where industries have oligopolistic market power, tariffs impose less social cost than quotas (Morkre and Tarr, 1980, ch. 1). Koo makes the following assumptions: the U.S. steel industry behaves oligopolistically (i.e. it faces a declining marginal revenue curve and equates marginal revenue and rising marginal cost); steel imports are supplied competitively into the U.S. market; and the TPM minimum price is less than the U.S. price with tariffs imposed. He demonstrates analytically that under the TPM not only will the U.S. price of steel be below that under tariff protection, but that imports can be less and U.S. production (and profits) greater as well. These results derive essentially from the fact TPM makes the U.S. industry marginal revenue curve discontinuous with a horizontal portion where the minimum price becomes relevant. This analysis ignores the distributional implications among buyers of steel, producers, and taxpayers,since tariff revenues accrue to the government and the trigger price minimum does not.

The TPM benefitted foreign firms relative to the imposition of

a tariff since the higher revenues accrued to them. In fact, the average cost formula made the unit profits on Japanese sales to the American market high indeed; and total profits even on a smaller export volume substantially higher than would have occurred under free trade during this period. It is not clear whether the TPM benefitted Japanese firms relative to a quota. Presumably their prices and revenues would have been even higher under a quota system. However, since the Administration apparently never seriously considered quotas, this question is moot.

Technically, the TPM does not set a minimum price for steel imports; selling below it triggers quickly-instituted government investigations to determine whether dumping has occurred. However, because the TPM is based on the average costs of production of the most efficient producer (the Japanese industry), any firm exporting to the United States below that price must be selling below its average costs of production, i.e. dumping. Moreover, the implication is that if significant quantities of imports take place, injury is occurring.

Note, however, that non-Japanese foreign firms exporting to the U.S. market at the trigger price are selling below their average costs of production, since they are (by definition and in reality in most cases) less-efficient producers. In effect they have a license to dump as defined in terms of average costs. The argument is that these sales do not constitute injury to the American industry, as they simply reflect competition between Japanese and non-Japanese foreign producers in the American market for a given total import share as determined by the interaction of U.S. demand and supply at the given trigger price, so long as efficient foreign producers have excess capacity (Solomon

Report, 1977, p. 18). This argument is valid since Japan had a large excess capacity over the 1975-80 period. Since Japanese firms are forced to sell at average costs while others can sell at marginal costs, conceptually the Japanese are at a competitive disadvantage vis a vis other foreign suppliers.

The position of the U.S. government has been that the trigger price mechanism is an efficient way to administer the antidumping law, and is not in itself a protectionist instrument. The Solomon Report (1977) suggests two major criticisms of the case-by-case antidumping procedure: the long time it took to process a dumping complaint by a U.S. producer; and the draconian impact on imports where dumping is found.[8]

In fact the TPM is an instrument of protection: it is a more comprehensive means of administering the average cost (constructed value) definition of dumping in the U.S. law. The Gilmore case was the first application of the constructed value approach since the passage of the 1974 Trade Act. The TPM is an extension of this new, and protectionist, principle to all steel trade. Moreover, it applies a particularly protectionist interpretation of the 1974 Trade Act. The Act requires that sales be made "at prices which permit recovery of all costs within a reasonable period of time in the normal course of time." It can be argued a reasonable period in the business cycle, that profits in boom offset losses or very low profits in recession, and hence marginal (or less than average) cost pricing is

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[8]Once an antidumping suit was filed, it took the Treasury and ITC 13 months on average to process the complaint; the six-month lapse between preliminary and final determination so increase the uncertainty and risk of duties to be paid that imports of affected products cease, as noted earlier.

acceptable as long as profits are reasonably averaged over the cycle. However, the TPM as set up requires continuous covering of costs. "The lack of a cyclical allowance [for profits] appears to be at variance with the intent of Congress." (Morkre and Tarr, 1980, p. 171).

Administration of the TPM

The actual monitoring and enforcement of the TPM is done by U.S. Customs at the various ports, under the general guidance first of Treasury and since 1980 of Commerce. A GAO study (Government Accounting Office, 1980) provides an evaluation of the monitoring of the TPM from its inception through early May 1979. It documents that at the beginning the actual administration was rather loose: lags in Customs reporting to Washington; errors in calculating trigger price comparisons; inadequate evaluation of related-party transactions; inadequate case follow-up from Washington to determine whether dumping had actually occurred. The study also found that, once initial investigations had been done for preclearance of specific Canadian mill products, all Canadian steel had been entering under automatic preclearance for entry below trigger prices. The GAO estimated that about 6 percent (355,700 tons) of steel imports between October 1, 1978 and March 1, 1979 were in serious violation of the trigger price floors. Of this, cases involving only 61,800 tons had been pursued for antidumping investigations. Only one case involved a Japanese company; it was not acted on.

The GAO study was critical of Treasury administration of the TPM. Certain of its recommendations have been put into practice by Commerce. However, the GAO criteria for evaluation are narrow. Treasury argued

that the main purpose of the TPM was to eliminate injury done to the American steel industry through dumping of imported steel. It suggested that serious violations (the estimated 6 percent of imports) was minimal, and caused no injury relative to overall U.S. consumption. However the relevant criterion is whether specific products are being imported at "less than fair value." The results of the anti-dumping investigations to date suggest that injury has not been substantial. Treasury further argued the day-to-day administrations, which admittedly should be improved, was cost-effective despite delays. In effect, the main impact of the TPM is as a deterrent.

To some extent the GAO report was counterproductive because it implied the government was not seriously enforcing the TPM, so evasion was a relatively low-risk strategy. There is some suggestion that by late 1979 evasion was becoming a real problem, especially where foreign producers and American importers were related (subsidiaries, etc.). Their share of total imports had risen from 40 percent to 60 percent (GAO, 1980, p. 21). Their activities were inadequately monitored. No transactions between these (or other firms) above trigger prices were ever audited--a major GAO criticism. The one case of possible fraud in misrepresenting import prices brought before a Federal grand jury as of early 1981 involved allegations Mitsui & Co. USA had made false declarations to U.S. Customs for steel imports to West Coast markets in 1979 and had sold below the trigger price. This somewhat surprising situation, given the general policy of the Big Six to exercise self-restraint in exports, may be due to the fact that Kaiser Steel, the main West Coast producer, had instituted a vigorous program of pricing its products below the trigger prices.

The Economic Impact of the TPM

It is difficult to determine with much accuracy the impact of TPM on American and Japanese producers and consumers of steel because so many factors influence supplies and demands and because it is not clear what the alternative American policy would have been. Nonetheless, some crude appraisals can be made. The volume of imports and the ratio of imports to domestic apparent supply dropped sharply following the imposition of the TPM from May 1978 (Table 3). A disproportionate share of the decrease was borne by Japan. This evidently was the result of decisions by Japan's Big Six producers to exercise self-restraint in the American market (see references to this behavior in Steel Tripartite Committee, 1979 and Kawahito, 1980a). This was not in the form of a (known) private voluntary agreement among the Japanese producers; that would have been illegal under U.S. antitrust laws. Nor was it the result of Japanese government legislation or even MITI formal guidance. Rather, it seems to have been the consequence of a general concensus within the industry and a fear of antagonizing competitors, perhaps enhanced by the leadership behavior by Nippon Steel and its chairman Mr. Inayama. Japanese producers have continued not to sell aggressively in the American market even at the trigger prices. EC producers reduced their exports much less sharply, and Canada actually increased exports. A rule of thumb developed among industry leaders (not necessarily shared by smaller firms or younger leaders-to-be) that the United States would accept a 15 percent import penetration rate, and that it was reasonable for that import share be divided roughly one-third each among Japan, the EC, and others.

Given Japan's strong competitive position this seems a remarkably conservative stance, though it may in fact have been profit-maximizing.

The decrease in imports came at a time American demand for steel was rising. The American industry benefitted in terms of substantially increased shipments in 1978 and the first three quarters of 1979. It is difficult to determine the degree to which the TPM contributed to the decrease in import volume. The decline is attributable not only to the initial rise in the import price of steel to TPM minimum levels, but also to the subsequent increases in the trigger prices which made imports less competitive. In 1978 this was due almost entirely to the depreciation of the dollar relative to both the yen and the European currencies. In one sense this was windfall to American producers since it was built into the TPM minimum price formula, and had not been anticipated by policymakers. In a broader context the U.S. steel industry had been penalized in competing with imports by the overvalued dollar, so depreciation was no more than a macro-economic adjustment toward an equilibrium rate. However, relative strength of the dollar between early 1979 and early 1981 offset part of this windfall. All of the increase in the trigger import price since early 1979 has been due to rising costs, common in degree if not absolute amount for all steel producers.

Table 4 provides comparative data on annual rates of price increases in the United States for general producer prices, steel mill products, steel import prices, and the trigger price. It is striking

that domestic steel prices rose less rapidly following the imposition of the TPM than the general producer price index. Bradford (Steel Quarterly, February 1979, p. 4) points out that discounts from list prices (used for the index) were prevalent in 1977 so the 1978 increase was closer to 15 percent than the 10.7 percent recorded. There was also some discounting from list prices in late 1980.

The sharp increase in import prices in the first year of the TPM is also noteworthy. Part was probably due to the once-and-for-all upward adjustment to the TPM minimum price levels; most however is attributable to the appreciation of foreign currencies. This makes it all the more difficult to separate out the effects of dollar depreciation and the TPM on domestic steel prices and levels of imports. Crandall (1980a, p. 23) estimates that through 1979 the TPM raised steel import prices by about 10 percent, prices of U.S. mill products by about 1 percent, and steel prices in the United States by about 2.4 percent; the direct effect on the U.S. price level in 1978-79 was no more than 0.1 percentage points. The rise in prices due to the TPM cost American consumers about $1 billion annually. Since the major impact of the TPM was on import prices, roughly two-thirds of this transfer accrued to foreign exporters (in dollars, less in terms of appreciated own currencies) and one-third to American steel producers. Roger E. Alcaly, Chief Economist for the Council on Wage and Price Stability, in testimony at hearings on the TPM in December 1979 estimated that the TPM increased steel import prices by about 8 percent and domestic steel prices by about 1.5 percent; of the $1.1 billion increase in revenues $600 million went to foreign firms, $500 million to American firms (GAO, 1981, p. 6-15). The price impact was

too small to help the American industry much; it benefitted more from decrease in import volume. The effect on steelworker employment was minimal, a maximum of 12,000 jobs according to Crandall (1980a, p. 24). Protection is in steel as in other industries a very expensive way to create or maintain jobs.

The TPM has proven highly profitable for the Japanese steel industry. The formula 8 percent pretax profit rate on current costs translates into a pretax return on equity for Japanese firms of 41-46 percent because of the high debt/equity ratios. (For 1975-77 current costs were 82-83 percent of sales and sales were 6.18-6.95 times equity (Tekkō Tōkei Yōran, 1979).) In 1976 and early 1977 the depressed Japanese steel industry had engaged in vigorous price competition in selling in the U.S. market. American consumers were benefitting, not Japanese producers. It is not surprising the Japanese industry was willing to negotiate any restriction on its exports that would result in substantial price increases. The TPM has been a particularly beneficial mechanism for Japanese producers. It mandated high profits at TPM prices below which its foreign competitors could not readily compete (without invoking the threat of an anti-dumping investigation), and below which the American industry usually chose not to compete.

The alternatives for the Carter Administration were the TPM, antidumping suits, or import quotas. Quotas seemed clearly inferior. Pursuit of the antidumping approach has high political costs, as stressed in Sections III and V. It also has direct and indirect (retaliatory) economic costs. Crandall (1980a, p. 23) argues that antidumping suits would have disrupted the flow of imports far more,

and would have made conditions possible for greater price increases by American producers. Certainly antidumping suits increase sharply the risk and uncertainty of importing, as stressed above. Thus, the TPM appears to have been a reasonable political compromise under the circumstances. But it is nonetheless a substantial step in the protectionist direction.

VII. Future Prospects

U.S.-Japan trade in steel has now developed its own mechanisms and behavioral patterns. In this section we briefly consider six broad areas: world steel supply and demand; the TPM itself; the Japanese steel industry; American steel industry modernization; U.S. government policy options vis-à-vis the American steel industry; and, briefly, some of the broader implications.

First, how long will the present world excess steel capacity persist? The key is the European steel industry, in terms both of trade policies and trade flows. As long as the European industry has substantial excess capacity it will expect to export to the United States at less than average costs of production. The lesson of the TPM experience is that it has the political clout to do so. American steel users benefit, and the wider economic and political costs to the United States of imposing antidumping duties on imports from Europe are too great. Two factors will reduce European excess capacity: a growth of world (especially European) demand for steel; and a restructuring of the steel industry by scrapping or modernizing obsolete steel production facilities.

Forecasts of world steel demand are hazardous, more so even than with steel capacity. It seems unlikely that by the mid-1980s shortages will occur, despite some projections to that effect. Substantial excess capacity exists in Europe and Japan; modest additions to capacity can be fairly readily achieved in existing facilities. The expansion of capacity in developing countries is likely to be only commensurate with demand growth in the next five years (Florkoski; OECD, 1980b, p. 11). Moreover, the world price of steel is low--below the level necessary to sustain existing capacity levels indefinitely. As the world supply-demand gap narrows, the relative as well as absolute price of steel can be expected to increase. But that appears some years away. In the interim the steel industry is unlikely to achieve average levels of profitability of all manufacturing in Europe or the United States, and perhaps Japan as well, unless the rules of the trade game are substantially altered as to provide very substantial insulation from import price competition. This seems unlikely, and certainly would be undesirable.

Second, what are the prospects for the TPM? There is always the possibility the Reagan administration will end it. We consider alternatives to the TPM below. Here the issue is whether the revised TPM will be a credible deterrent. Much lies in the effectiveness, or at least the perceptions of the effectiveness, of the administration of the TPM. There are many avenues for evasion by opportunists. The GAO (1981, pp. 7-24) is skeptical that it can be administered effectively. The Commerce staff is small. Much will depend on success in auditing

transactions, and in generating highly-publicized cases of fraud to which severe penalties are attached, as well as antidumping investigations themselves. The administrative difficulties in enforcing the TPM are in effect a built-in mechanism to ensure its temporariness. Apparently some of its inventors were aware of that from the start.

From the perspective of steel users and consumer welfare, the optimal system under current law is one sufficiently credible to the American steel industry that it does not bring it down with antidumping suits and yet sufficiently porous in terms of low Japanese costs of production, preclearance of even more efficient firms in other nations, and evasion, that a high degree of import competition is maintained. This balance is difficult to achieve--as the 1980 US Steel suit demonstrated.

Third, what about the Japanese industry? It is secure in its current position as world low-cost producer, and confident that in the longer run it can remain competitive through product specialization and continuing product and process innovations that raise productivity. Yet it is unlikely to build any new, major integrated plants in the foreseeable future. As a mature industry with sophisticated leaders, it is likely to continue its policy of caution and high unit profits in the American market in anticipation of potential political problems, and to continue to seek export diversification. The industry will generate substantial cash flow; while some will be used to reduce debt/equity ratios, investment in foreign iron ore and coal mines also appears likely.

The TPM has some inherent problems for the Japanese industry, though so far it has proven an immensely profitable device. While Japanese firms appear to be willing to play by the rules, they fear others will not--that Japan will be undercut by others evading the trigger price floors. Several Korean pipe producers have recently requested preclearance. Apparently they are purchasing steel from Japan at relatively low (marginal cost?) prices, and hence are able to fabricate pipe at costs below Japanese average costs. More broadly, not only Canadian firms but very efficient European producers of certain steel products are currently requesting preclearance at prices below the TPM applicable to Japanese firms. If this should become widespread it could both reduce Japanese competitiveness and undermine the political assumptions of the TPM itself.

Fourth, what are the prospects for the American steel industry? It faces fundamental structural problems: it has lost comparative advantage, and has the overhang of substantial obsolete capacity. Its wage rates are relatively very high (now 75 percent above those for all American manufacturing), and almost double Japanese steel worker wages; union power has been strong, and it has reduced considerably the ability to compete against imports. The industry's application of process technology lags--the still-low rate of continuous casting is an outstanding example. Its rate of R&D is low and declining (see OTA 1980, pp. 96-97). It has engaged in inadequate investment in steelmaking to modernize facilities rapidly. It has a major problem of access to finance--perhaps its most serious problem. The ratio of total liabilities to equity by 1979 was 124 percent; profit rates are

below the average for all manufacturing; dividend rates remain stable and high. The industry argues it is difficult to increase private long-term borrowing or equity issue significantly, and hence funds must be obtained through higher profit conditions and faster rates of capital cost recovery through more rapid depreciation rates.

Industry strategy has involved a mix of investment for modernization of steel capacity, diversification into nonsteel activities, and the seeking of government assistance through protection from imports and a variety of domestic programs. In recent years about one-quarter of new investment has gone into diversification. This is not an unwise policy--so long as the American people are not asked to subsidize the industry. Investment rates are inadequate to bring about rapid restructuring of the industry; the incentives are apparently insufficient, judged by industry statements and performance.

Whether the industry can restructure itself so as to become more competitive is the key issue for trade policy. Indications so far have not necessarily been bad. For the first time in recent years, the US Steel reported a small profit in its steel division for 1980. This was made possible in part by permanently closing 15 older plants employing 12,500 workers in 1979. The company seems determined to continue this consolidation effort. Many firms are adopting Japanese technology and production methods. Indeed US Steel was seeking assistance from Sumitomo Metals and Nippon Steel for blast furnance technology even while preparing its antidumping cases. Nonetheless, it appears unlikely that the industry will succeed both in restructuring itself and in maintaining an 85 percent share of the American

market without specific government support in one form or another.

This brings us to United States government policy options for the American steel industry. There are three broad choices, which can be termed the efficient core option, the renewal option, and the high investment option.

The efficient core option is to scrap obsolete plant and to base the industry on the remaining modern mills, integrated and electric furnace. At its most pessimistic the AISI estimates up to 20 percent of capacity might be eliminated (Orange Paper, 1980, p. 39). This would leave capacity in excess of 113 million tons, which as Crandall stresses, is far more than enough for a national security crisis (1980a, p. 24). Crandall is one of the main proponents of the efficient core option. It also seems to be implicit in the Report of the Japan-United States Economic Relations Group (January 1981, pp. 76-77). This option like the others would benefit from a general policy to increase incentives for investment, saving, and R&D for all industries; it would not require specific policies targeted for steel. It would make possible free trade in steel even with marginal cost pricing.

The renewal option is suggested by the Office of Technology Assessment (1980, especially chapters 2 and 10). It would require an increase in industry investment for modernization from the past average of $2 billion to about $3 billion (1978 dollars). The main emphasis would be placed upon new electric furnace mills, with some modernization of integrated mills; the electric furnace market share would almost double to 25 percent. Capacity would expand to meet demand growth; imports would be at about the 15 percent level

(apparently assuming the TPM would remain in place). This option would require a modest rate of direct government support targetted to the steel industry.

The high investment option is propounded by the AISI, and was supported by the Steel Tripartite Committee under the Carter administration. It would require annual investment rates for modernization on the order of $4.9 billion (1978 dollars). Most would go for modernization and capacity expansion of existing integrated mills. This option requires substantial government support--through higher relative prices and profits by restricting imports, and/or capital subsidies and related measures. Crandall (1980a, p. 24) estimates a 9 percent increase in relative prices would generate $4 billion in annual profits (at the expense of consumers), and would employ 36,000 new people at most. This annual subsidy for employment would be expensive--about $110,000 per new job created.

Associated with these options are alternative packages of policy instruments. The renewal and high investment options require some degree of government support for the industry. The cost falls on American taxpayers and consumers, who on average are less well off than steel workers, management, and stockholders. For import protection the government can choose among quotas (OMAs, VRAs), industry antidumping suits, or the TPM, at least for the period of restructuring. If the government intends to move toward the classical free trade position it would have to get rid of the TPM. But that would imply a more fundamental reform: revision of the 1974 Trade Act so as to return to the original, price criteria for dumping, and to relegate average cost of production and constructed value to a minor role.

Finally, one should be aware of a number of broader implications of US trade policy in steel--for trade policy generally, for American industrial structure, for US-Japan relations. The extension of the average cost of production criterion for dumping to other industries would be a major protectionist step, as would attendant extension of the TPM to other products. Moreover, trade in steel must not be viewed in a partial equilibrium context. The price of steel in the United States has become substantially above that in Japan, and indeed in a number of countries. This directly affects the competitive strength of industries using steel. Automobiles is one obvious and extreme example. But the high cost of steel will hurt, to varying degrees, the competitiveness of many other steel-fabricating American industries too.

We do not predict what will occur in steel trade and trade policy. Our guess is that in five years' time, when the TPM is to expire, these basic problems will still be with us. Neither the American nor European steel industries will have restructured sufficiently to restore adequate competitiveness. World excess capacity in steel will have diminished but not eliminated. It will be politically so difficult that any more liberal definition of dumping will not be legislated, in the United States or in GATT. Problems in steel trade will not disappear; trade will be substantial, and rather competitive, but at higher prices, lower volumes, and less competitive thrust than under true free trade. The TPM, with all its problems, seems likely to be with us for some time to come since it embodies a political compromise among all the main actors.

The pattern of politicization of the U.S.-Japan steel trade issue has both specific and general features. Previous U.S.-Japan trade issues followed a familiar pattern. First, growing Japanese imports cause a U.S. domestic industry to seek import relief from its government. Then, the U.S. government asks its Japanese counterpart to accept some type of export quantity restraint. The Japanese government refuses to comply due to domestic industry opposition, and the issue becomes increasingly politicized as it remains unresolved. This is the pattern seen most clearly in the U.S.-Japan textile wrangle of 1969-71 (Destler, Fukui and Sato, 1979). The steel issue has not fully conformed to this pattern.

It is true that increasing Japanese steel imports did cause the U.S. industry to seek U.S. government actions in reducing imports in 1977. But inter-governmental negotiations in the traditional sense did not ensue. The U.S. government never asked the Japanese government, formally or informally, for export quantity restraints. Nor did the Japanese and U.S. industries maintain incompatible and contradictory interests causing the two governments representing them to clash. On the contrary, voluntary quotas which the U.S. industry wanted Japan to implement were exactly the kind of solution the Japanese industry was prepared to accept. The Japanese government, too, was willing to acquiese to such a settlement. Nevertheless, steel became a major source of friction between Japan and the United States--largely because of the unduly slow political response on the part of the U.S. government. U.S. officials at first were not responsive to domestic industry pressures because they were preoccupied with

macroeconomic issues (the curbing of inflation and expansion of U.S. trade through the MTN) and did not fully realize the potential seriousness of the issue from the standpoint of domestic and alliance politics. Government inaction induced the domestic steel industry to escalate its anti-import, anti-Japanese compaign through media exposure and lobbying in Congress. Thus, disagreement between government and industry in one country can and did escalate a bilateral issue even when the two industries and the two governments do not have mutually contradictory interests. This occurred because the mechanism for protection became as important as the issue of protection itself.

Does the steel pattern apply to other U.S.-Japan trade issues? The auto issue of 1980-81 falls somewhere between the different patterns represented by the textile wrangle and the steel issue (Destler and Sato, 1981, pp. 12-14). While the Japanese government (particularly MITI) was prepared to make necessary adjustments, the U.S. government remained indecisive as to an appropriate solution. Thus, like steel, the indeciveness on the part of the U.S. government contributed to the prolongation and escalation of the issue. On the other hand, the Japanese auto industry was nowhere nearly as united and as cooperative as the steel industry for issue resolution--though Japanese auto makers in 1980-81 were not as intransigent as Japanese textile producers in 1969-71. Since MITI has become more internationalized and more cooperative in settling trade disputes--in contrast to the time of the textile issue--it may well be that in future trade disputes Japanese government willingness and industry reluctance, the pattern represented by the auto issue may become

more typical in the future. In this repsect the steel industry is an exception.

For the United States the steel issue was far more than one of bilateral relations with Japan. The European factor played an important role in 1977 and again in 1980. Apart from macroeconomic (and legal) considerations, it would have been difficult for the U.S. government to accept the Japanese "offer" of export restraint short of a similar offer from the European Community in 1977. As soon as massive antidumping suits were filed against the Europeans in fall 1977 the Carter Administration sought the new TPM approach which clearly favored the European Community. And no sooner had US Steel threatened to file major antidumping complaints against the Europeans in late 1979 (thus challenging the TPM) than the U.S. government began talks with the EC Commission and US Steel to avert a political confrontation across the Atlantic. All this suggests that in the eyes of American policymakers the US-Japan relationship is more asymmetric than the US-EC relationship, and that, ceteris paribus, the United States continues to tend to be more sensitive to European interests than to Japanese. The auto issue was seen more exclusively as a US-Japan issue since Japan was by far the most dominant foreign supplier of automobiles in the U.S. market in 1980-81. West Germany was not made a target of anti-import attacks since Volkswagen had begun producing cars in the United States several years earlier. But the European connection was not totally absent, either. Individual European countries, notably Great Britain, France, and Italy, had already been limiting Japanese auto imports, a fact sometimes used by those Americans seeking protection. And as the possibility

of Japanese export quota restraint vis-à-vis the United States increased in spring 1981 the Europeans exerted pressure on Japan to accept a similar export restraint arrangement vis-à-vis the European Community as a whole. In 1976 the Europeans succeeded in getting Japanese steel makers to restrain exports to the Common Market, and then the AISI filed the "301" complaint, and sought similar relief from Japanese imports, charging that the Japanese were unfairly diverting steel exports from Europe to the United States. The trilateral relationships among the United States, Japan, and the EC are complex and difficult. Where any two agree on a bilateral restraint arrangement, almost inevitably the third seeks a similar accomodation. This is a major weakness in the seeking of bilateral solutions when both partners are so large in the world economy.

Table 1. United States and Japan: Labor and Raw Materials Unit Costs Per Ton of Steel Mill Products (Dollars per Metric Ton)

Year	Unit Labor Cost[1]		Basic Material Cost[2]		Total		Gap[3]
	U.S.	Japan	U.S.	Japan	U.S.	Japan	(Japan-U.S.)
1956	54.67	26.66	56.17	93.17	110.84	119.83	8.99
1960	71.83	23.01	48.35	62.07	120.18	85.08	-35.10
1965	65.06	22.11	47.93	54.27	112.99	76.38	-36.61
1970	80.81	23.22	56.42	54.83	137.23	78.05	-59.18
1975	132.87	49.93	137.40	109.33	270.27	159.26	-111.01
1976	136.42	49.64	151.12	112.29	287.54	161.93	-125.61
1977	148.58	60.53	146.24	115.32	294.82	175.85	-118.97
1978	154.33	75.25	151.46	121.79	305.79	197.04	-108.75
1979	168.21	66.10	175.62	133.80	343.83	199.90	-143.93

Sources:

FTC 1977 for pre-1976. For 1977-79, the FTC series has been updated using the same method and sources, except as noted. Underlying sources are:

Federal Trade Commission, Staff Report on the United States Steel Industry and Its International Rivals: Trends and Factors Determining International Competitiveness, November 1977, for pre 1976. 1977-79.

American Iron and Steel Institute, Annual Statistical Report, various issues.

Japan Iron and Steel Federation, Monthly Report of the Iron and Steel Statistics, various issues.

Japan Iron and Steel Federation, Steel Statistics Survey (Tekko Tokei Yoran), various issues.

U.S. Department of Commerce, Survey of Current Business, various issues.

Notes:

Substantial data problems exist for comparisons of capacity as well as some inputs; such figures are indicative rather than precise.

[1] The total man-hours for U.S. were taken from AISI, Annual Statistical Report. The total number of employees for the Japanese steel industry were obtained from JISF, Steel Statistics Survey. The total man-hours for Japan are calculated by using monthly hours worked per worker from JISF's Monthly Report. The U.S. labor cost for 1976 is a FTC revision of a projection in FTC 1977. For U.S., the total employment cost per hour was taken from AISI, Annual Statistical Report. For Japan, monthly earnings per worker and employee taken from JISF, Monthly Report were converted to hourly figures

[2] For Japan, the quantity of electric power purchased by the steel industry for each of the years 1977-79 was computed from the percent purchased in 1975-76. Producer price indexes have been used for extending the FTC 1977 series except for labor costs (see note 1), and Japan iron ore, scrap, coking coal, and fuel oil, where extensions of the series in the FTC's sources are used. Also, includes iron ore, scrap, coking and non-coking coal, fuel oil, electric power and natural gas.

[3] There has been considerable debate on the average cost differential; much depended on assumptions regarding yield, Japanese labor subcontracting, and the use. The estimates ranged from $61 (COWPS) to $120 (FTC), with Crandall initially at $65-70, Bradford at $85-97, and Mueller-Kawahito $97. See Kawahito letter, Challenge, November-December, 1978. A recent discussion appears in OTA (1980, chapter 4).

TABLE 2. JAPANESE STEELMAKING COSTS AND THE TRIGGER PRICE

(As Estimated by the United States Goverment in dollars)

		Basic Raw Materials	Other Raw Materials	Labor	Other Ex-penses	Depre-ciation	Interest	Profit	Yield Credit	TOTAL per metric ton	TOTAL per net ton	TOTAL % change	TRIGGER PRICE dollars/ net ton	TRIGGER PRICE % change	Trigger/ Cost Gap (%)	Yen Value Used
1978	Second Quarter [a]	$113.17	63.66	73.14	26.48	21.49	21.30	22.11	(9.81)	331.54	300.76	-	300.76	-	-	240
	Third Quarter	116.20	67.60	80.86	28.12	22.82	22.62	23.42	(10.31)	351.33	318.73	6.0%	318.73	6.0%	-	226
	Fourth Quarter	116.20	71.06	85.02	29.56	23.99	23.78	24.14	(10.57)	363.12	329.42	3.4	329.42	3.4	-	215
1979	First Quarter	116.20	81.70	97.75	33.99	27.58	27.34	26.37	(11.34)	399.59	362.51	10.0	352.53	7.0	-2.8	187
	Second Quarter	119.03	72.21	94.07	28.65	29.72	25.96	25.12	(10.82)	383.94	348.31	-3.9	352.53	-	+1.2	197
	Third Quarter	124.68	67.10	91.08	26.62	27.62	24.12	24.82	(10.79)	375.97	341.08	-2.1	347.54	-1.4	+1.9	212
	Fourth Quarter	132.99	65.55	89.68	26.01	26.98	23.56	25.14	(11.05)	378.86	343.70	0.8	347.54	-	+1.1	217
1980	First Quarter	139.23	62.66	87.19	26.75	26.58	23.10	25.27	(11.15)	379.63	344.40	0.2	358.31	3.1	+4.0	227
	Fourth Quarter	161.36	77.23	92.57	32.68	36.19	26.62	29.11	(12.93)	442.83	401.73	16.6	401.73	12.1	-	223
1981	First Quarter	161.94	77.93	93.69	33.07	36.71	26.98	29.33	(13.02)	446.63	405.18	0.9	405.18	0.9	-	221
	Second Quarter	168.08	83.77	104.13	30.47	33.99	28.66	30.92	(13.80)	466.22	422.95	4.4	422.95	4.4	-	218

(a) Revised - Original cost and trigger price was $328.26 per metric ton and $297.80 per net ton.

Sources: U.S. Treasury News (various issues)
U.S. Department of Commerce News (various issues)

Notes: Assumes 8% profit margin on sum of the costs of all raw materials, labor and other expenses categories. Production costs are averages for the six major Japanese integrated steel producers.
The trigger price mechanism was suspended in the first quarter of 1980, and reinstituted from the fourth quarter.

Table 3. American Imports of Steel Mill Products (Thousands of Net Tons) (Semi-annually to coincide with TPM composition from May 1978)

	TOTAL IMPORTS			FROM JAPAN			FROM E.C.			FROM CANADA			FROM OTHERS		
	Amount	% Change one year earlier	% of U.S. Apparent Supply	Amount	% of Total	% Change one year earlier	Amount	% of Total	% Change one year earlier	Amount	% of Total	% Change one year earlier	Amount	% of Total	% Change one year earlier
May-Oct. 76	7,368	52.0	14.1	4,136	56.1	71.4	1,669	22.7	2.0	632	8.6	35.8	931	12.6	277.1
Nov. 76-April 77	7,374	22.7	15.0	3,779	51.2	12.3	1,886	25.6	48.7	820	11.1	27.7	889	12.1	21.0
May-Oct. 77	10,868	47.5	19.1	4,108	37.8	-0.7	4,219	38.8	152.8	939	8.6	48.6	1,602	14.7	72.1
Nov. 77-April 78	11,946	62.0	21.1	4,044	33.9	7.0	4,415	37.0	134.1	1,104	9.2	34.6	2,383	19.9	168.1
May-Oct. 78	9,825	-9.6	16.7	2,773	28.2	-32.5	3,556	36.2	-15.7	1,206	12.3	28.4	2,290	23.3	42.9
Nov. 78-April 79	8,149	-31.8	14.3	2,821	34.6	-30.2	2,343	28.8	-46.9	1,141	14.0	3.4	1,844	22.6	-22.6
May-Oct. 79	9,563	-2.7	15.9	3,314	34.7	19.5	3,299	34.5	-7.2	1,224	12.8	1.5	1,726	18.0	-24.6
Nov. 79-April 80	8,496	4.3	16.1	3,449	40.6	22.3	2,194	25.8	-6.4	1,163	13.7	-5.0	1,690	19.9	-8.4
May-Oct. 80	7,477	-21.8	17.5	2,744	36.7	-17.2	2,009	26.9	-39.1	1,130	15.1	-2.8	1,594	21.3	-7.6

Sources: American Iron & Steel Institute, Annual Statistical Report, various issues.

American Iron & Steel Institute, Selected Steel Industry Data (monthly), various issues.

Table 4. American Steel Price Increases (Annual rate, %)

	General Producer Price Index	Steel Mill Products (Producer Price)	Carbon Steel Products Import Prices	Yen Appreciation (Trigger Price)	Trigger Price Index[a]	Japan Average Export Price of Steel to U.S.	
						Amount	% Increase
1975	11.5	16.0	1.9			$ 357.52	
1976	4.6	6.3	-17.5			315.96	-11.6
1977	6.2	9.6	3.4			352.12	11.4
1978	7.8	10.7	14.5		23.0	460.21	30.7
1979	12.6	10.2[a]	21.3		1.6	506.51	10.1
1980	14.0	8.0[a]	13.6		13.1	575.18[c]	14.8[c]
May-Oct. 75	7.9	2.8					
Nov. 75-April 76	2.7	8.3					
May-Oct. 76	7.3	13.8	9.7				
Nov. 76-April 77	6.9	7.2	-0.3				
May-Oct. 77	6.0	11.7	-2.5				
Nov. 77-April 78	6.8	12.9	11.9				
May-Oct. 78	8.7	7.3	31.4	20.8	19.1	455.99	
Nov. 78-April 79	14.5	9.8	35.0	16.7	14.0	503.95	21.0
May-Oct. 79	13.2	9.8	-6.3	-20.3	-2.8	502.31	-0.1
Nov. 79-April 80	9.0	10.9	22.0	-18.4[b]	6.2	520.37	7.2
May-Oct. 80	9.6	2.2	1.1	1.8[b]	24.2	596.72	29.3
Nov. 80-May 81				4.5[b]	10.6		

Notes:

a: Second-fourth quarterly comparison at annual rate.
b: Comparison with first quarter 1980.
c: Through November (annual rate).

Sources: U.S. Department of Labor.
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